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Cross-Linguistic Variation and Cross-Linguistic Influence in Quantifier Interpretation

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Abstract

In this study, by replicating the experiment of Stateva et al (2020) we investigate the representation of non-numerical quantifiers in Italian and Japanese, thus extending the sample of languages showing potential cross-linguistic variation. For the first time, the study also reports results which factor out the role of bilingualism in L2 acquisition of quantifiers by testing a bilingual Italian-English population examined in their L2 language (Italian). Stateva et al., (2020) results about English showed that the quantifier *some* has a meaning differentiating it from its counterparts in the other languages included in the study.

In our study, the results were consistent with those of Stateva et al., (2020) and suggested additional support for the hypothesis raised in the Stateva et al., (2020) study of a universal common pattern of processing the quantifiers across languages. In a bilingual context, the results indicate as a tendency some cross-linguistic influence though it is not prominent. As for the Japanese experiment, the results were consistent with those of Indo-European languages so far except for the quantifier *some* which has been treated as the quantifier *few*. In addition, the study raised questions including the revisitation of the methods for a non-Indoeuropean language.

keywords: quantifier, scalar implicature, numerical bound, bilingualism

Introduction

The present research studies the numerical bounds associated with each quantifier cross-linguistically and suggests that the cross-linguistic difference observed in the case of “some” is due to using different mechanisms of pragmatic strengthening. My studies replicate the first experiment of Stateva et al., (2020) which explored the issue of whether speakers refer to specific numerical values while using various quantifiers. Two important findings of Stateva et al., (2020) were reported (it is deeply discussed in the literature review section). Roughly, the study suggested that there were instances of unanimous decisions regarding the evaluation of quantifiers across different languages (English, French, German, and Slovenian languages). Participants seemed to follow a similar mechanism of roughly estimating proportions and comparing them to a given quantifier. This suggests that if numerical bounds are associated with these determiners and remain consistent, these bounds may have a universal nature. Second, a difference has been found in evaluating the meaning of the determiner "some" across languages. Specifically, English “some” has been reported that the range proportion is 60% larger in English compared to the other tested languages suggesting that English speakers interpret "some" differently and include a broader range of quantities; the mean scores received from evaluating sentences with "some" did not correlate with the respective standard deviations, unlike the pattern observed in the other languages, indicating that English speakers may treat "some" differently than speakers of other languages in terms of how they interpret its meaning and variability. Overall, these findings suggest that determiners have different pragmatic enrichment.

The current study aimed to investigate how non-numerical quantifiers are represented in Italian and Japanese, expanding the range of languages examined for potential cross-linguistic variation. Additionally, the study included a bilingual Italian-English population to examine the role of bilingualism in the acquisition of quantifiers, specifically in their second language (Italian) taking into consideration the results of Stateva et al., (2020) regarding English "some" which found a distinct meaning that set it apart from its counterparts in the other languages included in the study. In summary, the study explored the representation of non-numerical quantifiers in Italian and Japanese, and it also examined the impact of bilingualism on the representation of quantifiers in an Italian-English bilingual population.

The scalar implicature is a well-studied conversational implicature. Grice's (1975) seminal paper on "Logic and Conversation" introduced the concept of scalar implicatures. Scalar implicatures arise when speakers imply that they have used the weaker of two expressions on a scalar (or ordered) list. For example, if someone says "some of the students are smart" the implicature is that not all of the students are smart. Grice argued that the scalar implicature arises from the speaker's attempt to cooperate in the conversation by using the most economical expression to convey the speaker's meaning. In other words, if the speaker believes that not all of the students are smart, then the speaker would not use the stronger expression "all of the students are smart" because it is unnecessary and would thus fail to cooperate.

In the Gricean theory, the interpretation of scalar implicatures has been based on the assumption that speakers say as much as truthfully and relevant to a given conversational exchange.

An example of scalar implicature where both answers are permitted as they implicates each other.

(1)

- A. How was the class today? (both speaker and listener share the same knowledge - common background-, and the utterance's context is true for both speaker and listener)
- B. a. Some students listened attentively.
b. Not all the students listened attentively.

Quantifier scales have been greatly studied and considered a particularly intriguing class of words. A consistent material on this phenomenon has been produced. My study focuses specifically on replicating the experiment of Stateva et al., (2020) which studied the distribution of quantificational determiners (few, some, half, most, almost) of English, French, German, and Slovenian, which are all part of the Indo-European family of languages. My research adds the Italian language and a bilingual study of Italian as L1 and English as L2. Additionally, a non-Indo-European language, namely Japanese, is added to the study. The research findings in Experiment 1 were consistent with the results presented in Stateva et al., (2020). Regarding the bilingual study, the findings brought intriguing discussion

regarding how Italian speakers judge L2 quantifiers. Finally, Experiment 3 raised the question of revisiting the experiment.

This study aims to answer the following research questions:

1. How is the quantifier scale divided in the Italian language and what is the nature of the quantifier *alcuni* (some)?
2. How do Italian-English bilinguals represent the quantifier scale in L2 and how do they treat *some*?
3. How is the quantifier scale divided in a non-Indoeuropean language, Japanese?

The work is structured as follows: the first section comprises the Literature review and the second section comprises the present study.

As far as the literature review, first of all, an introduction of the implicature namely the work of Grice and his predecessors is reported followed by the focus of the study: the scalar implicature, specifically the quantifier scale. Secondly, a brief description of Stateva et al., (2020) is reported as it is the main work on which the present study is based followed by the description of the linguistics interpretation of each determiner for each language under observation mainly Italian and Japanese. Lastly, the literature review concludes with a brief chapter on bilingualism, specifically on the phenomenon of negative transfer.

The second main section reports on each experiment which replicates the first experiment of Stateva et al., (2020). Experiment 1 deals with Italian native monolinguals, Experiment 2 deals with Italian-English bilinguals testing on English determiners and finally Experiment 3 includes Japanese monolingual speakers.

Review of the Literature

1. Implicature - brief overview

The present research focuses on scalar implicature, specifically scalar quantifiers which have been greatly researched so far, starting from Grice with his work on the cooperative principle (communication is seen as a cooperative activity) and its constituent maxims of conversation (Grice 1972, 1989).

According to Grice (1975, 1989), communication is a cooperative endeavour, and listeners assume that speakers will uphold certain maxims which state that utterances should be as informative as necessary (the maxim of quantity), true (the maxim of quality), relevant (the maxim of relevance), and carefully phrased (the maxim of manner). Communication is a cooperative endeavour, and listeners assume that speakers will uphold certain maxims. In order to maintain the presumption that speakers are abiding by these rules, Grice suggested that listeners posit implicatures. An implicature is an inference drawn from the context of a speaker's statement. This inference is usually based on the speaker's intention and the mutual understanding (engaging) between the speaker and the listener. As a result, implicatures are part of the larger field of pragmatics, which deals with how context and nonverbal cues affect the meaning of the language. For example, suppose two friends, Alex and Beth, are conversing. Alex asks Beth, "Do you have any plans tonight?" Beth replies, "I'm staying home." Based on the maxim of relevance, Alex expects Beth's response to be relevant to the question asked. However, Beth's response is not directly informative about her plans, as she does not explicitly mention whether she has plans or not. The implicature drawn from Beth's response is that she has no plans and will stay home. This implicature arises from the assumption that Beth follows the cooperative principle and the maxim of relevance. Alex infers the implied meaning based on the context, Beth's intention, and the mutual understanding between them.

Grice distinguished conventional implicature (what is implicated conventionally) and conversational implicature (what is implicated conversationally and context-dependent) (Grice 1975, 1981). Conventional implicature is an implicature deriving from a particular expression such as in the example "Shaq is huge but he is agile" (Bach 1999: 327) where the conventional meaning derives from the word "but" which suggests a sort of contrast between being huge and being agile. Whereas conversational implicature is definable as any meaning or proposition expressed implicitly by a speaker in his or her utterance of a sense which is meant without being part of what is said in the strict sense, it is defined from Grice's cooperative principle and maxims of conversations. For example, Sue asks John if he wants

to go to the party with her but he replies telling her has homework to do. He did not tell her explicitly he does not go but the message has been conveyed properly to Sue. In conclusion, Sue infers that John will not go with her. In other words, a conversational implicature is what is communicated meant minus what is said. Among conversational implicatures, there are those strongly dependent on context which are the particularised conversational implicatures, and those dependent on the words, the generalised conversational implicatures.

Example of the contrast between PCI and GCI (Levinson 2000:16)

Context

A. What time is it?

B: Some of the guests are already leaving.”

PCI: “It must be late.”

GCI: “Not all of the guests are already leaving.”

Among the generalised conversational implicatures, there are the so-called scalar implicatures which simply include words like "some," "many," "all," "always," etc., which create a scale or hierarchy of meaning. Taking the example above, if someone says, "some of the guests are already leaving", the scalar implicature is that not all of the guests are already leaving. The implicature arises from the expectation that if all the guests had been leaving, the speaker would have used the word "all" instead of "some." Therefore, the listener infers the implied meaning based on the scalar implicature associated with the word choice, “some”.

Two approaches to implicatures: Neo-Gricean (NG) approaches and Post-Gricean (PG) approaches.

Grice implicature has been extensively studied and two approaches have developed in the study of pragmatics which is the Neo-Gricean approach (Horn 1972, 2004; Levinson 2000). According to the Neo-Gricean approach, a generalised conversational implicature is derived locally from the specific linguistic scale (Horn 1972, 2004 and Levinson 2000). Whereas PG approaches claim the derivation of scalar implicatures involves a more complex process that considers factors such as the context, the speaker's intentions, and the listener's reasoning. It is not solely determined by the presence of a linguistic scale. These approaches emphasise the

role of context in determining the intended meaning and argue for a more flexible and context-dependent account of implicatures (Sperber and Wilson 1995).

In this section, I will provide a more comprehensive overview of the Neo-Gricean and Pragmatic-Gricean (PG) approaches to implicature. For example, consider the same sentence used before "Some students passed the exam." This sentence triggers a scalar implicature that not all students passed the exam because the stronger term "all" was not used. The NG approaches argue that this implicature is derived automatically based on the scale of quantifiers <all, some>. The stronger member "all" implies the weaker member "some" and the weaker member "some" implicates the negation of the stronger member "all". The default assumption is that if the stronger term is not used, it is because the speaker intended to convey the weaker meaning (Levinson 2000). Whereas the PG approach argues for a more context-dependent account of implicatures (Sperber and Wilson 1995).

The Neo-Gricean approach implemented Grice's intuition on conversational implicatures. With regard to scalar implicatures, Horn (1972) highlighted the importance of lexical scales in determining the alternatives that contribute to the derivation of implicatures. Horn argued that scalar implicatures rely on the existence of ordered sets of terms, known as lexical scales. A lexical scale represents a range of meanings or quantities that can be ordered from stronger to weaker or vice versa. For example, consider the scale of quantifiers <all, most, some, none>: if a speaker uses the term "some" in an utterance, the scalar implicature derived from the scale would involve the exclusion of the stronger alternatives "all" and "most." As a result, the listener infers that the speaker intentionally chose the weaker term "some" instead of the stronger ones, implying that the stronger alternatives do not hold true.

With regard to his proposal, Horn replaced all the Gricean maxims except the maxim of quality with two fundamental principles.

1. The Q[quantity] Principle (hearer-based)
 - Make your contribution sufficient
 - Say as much as you can (given R)
 - Lower-bounding principle, including upper-bounding implicata
2. The R[elation] Principle (speaker-based)
 - Make your contribution necessary

Say no more than you must (given Q)

Upper-bounding principle, inducing lower-bounding implicata

(Horn 1984:13)

The first principle (Q-principle) is oriented towards the interests of the listener and looks for optimal interpretations, whereas the second principle (R-principle) is oriented towards the interests of the speaker and looks for expressive optimization.

Horn 1984 proposed the Q principle comprising the first sub-maxim of Quantity and the first two sub-maxims of Manner which is a lower-bounding pragmatic principle that can generate upper-bounding conversational implicatures (Horn 1984). In other words “what is Q-implicated relies on what is not said but could have been said” (Huang 2017).

These conversational implicatures generated from a semantic or lexical scale are called Q- or Horn scale.

A few examples of positive Horn scale, some already mentioned above.

- a. Quantifiers: ⟨all, most, many, some⟩
- b. Connectives: ⟨and, or⟩
- c. Adjectives: ⟨beautiful, pretty, attractive⟩
- d. Adverbs: ⟨always, usually, often, sometimes⟩

Huang (2017:52)

An example of a negative Horn scale.

- e. Quantifiers: ⟨not some, not many, not most, not all⟩

Huang (2017:52)

If a speaker uses a lower-ranked or semantically weaker alternate in the context of a Horn scale (for instance, "some" to the right of the ordered set), this conversationally implies that the speaker is unable to use any of the higher-ranked or semantically stronger alternates ("not all" to the left of the ordered set) in the same set.

Hirschberg noted that Scalar implicature is a wide range of classes comprising many scales of different natures. It is a class of words and expressions comprising quantity implicatures described by Horn. As mentioned before, a Horn scale contains a set of linguist alternates of the same word class such that a semantically strong linguistic expression entails the weaker ones (Hirschberg 1991).

From the scale ⟨all, most, many, some, few...⟩

Consider the small scale all - most -some. All entails most and both most and all entail some. When a speaker uses the lower value, some implicates that the higher value does not hold (Horn 1984).

Example

From the positive scale ⟨all, most, many, some, few...⟩

(2)

It is not the case that Mary ate some of the biscuits.

Mary ate all the biscuits

$a > b$ (a implicates b)

(3)

Mary ate all the biscuits

Mary did not eat all the biscuits.

$c > d$ (c implicates d)

(4)

How was the class?

a. Some students were sleeping.

b. All the students were sleeping.

(Hirschberg 1991)

Based on Gricean's Cooperative Principle and the theory of Maxims, and Horn for the quantity scale, in example (4) we would say that by uttering (4a), the speaker does not implicate (4b) based on the quantifier some. Since the scalar implicature is part of the conversational implicature, we may follow that in saying (4a), the speaker informs the listener as much as required (Maxim of Quantity) and truthfully (Maxim of Quality).

Therefore, in obeying the Maxim of Quantity and Quality, the speaker would not utter (4b) if (4b) is a false value. By claiming (4a) the speaker affirms that (4b) is inferred as a false or unknown value by the speaker. In conclusion, by asserting (4a), the speaker implicates that (4b) does not hold (Hirschberg 1991).

Levinson further pointed out a general rule deriving a set of Quantity implicature. If a speaker asserts that a lower or weaker point in the ordered set of alternated on a scale obtained then he or she implicates that no higher or stronger point does not obtain. For the scalar

implicature to be inferred, the expression given rise to it must be entailed by a complex sentence of which it is part. Therefore (4a) does not commit the speaker to know that “Not all the students were sleeping” because some occur in a complement clause that is not entailed by the matrix clause (Levison 1983:130-135). Therefore, we would say that a scalar implicature is a conversational implicature (Grice) and it derives from the Maxim of Quantity or Levison’s Q-implicature (or Q1 heuristic assumes that the speaker has made the strongest statement with what he or she knows and it applies only in cases in which there are expressions that form a contrast set such as the Horn scale).

Example from the quantifier scale ⟨all, most, many, some, few...⟩

- a. Some of the students were sleeping.
- b. Not all the students were sleeping.

Levinson 2000 proposed that Generalised Implicatures, including scalar implicatures, are default inferences or preferred interpretations that are generated early in the process of language processing. According to this view, these implicatures are the result of heuristics, or cognitive shortcuts, that are applied during language comprehension alongside the processes of semantic decoding.

Under his proposal, Generalised Conversational Implicatures including scalar implicatures have two properties: their default mode of interpretation or preferred presumption and defeasibility. The default nature of Generalised implicatures means that they are automatically and spontaneously generated unless they are implicitly or explicitly cancelled (defeasibility). These implicatures contribute to what Levinson refers to as "utterance-type meaning," which enriches the content of speakers’ utterances in reliable ways. Therefore by incorporating these default inferences, communication becomes more efficient. The presence of Generalised implicatures allows for the transmission of information beyond the literal meaning of the words used. These implicatures serve as reliable cues for listeners to infer additional meaning based on shared assumptions about cooperative communication (Levinson 2000:30-45).

Example

- a. Assertion: “John ate some of the cookies.”
- b. Default implicature: “John did not eat all of the cookies.”
- c. Cancellation of b: “John ate some of the cookies. In fact, he ate all of them.”

(Levinson 2000:42)

Thus, “John ate all the cookies.” is the non-raising implicature and it can be cancelled by the background assumption or context.

In this perspective, the default interpretation (b) of a scalar term includes the pragmatic implicature associated with it. In this case, the term "some" in assertion (a) is lexically encoded to include the implicature "not all" (b). So, when a speaker uses "some," the default interpretation incorporates the pragmatic meaning that not all of the relevant items satisfy the condition. However, this default pragmatic interpretation (b) can be overridden or cancelled under specific circumstances. If the speaker wishes to convey the semantic interpretation "some = at least one" and negate the associated implicature, they can do so explicitly (Levinson 2000).

So far we have been discussing the phenomenon of scalar implicature. I provide here the meaning of scalar implicature: a scalar implicature is a conversational implicature (Grice 1975, 1981) and it derives from the Maxim of Quantity or Levinson’s Q-implicature or Q1 heuristic assumes that the speaker has made the strongest statement with what he or she knows and it applies only in cases in which there are expressions that form a contrast set such as the Horn scale (Huang 2012).

Levinson 2000 argued that generalised implicatures are default inferences, products of heuristics that are applied at the beginning of the language process and interleaved with the semantic decoding process. We shall concentrate on the three core heuristics and I'll focus more on the first one because it is used to describe the scalar implicature.

Levinson (2000) illustrates the three core inferential heuristics, which are a derivation from Grice’s maxims:

- a. Heuristic 1 (Q): What isn’t said, isn’t.
- b. Heuristic 2 (I): What is simply described is stereotypically exemplified.
- c. Heuristic 3 (M): What’s said in an abnormal way, isn’t normal; or a Marked message indicates a marked situation.

(Levinson 2000)

I shall explain the second and the third heuristics first and at last the first heuristic (see Levinson 2000).

Derived from the Gricean maxim of quantity, the second (I) heuristic (What is simply described is stereotypically exemplified), as Levinson noted, is effective because it enables an interpreter to draw on a wide range of domain-specific prior information to provide a rich interpretation of a minimum description and not to take the information received for granted. Related to the Gricean maxim of manner, the third (M) heuristics refers to an implicit opposition relationship between the second and third heuristics: what is said simply in an unmarked way picks up the stereotypical expression if in contrast a marked expression is used, it is suggested that the stereotypical interpretation should be avoided.

Derived from the Gricean maxim of quantity, the Q heuristic depends on a restriction to a set of salient alternates such as scalar implicatures. For example “I ate some cookies” implicates that “I did not eat all of the cookies”. Levinson 2000 explains that scalar implicature is a special case of implicatures based on salient alternates and the Q heuristic has to be restricted: for sets, alternates use one (especially the weaker form) implicates the inapplicability of another (especially an otherwise compatible stronger alternate) Q and M are metalinguistics because they can only be recovered by references to what else might have been said but was not. Whereas the I is not metalinguistic but uses direct inferences from unmarked expressions without stronger contrastive alternate to informally rich, often stereotypical interpretations.

By contrast, The Non-Gricean or Post-Gricean approach to pragmatics is associated with Relevance Theory developed by Sperber and Wilson (1986, 1995) which provides an alternative perspective to Grice's cooperative principle and implicature-based approach. Sperber and Wilson (1995) proposed: “Every act of extensive communication communicates the presumption for its own optimal relevance” which is based on the assumption that communication is driven by the human tendency to seek and process information that is relevant to their cognitive goals. By doing so speakers rely on their inner ability to distinguish between irrelevant and relevant information and they intend the listeners to believe that what they say is worth listening to, by producing utterances that maximize the cognitive effects while minimizing processing effort. Listeners, on the other hand, engage in a process of inferential comprehension, actively constructing interpretations based on the relevance of the information conveyed. As a result, the goal of communication is to provide information that is maximally relevant to the cognitive context of the listener, and the interpretation process is guided by this principle.

In Relevance theory, the focus shifts from deriving implicatures based on specific maxims or rules to understanding how communicative acts contribute (Grice's and Neo-Gricean approaches) to the cognitive context of the listener and affect their mental representations. Relevance theorists believe that pragmatic considerations have an equally significant and inferential role on the explicit and implicit sides of comprehension. As such they introduce the term explicature (explicitly communicated assumptions) intended equally as Grice's implicature and the rest as implicature (implicitly communicated assumptions): "a communicated proposition is either an explicature or an implicature, but explicitness is also a matter of degree: the greater the proportion of decoding and the smaller the proportion of inference, the more explicit the explicature will be" (Wilson 2019).

According to the PG approach, scalar implicatures are explicatures (Noveck and Sperber 2007), are not default inferences, and are not locally derived from lexical scales. Instead, they are considered to be context-dependent inferences that are accessed when the context makes them relevant.

Scalar implicatures have been greatly investigated in experimental pragmatics (for example Bott & Noveck, 2004; Barner, Brooks, & Bale, 2010; Feeney et al., 2004; Foppolo, Guasti, & Chierchia, 2012; Papafragou & Tantalou, 2004; Papafragou & Musolino, 2003; Katsos & Dorothy 2011). Previous work on scalar inferences mainly focused on the opposite predictions of NG and PG outcomes examining the cognitive effort involved in deriving scalar implicatures. Based on the processing cost, the PG account supports the idea that the pragmatic interpretation is more costly, on the other hand, the NG supports that the semantic interpretation is more costly than the pragmatic interpretation. Up to now, the majority of the experimental results strongly favour the PG account (Carvalho, 2016). For example in the context where there is a progression of pragmatic interpretation from children to adults, Noveck 2001 showed that children of the age 7-10 do not have the same scalar inference interpretation as adults do regarding some and might. In two of Noveck's (2001) experimental tests, children correctly rejected infelicitous sentences such as "All birds live in cages" but accepted statements like "Some giraffes have long necks" which the adult tends to reject (Noveck, 2001). Other similar studies are for example Guasti et al., (2005), Papafragou and Tantalou 2004, and Puoscoulos et al., 2007, studies which focused more on younger children are studied for example Papafragou and Musolino, (2003) where children do not have the same sensitive interpretation as adults. However, some studies have shown that younger children as 4-5 years of age can produce adult-like interpretations (Papafragou and

Tantalou, 2004; Foppolo et al., 2012). In adults, experiments such as Hartshorn et al., (2015), and Dupuy et al., (2016) have shown more context-dependent interpretation of scalar implicature thus favouring the PG approach. On the other hand, studies like Cavalho, (2016) support the NG account for the role of lexical scales in that quantifiers are part of sets that form an entailment scale (for more account on the role of lexical in the process of quantifier interpretation giving account to NG approach, see for example van Tiel et al., 2016) Regarding quantifier scale processing, several studies have been conducted from the perspective of cognitive psychology. Moxey and Sanford, (2000) and Wallsten et al., (1993), support the idea that the choice of a quantity expression, whether numbers or verbal expression rhetorical and perspectival aspects have to be taken into account in communication. These might affect greatly the interpretation of quantity expression (Moxey and Sanford, 2000). Additionally, it seems that quantifiers lay on some kind of scale and there may be a sort of relationship between the distribution of numbers and a natural language quantifier although there is a persistent influence from the context and overlapping in numerical values which informants may assign (Wallsten et al., 1993). On the other hand, van Tiel, (2014), van Tiel and Geurts, (2014) support the typicality approach. Lastly, Pezzelle et al., (2018) supported the proportional interpretation as opposed to quantity perception.

In this section, I presented a brief overview of the topic of implicature specifically on the scalar implicature explaining the main point of view of the two main historical approaches to scalar implicature, the NG and the PG, finally, I briefly reported some empirical studies focusing on cognitive science and behavioural science. In the next section, namely State of the Art of the current research, I will start with a brief description of the study by Stateva et al., (2020) which my study is based and then I will focus on the discussion of generalized quantifiers including descriptions on both Italian and Japanese quantifiers.

2. State of the Art

Stateva et al., (2020) focused on cross-linguistic variation in the meaning of quantifiers and their implications for pragmatic enrichment. The results of the study indicated that there is variation in the interpretation of quantifiers across languages specifically in the meaning of the quantifier "some" in English which differed from its counterparts in other languages studied. This suggests that speakers of different languages may have different understandings and expectations regarding the meaning of quantifiers.

In addition, the cross-linguistic variation in quantifier meaning suggests that pragmatic enrichment processes may operate differently across languages, as speakers may rely on different contextual cues and assumptions. Overall, the study sheds light on the variation in the interpretation of quantifiers across languages and highlights the importance of considering cross-linguistic differences in pragmatic enrichment processes.

According to Horn, implicatures occur because quantifiers are part of a set that forms a scale of entailment. Taking into account the example used in Stateva et al., (2020), the sentence "Some balloons are red" is literally interpreted as implying "Not all balloons are red," resulting in the meaning "Some but not all balloons are red." This scalar implicature is derived by negating the scalar alternative "All balloons are red," which is stronger and asymmetrically entails the original sentence (Stateva et al., 2020). Stateva et al., (2020) first claim is that according to this assumption, speakers are expected to accept the sentence "Some balloons are red" in contexts where the proportion of red balloons is 1% or 99% of the whole set. Additionally, the second claim, standard theories assume no cross-linguistic variation in the evaluation of quantifiers therefore all speakers are expected to treat these determiners equally. In other words, the study aims to examine the following predictions: 1. speakers are expected to consistently consider some (as in the sentence "some balloons are red) acceptable in all contexts where the proportion of red balloons to the total set of balloons falls within the range of 1 to 99; 2. No crosslinguistic variation in the quantifier evaluation is expected.

Moreover, the study argues that there should not be strict numerical boundaries associated with the interpretation of "some" according to the classical theory of Barwise and Cooper (1981); second, according to both neo-Gricean and Relevance theories, when scalar implicatures are used to strengthen the meaning of a quantifier, they should adequately explain the numerical ranges associated with the quantifier "some" and similar quantifiers in different languages: "the numerical range of some must not overlap with a numerical range of other quantifiers like few, half, most, or almost all if pragmatic enrichment applies" (Stateva et al., 2020).

Stateva et al., (2020) predictions of each determiner used in Experiment 1 to be taken into account:

1. For the quantifier "some," it is expected to be acceptable in contexts where the proportion of the quantified objects falls between 1% and 99%, as already mentioned previously.

[[some]] = {<A, B>: $A \cap B \neq \emptyset$ } definition provided in Barwise and Cooper (1981)

2. For the quantifier “most”, the definition provided by Barwise and Cooper (1981) $[[\text{most}]] = \{ \langle A, B \rangle : |A \cap B| > 1/2 |A| \}$ restricts its use to numerical proportions over 50%. Therefore, proportions less than 50% would be deemed unacceptable.
3. The quantifier "half" is expected to have its highest acceptability around 50%, as it represents an equal division.
4. The quantifier "few" is considered a negative counterpart of many. The range for "few" is expected to have an upper bound well below 50%.
5. The quantifier "almost," defined as a member of a Horn-set along with "most," is expected to have a numerical range above that of most excluding the top of the proportional scale.

Similar to van Tiel and Geurts (2014), Experiment 1 explores the issue of whether speakers refer to specific numerical values while using various quantifiers. As a result, the experimental design is comparable to theirs, albeit having some significant changes: its cross-linguistic nature, including four languages from various Indo-European language families - Germanic, Romance, and Slavic and second, its verbal contexts-based experiments to eliminate interference from potential world knowledge.

Stateva et al., (2020) findings demonstrated that speakers of all four languages consistently adhere to comparable patterns when evaluating the quantifiers that have the meanings of few, half, most, and almost all. In this instance, the English quantifier “some” represented a significant exception: the numerical proportions of the total number of items in non-English counterparts of some that were acceptable ranged from 3% to a little less than 50%; conversely, the majority of English speakers considered proportions between 3% and around 80% of the total number of items to be appropriate. Another noticeable discrepancy found in the study between the English quantifier “some” and its cross-linguistic counterparts is the link between mean score values and corresponding pooled variance. The study observed that despite all quantifiers showed a consistent quadratic pattern, peaking near the middle of the scale (3 points), and dropping at both ends (1 and 5 points) except for the English some, where there was no clear pattern, indicating that means and standard deviations are not associated in this situation. As a result, two general patterns emerged from this experiment. On the one hand, the languages such as French, Slovenian, and German counterparts of the quantifiers of few, half, most, and almost studied so far have similar numerical bounds. On

the other hand, the English “some” is distinct due to numerical bounds and their potential to trigger scalar implicature.

From the first experiment findings, Stateva et al., (2020) addressed a second experiment raising the question of whether the “difference between English some and its counterparts impacts

the derivation of scalar implicatures” by comparing English some and French quelques.

The study evaluated the existential quantifiers studied have diverse semantic properties and as a result, they are prone to various pragmatic strengthening processes:

- “Quantity-based enrichment thorough scalar implicature” (Stateva et al., 2020) to the English quantifier “some”.
- “Stereotypical and non-stereotypical meaning enrichment through R/I-implicatures and M-implicatures” (Stateva et al. 2020) to the quantifier “some” of the other language counterparts.

Stateva et al., (2020) support the hypothesis that the English quantifier is pragmatically enriched with a scalar implicature by the fact that firstly speakers evaluated “some” as a large interval overlapping with the meaning of other existential quantifiers (half, many, most) and secondly by a lower rate of scalar implicature derivation (Stateva et al., 2020). Whereas, the counterparts of some in French, Slovenian and German are treated as degree-based quantifiers which are considered lexically synonymous with the lexical items corresponding to "few" in each language and antonyms of the lexical items corresponding to "many" (Stateva et al., 2020). In other words, consider the notion of degree scale which represents the quantity or extent of the referent. If we imagine a degree scale with "few" at the lower end and "many" (antonym of “few”) at the higher end, the counterparts of "some" in French, Slovenian, and German are associated with the lower part of this degree scale. This suggests that they are pragmatically enriched with a non-stereotypical implicature (M-implicature), meaning that the interpretation of these quantifiers goes beyond their literal meanings and incorporates pragmatic inferences. On the other, the non-stereotypical implicature associated with these counterparts of "some" places them at a greater distance from the endpoint of the degree scale compared to the stereotypically interpreted counterpart of "few". In other words, the interpretation of the counterparts of "some" in French, Slovenian, and German implies a greater extent than the stereotypical interpretation (led by R/I implicature) of few. In

conclusion, the counterparts of some in French, Slovenian and English are pragmatically enriched through R/I-implicatures and M-implicatures (Stateva et al., 2020).

Why are scalar implicatures relevant?

As Moxey and Sanford (2000) remark, speakers use a great number of quantity expressions including quantifiers every day whether in the form of numbers or verbal expressions. One might argue how people represent a quantity in verbal expression. Others might argue about the role of semantics and pragmatics in processing quantity and scalar implicature (for example Dupuy et al., 2016). Others might be more interested in focusing on the mental representation of scalar implicature and quantity (Pezzelle et al., 2018). No matter the research area, a great amount of literature has been presented from the very foundational study on Generalized implicature by Grice 1873. Huang (2018) describes the three main debates on Generalized Conversational Implicatures, particularly the Q scalar implicatures. One of the hot debates on scalar implicature is its nature and interpretation from NG and PG approaches (Huang 2018). As already discussed in the first section of Chapter 1, the Neo-Gricean proposes that Q-scalar implicatures convey default or presumptive meanings that language users have pre-calculated without conscious inferential processes. This approach is referred to as default inference theory. According to this theory, Q-scalar implicatures are generated as triggers of the implicatures encountered and they are to some extent conventionalized and associated with specific linguistic expressions that automatically generate these implicatures. Default implicatures can be cancelled by semantic content and context. A second approach is the contextual Inference Theory which argues that conversational implicatures, including Q-scalar implicatures, are essentially inferred in a contextual manner. Context plays a crucial role in deriving these implicatures (Sperry and Wilson 1986, 1995). The last approach is the structural Inference Theory which emphasizes the role of structural factors in the derivation of GCIs and Q-scalar implicatures and it considers Q-scalar implicatures as an integrated part of compositional semantics. Only over the last decade cognitive science has been investigating the pragmatic aspect of scalar inferences (Noveck and Reboul 2008) thus contributing to enriching the discussion on utterance interpretation especially the relation between the code (the word used in the utterance by the speaker), the inference speakers produce to convey meaning and their intention to produce those utterances. Thus experimental pragmatics can therefore help the discipline of traditional pragmatics by providing relevant and empirical information and

understanding more in detail the cognitive processes involved in communication and in this case in the interpretation of scalar implicature (Noveck and Reboul 2008).

Generalized Quantifiers

The groundbreaking application of Generalized Quantifiers (GQ) to natural language was made by a few pioneer papers, for example, Barwise Cooper (1981) and Keenan and Stavi (1986). The aim is to provide a formal set-theoretic account of semantic properties that are universal to natural language quantifiers. They noticed that general quantifiers are not only nouns but also particular determiners (Dets) which cannot be interpreted as a mere set of individuals as NPs always do but rather as relations of sets of individuals. As a result, these determiners turned out to belong to the category of all types $\langle 1, 1 \rangle$ quantifiers (Huang 2018).

Quantifiers have long been considered as a particularly intriguing class of words especially by linguists, since they display several peculiar properties. Quantifiers are considered as sets of relations (Barwise and Cooper; Keenan and Stavi 1986); then Levinson 2000 and Horn 1984 treated quantifiers as a lexical scale and as they are part of the Neo Gricean approach they claim that scalar implicature induces Q-implicature: the assertion of a lower leftmost alternate implies that the speaker is not in the position to assert a higher or rightmost alternate. The one-way semantic entailment that orders these sets guarantees that the leftmost items are informationally richer than the rightwards ones. In the study of natural language, Barwise and Cooper, Keenan Stavi among the papers on the Generalized Quantifier Theory (see also Montague 1973) provided a universal set of properties found in quantifiers. Keenan and Stavi 1986 claimed that the language context in which a quantifier is used affects the quantifier's meaning. Newstead, Pollard, and Riezebos (1987) argue for a mental representation as an ordered scale and Hammerton (1976) argues for a proportion interpretation of quantifiers. Paterson et al., (2009) argues that quantifiers are more than just expression to convey quantities and proportion but serve as important functions in discourse. Additionally, Quantifiers are found to be affected by pragmatic judgment (for example Stateva et al., 2020). Conducting an experimental resource on the mental representation of quantifiers, Pezzelle et al found that quantifiers primarily represent proportions and not absolute cardinalities and quantifiers are mentally represented on a quantity scale which is well-ordered and highly non-linear, bearing interesting similarities to the mental

representation of both numerical quantities and continuous magnitudes (Pezzelle et al., 2018).¹

As stated previously, quantifiers predicate properties of members of sets. Considering the English quantifiers all and some which is a quantifier scale <all, some>, Barwise and Cooper interpret these determiners with a set of theoretical logic concepts. According to this view, the truth conditions of these quantifiers are presented as relations between sets where the condition iff (if and only if) denotes the intersection of these two sets.

- i) “All of the As are Bs” is true iff $A \cap B = A$.
- ii) “Some of the As are Bs” is true iff $A \cap B \neq \emptyset$.
- iii) “None of the As are Bs” is true iff $A \cap B = \emptyset$.
- iv) “Most of the As are Bs” is true iff $|A \cap B| > |A - B|$.
- v) “Some of the As are not Bs” is true iff $A - B \neq \emptyset$.

From (Katso et al., 2016)

Traditionally, quantifiers have entailment properties.

Levinson 2000 and especially Horn pointed out this property as crucial for quantifiers' implicature (refer to the Aristotelian square of opposition).

All dogs are friendly. \rightarrow Some dogs are friendly.

Some dogs are friendly. \rightarrow Not all dogs are friendly

(Birner 2012: 89)

We can see that the universal (a) entails the particular (b) (all dogs are friendly entails that some dogs are friendly), whereas in cases (b), the use of the particular implies that the universal (a) does not hold (the use of some dogs that are friendly implies that not all dogs are friendly). The Square of Opposition thus reveals some intriguing patterns in language as well as the connections between entailments, contradictions, and implicatures (Birner 2012:88-91).

According to Barwise and Cooper, quantifiers should be treated as NP (noun phrase) comprising two elements, the determiner and a noun. Following this line for example “most”

¹ Paragraph from Pezzelle et al., (2018)

has to be treated as a determiner not as a quantifier. Whereas, the whole NP, “most children” is the quantifier. Thus emphasizing that “quantifiers denote families of subsets of the domain E of discourse”. In the natural language, Barwise and Cooper 1981, a quantifier Q (acts as a variable over quantifiers described as families of sets) “lives on a set $A \subseteq E$ if Q is a set of subsets of E with the property that, for any $X \subseteq E$, $X \in Q$ iff $(X \cap A) \in Q$.” (pp178) For example “many men run \leftrightarrow many men are men who run” the quantifier “many men” is represented by the subject of the sentence which live on the set of men. This determiner and others are a family of sets Q with the property $X \in Q$ if and only if $X \cap A$. In other words, this describes the quantifier $\|D\| (A)$ lives on A. This property is a universal semantic feature of determiners. Additionally, they provide a list of determiners which give rise to quantifier meaning: a, some, every, each, all, the, both, no, neither, many, few, most, a few, one, two, three...). For each determiner, there is a list of a series of properties and fixed models using mathematical structures. In conclusion, Barwise and Cooper proposed the description of generalized quantifiers in natural language.

Given the universe E and A denoting a set of individuals, some examples (Jacobson 2014: 169):

$\|Some\|$ is the function which assigns to each $A \subseteq E$ the family

$$\|Some\| (A) = \{X \subseteq E \mid X \cap A \neq \emptyset\}.$$

(it includes all sets X that have at least one element in common with A)

$\|Every\|$ is the function which assigns to each $A \subseteq E$ the family

$$\|Every\| (A) = \{X \subseteq E \mid A \subseteq X\}.$$

(it includes all sets X that contain all the elements of A)

$\|no\|$ is the function which assigns to each $A \subseteq E$ the family

$$\|no\| (A) = \{X \subseteq E \mid A \cap X = \emptyset\}.$$

(it includes all sets X that have no elements in common with A)

$\|all\|$ is the function which assigns to each $A \subseteq E$ the family

$$\|all\| (A) = \{X \subseteq E \mid |A \cap X| > |A - X|\}.$$

(it includes all sets X where the number of elements common to A and X is greater than the number of elements in A that are not in X)

$\|\text{most}\|$ is the function which assigns to each $A \subseteq E$ the family

$$\|\text{most}\|(A) = \{X \subseteq E \mid |A \cap B| > |A - B|\}.$$

(it includes all sets X where the number of elements common to A and B is greater than the number of elements in A that are not in B)

Take the phrase "Some dog ate" as an example. In terms of sets, this is true if the $\llbracket\text{eat}\rrbracket$ set is included in the aforementioned set of sets. For this to be the case, an individual must be a member of both the $\llbracket\text{dog}\rrbracket$ set and the $\llbracket\text{eat}\rrbracket$ set. In a similar vein, the set of sets with an empty intersection with the $\llbracket\text{dog}\rrbracket$ set is known as $\llbracket\text{no dog}\rrbracket$. On the other, "most dogs ate" is true if more than 50% of the dogs ate (Jacobson 2014: 166-167).

I consider the sentence "some dogs are docile". Given the semantic meanings (from Jacobson 2014), this is true as long as the intersection of dog set and the set of docile dogs is not empty. At the same time, most speakers might conclude that there are also dogs that are not docile (not all the dogs are docile) and infer that "all the dogs are docile" does not hold. Scalar implicatures are the result of conflict between two possibly contradictory statements. If a speaker makes a weaker statement in a situation where a stronger statement clearly contradicts the weaker one, the listener will assume that the speaker lacked justification for making the stronger assertion. This leads to the conclusion that the stronger statement is false given the assumption that the speaker is in a position to know its veracity and untruth. From this assumption, one may argue that "some" can be acceptable between the range of 1 to 99. However, there are some sentences (in the embedded sentences for example) that "some" to "not all" implicature disappear. For example, the sentence "Everyone who has taken some Phonetics courses is allowed to enrol in Phonology 1 and no one else" (Jacobson 2014: 361) does not exclude that there might be students who took all the phonetics courses. The meaning of "some" might trigger scalar implicatures and in some contexts, as provided in the example of some Phonetics courses, "some" does not entail "not all".

As far as the determiner many and few are concerned, Horn considers as contraries in the Aristotelian square. Jacobson, on the other from compositional semantics, considers them as not proportional determiners in the sense that most are. As presented previously, generally speakers assume that "most dogs ate" more than 50% of dogs should have eaten. Whereas the value of "few dogs" and "many dogs" depends on a variety of contextual factors, one of which could happen to be the size of the N set (the set of individuals). Additionally, Kennan

and Stavi (1986) treated “many” and “few” as non-extensional (Kennaan Stavi 1986: 256-258).

For more discussion on the lexical meaning of “most” see Ariel, (2006) and on the determiner “many” see Dobrovie-Sorin et al., (2012).

Examples of types of determiners

1. Lexical Dets: every, each, all, some, a, no, several, neither, most, the, both, this, my, these, John's, ten, a few, a dozen, many, few
2. Cardinal Dets: exactly/approximately/more than/fewer than/at most/only ten, infinitely many,...
3. Approximative Dets: almost all/no, hardly any, ...
4. Definite Dets: the, that, this,...
5. Exception Dets: all but ten,...
6. Bounding Dets: exactly ten, between five and ten, most but not all, exactly half the, (just), only SOME (= some but not all; upper case = contrastive stress),...
7. Possessive Dets: my, either John's or Mary's,...
8. Value Judgment Dets: too many, a few too many,
9. Proportionality Dets: exactly half the/John's, two out of three,...
10. Partitive Dets: most/two/none/only some of the...
11. Negated Dets: not every, not all,...
12. Conjoined Dets: at least two but not more than ten, most but not all,...
13. Adjectively Restricted Dets: more male than female, most male and all female,...

(Kennaan and Stavi 1986)

From Heim and Kratzer 1998, “Semantics in generative grammar”, quantifiers denote relations between sets. For example, “some cherries are of peach colour” is understood as a relation between the set of cherries and the set of cherries with peach colour which they are not disjoint from one another.

Below are some denotations of relations between sets, already discussed previously:

For any $A \subseteq D$ and any $B \subseteq D$:

$\langle A, B \rangle \in R$ every iff $A \subseteq B$

(every element in set A is also present in set B)

$\langle A, B \rangle \in R$ some iff $A \cap B \neq \emptyset$

(there exists an element that is present in both set A and set B)

$\langle A, B \rangle \in R$ no iff $A \cap B = \emptyset$

(the intersection of sets A and B is empty, indicating the absence of any shared elements)

$\langle A, B \rangle \in R$ at least two iff $|A \cap B| \geq 2$

(there are at least two common elements between set A and set B)

$\langle A, B \rangle \in R$ most iff $|A \cap B| > |A - B|$

(the number of elements common to both A and B is greater than the number of elements in A that are not in B) (Heim and Kratzer 1998)

As Heim and Kratzer 1998 pointed out, these denotations are definitions that were supported by the modern logic founders. However, they are incompatible with some presumptions made by Aristotelian logic regarding the semantics of the determiners "every," "some," and "no" which are reported below:

For any predicate α and β :

1. Every $\alpha \beta$ and no $\alpha \beta$ is a contradiction

For example, every child got a sweet and no child got a sweet.

2. Some $\alpha \beta$ or some α not β is a tautology

For example, some children got a piece of cake, or some children did not get a piece of cake.

3. Every $\alpha \beta$ entails some $\alpha \beta$

Every child got a sweet. \therefore Some children got sweets.

4. No $\alpha \beta$ entails some α not β

No child got more than two pieces of cake. \therefore Some children got 2 pieces of cake.

(Heim and Kratzer 1998:159-160)

Therefore, in order to include the properties of tautology, contraries and entailment, the following denotations are more suitable than the previous denotations:

F every = $\lambda \langle A, B \rangle: A \neq \emptyset . A \subseteq B$.

(it implies that all elements in set A are included in set B)

F no = $\lambda \langle A, B \rangle: A \neq \emptyset . A \cap B = \emptyset$.

(there are no elements shared between set A and set B)

F some = $\lambda \langle A, B \rangle: A \neq \emptyset . A \cap B \neq \emptyset$.

(there exists at least one element that is present in both set A and set B)

(Heim and Kratzer 1998:162)

F few = $\lambda \langle A, B \rangle: A \neq \emptyset . | A \cap B |$ is small.

(the cardinality, number of elements, of the intersection of sets A and B is considered small)

F most = $\lambda \langle A, B \rangle: A \neq \emptyset . | A \cap B | > \frac{1}{2} | A |$.

(more than half of the elements in set A are also present in set B)

F at least three = $\lambda \langle A, B \rangle: A \neq \emptyset . | A \cap B | \geq 3$.

(there are at least three common elements between set A and set B)

F at most three = $\lambda \langle A, B \rangle: A \neq \emptyset . | A \cap B | \leq 3$.

(there are at most three common elements between set A and set B)

(Heim and Kratzer 1998:163)

Express Quantity

Barwise and Cooper 1981 and Kennan and Stavi 1986 describe quantifiers as relations of sets in natural language and assume that quantities are described uniformly through sets.

However, in a communication, quantifiers interpretation and quantity might be influenced by the context thus altering the uniformity description of these determiners described traditionally.

Sanford and Moxey (2003) discuss the various ways in which quantity is expressed, including through numerical values and verbal expressions. Contrary to popular belief, quantities expressed verbally are not simply another way to express numerical information. Even though both natural language quantifiers and numerical expressions may express the same quantities, they serve different functions and have limitations in accurately conveying quantities. The study raised the concept of perspective which is highlighted as a crucial aspect of quantity information, influencing how it is perceived and evaluated. Consider the same example in Sanford and Moxey (2003) “some of the boys like skating”, in the evolution of this piece of information, informants may be influenced by the perspectives related to the sets given: the set of individuals who like skating and the set of individuals who dislike skating. In some cases, the quantity may be affected by whether events are being perceived as good or bad (more detail Sanford et al 2002). For example, consider the following context:

135 aeroplane crashes occurred last year worldwide.

7 of these crashes occurred in Russia.

We can evaluate that few crashes occurred in Russia. Based on Sanford and Moxey (2003) the determiner “few” brings about the focus on the set of aeroplanes that did not crash and therefore it conveys a positive perception. However, if we change “few” to “a few”, the focus would be on the set of aeroplanes that have crashed. Since the perception of the event is not positive one might emphasize that such events should not occur and therefore the quantity expressed may be altered. Therefore positive and negative expressions may affect people's judgments and attributions. In conclusion, the study suggests that perspective plays a significant role in decision-making, reasoning, and persuasive communication. Further research is recommended to explore the effects of perspective on various domains and to differentiate it from magnitude effects in quantity expressions and the need to understand the ambiguity of certain expressions and the difficulty people face in switching between different perspectives, despite recognizing their equivalence.

An example of a study where the determiners some and many in discourse are context-dependent (Yildirim et al., 2016).

Approaches to Italian and Japanese Quantifiers

Italian quantifiers

Zamparelli 2007 discusses the paradigm of the Italian quantifier “qualche” comparing it with the quantifier some. As noted by the experiment Montalto et al (2011), adults perceive the quantifiers “qualche” and “alcuni” as synonyms. According to traditional grammar, the quantifiers "alcuni" and "qualche" are considered similar with a distinction. "Alcuni," which has been employed in the present study, denotes a limited quantity and is typically used in conjunction with plurals. On the other hand, "qualche" signifies more than one, similar to "alcuni," but it is indefinite and denotes a smaller quantity. Notably, "qualche" is exclusively used in the singular case. In the Italian-English dictionaries I consulted “qualche” and “alcuni” are translated as some or a few with the sole distinction that qualche is described as an indefinite used only with singular whereas “alcuni” is an indefinite used only with plurals. Zampelli 2007 presents an analysis of the existential quantifier qualche and its variants (for example, un “qualche”) from the syntax and pragmatic perspective. The fact that “qualche” selects a singular count noun yet generally has a plural meaning, similar to the meaning of “some”/“a few”, is likely the most noticeable part of its semantics (see Zampelli 2007) Montalto et al. 2010 investigated whether native Italian adult and children speakers can rank the six quantifiers (“alcuni”, “molti”, “parecchi”, “pochi”, “qualche”, “tanti”) in their language according to magnitude. According to dictionaries, indefinite quantifiers as

“alcuni”, “pochi”, “qualche” (a few) and “molti”, “parecchi”, “tanti” (many) denote various magnitudes, which would not only allow for their coexistence in the language but also enable scalar ordering. The results show that despite adults and children both expressing a magnitude choice between quasi-synonymous quantifiers, adults did not compute linear scalar while children computed a partial ordering scale. Notably, one of the striking findings is that the study seems to indicate semantics overlap of specific quantifier pairs, namely, the overlapping of “alcuni” and “qualche” and the overlapping of “molti” and “tanti”.

Vender et al., (2020) investigate how scalar implicature computation in dyslexia is affected by the semantic property of quantifiers. Using the proportional quantifier *qualche* and the cardinality quantifier “alcuni” the study aims to investigate how Italian children with dyslexia judge under informative sentences that entail a scalar implicature violation and explore the semantic properties of these quantifiers. Through a Statement Evaluation Task and a Truth Value Judgement Task, the study confirmed that children affected with dyslexia took more effort in processing scalar implicatures with difficulties and secondly found a semantic distinction between “alcuni” and “qualche” reporting that the quantifier “alcuni” took more time to be interpreted than the proportional quantifier “qualche”.

Using a visual image test, Pezzelle et al., (2018) investigated the mental representation of Italian quantifiers: “nessuno” (none), “quasi nessuno” (almost none), “la minor parte” (the smaller part), “pochi” (few), “alcuni” (some), “molti” (many), “la maggior parte” (most), “quasi tutti” (almost all), “tutti” (all). One of the results found in the experiment is that quantifiers are represented on an ordered but highly non-linear scale, according to the pattern of inferred similarities among quantifiers. Additionally, the results appeared to be a distinct difference between quantifiers of low and high magnitude. However, the study also reports great overlap among high-magnitude quantifiers although displayed in an ordered scale. Overall, the results suggest that quantifiers typically express proportions rather than absolute cardinalities and they are conceptualized on a well-ordered, highly non-linear quantity scale showing interesting parallels to the mental representation of continuous magnitudes as well as numerical values. This suggests that quantifiers are mentally represented in a manner that at least largely corresponds to how we experience quantities with our senses (Pezzelle et al. 2018).

The following determiners are discussed in Crisma (2012).

Cardinal quantifiers: in this class, there are numerals but also “alcuni” and “qualche” which can be roughly translated as some. Unlike the English “some”, “alcuni” can combine only

with plural count nouns and “qualche” with singular count nouns. Both of them have plural denotation.

(5a)

Alcuni animali mammiferi volano
Some-pl mammal- m.pl fly
“Some mammals fly”

(5b)

*Alcun animale mammifero vola
Some-m.sg mammal-m.sg fly
“Some mammal fly”

(5c)

*Alcuna mammifera vola
Some-f.sg mammal-f.sg fly
“Some mammal fly”

(6a)

*Qualche animali mammiferi volano
Some-pl mammal- m.pl fly
“Some mammals fly”

(6b)

Qualche animale mammifero vola
Some-m.sg mammal-m.sg fly
“Some mammals fly”

(6c)

*Qualche mammifera vola
Some-f.sg mammal-f.sg fly
“Some mammal fly”

These Qs are considered as such that QAB (A and B are sets of individuals, and Q is quantifier expression) is the intersection of the sets A and B whose intersection is not equal to an empty set ($A \cap B \neq \emptyset$).

Value judgement Qs which combine with plural nouns. In this class, we may find determiners such as “molto” (many), “tanto” (many), “parecchio” (several), “troppo” (too many), “abbastanza” (enough), “poco” (few).

(7a)

Lo scorso Halloween ho dato ai bambini

Last Halloween have-1sg gave to children

molti / tanti / parecchi / troppi / abbastanza / pochi dolci

many / many/ several / too many/ enough /few sweets.

Last Halloween I gave to children many/ several / too many / enough /few sweets.

(7b)

Lo scorso Halloween ho dato via

Last Halloween have-1sg gave away

molta / tanta / parecchia / troppa / abbastanza / poca roba

A lot of / a lot of / a lot of / too much/ enough / little stuff.

Last Halloween I gave away a lot of / too much / enough / little stuff.

Proportional Quantification: simplex proportional determiners are “metà” (half) which combines with count nouns (plural and singular) and with mass nouns and “mezzo” (half) which combines with singular count nouns but not with plural nouns or mass nouns.

(8a)

Metà studenti ha/hanno trascorso il loro semestre all'estero nell'America del Sud.

Half of students have-3sg/3pl spent their semester abroad in South America

“Half of the students spent their semester abroad in South America.”

(8b)

Metà torre è stato ristrutturato

Half tower has been restored.

Half of the tower has been restored.

(8c)

Luigi usa metà olio per friggere le patatine rispetto a sua madre.

Luigi uses half oil to fry the chips compared to his mother

“Luigi uses half the oil to fry chips compared to his mother.”

(9a)

Mezzo molo è stato ristrutturato

Half-m.sg pair has been restored.

(9b)

*Mezzo torre è stato ristrutturato

Half tower-f.sg has been restored.

(9c)

*Luigi usa mezzo olio per friggere le patatine rispetto a sua madre.

Luigi uses half oil to fry the chips compared to his mother

The determiner can take a definitive di-phrase as the restrictor optionally preceded by a definite or indefinite article. Additionally, the determiner metà follows the article if the restrictor is a bare noun.

(10a)

(Una/La) metà dei libri tratta di linguistica.

(a/the) half of+the books deals with linguistic topics.

Half of the books deals with Linguistics.

(10b)

Mescolare il cioccolato con una metà di pasta

Mix the chocolate with (a) half of the dough

e la vaniglia con l' altra metà.

and the vanilla with the other half.

“Mix the chocolate with half of the dough and the vanilla with the other half.”

The determiners *metà* and *mezzo* have subtle difference meaning:

(11a)

Metà paese è stato distrutto dalla tempesta.

Half town has been destroyed by+the storm.

“Half of the town has been destroyed by the storm.” It means that one area of the town has been destroyed and the other one has been spared and is safe.

(11b)

Mezzo paese è stato distrutto dalla tempesta.

“Half of the town has been destroyed by the storm.” It means that half of the houses have been destroyed but not necessarily in a circumscribed area.

Modified universal Qs: all the universal D quantifiers can be modified by “*praticamente*” (practically), “*quasi*” (almost) and “*proprio*” (precisely). Consider the following example with the universal quantifier “*tutto*” (all).

(12)

Luigi ha mangiato quasi tutto

Luigi have-3sg eaten almost all

“Luigi ate almost all.”

Complex proportional Qs corresponding to the English *most*: “*la maggior parte di*”, “*la maggioranza di*”, “*il grosso di*”. They are partitive constructions comprising of a prepositional phrase introduced by *di* (of) as a restrictor and a definite DP.

(13)

La maggior parte dei libri tratta di linguistica.

Most of+the books deal with Linguistics.

“Most of the books deal with Linguistics.”

For a complete description of Italian quantifiers see Crisma (2012)

Pezzelle et al. 2018 investigated the mental representation of Italian determiners. As the study reported, the quantifiers end up falling into order: "none," "almost none," "few," "the smaller part," "some," "many," "most," "almost all," and "all". Thus, from the distribution of estimated similarities among quantifiers, they are scaled in an ordered but distinctly non-linear manner. Low-magnitude quantifiers, such as "none," "almost none," "few," and "the smaller part," in particular, were found to be perceived as being relatively far apart from one another, indicating that their abstract semantic representation is well defined and well organized on a scale. High-magnitude quantifiers, such as "many," "most," "almost all," and "all," on the other hand, proved to have significant overlap, albeit usually along an ordered scale. To sum up, some of the findings of the study include the demonstration that quantifiers do not necessarily correlate to a precise number of things or a set percentage, however, the determiners attempt to represent somehow quantities (Pezzelle et al., 2018).

Additional works on quantifiers are Garzonio and Poletto (2009) focused on the diachronic study of quantifiers and negation specifically, considered minimizers and the quantifier nothing which became negative markers; Garzonio and Poletto (2017) focus on the internal syntax of bare quantifiers such as the Italian quantifier tutto (everything) and niente (nothing) of both Italian variations from the synchronic and diachronic perspective and demonstrated that some Italian versions of bare universal quantifiers contain a classifier-like term rather than being bare. This means that the internal structure of complicated quantified nominal expressions cannot be assimilated into the structure of bare quantifiers; Magri (2011) focused on the quantifier “some” for example “Some Italians come from a warm country” (Magri 2011) and argued the fact that scalar implicatures are computed both at the matrix level and in embedded position.

Japanese quantifiers

Japanese is an SOV language, and case markers are typically added to nominal expressions that act as verb arguments (Hayashita 2012:535-612).

Intransitive construction

Kenta ga neta (yooda)

Kenta NOM slept seem

“(It seems that) Kenta fell asleep.”

(Hayashita 2012:536)

Transitive construction:

Taroo ga Ziroo o nagutta (sooda)

Taro NOM Jiro ACC hit heard

“(I heard that) Taro hit Jiro.”

(Hayashita 2012:536)

Ditransitive construction:

Megumi ga Kimura sensei ni ronbun o okutta (rasii)

Megumi NOM Kimura teacher DAT paper ACC sent seem

“(It seems that) Megumi set a paper to Prof. Kimura.”

(Hayashita 2012:536)

Transitive construction with Q:

John wa takusan no hon o yonda

John TOP many GEN book ACC read

“John read many books.”

(Hayashita 2012:549)

Kawashima 1998 offered a comprehensive examination of the distribution of Japanese quantifiers, approximation quantifiers, and numerals. The study focuses on the computation of the quantifier “all” and on the numerical quantifiers.

Nishiguchi 2009 argued that Japanese quantifiers are not directly applied by the generalized quantifier theory and that predicative adjectives and split NP and non-split NP quantifiers are used in Japanese to express quantities. Japanese speakers generally express numbers and quantities as predicates whereas in English quantifiers are normally noun phrases. In addition, Japanese has predicative adjectives that are both weak and strong quantifiers.

For example

(14a)

Oku-no nihonjin-wa A-gata-da.

many-gen Japanese-top A-type-be

“Many Japanese are type A.”

(14b)

Nihonjin-wa A-gata-ga oi.

Japanese-top A-type-nom many

“Many Japanese are type A.”

(15)

The number of attendants was {many/few/forty/*most/*every}.

Kessekisha-ga {okata/sukunakat/yonju-nin-dat/hotondo-dat/zen-in-dat}

Absentee-nom many/few/40-cl/most/every-be

-ta.

-past

“There were many/few/40/most/all people who were absent.”

(Nishiguchi 2006:154)

Nishiguchi 2006 elucidates that the denotations of the Japanese quantifiers “many” and “three” would be sets of entities whose numbers are regarded as “many”, and “three”, respectively since adjectives denote property or set of entities. A few characteristics to be considered are that quantification in Japanese generalized quantifiers although do not correspond to NPs continues to be based on the relation between two predicates thus proposing that Japanese GQ are relational.

For example

(16)

3 arguments

(9) GakuseiNP -ga amerikajinNP -ga joseiNP -ga oiAP (koto).

student-top American-nom female-nom many fact

“Many students are female Americans.”

In addition, Nishiguchi (2007) highlights the nuances of quantifiers used in Japanese, including the influence of word order on definiteness, the flexibility of floating quantifiers, the potential for splitting quantifiers with adverbials, and the distinction between definite and indefinite descriptions based on quantifiers' position. In other words, the position of quantifiers in Japanese sentences affects how definite or indefinite they are. When quantifiers come before the noun they modify, they usually indicate definiteness, referring to a specific group of entities. On the other hand, when quantifiers appear after the noun, they tend to be

less definite, suggesting an unspecified or general group of entities. Moreover, using a non-split quantifier phrase (QP) in Japanese implies definiteness, assuming a unique and known set of entities. It corresponds to a definite description. However, when a quantifier is split from the noun it modifies, it suggests indefiniteness, as the referents are not presupposed or specified corresponding to an indefinite description (for more argumentation see Nishiguchi 2007).

Quantification in Japanese gives an exhaustive explanation of generalized quantifiers and numerals in Japanese (Hayashitz 2012)

Phrases describing amount: syoosuu “a small amount, tasuu “a large number, takusan “many”

(17)

Takusan no hito ga kimashista
Many GEN people NOM came
“Many people came.”

(18)

Syoosuu no hito ga kimashista
small:number GEN people NOM came
A small number of people (few) came

In the Japanese language another way to express the English existential quantifier is by using the nominal modifier aru (some) to a nominal phrase.

(19)

Aru hito ga kimashista
some people NOM came
“Some people came.”

Proportional quantifiers for “almost all” and “half” are “hotondo” and “hanbun” in Japanese. “Hotondo” may also signify “most”.

(20)

Hotondo no hito ga kinashista

Most people came

Almost all people came

However, “hotondo” does not encompass all the meanings of “most”. If we want to describe a situation where 51% of “dogs ate” it is not appropriate to use “hotondo” (Hayashita 2012: 568)

(21)

Hotondo no inu ga tabemashista

Det GEN dog NOM ate

“Almost all the dogs ate.”

?“Most dogs ate”

(22)

Hanbun no inu ga tabemashista

Half GEN dog NOM ate

“Half of the dogs ate.”

(23)

Uti no gakusei no hanbun ga kita

Our GEN student GEN half NOM came

(Hayashita 2012: 570)

Expressing Japanese quantities involve the use of many types of expressions both numerals, non-verbal expressions. A determiner which has been used as “most” (“hotondo”) may not be intended as “most” but as “almost all”. There are a great number of subtle differences among these determiners and quantities expressions which may put lots of effort into choosing the right quantity expression. For more reference see Hayashita (2012).

In the domain of language acquisition studies, specifically, to explore the relationship between the acquisition of numerals and quantifiers, Barner et al. 2009 conducted two tests with Japanese speakers of 2-5 years of age and compared the outcomes with the English

counterpart. The quantifiers “hitotsumo” (none), “ryoho” (both), “chotto” (a few), “ikutsuka” (some), “nokotteiru” (the other), “takusan” (many), “hotondo” (most), and “zembu” (all) were used as the study's materials. Other studies focusing on Japanese quantifiers are related to the phenomenon of the so-called floating quantifier with a particular focus on numeral quantifiers (Fukushima 1991, Miyagawa 2007, Yokota 2014).

3. Bilingualism

Knowing two or more languages is referred to as bilingualism or multilingualism. Contrary to popular opinion, not all bilinguals are fluent in both languages. The majority of bilinguals do not speak both languages equally fluently. People who are bilingual use their languages for a variety of activities and in various spheres of life. Their proficiency in a language is based on how much they use it. Because of this, many bilinguals are more proficient in one language while others are illiterate in one of their languages (Grosjean and Li, 2013:6-7). The definition of multilingualism is frequently unclear. As a result, it can refer to bilingualism acquired from birth or infancy and languages learned later in life in a natural or educational context. Language interaction may end at some point or continue throughout life. It could be frequent or intermittent, private or public, richer or impoverished. These factors collectively have an impact on bilinguals' language proficiency. Therefore, multilingualism results from language contact, and the quantity and kind of language input do affect the growth and maintenance of multilingualism (Schwieter and Paradis, 2019:6).

Choosing the language is the first step a bilingual must before engaging in conversation or performing a specific skill like reading or writing. In a monolingual state, this operation is quite straightforward, but in a bilingual mode, it is much more difficult. There is always the chance of using the language(s) not chosen as the base language(s) when in a bilingual mode, that is when engaging with someone who speaks multiple languages. If the situation warrants it and the participants feel at ease doing so, this occurs. Two possible linguistic phenomena may occur during bilingual engagement: code-switching or borrowing (Grosjean and Li, 2013:18-20). A single utterance that switches from one language to another is referred to as code-switching. Contrarily, borrowing is the blending of two different languages (Hickey 2020:1-20).

On the other hand, in a monolingual setting interferences may occur (Grosjean and Li, 2013:21). As briefly mentioned at the beginning of this chapter, “second-language acquisition cannot, in principle, be a precise replica of mother-tongue learning” (Dewaele et al. 2003:29), as a matter of fact, literature on second language acquisition, language contact, bilingualism,

and cross-linguistics influence have been greatly studied so far (Kroll and De Groot 2009:128). Despite strong discrepancies among linguistics and psychologists over first-language (L1) and second-language (L2) learning, there seems to be an agreement that since L1 acquisition comes before L2 acquisition, L1 information must be a significant part of the starting state for L2 learning. This requires an understanding of how language functions in addition to a wide range of language-specific aspects that are only marginally pertinent for the creation of the new L2. When learning a second language, the transfer from L1 to L2 is made possible by this preexisting L1 knowledge (Saville-Troike, 2017). More specifically, there is broad consensus that one of the processes involved in interlanguage development is cross-linguistic impact, or the transfer of prior information from L1 to L2 (Saville-Troike, 2017).

This phenomenon, the cross-linguistic influence, has been studied intensively across different linguistic domains: for example in the domain of vocabulary (Bardel & Lindqvist, 2007; Sheng et al., 2016), in the domain of phonology (Kim, 2009), morphology (Ramirez et al., 2011), morphosyntactic (Wang et al., 2022), syntax (Cuza, 2013), pragmatic (Bu 2012). In the study of scalar implicature, specifically in the quantifier domain, several pieces of research involving bilingualism have been conducted (for example Mazzaggio et al., 2021). Mazzaggio et al. 2021 investigated the two competing default and non-default models and their predictions regarding scalar implicature in second-language learners involving native Italian speakers who were learning English or Spanish as their second language. The study focused on the interpretation of scalar implicatures induced by oral materials in L2 learners and discovered that individuals tested in L2 were less likely than participants tested in L1 to infer a pragmatic interpretation of under-informative sentences. The primary finding shows that generating such pragmatic interpretations is expensive and non-automatic because L2 oral processing is more resource-demanding than L1 processing when time is of the essence. Thus providing additional evidence in favour of non-default models.

In the domain of syntax, Serratrice et al., (2020) found crosslinguistic influence from the first language (English) to the second language (Italian) in the study focusing on the grammatical judgement of specific generic plural NP in English and Italian involving both monolingual English young speakers and English-Italian bilingual speakers living in the UK and Italy. Specifically, when it came to accepting plural noun phrases (NPs) in an English context with a definite article, English-Italian bilingual children did not differ significantly from English-speaking monolingual children; however, in the Italian test, bilingual English-Italian children were more likely to accept plain plural NPs in a generic context than monolingual

Italian children. This posits cross-linguistic influence from English to Italian. It is clear that English had an impact on bilingual children's acceptance of bare plural NPs in Italian. Moreover, it was observed that bilingual children living in Italy consistently performed better than their bilingual counterparts in the UK. This finding suggests that the frequency of exposure to Italian (the language with the obligatoriness of definite articles) influences the likelihood of accepting a bare plural as an acceptable generic phrase. The more exposure bilingual children have to Italian, the more likely they are to accept bare plurals in generic contexts. Thus reporting that a bilingual child's performance in both languages is significantly influenced by the frequency of input in each of the two languages. In other words, second language grammatical judgement is more accurate the higher the input.

Along the same line, Kupisch (2012), whose study is similar to Serratrice et al., (2020) but this time focuses on the use and interpretation of specific and generic subject noun phrases in Italian German-Italian simultaneous bilinguals and second-language learners with Italian as their second language and German as their first language. The study found that some L2ers performed native-like and on par with bilinguals whose stronger language was Italian, indicating that L1 influence can be overcome at advanced stages of development. Frequent exposure and consistent input were found to be more crucial in grammatical judgement.

In the context we live where we use multiple languages and where English has become our lingua franca and we communicate in academic settings and work, it is interesting how non-native English speakers treat the English language, in this case, the quantifiers. The current study particularly focuses on the representation of English quantifiers, the experiment conducted by Stateva et al., (2020), for the first time proposed in a bilingual setting.

From previous literature on linguistic interferences specifically on L1 transfer to L2 (Serratrice et al. 2020; Kupisch 2012), we may hypothesize that the bilingual group might display L1 knowledge of L2 grammatical judgement; however, if the bilingual group has a high proficiency in English they might have the same judgment on the distribution of the quantifiers as the English native group performed in the experiment Stateva et al., (2020).

My study

The current study intended to broaden the potential cross-linguistic variance by examining how non-numerical quantifiers are expressed in Italian and Japanese by replicating the first Stateva et al., (2020) experiment. A bilingual Italian-English population was also included in the study in order to examine the role of bilingualism in the process of quantifiers' quantity interpretation, specifically to the Italian speakers of English, while taking into account the findings of Stateva et al., (2020) regarding the English word "some," which was found to have a unique quantity distribution that distinguished it from its counterparts in the other languages included in the study. Specifically, it examines the numerical bounds connected to each quantifier across languages and contends that the cross-linguistic variation seen in the case of "some" results from the use of several pragmatic strengthening processes.

Methodology (participants, material, and procedures)

This chapter presents the methodology and the procedure of each experiment conducted to analyse the quantifier scale processing of each language.

This study aims to replicate the same experiment 1 of Stateva et al., (2020), extending the research including the quantifier representation of the Italian speakers, quantifier representation of the Italian speakers of English, and a non-Indo-European language involving Japanese speakers in this study.

Four experiments were conducted to answer the research questions introduced in the Introduction section and reported below.

Research questions:

1. How is the quantifier scale divided in the Italian language and what is the nature of the quantifier “alcuni” (some)?
2. How do Italian-English bilinguals represent the quantifier scale in L2 and how do they treat “some”?
3. How is the quantifier scale divided in a non-Indoeuropean language, Japanese?

Based on Stateva et al., (2020) the study explored the representation of non-numerical quantifiers in Italian and Japanese, and it also examined the impact of bilingualism on the representation of quantifiers in an Italian-English bilingual population. First, the study focused on the interpretation of the Italian quantifier scale involving native Italian speakers,

and a second experiment with Italian-English bilinguals was conducted to assess how Italian speakers of English cope with the English quantifier scale processing.

The methods and research design adopted for all the experiments are the same as those adopted by Stateva et al., (2020).

Stateva et al., (2020) investigated the distribution of quantificational determiners across linguistics by conducting a series of similar experiments in four languages: English, French, German, and Slovenian. The quantifiers chosen for the experiments were: few, some, half, most, and almost. In choosing the target items, Stateva had several considerations. Firstly, they included 'almost' and its translations, inspired by Stateva's (2006) proposal that it lies on a Horn-scale alongside all and most. They wanted to determine whether 'almost' produces a lower range of interpretation than its set-theoretic meaning suggests. Secondly, there has been limited experimental study of 'almost', and so this was an opportunity to explore its meaning. We did not use the universal quantifier 'all' or the existential quantifier 'no' as their associated proportions are too narrow (100% and 0% respectively), rendering their associated intuitions trivial. However, we did include the quantifier 'half', as its associated range is also quite clear-cut (around 50%), but the actual numerical proportions used in our experiment meant that speakers did not necessarily have direct access to the result of the calculation, introducing a certain degree of fuzziness (Stateva et al., 2020).

The study presents the Italian monolingual experiments (Experiment 1) divided into two subgroups depending on the experimental material, the Italian-English bilingual experiment (Experiment 2) and the Japanese monolingual experiment (Experiment 3) respectively. In the following chapters, a brief overview of the Methodology used in all 4 experiments is presented. A detailed description of each experiment is provided in the section of each experiment.

Population and Sampling

A total of 191 speakers were recruited for the survey of which 119 were included in the data analysis. The sample consisted of students from the University of Venice and speakers from the general public. Sampling techniques used are probability sampling for the Italian monolingual and Italian-English experiments, whereas, for the Japanese experiment, a non-probability sampling method (snowball sample) was employed. The participants recruited were all volunteers. No restrictions on age participation were applied, although the

preferable age target was set from 17 to 45. However, participants over 45 of age were accepted.

Material

The experimental test used in this study is from Stateva et al. (2020). The experimental sentences were translated into the target languages maintaining the original meaning of the test.

Fifty items were created for use in the experiment. Each item had two sentences. The first sentence described an event and stated the number of people involved. The second sentence referred to a subset of those people. The numbers used in the first sentences of the items varied from 100 to 200. The ratio between the first and second numbers in the items was adjusted to cover the range from 1 to 99%, increasing by 2 each time. Every item was accompanied by five sentences that described it, each using a different quantifier. Respondents rated how well the sentences described the item using a 5-point Likert scale with endpoints labelled "not well" and "very well"².

Procedure

All four surveys were published on sosci survey. They were divided into two sections of which the first section required information on age, gender, mother language, and second language in the case of the Bilingual survey, normal or corrected sight, and acceptance of taking part in the survey; the second section contained all the 50 experimental items. These 50 questions were randomly ordered by the sosci survey platform. Additionally, the first section included an introduction, the consent form, and a brief instruction on the experiment was presented all at once including the anamnestic form with the required information described previously.

Participants were able to access the survey anytime and anywhere through a link via email sent by the secretary offices of the University of Venice for Experiments 1 and 2, whereas for Experiment 3 the link was given directly to the participants either via email or social media.

The participants were instructed to use the intuition of their mother language or second language in the case of the bilingual case to evaluate the adequacy of each sentence:

² Same material as in Stateva et al (2020)

In this study, you will be presented with 50 contexts each of which is accompanied by 5 sentences summarizing them. Using a grading scale from 1 (inappropriate) to 5 (very appropriate), please indicate how appropriately each sentence describes the context according to your intuition.

*Please note: this experiment does not test your knowledge of **Italian**. We are interested only in your personal intuitions about meanings with respect to the contexts provided. Therefore, do not dwell on the contexts, and do not consult any external sources (e.g. grammar books). Simply follow your first hunch when evaluating the adequacy of each of the sentences for a given context. When you are through with a context, click on the "Next" button, to move on to the next one. The experiment lasts approximately 40 minutes. If needed, you can take short pauses after completely evaluating a context.*

The surveys were given in the mother language of the participants. Therefore, they were translated from the original test in English to the target languages.

Below is an example of a test item

Figure 1

soSci
oEb - der onlineFragebogen

175 consumers bought the product.
2 of these consumers returned the product.
Please evaluate how well each of the following sentences describes the situation above.

Test sentences

	not well	very well			
	1	2	3	4	5
Some consumers returned the product.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Most consumers returned the product.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Few consumers returned the product.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Almost all consumers returned the product.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Half of the consumers returned the product.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Participants were asked to evaluate the adequacy of each sentence containing a quantifier (few, some, half, most, almost all). The task is to evaluate the sentences which best represent the meaning of the context.

In order not to create a bias in the evaluation process, all the sentences of each test item were randomly ordered as well as all the test items as previously presented.

Moreover, the participants were informed in the first section of the experiment that the data collected was anonymous:

*This research is anonymous. Anonymous means that we will record no information about you that could identify you. There will be no linkage between your identity and your response to the research. This means that we will not record your name, address, phone number, date of birth, etc. If you agree to take part in the study, you will be assigned a random code number that will be used on each test and the questionnaire. There will be no way to link your responses back to you. Therefore, data collection is anonymous.*³

Data collection and Data analysis

The test was prepared through the sosci survey software during the Summer of 2022 and prior check in the following month. Experiment 1A, Experiment 2, and Experiment 3 were conducted during October and November approximately for 40 days. Whereas Experiment 1B was prepared in Winter 2023 and surveyed in February 2023 during the first two weeks of the month.

The data was collected with the help of the University of Venice for recruiting participants. The data collected were analyzed by applying descriptive statistics. First, the raw data underwent a cleaning process considering the results of the *half* condition. The answers to the *half* condition were considered appropriate in the range between 45% and 60% of the proportionality scale from points 3 to 5 of the Likert scale representing the acceptability score for each test. The answers of the two extremities (1%-44% and 61%-100%) were required to have 1 or 2 points. The answers to the whole test of each participant were analyzed thoroughly through this half condition. Moreover, participants' answers were included in the appropriate data if 80% of the answers followed the half condition. The participants' answer sheets were considered inappropriate and discharged from the data analysis if the participants did not answer correctly with more than 21% of the answers being mistaken, tests being left blank, and having the same acceptability score for all the answers.

The cleaned data were then analyzed with descriptive statistics. First, the percentage for each context was calculated. Below Table 1 presents the percentages of each context.

Table 1

³ Part of the introduction section (consent form) of the online survey

ITEM	TOT	%
1	0.01143	1.14286
2	0.02976	2.97619
3	0.05185	5.18519
4	0.07087	7.08661
5	0.08861	8.86076
6	0.11111	11.1111
7	0.13333	13.3333
8	0.14925	14.9254
9	0.16912	16.9118
10	0.18841	18.8406
11	0.21088	21.0884
12	0.23256	23.2558
13	0.25309	25.3086
14	0.27168	27.1676
15	0.28834	28.8344
16	0.30822	30.8219
17	0.32813	32.8125
18	0.34722	34.7222
19	0.37162	37.1622
20	0.38931	38.9313
21	0.40854	40.8537

ITEM	TOT	%
22	0.43077	43.0769
23	0.44828	44.8276
24	0.47183	47.1831
25	0.48936	48.9362
26	0.5125	51.25
27	0.5302	53.0201
28	0.54839	54.8387
29	0.56688	56.6879
30	0.59172	59.1716
31	0.61364	61.3636
32	0.62733	62.7329
33	0.65116	65.1163
34	0.67059	67.0588
35	0.69182	69.1824
36	0.70861	70.8609
37	0.72932	72.9323
38	0.7485	74.8503
39	0.76642	76.6423
40	0.78947	78.9474
41	0.81169	81.1688
42	0.8303	83.0303

ITEM	TOT	%
43	0.85256	85.2564
44	0.87302	87.3016
45	0.89157	89.1566
46	0.90647	90.6475
47	0.93007	93.007
48	0.95172	95.1724
49	0.97143	97.1429
50	0.98684	98.6842

For the descriptive analysis, mean, average and Standard Deviation of each quantifier was calculated. The acceptability score for each condition was represented with a graph. The graph shows in the x-axis the evaluated proportion in percentage and the y-axis represents the acceptability value (acceptability score from 1 to 5 points). The graphs have been created using the percentage of each context (in the example the context represents 1%) and the average score for each quantifier. The discussion is focused on the results represented in the graphs and a comparison between Stateva et al., (2020) results and the current results will be presented as well as the comparison between the results of Experiment 1 and Experiment 2 of the current study.

Example

175 consumers bought the product.

2 of these consumers returned the product.

$$2/175 * 100 = 1.14\%$$

How do the speakers of a native language and bilingual speakers treat this subset of individuals representing approximately 1% of the population?

Participants are asked to evaluate each context provided and consider the suitability of the quantifier from among the following determiners: *few, some, half, most, and almost all*. Only for the Italian group the determiner *molti* (many) has been added in the experiment.

Experiment 1 - Italian monolingual

Methodology

The study investigates the Italian distribution of quantificational determiners with the same experimental design conducted by Stateva 2020 with 4 Indo-European languages (English, French, German, and Slovenian). In this experiment, research focuses on the native Italian speakers' judgment of Italian quantifiers.

The quantifiers have been translated from the English experiment (Stateva et al. 2020) to Italian, consulting the range of the quantifiers in Italian in the experiment conducted by Pezzelle et al. (2018).

Table 2

FEW	SOME	HALF	MANY	MOST	ALMOST ALL
POCHI	ALCUNI	META'	MOLTI	MAGGIOR PARTE	QUASI TUTTI

In experiment A the participants were addressed with the quantifiers: POCHI few, ALCUNI some, META' half, MOLTI many, QUASI TUTTI almost all.

In experiment B the target quantifiers were the same as in experiment A except for MOLTI which was exchanged with MAGGIOR PARTE.

Table 3

Experiment A	POCHI	ALCUNI	META'	MOLTI	QUASI TUTTI
Experiment B	POCHI	ALCUNI	META'	MAGGIOR PARTE	QUASI TUTTI

Experiment A

Participants

57 self-reported native Italian speakers were recruited for experiment A⁴.

The participants were almost all from the Department of Asian and North African Studies and the Department of Linguistics and Comparative Cultural Studies of Ca' Foscari University.

The youngest is 19 and the oldest is 59 years old.

10 participants were excluded from the data.

Table 4

Total participants	Males	Females	Normal sight	Corrected sight	Average Age
47	6	41	23	30	25
			6 males	3 males	
			17 females	37 females	

Material

As in Stateva et al., (2020) experiment, the participants of the current study were presented with fifty items acting as experimental materials. There were no control materials. Each item contains a two-sentence context: the first sentence includes an event and reference to the cardinality of a set of individuals. The second sentence includes information on one of the subsets of the first sentence context. The set of individuals has a cardinality range from 100 to 200. The proportion scale covers from 1% to 99% with an increment of 2 (Stateva et al., 2020). Each context item presented five sentences describing the context by using different quantifiers (few, some, half, most, almost all). For each sentence, a 1-5 Likert scale with annotated endpoints not well (1) and very well (2) in this case in the Italian version of the questionnaires was accompanied.

The material used in Stateva et al., (2020) for the first experiment was translated into Italian from English and accurately revised. The translation into Italian did not require a change of context or in the number of sentences. Therefore, all experimental sentences and their context's meaning were kept as original.

⁴ Experiment A includes the quantifiers pochi, alcuni, metà di, molti and quasi tutti (few, some, half, many, and almost all respectively)

As far as the experimental determiners are concerned we used the Italian “pochi”, “alcuni”, “metà”, “molti”, “maggior parte” and “quasi tutti” as the Italian counterparts of “few”, “some”, “half”, “many”, “most” and “almost all”.

For the experiment, the software soSci survey was used. The online survey contains on the first page a brief presentation of the experiment, a consent form, and pieces of information requested from participants such as age and information about speakers’ L1 and eventually L2. On the second web page, all fifty experimental items were presented at once in a randomized order.

Methods

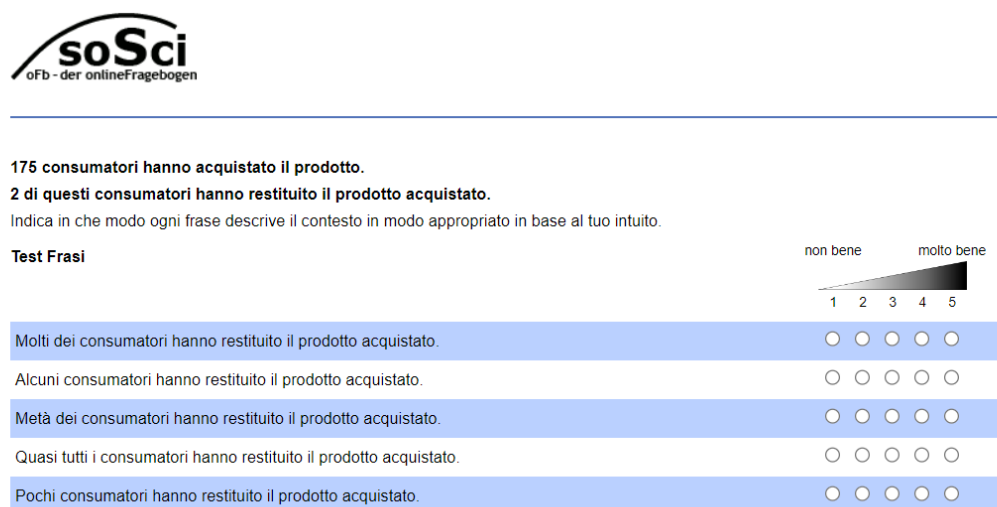
The quantitative analysis method was adopted for this study. The data collected in the form of a survey was analyzed with descriptive statistical analysis.

The questionnaires underwent analysis and cleaning using the half-control condition. Only the questionnaires that adhered to the half-control condition were included in the analysis.

The acceptable range for the determiner "half" was determined to be 45-60%. Since the determiner half is considered as being in the middle range any ranges outside 45%-60%, such as 1% to 44% and 61% to 99%, were not considered as acceptable ranges. Thorough verification was conducted for all questionnaire answers. To be considered acceptable, a questionnaire needed to meet the "half condition" for at least 80% of the responses.

Specifically, if the speaker's answers fell within 45% to 60% with an appropriate margin of 3 points above, and if the answers were less than 3 points outside this range ($x < 3$ with $x \neq 3$), they were considered acceptable for the other ranges.

Figure 2



Procedure

The survey was accessed through a web link. The invitation to participate in the experiment was sent by the student office to all students of the Faculty of Language of the University of Venice.

Participants were given information and instructions about the experimental procedure and purpose of the study prior to their participation in the experiment.

Participation in the experiment was voluntary and anonymous. Participants were not paid to participate in the experiment and no information regarding the participant's sensitive identities was recorded. There was no pre-established time and place to take part in the experiment. Participants could take the survey at any time and were allowed to take brief pauses after completely evaluating a context, not to answer questions that they were not comfortable with, and participants could withdraw at any time.

The first online survey, experiment A⁵, was accessible for about 1 month from October 22nd until November 22nd.

⁵ Experiment A includes the quantifiers *pochi*, *alcuni*, *metà di*, *molti*, and *quasi tutti* (few, some, half, many and almost all respectively)

Results

Figure 3 - Experiment A

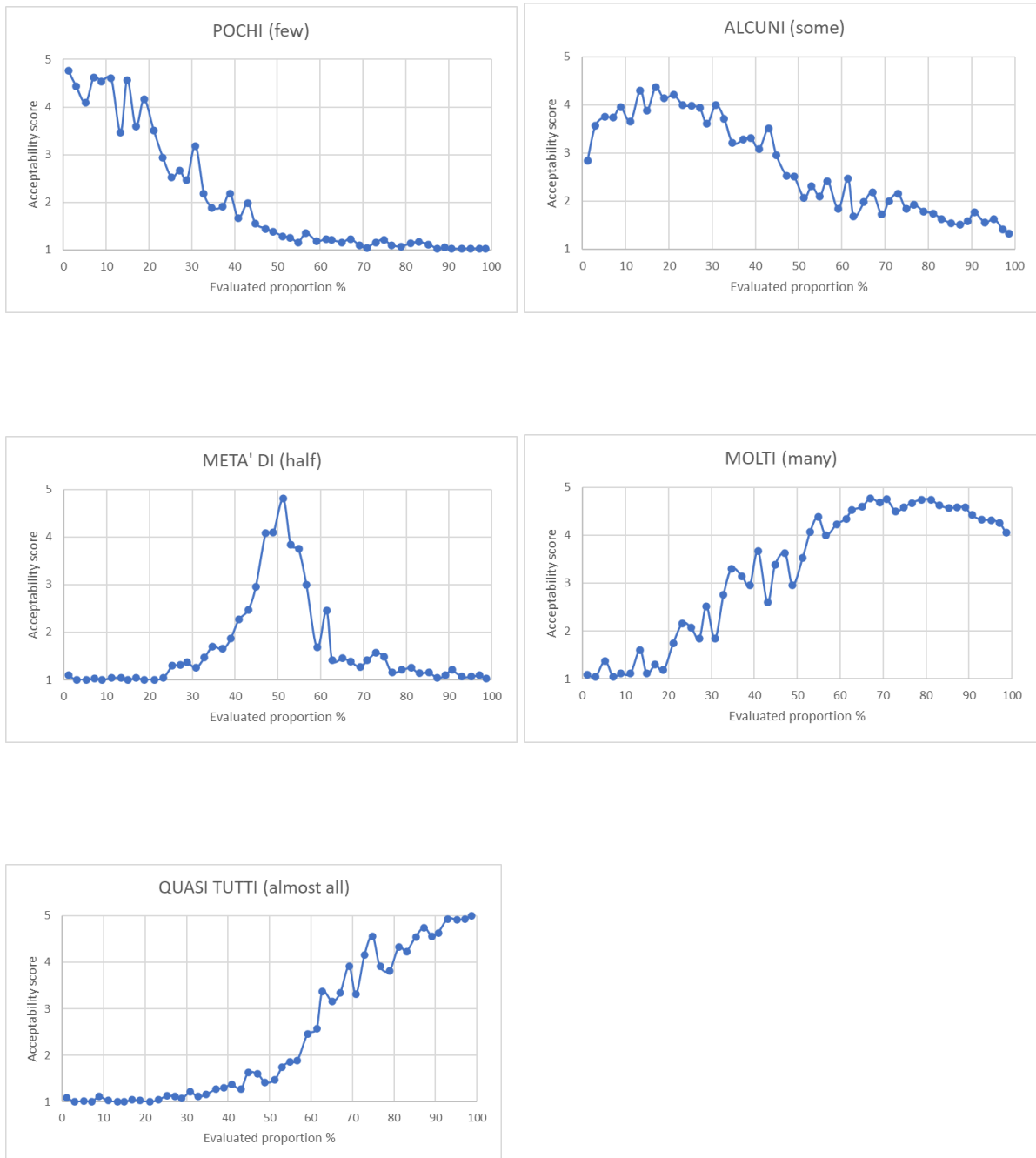


Table 5 - Average Standard Deviation for each quantifier

POCHI	ALCUNI	META' DI	MOLTI	QUASI TUTTI
0.695	1.122	0.727	0.846	0.630

Time spent in Experiment A 1846s (30 minutes) except the time spent on the introduction page 437s (7 minutes).

As already discussed previously, the threshold for a positive judgment is 3 points as a minimum.

The results of Experiment 1 (A) are represented in Figure 3. Overall the numerical proportion characterized by the Italian counterpart in the respective quantifiers follows the same results in Stateva et al., (2020). In particular, “pochi” appears to be restricted below 50%, specifically with a range from 1% to 30%, with the score peaking in the first quarter (<25%) of the proportional range. On the other hand, “quasi tutti” is predictably evaluated higher with the proportion of 50% and above increasing steeply toward the last quarter (>75%). The determiner “metà” peaks around 50% and sharply drops before and after the midrange. The quantifier “alcuni” has been judged restrictive below 50%, specifically from 2-3% to 45% of the proportional range, whereas “molti” has a wide range from 35% and above with the score peaking around 65-90% last quarter of the proportional range.

Discussion

The discussion section for Experiment 1A is presented together with the discussion section of Experiment 1B.

Experiment B

Participants

38 self-reported native Italian students from the Department of Humanities, participated in experiment B⁶. The youngest participant was 19 and the oldest was 71.

6 participants were excluded from the data analysis.

Table 6

Total participants	Males	Females	Normal sight	Corrected sight	Average Age
32	13	19	13	19	34.5
			5 males	8 males	
			8 females	11 females	

Material

Same as Experiment 1A

Methods

Same as Experiment 1A

Procedure

Same as Experiment 1A

Experiment B was accessed through a web link from January 30th to February 15th. The invitation to participate in the experiment was sent by the student office to all students of the Faculty of Humanities of the University of Venice.

⁶ Experiment B includes the quantifiers *pochi*, *alcuni*, *metà di*, *maggior parte di*, and *quasi tutti* (few, some, half, most, and almost all respectively)

Results

Figure 4 - Experiment B



Table 7 - Average Standard deviation for each quantifier

POCHI	ALCUNI	META' DI	MAGGIOR PARTE DI	QUASI TUTTI
0.682	1.077	0.594	0.668	0.634

Participants in experiment B spent 1999s (33 minutes) and for the introduction page, 143s (2 minutes).

The results of experiment 1 (B) are geographically represented in Figure 4.

The results present the same pattern as in experiment A for the determiners “pochi”, “alcuni”, “metà”, and “quasi tutti”. Whereas the determiner “maggior parte”, which is not part of Experiment A, appears to be predictably evaluated higher with the proportion of 50% and above (>50%).

General Discussion

The results of both experiments A and B reveal that the Italian samples follow a consistent pattern of evaluating the quantifiers “pochi”, “alcuni”, “metà”, and “quasi tutti”. Moreover, we can claim that the Italian results are consistent with Stateva et al. (2020).

As discussed in the Literature Review section, Stateva et al., 2020 gave a list of predictions for each quantifier which is reported below.

1. For the quantifier "some," it is expected to be acceptable in contexts where the proportion of the quantified objects falls between 1% and 99%, as already mentioned previously.
[[some]] = {<A,B>: $A \cap B \neq \emptyset$ } definition provided in Barwise and Cooper 1981
2. For the quantifier “most”, the definition provided by Barwise and Cooper 1981
[[most]] = {<A, B>: $|A \cap B| > 1/2 |A|$ } restricts its use to numerical proportions over 50%. Therefore, proportions less than 50% would be deemed unacceptable.
3. The quantifier "half" is expected to have its highest acceptability around 50%, as it represents an equal division.
4. The quantifier "few" is considered a negative counterpart of many. The range for "few" is expected to have an upper bound well below 50%.
5. The quantifier "almost," defined as a member of a Horn-set along with "most," is expected to have a numerical range above that of most excluding the top of the proportional scale.

Consider the quantifiers “pochi” (few), “metà” (half), “maggior parte” (most) and “quasi tutti” (almost all).

The numerical bound for the quantifier “pochi” evaluated by the Italian is restricted below 50% with the score peaking in the first quarter, specifically, Italian speakers accepted “pochi” from 1% to 30% of the acceptability score which results seemed to be similar as the English

“few” and the French “en peu”. In conclusion, Stateva et al. (2020) prediction of the determiner “few” has been confirmed also for the Italian counterpart.

Regarding the quantifier “metà” (half), the Italian speakers evaluated it in the same way as in other languages' counterparts. In fact, the majority of the acceptable scores for the determiner half fell substantially before and after the 50%, peaking in the middle of the range. Therefore, the prediction made by Stateva et al., (2020) for the quantifier half has been confirmed also in the Italian counterpart.

Regarding the quantifier “maggior parte” (most), it has received its acceptability score in the upper part of the numerical range (>50%) and slightly decreasing in the extremities of the numerical range (90%-99%). The Italian “maggior parte” has received similar results as the German counterpart. In conclusion, the prediction made by Stateva et al., (2020) for the quantifier “most” has been confirmed also in the Italian counterpart. Moreover, it confirmed the definition of “most” provided by the natural language: $F \text{ most} = \lambda \langle A, B \rangle: A \neq \emptyset . | A \cap B | > \frac{1}{2} | A |$. In other words, it shows that more than half of the elements in set A are also present in set B. Therefore, “most apples are red” implies that at least 51% of the apples have the red colour.

Last but not least, the acceptability of the quantifier “quasi tutti” (almost all) increases more sharply toward the final quarter (>75%) which results have been predicted by Stateva et al., (2020). In other words, the Italian counterpart of almost all confirms Stateva et al (2020) prediction.

Regarding the quantifier “molti” (many), which has not been studied in Stateva et al., (2020), it has received an acceptability score in the range of 35% and above overlapping with the acceptability range of the quantifier “maggior parte” (most). Stateva et al., (2020) regarded “few” as the negative counterpart of “many”. Conversely, we assume that “many” is the positive counterpart of few. Additionally, the Aristotelian square of opposition indicates that “few” and “many” are contraries. While "few" and "many" can be seen as opposites in terms of quantity, their interpretations can depend on the specific context and the comparison being made. However, assuming that “few” and “many” have opposite meanings, they should not overlap. If we compare the following graphs which represent the results of “pochi” and “molti” we may see that the curves of both “few” of Experiment 1A and Experiment 1B and the curve of “many” do not overlap considering that the minimum acceptability score is set up to point 3. Therefore we might conclude that “few” and “many” are perceived as having opposite meanings one representing a smaller part and the latter the bigger part.

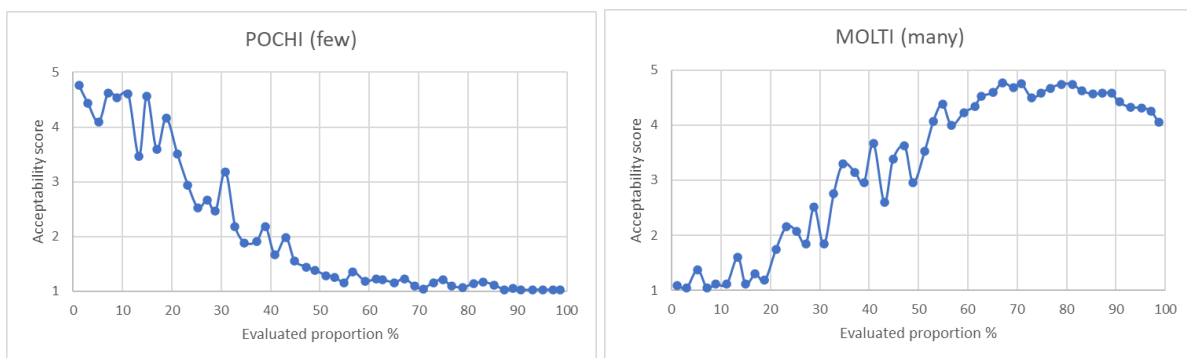
Heim and Kratzer 1998 provided the definition of few in natural language which we provide as follows.

$F \text{ few} = \lambda \langle A, B \rangle: A \neq \emptyset . |A \cap B| \text{ is small.}$ In other words, given two sets A and B, where A is not empty, "few" is satisfied if the size of the intersection between A and B is small. This means that there are not many elements in A that are also present in B.

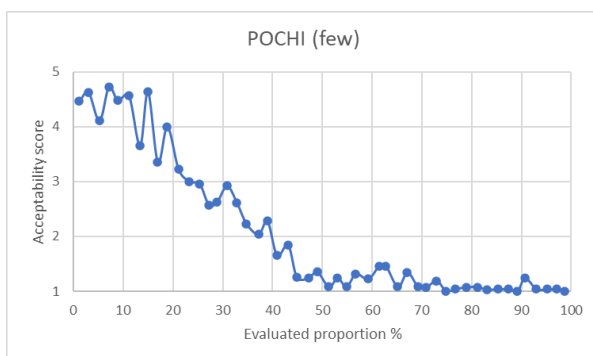
Conversely, we may find the formula for “many” in natural language as follows.

$F \text{ many} = \lambda \langle A, B \rangle: A \neq \emptyset . |A \cap B| \text{ is large.}$ In other words, A and B are sets and the quantifier "many" is defined based on the condition that the intersection of sets A and B is large. Therefore, given two sets A and B, where A is not empty, "many" is satisfied if the size of the intersection between A and B is large. This implies that there are a significant number of elements in A that are also present in B.

Figure 5



“Pochi” (few) and “molto” (many) - Results from Experiment 1A



“Pochi” (few) - Results from Experiment 1B

As far as the determiner “some” is concerned, natural language defines as the intersection of two sets which represents the elements that are common to both sets. In other words, it indicates the existence of at least one element that is common to both sets A and B.

$F_{\text{some}} = \lambda \langle A, B \rangle: A \neq \emptyset . A \cap B \neq \emptyset$. Given two sets A and B, where A is not empty, "some" is satisfied if there is at least one element that is common to both sets A and B. Therefore, as Stateva et al., (2020) predicted, following the definition provided by Barwise and Cooper (1981) $[[\text{some}]] = \{\langle A, B \rangle: A \cap B \neq \emptyset\}$ "some," to be satisfied, speakers should evaluate its acceptability and accept it in contexts where the proportion of the quantified objects falls between 1% and 99%. However, contrary to the natural language prediction, speakers of different languages studied so far including the Italian results have an acceptability range from approximately 3% to below 50% of the total number in the experiments Stateva et al., (2020) except for the English counterpart where "some" was acceptable also above 50% in the range between 3% and 80% and in the current study with the Italian language. In other words, the Italian "alcuni" behaved as the "some" counterpart of French, German and Slovenian. Stateva et al., (2020) identified two types of pragmatic enrichment processes which are the "quantity-based enrichment through scalar implicature" for the English "some" and "the stereotypical and non-stereotypical meaning enrichment through R/I implicatures and M implicature" for the French, German and Slovenian counterparts of "some". Following this line, we may conclude that the Italian counterpart of "some" follows the same pattern: unlike its stereotypically interpreted counterpart (R-I implicature), few, the determiner "alcuni" is pragmatically enriched with the non-stereotypical implicature (M implicature).

Moreover, as Stateva et al., (2020) predicted, "most" and "almost all" should have different acceptability ranges because the determiner "most" triggers a scalar implicature that negates the alternative "almost all". Also in the Italian counterparts of most and almost all, speakers have evaluated them as having different meanings.

In conclusion, following Stateva et al., (2020) the French, Slovenian, German and Italian (current study) counterparts of "some" are degree-based quantifiers, lexically synonymous with the determiners corresponding to "few" and antonyms with the terms corresponding to "many". Stateva et al., (2020) proposed that the availability of M-implicature (based on the "many" counterpart) and R/I-implicature (based on the "few" counterpart) for the French, Slovenian, and German counterparts of "some" (now including the Italian results) would reduce the effect of quantity-based implicatures which triggered in the English counterpart of "some".

As discussed in both Stateva et al., (2020) and the present study seem to instinctively use a similar procedure to roughly calculate proportions and compare them to a given quantifier

(Stateva et al., 2020). Stateva et al., (2020) continue that it can be hypothesized that if these numerical boundaries correspond to the determiners and are consistent, then these boundaries have a universal nature (Stateva et al., 2020)

All the Italian surveys in the analysis were analyzed and cleaned according to the criteria describes in the section of the methodology. However, in the results, there are judgments more confident and less confident which can be measured by a standard deviation (represented below each result in figures). In particular, the Italian results for “alcuni” of both experiments present a greater Standard Deviation ($X > 1 < 1.2$) than other determiners (< 1). As for the time spent in the experiment, both Italian groups were consistent with the time of the experiments in Stateva 2022.

Overall, the Italian results have similarities with the results of the 4 languages reported in Stateva et al., (2020) as described in the results of both experiments. As for the quantifier “alcuni” we can conclude that it is enriched through R/I and M/implicatures.

As far as Pezzelle et al., (2018) is concerned, our current study confirms that the distribution of estimated similarities among quantifiers, they are scaled in an ordered but distinctly non-linear manner. We report the ordered non-linear scale which appeared in our study: "few," "some," "half", "many," "most," and "almost all," Moreover, as observed in Pezzelle et al., (2018), quantifiers overlapped albeit usually along an ordered scale.

Experiment 2 - Italian-English bilingual experiment

Methodology

Participants

44 self-reported Italian-English bilingual informants participated in the survey. 8 participants were excluded from the data analysis. The youngest participant was 18 and the oldest was 46 years old.

The participants reported having a Mother Language Italian and a Second Language English with a level of at least C1 of the Common European Framework of Reference for languages (CEFR)

Table 8

Total participants	Males	Females	Normal sight	Corrected sight	Average Age
36	15	21	26	10	25.4
			14 males	1 male	
			12 females	9 female	

6 participants (5 females and 1 male) reported to have C2 level of English, 30 participants (16 females and 14 males) reported to have C1 level of English proficiency.

Material

The same material was used in the first experiment by Stateva et al., (2020) for English speakers.

Methods

Same Research design adopted in Experiment 1

Procedure

Same Procedure adopted in Experiment 1

Figure 6



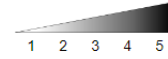
175 consumers bought the product.

2 of these consumers returned the product.

Please evaluate how well each of the following sentences describes the situation above.

Test sentences

not well very well



Some consumers returned the product.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Most consumers returned the product.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Few consumers returned the product.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Almost all consumers returned the product.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Half of the consumers returned the product.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Example of the question presented to the participant.

Results

Figure 7

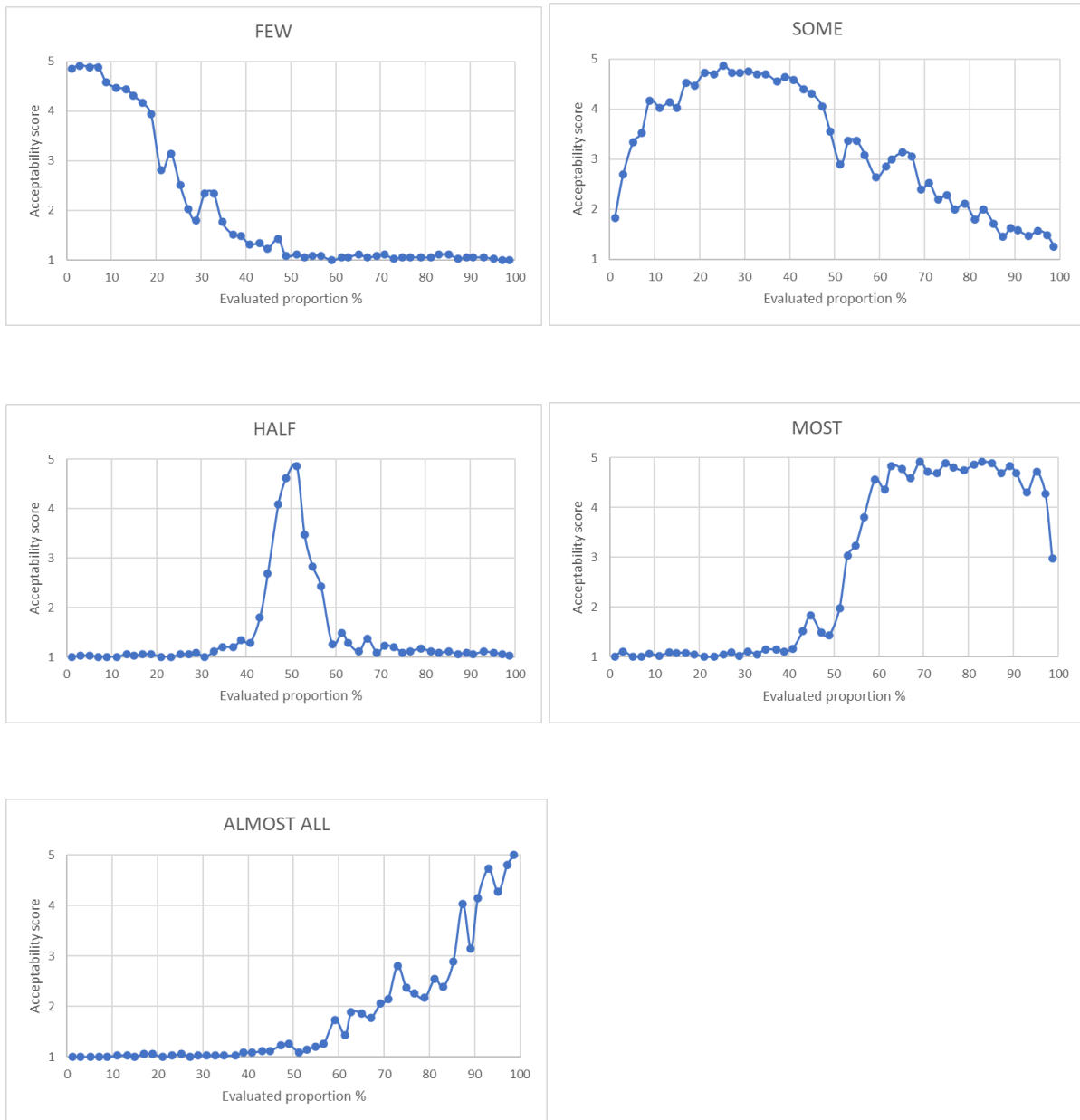


Table 9 - Average Standard Deviation for each quantifier

FEW	SOME	HALF	MOST	ALMOST ALL
0.627	1.189	0.640	0.676	0.765

The participants spent almost 50 minutes completing the survey (2890s for the experiment and 80s for the introduction). Overall, 25 minutes were spent without outliers.

Overall, the results are consistent with the results of the 4 languages and of the Italian results as well. The numerical proportion of the determiner “few” appears to be restricted below 30% with the score peaking in the first quarter (<25%). The determiner “most” is evaluated higher with a proportion of 50% and above with a clear peak ranging from 60% to 98% and sharply dropping after that. Whereas, the determiner “almost all” increases steeply in the last quarter (>85%).

The numerical proportion of the determiner “some” of the non-English counterparts of the study Stateva 2020 and the present study with the Italian counterpart ranged from 3% to slightly less than 50%. In contrast, English speakers found acceptable a range of proportion between 3% to 80%. In the present study, “alcuni” has an acceptability range from 3% to roughly, specifically, analysing the graph, the determiner “some” presents a major curve with the score peaking from 25% to 45% and slightly dropping in the midrange followed by 2 small curves in between 50% and 70% evaluated as acceptable by the speakers.

Discussion

The graphs represent the results of Experiment 2. Overall, the Italian-English results are similar to the Italian results and to the other languages studied so far (Stateva et al., 2020). In other words, the Bilingual group followed a similar pattern to the languages studied so far when evaluating the quantifiers “few”, “half”, “most”, and “almost all”. Based on this, it can be argued that the results align with the predictions made by Stateva et al., (2020) already discussed in the General Discussion section for Experiments 1A and 1B.

In the following, we report briefly a similar discussion.

The Quantifier “few” corresponds to a numerical range below 50%, specifically from 1% to 25% of the acceptability score. These results are consistent with the Italian results and with Stateva et al., (2020) results. Consequently, the results confirmed the prediction made by Stateva et al. in 2020 regarding the determiner “few” in which the numerical range should be expected to have an upper bound well below 50%.

Regarding the quantifier “half”, its most acceptable scores fall significantly before and after the 50% range, with the highest level of acceptance observed in the middle of the range.

Consequently, the predictions made by Stateva et al. in 2020 regarding the quantifier “half” are also confirmed in the bilingual context.

The quantifier “most” receives its highest acceptability scores in the upper part of the numerical range (>50%), steeply decreasing in the range of 95%. The results are aligned with the Italian and English counterparts of “most”.

Lastly, the acceptability of the quantifier “almost all” increases more steeply toward the final quarter of the numerical range (>75%), as predicted by Stateva et al. in 2020, specifically in the case of the bilingual counterparts “half” received its acceptability score from 85% to the top of the proportional range.

As far as the determiner “some” is concerned, at first, Bilingual speakers seemed to have evaluated prevalently as the Italian “alcuni”. However, there are clear signs of the evaluation of the English counterpart of “some”. It seems that Italian speakers with high proficiency in English might have attempted to evaluate “some” as the English group in Stateva et al., (2020) would have. However, the majority of the Bilingual speakers in the experiment evaluated “some” as the Italian counterpart “alcuni”.

At this point, we may address the second research question: if Italian “alcuni” is different from English *some* as we have discussed in the results and discussion sections of Experiment 1A and 1B, do Italian speakers of English treat *some* in their L2 similarly to *alcuni* or do they have acquired the difference? As briefly mentioned previously, it seems that Italian speakers of English have treated “some” similarly to the Italian “alcuni”. This may be defined as an example of negative transfer. Transfer roughly refers to the effect of the learner's native language when it comes to the acquisition or usage of a non-native language. Any two languages can differ in some areas while convergent in others. We refer to this as negative transfer or interference when the impact of the native language influences the target language (Bardovi-Harlig et al., 2018).

Negative transfer of L1 features can be identified when second language forms differ significantly from those produced by native speakers of the L2 or when they combine elements that are not found in monolingual speech. The most prevalent and easily identifiable manifestation of L1 influence can be detected as a noticeable "foreign accent" in the speech of non-native speakers (Saville-Troike et al., 2016).

According to Meznah (2018), pragmatic transfer in second language acquisition can have both positive and negative impacts on learners' utilization of the target language (L2).

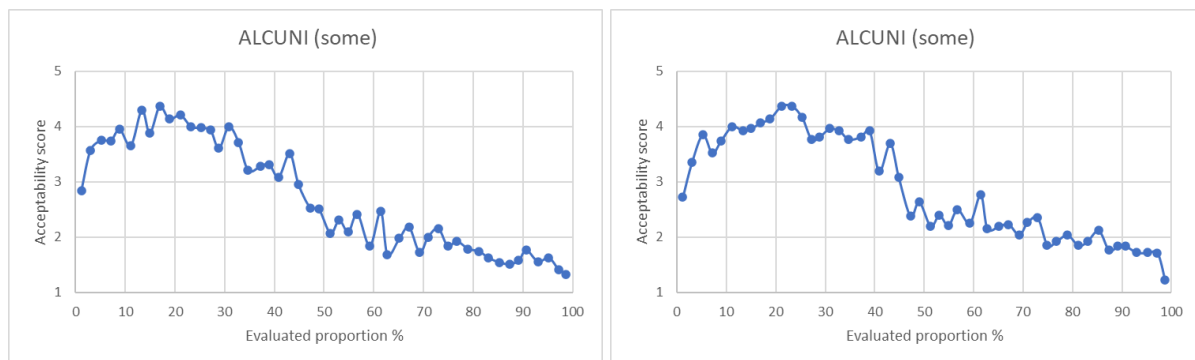
Positive transfer occurs when learners successfully achieve their intended message by transferring language-specific pragmatic conventions shared by their native language (L1) and L2. This leads to a merging of practices between non-native and native speakers. On the other hand, the negative transfer involves the inappropriate application of sociolinguistic

norms and discourse traditions from the L1 to the L2 context. Whereas negative pragmatic transfer often arises when learners mistakenly generalize pragmatic knowledge from their L1 to the L2 context. This can result in miscommunication but does not necessarily lead to a communication failure. Native speakers of the L2 may recognize that non-native speakers' pragmatic knowledge of the L2 is imperfect and may make allowances or understand that certain responses may not align with native cultural norms.

However, it is interesting to note that even in Second language judgement, its proficiency is significantly influenced by the input of each of the two languages (see results in Serratrice et al., 2020; Kupish, 2012). Therefore the second language grammatical judgement is more accurate the higher the input.

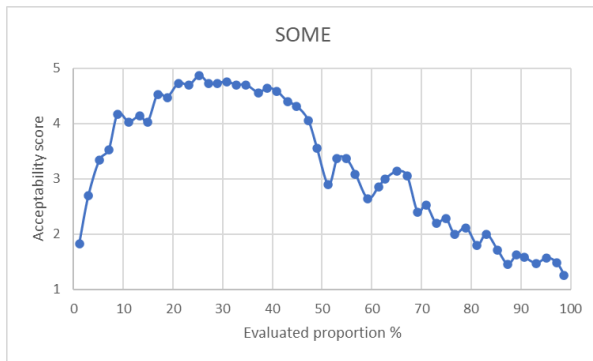
In conclusion, Italian speakers of English generally treated the English “some” as the French, Slovenian, German, and Italian (the current study) counterparts "some": treated as degree-based quantifiers, these quantifiers are lexically synonymous with the determiners corresponding to "few" and antonyms with the terms corresponding to "many", additionally, they are enriched with stereotypical (R/I-implicature based on the "few" counterpart) and non-stereotypical meaning (availability of M-implicature based on the "many" counterpart) which would ostensibly lessen the impact of quantity-based implicatures that were triggered in the English counterpart of "some," according to Stateva et al., (2020).

Figure 8

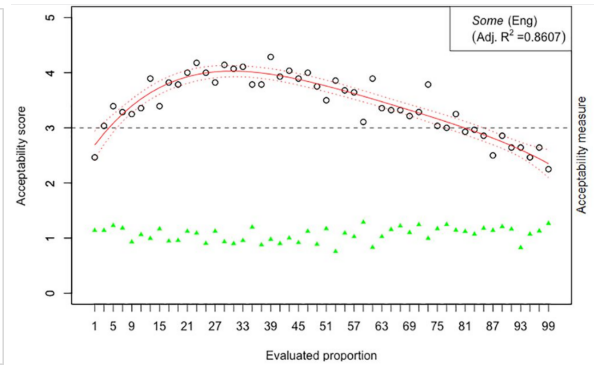


Experiment 1 A

Experiment 1B



Experiment 2



Stateva et al., (2020) English *some*

Further studies may be necessary to take into account these differences.

Another issue that needs to be addressed is the time spent in the experiment. Italian speakers of English took more time in evaluating the test, precisely more than 40 minutes of estimated time to complete the survey.

Table 10

Language - Group sample	Time in minutes* - experiment	Overall time** in minutes
Italian monolingual A	31'	38'
Italian monolingual B	33'	35'
Italian-English bilingual	48'	49'
Japanese monolingual	21'	22'

*time spent in completing the experiment (page 2 of the online survey).

**Overall time includes the time spent reading the introduction of the experiment (page 1 of the online survey) and the completion of the task (page 2, the experiment).

Experiment 3

Japanese monolingual experiment

Participants

52 self-reported Japanese speakers (26 males and 26 females) with an Age average of 25 years old (age range from 17 to 46), were recruited to the experiment.

48 participants were excluded from the data analysis. Among the four participants collected for data analysis, the youngest participant was 20 and the oldest was 36 years old.

Table 11

Total participants	Males	Females	Normal sight	Corrected sight	Average Age
4	1	3	1	3	24.5
			1 male	3 females	

Material

The experimental material underwent translation from English to Japanese by expert translators specializing in Japanese-English and English-Japanese language translation.

Subsequently, a select group of Japanese informants residing in Italy reviewed the translated material. The informants were specifically tasked with evaluating the sentences for whether the sentences sound natural and grammatical in their native Japanese language.

Even though this process of material translation and checking process were conducted informally, we attempted to ensure the fidelity of the translated content and its appropriateness for the intended survey administration.

Figure 9

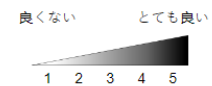


175 商品を購入した消費者数。

2 その内、商品を再購入した消費者数。

下記の文章について、それぞれの状況を描写することが良くできているかどうか、評価してください。

テスト文



再購入した消費者はほんの僅か。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
再購入した消費者は何人かいる。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
再購入した消費者は大多数。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
再購入した消費者はほぼ全員。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
再購入した消費者は半数。	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

As far as the experimental material is concerned for the experiment we decided to choose “honno wazuka” and “ikutsukano” as the Japanese counterpart of “few” and “some” respectively. The determiner “ikutsukano” has been used in several experiments as the counterpart of “some” (for example, Barner et al), whereas the determiner “honno wazuka” means a very small quantity. As for the quantifier “half”, we selected the determiner “hansu” which means exactly half of a given quantity, instead of “hanbun” (used in Barner et al) which has the subtable meaning of “about half”. Last but not least, we selected the determiner “daitasu” as the Japanese counterpart of “most” instead of “hotondo” which the latter (“hotondo”) has been used as the counterpart of “most” in Barner et al 2009. The reason for this choice lies in the subtable difference between these determiners' quantification ranges. As briefly discussed in the Literature review, in the section on Japanese quantifiers, although the determiner “hotondo” has been used as the English equivalent of “most” (Barner et al 2009;), it may not be fully intended as $F_{\text{most}} = \lambda < A, B >: A \neq \emptyset . | A \cap B | > \frac{1}{2} | A |$ (the function that checks if the number of elements they have in common is more than half of the total elements in set A - at least 51% of the total elements) but it may be intended as “almost all”. Therefore in order to avoid the use of “hotondo” we decided to employ “daitasu” and “hobo subete” as the counterparts of “most” and “almost all”.

Results Experiment 3

Figure 10

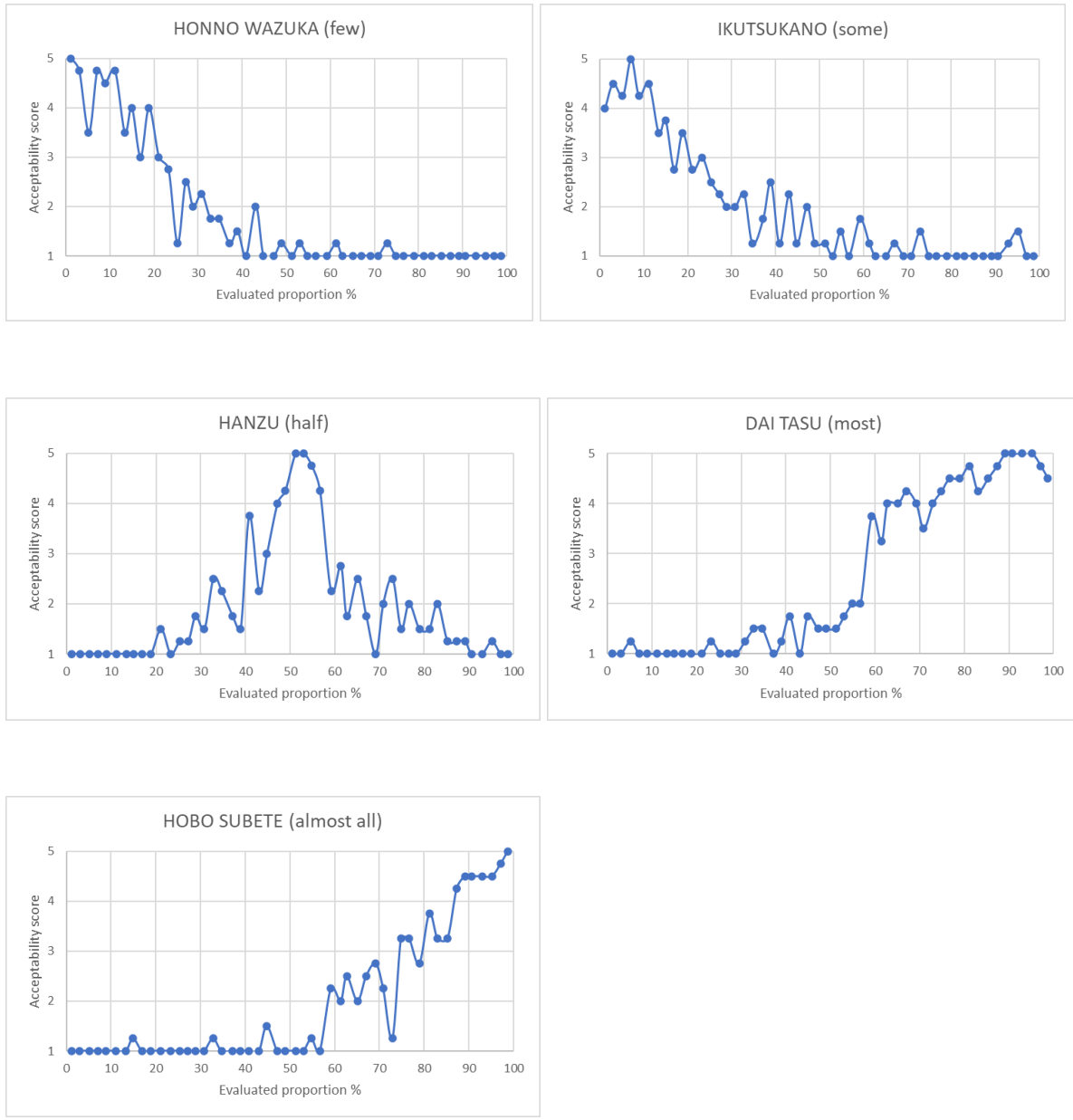


Table 12 - Average Standard Deviation for each quantifier

HONNO WAZUKA	IKUTSUKA NO	HANZU	DAITASU	HOBO SUBETE
1.287	1.180	1.161	1.159	1.318

Figure 10 represents geographically the results of Experiment 3.

Japanese speakers spent an overall 22 minutes completing the survey (1261.5s on the experiment and 72s on the introduction page)

As can be seen from Figure 10, both honno “wazuka” (few) and “ikutsukano” (some) have similar proportional ranges with the score peaking in the first quarter (<25%). The determiner “honno wazuka” has its peak at the very beginning of the first quarter while the determiner “ikutsukano” shows its peak at 8-9%. The determiner “daitasu” (most) and “hobo subete” (almost all) received higher scores when the proportions were 50% and above. Specifically, the scores on “daitasu” tend to be consistent in the upper part of the numerical range (above 50%), while the acceptability of “almost all” increased more quickly as the proportion approached 75%. The determiner “hanzu” (half) had most of its acceptable scores in the mid-range, peaking at 50%, and dropping before and after.

Discussion

We may address the third research question: how is the quantifier scale divided in a non-Indo-European language namely Japanese in this case?

The main difference from the test with Indo-European languages studied so far is the numerical proportion of the determiner “ikutsukano” (some) which has a similar distribution as for “honno wazuka” (few). Further research is needed to understand the quantifiers of the Japanese language.

From the small number of questionnaires, we may attempt to make some general discussion although further research is needed to ensure the research. In the course of conducting my research, it has come to light that the data collected for the study may not be suitable for drawing valid and reliable conclusions. A critical analysis of the collected data revealed a significant discrepancy in the responses provided by the participants. Specifically, the majority of questionnaires were discharged because they did not meet the “half condition”. Out of the total 52 participants who took part in the experiment, a mere 4 individuals exhibited a commendable level of appropriateness in their responses. This substantial deviation from the expected pattern raises concerns about the integrity and accuracy of the data set, thereby necessitating caution in the interpretation of findings derived from this study. Further investigation and potentially additional data collection efforts are warranted to ensure the robustness and validity of future analyses.

Data Cleaning and Analysis

As mentioned in the General Methodology Section all the data collected were cleaned using specific criteria. I report the cleaning procedure adopted for the Japanese data.

Taking into account the outcomes of the half condition, the raw data underwent a cleaning step. The range between 45% and 60% of the proportionality scale from points 3 to 5 of the Likert scale, which represents the acceptability score for each test, was determined appropriate for the replies to the half condition. It was essential that the responses for the two extremes (1%-44% and 61%-100%) had 1 or 2 points. Through this half condition, each participant's responses to the entire test were carefully examined.

Additionally, if 80% of the responses adhered to the half condition, participants' responses were recorded in the relevant data. On the other, if more than 21% of the participant's responses were incorrect, tests were left blank, or all of the participants' answers had the same acceptability score for all the questions, the participants' answer sheets were deemed inappropriate, and removed from the data analysis.

The majority of Japanese participants answered inappropriately: 48 out of 52 completed questionnaires were not considered in the data analysis and thus discharged. Data analysis observed that most of the participants answered the questionnaires with the same evaluation. Specifically, all five determiners presented for each context received the same evaluation thus compromising the quality of the language judgment.

The following table reports the rounded average of each quantifier for the first 24 contexts evaluated by all participants excluding the half-condition criteria for cleaning mentioned in the methodology section. The quantifiers “honno wazuka” (few), “ikutsukano” (some), “hansu” (half), “daitasu” (most), and “hobo subete” (almost all) present in this table are translated into English.

Specifically, the first column represents the question number (the order of the questions appears random in the experiment), the second column represents the proportion of the cardinality of a set of individuals and its subsets expressed in percentage (for the purpose of clarity we have rounded the percentage in this table). Lastly, the following column represents the valuation of each of the given quantifiers of the experiment (the Japanese determiners are specifically indicated in English for clarity in this table) expressed on a Likert scale from 1 (inappropriate) to 5 (very appropriate).

Table 13

ITEM*	% rounded**	FEW	SOME	HALF	MOST	ALMOST ALL
1	1	4	4	3	3	4
2	3	4	4	4	4	4
3	5	4	4	3	3	3
4	7	4	4	3	3	3
5	9	4	4	3	4	4
6	11	4	4	3	3	4
7	13	4	4	3	3	3
8	15	4	4	3	4	4
9	17	4	4	4	3	4
10	19	4	4	3	4	4
11	21	4	4	3	3	3
12	23	4	4	3	3	3
13	25	4	4	3	4	3
14	27	4	4	3	3	3
15	29	4	4	4	3	4
16	31	4	3	4	4	3
17	33	4	4	4	3	3
18	35	4	4	3	3	3
19	37	4	4	3	3	3
20	39	4	4	4	3	3
21	41	4	4	4	3	3
22	43	4	4	4	3	4
23	45	4	4	4	4	4
24	47	4	4	4	3	3

*item refers to the question - context

** proportional range, example context 1: $2/175*100 = 1.14\%$

The table shows that participants barely discriminated the determiners of each context. There is the case in context 2 (indicated in the table as in the ITEM column) that all the determiners received the same evaluation. Moreover, the average of the answers was all around 3-4 points on the Likert scale. The results make the data unreliable and need to be properly discussed. See Appendix C for comparison results of all experiments.

Contrary to our expectations, the number of appropriate surveys for data analysis has been small due to the non-collaboration of the Japanese speakers resulting from the unreliable data collected, described previously. Despite a great number of participants participating in the experiment (52) only 4 surveys were appropriate to be further analyzed. This may imply that Japanese people were not very collaborative although they completed the task with a time average of 20' minutes. One of the hypotheses we may think is that participants unwillingly completed the task or the task was not clear. Further research on non-Indo-European language would be to address the experiment considering the culture of the target language and modify the experimental sentences which better represent Japanese everyday life. Another point is to provide an example before the experiment takes place. Additionally, the participants may have been unfamiliar with the concepts being tested, which could have caused them to answer the questions incorrectly. It is advisable to formulate an experiment tailored specifically for languages outside the Indo-European linguistic family in order to ascertain the generalizability and precision of the obtained results. All the experiments conducted so far were addressed to the Indo-European family of languages and therefore it is possible that the experiment was not designed to be applicable to non-Indo-European languages such as Japanese. An alternative hypothesis posits that Japanese participants may not have fully comprehended the task. Possible improvements should be addressed to the experimental sentences, not specifically the experimental design. For example, it might have been more suitable to change the context of the experimental sentences to make them more culturally relevant to Japanese speakers. Additionally, it might have been beneficial to tailor the instructions and/or questions to a Japanese context adding at least an example of the task in the instruction. This could have allowed the Japanese participants to better understand and relate to the experiment. Additionally, it might have been beneficial to have a native Japanese speaker on hand to provide assistance and clarification during the experiment, if needed.

Reflection on Japanese experiment

This paragraph presents some reflections on a Japanese experiment, highlighting potential shortcomings and the need for further improvement. It is important to note that this analysis is intended solely for personal use and does not represent a formal research report. During the course of the Japanese research, there may have been inadvertent mistakes that were not recognized beforehand. The experimental sentences were translated by a professional translator whose first language is Japanese and English as a second language. Subsequently, several Japanese speakers residing in Italy evaluated the appropriateness of the sentences. Upon approval, the test was shared with a limited number of acquaintances residing in Japan, who were asked to extend the experiment to a wider audience (snowball sampling method). This approach may have compromised the experiment's quality. A more favourable approach might have involved collaborating with a Japanese university and recruiting volunteer students for the exam. However, due to time constraints and limited resources, the experiment may have suffered from a lower-quality procedure. Following the conclusion of the Japanese experiment, a small number of participants were informally interviewed for feedback. The interviews were conducted in an informal manner, without any recordings or written questionnaires. A Japanese mediator was present to ensure the participants' anonymity and avoid any pressure. The participants were asked two open-ended questions: their thoughts on the test and any changes they would suggest for conducting the same experiment with their peers. Participants were assured that their responses would not have any negative consequences and were only intended for future experimentation. Only a subset of participants, ranging from 3 to 7 out of 50, provided answers to the questions. The feedback revealed that the task was challenging to comprehend, required significant effort, and was perceived as lengthy. Some participants suggested that an image-based experiment might be more suitable, while others expressed a need for simplified language in the test. None of the participants reported a lack of understanding regarding the task itself. These limitations indicate that the Japanese experiment had certain shortcomings. The methodology and research design employed in this study were deemed appropriate and effective for previous linguistic groups, such as Italian and Italian-English speakers, as well as the languages studied thus far (Stateva et al., 2020). As a suggestion, it would be beneficial to include an example of the test prior to presenting the experimental sentences. Regarding the conducted experiment, the major issue appears to lie in the sampling method. As previously mentioned, the snowball sampling approach may have influenced the obtained results. However, it is also plausible that translation issues during the experiment could have contributed to the observed

outcomes. Last but not least, the experimental material could be split in half and administer each of the half material to two groups of participants, thus reducing the perception that the experiment is lengthy. In conclusion, it is recommended to replicate the test using the same methodology and research design while addressing the improvements required for translation and sampling methods.

Methodological limitations

As previously mentioned in the discussion, one of the limitations encountered during the research is the collection of data. Specifically, in Experiment 3, I applied the snowball sampling method which is a technique used in research to obtain a representative sample of a population. It involves selecting a group of initial participants (the "seed" group) and then asking them to refer additional participants who meet the same criteria as the initial group. This process continues until the desired sample size is reached. This method was applied due to the difficult access and reach of the Japanese informants. However, it is not recommended to apply a snowball sample because it is not a representative or random sample of the population and it can lead to bias since the sample consists of one's contacts.

In the Japanese sample, the same participants who completed the questionnaire were encouraged to find more people willing to participate in the study. This may have led to bias and possible unwillingness to cooperate appropriately.

Participants for Experiments 1A and 2 were only drawn from the Department of Language. As a result, the subjects recruited did not reach an equal fair number of group gender (female and male).

Further research and improvement on the experimental experiment should be addressed for the Japanese language.

General Discussion

The current research aimed to investigate the numerical bounds associated with different quantifiers and the role of pragmatic strengthening in this process across languages by replicating the study of Stateva et al., (2020). The study was extended to the Italian monolingual group, the Italian-English Bilingual group and the Japanese monolingual group respectively.

The results contributed to enriching the study by adding two more languages namely Italian (Indo-European language) and Japanese (non-Indo-European language), additionally, the

study also includes an Italian-English bilingual group, specifically, native Italian speakers were asked to determine the distribution of the English quantifiers.

The current results, including the Japanese experiment, confirmed Stateva et al., (2020) predictions and results:

1. The counterpart of “few” is evaluated in all languages of the current study as restricted well below 50% with the score peaking in the first quarter.
2. The counterpart of “half” has received its acceptability score nearly before and after 50% peaking in the middle of the range.
3. The counterpart of “most” has received its acceptability score in the upper part of the numerical range (>50%) and slightly decreases in the extremities of the numerical range (90%-99%).
4. The counterpart of “almost all” has been reported to increase more sharply toward the final quarter (>75%).

Regarding the quantifier "some," the Italian, as well as the Japanese to some extent, counterpart behaves similarly to the French, German, and Slovenian counterparts. In the same pattern, Italian speakers of English had similar judgements. This indicates that the meaning of "some" in the current study does not align with the initial prediction based on natural language, which follows the definition provided by Barwise and Cooper (1981): $[[\text{some}]] = \{ \langle A, B \rangle : A \cap B \neq \emptyset \}$. According to this definition, "some" should be acceptable and used by speakers in contexts where the proportion of the quantified objects falls between 1% and 99%. However, the study's findings show that the acceptability of "some" in Italian and other languages studied so far does not fit this prediction. As already discussed previously, following Stateva et al., (2020) the French, German and Slovenian counterparts of “some” have gone through a pragmatic enrichment process, specifically “stereotypical and non-stereotypical meaning enrichment through R/I-implicatures and M-implicatures”. We may predict that the native Italian speakers and native Italian speakers of English evaluating the distribution of the English quantifiers have the same intuition. The determiner “some” underwent the process of pragmatic enrichment with the non-stereotypical implicature carrying additional implied meanings or connotations beyond their literal or stereotypical interpretations and stereotypically interpreted counterparts of few. In other words, “some” is interpreted in a way that differs from the typical or expected interpretation of the word "few". On the other, the English counterpart of “some” is acceptable in contexts with very high proportions, bordering the region that is typically reserved for the upper part of "most" and

"almost all" as well as including the interval associated with "many" thus reporting to be going through quantity based enrichment through scalar implicature (Stateva et al., 2020). Regarding the bilingual group, it has been reported that the English counterpart of "some" has been evaluated as the Italian "alcuni" thus confirming the prediction of a Negative Transfer from L1 to L2. Although the results reported faint attempts of acceptability score to 70% of the proportional range, the majority of Italian speakers evaluated the English "some" with their native grammatical judgement. Lastly, though the small sample, the Japanese determiner "some" has been reported as having the same acceptability score range as the Japanese counterpart of "few".

As far as the "molti" (many) is concerned, it has received an acceptability score in the range of 35% and above overlapping with the acceptability range of the quantifier "maggior parte" (most). On the other hand, the Italian "molti" did not have a significant overlap with the quantifier "alcuni" (some). Stateva et al., (2020) proposed that the counterparts in French, Slovenian, and German languages the determiner "many" and "some" are considered to be antonyms. Therefore, in these languages, the overlap cannot be too large. Contrary to the English counterpart, where "some" and "many" overlapped to a greater extent (Stateva et al., 2020), the Italian counterparts seem to follow Stateva et al., (2020) prediction.

Conclusion

The present research focused on investigating cross-linguistic differences in the interpretation and usage of quantifiers, with a specific emphasis on the determiner "some." The study replicated the first experiment conducted by Stateva et al., (2020), which explored the evaluation of quantifiers across different languages. Stateva et al., (2020) findings revealed that while participants from various languages generally followed a similar mechanism of estimating proportions and comparing them to quantifiers, a notable divergence was observed in the interpretation of "some" across languages, particularly in English. Thus indicating that English speakers assigned a broader range of quantities to the determiner "some" compared to speakers of other tested languages.

By replicating Stateva et al., (2020) Experiment 1, the current study aimed to extend the investigation to Italian and Japanese, expanding the range of languages examined for potential cross-linguistic variation. It also examined the impact of bilingualism on the representation of quantifiers in an Italian-English bilingual population.

The research questions addressed in this study were focused on understanding the division of the quantifier scale in Italian, the nature of the Italian quantifier "alcuni" (some), how Italian-English bilinguals represent quantifiers in their second language (Italian), and how the quantifier scale is divided in Japanese as a non-Indo-European language.

Experiment 1 (Italian monolingual experiment), as well as the previous study conducted by Stateva et al., (2020), demonstrate a consistent pattern in the evaluation of the Italian quantifiers "pochi," "alcuni," "metà," and "quasi tutti." The participants in both studies seem to employ a similar procedure, indicating a universal nature of these numerical boundaries corresponding to the determiners.

Experiment 2 (Italian-English bilingual experiment) results are similar to Experiment 1. Two main important findings have been raised. Firstly, Italian speakers of English treated "some" in a manner similar to how they would treat "alcuni" in their native language, indicating negative transfer or interference. Secondly, Italian speakers of English exhibited greater confidence in judging "some" compared to Italian monolinguals evaluating "alcuni" and English speakers in Stateva et al.'s (2020) experiment. Overall, the findings indicate that Italian speakers of English negatively transferred their native Italian grammatical judgement to their second language.

Experiment 3 met serious issues of data analysis, material and experiment preparation and sampling method which raises doubts about its accuracy and integrity. Thus, the results are

far from drawing definitive conclusions based on this study alone. Further research is needed to ensure its reliability.

Overall, the findings contribute to the existing body of knowledge on quantifier interpretation and provide insights into the cross-linguistic differences in the understanding and usage of quantifiers, particularly the determiner "some." The study underscores the importance of considering language-specific factors and pragmatic strengthening mechanisms in the interpretation of quantifiers. Further research is needed to explore the experimental design and delve deeper into the complexities of quantifier scales in different languages and to have a broad picture of both bilingual phenomena and the incorporation of non-Indo-European languages in the study of the quantifier scale.

Surveys

<https://www.soscisurvey.de/projectLing/> Italian monolingual survey group 1

<https://www.soscisurvey.de/projectLing2/> Italian-English bilingual survey

<https://www.soscisurvey.de/projectLing3/> Japanese monolingual survey

https://www.soscisurvey.de/Ling2_Ita/ Italian monolingual survey group 2

Bibliography

- Barwise, J., and Cooper, R. (1981). Generalized quantifiers in natural language. *Linguist. Philos.* 4, 159–219.
- Horn, L., 1972. On the semantic properties of the logical operators in English. Doctoral Dissertation.
- Grice, Herbert P. "Logic and conversation." *Speech acts*. Brill, 1975. 41-58.
- Grice, P. (1989). *Studies in the Way of Words*. Cambridge, MA: Harvard University Press
- Horn, L. (1984). "Toward a new taxonomy for pragmatic inference: Q-based and R-based implicature," in *Meaning, Form, and Use in Context: Linguistic Applications*, ed. D. Schiffrin (Washington DC: Georgetown University Press), 11–89.
- Horn, L. R. (2004). "Implicature," in *The Handbook of Pragmatics*, eds L. R. Horn and G. Ward (Oxford: Blackwell Publishing).
- Levinson, S. (1983). *Pragmatics*. Cambridge: Cambridge University Press.
- Levinson, S. (2000). *Presumptive Meanings: The Theory of Generalized Conversational Implicature*. Language, Speech, and Communication. Cambridge, MA: The MIT Press.
- Sperber, D., and Wilson, D. (1995). *Relevance: Communication and Cognition*. Oxford: Basil Blackwell
- Hirschberg, Julia Linn Bell. *A theory of scalar implicature*. Garland Publishing, 1991.
- Keenan, Edward L., and Jonathan Stavi. "A Semantic Characterization of Natural Language Determiners." *Linguistics and Philosophy*, vol. 9, no. 3, 1986, pp. 253–326. JSTOR, <http://www.jstor.org/stable/25001246>. Accessed 21 July 2023.
- Stateva, Penka, et al. "Cross-Linguistic Variation in the Meaning of Quantifiers: Implications for Pragmatic Enrichment." *Frontiers in Psychology*, vol. 10, 2019, p. 439009, <https://doi.org/10.3389/fpsyg.2019.00957>. Accessed 21 Jul. 2023.
- Bach, Kent. "The Myth of Conventional Implicature." *Linguistics and Philosophy*, vol. 22, no. 4, 1999, pp. 327–66. JSTOR, <http://www.jstor.org/stable/25001747>. Accessed 21 July 2023.
- Huang, Yan, ed. *The Oxford Handbook of Pragmatics*. Oxford University Press, 2017.

Huang, Yan. *The Oxford Dictionary of Pragmatics*. Oxford University Press, USA, 2012.

Ira Noveck and Dan Sperber. *The why and how of experimental pragmatics: the case of 'scalar inferences'*. <https://www.dan.sperber.fr/?p=123>

Wilson, Deirdre. "Relevance theory." *Oxford Research Encyclopedia of Linguistics*. 2019. <http://dx.doi.org/10.1093/acrefore/9780199384655.013.201> accessed: https://www.researchgate.net/publication/344545533_Relevance_Theory_Oxford_Research_Encyclopedia

Noveck, I A. "When children are more logical than adults: experimental investigations of scalar implicature." *Cognition* vol. 78,2 (2001): 165-88. doi:10.1016/s0010-0277(00)00114-1

Bott, Lewis, and Ira A. Noveck. "Some utterances are underinformative: The onset and time course of scalar inferences." *Journal of memory and language* 51.3 (2004): 437-457. <https://doi.org/10.1016/j.jml.2004.05.006>

Barner, David, Neon Brooks, and Alan Bale. "Accessing the unsaid: The role of scalar alternatives in children's pragmatic inference." *Cognition* 118.1 (2011): 84-93. <https://doi.org/10.1016/j.cognition.2010.10.010>

Feeney, Aidan et al. "The story of some: everyday pragmatic inference by children and adults." *Canadian journal of experimental psychology = Revue canadienne de psychologie experimentale* vol. 58,2 (2004): 121-32. doi:10.1037/h0085792

Foppolo, F., Guasti, M. T., & Chierchia, G. (2012). Scalar implicatures in child language: Give children a chance. *Language Learning and Development*, 8(4), 365–394. <https://doi.org/10.1080/15475441.2011.626386>

Anna Papafragou & Niki Tantalou (2004) Children's Computation of Implicatures, *Language Acquisition*, 12:1, 71-82, https://doi.org/10.1207/s15327817la1201_3

Papafragou, Anna, and Julien Musolino. "Scalar implicatures: experiments at the semantics–pragmatics interface." *Cognition* 86.3 (2003): 253-282. [https://doi.org/10.1016/S0010-0277\(02\)00179-8](https://doi.org/10.1016/S0010-0277(02)00179-8)

Katsos, Napoleon, and Dorothy VM Bishop. "Pragmatic tolerance: Implications for the acquisition of informativeness and implicature." *Cognition* 120.1 (2011): 67-81. <https://doi.org/10.1016/j.cognition.2011.02.015>

de Carvalho, Alex, et al. "Scalar Implicatures: The Psychological Reality of Scales." *Frontiers in Psychology*, vol. 7, 2016, p. 203305, <https://doi.org/10.3389/fpsyg.2016.01500>. Accessed 21 Jul. 2023.

Pouscoulous, Nausicaa, et al. "A Developmental Investigation of Processing Costs in Implicature Production." *Language Acquisition*, vol. 14, no. 4, 2007, pp. 347–75. JSTOR, <http://www.jstor.org/stable/20462500>. Accessed 21 July 2023.

Teresa Guasti, Maria, et al. "Why children and adults sometimes (but not always) compute implicatures." *Language and cognitive processes* 20.5 (2005): 667-696. <http://dx.doi.org/10.1080/01690960444000250>

Hartshorne, Joshua K., et al. "The neural computation of scalar implicature." *Language, cognition and neuroscience* 30.5 (2015):620-634. <https://doi.org/10.1080/23273798.2014.981195>

Dupuy, Ludivine E., et al. "Context in generalized conversational implicatures: the case of some." *Frontiers in Psychology* 7 (2016): 381. <https://doi.org/10.3389/fpsyg.2016.00381>

Bob Van Tiel and others, *Scalar Diversity*, *Journal of Semantics*, Volume 33, Issue 1, February 2016, Pages 137–175, <https://doi.org/10.1093/jos/ffu017>

Moxey, Linda M., and Anthony J. Sanford. "Communicating quantities: A review of psycholinguistic evidence of how expressions determine perspectives." *Applied Cognitive Psychology: The Official Journal of the Society for Applied Research in Memory and Cognition* 14.3 (2000): 237-255. [https://doi.org/10.1002/\(SICI\)1099-0720\(200005/06\)14:3%3C237::AID-ACP641%3E3.0.CO;2-R](https://doi.org/10.1002/(SICI)1099-0720(200005/06)14:3%3C237::AID-ACP641%3E3.0.CO;2-R)

Wallsten, T. S., Budescu, D. V., and Zwick, R. (1993). Comparing the calibration and coherence of numerical and verbal probability judgements. *Manag. Sci.* 39, 176–190. doi:10.1287/mnsc.39.2.176

van Tiel, B. (2014). Embedded scalars and typicality. *J. Semant.* 31, 147–177. doi: 10.1093/jos/fft002

van Tiel, B., & Geurts, B. (2019). Truth and typicality in the interpretation of quantifiers. *Proceedings of Sinn Und Bedeutung*, 18, 451–468. Retrieved from <https://ojs.ub.uni-konstanz.de/sub/index.php/sub/article/view/327>

Pezzelle, S., Bernardi, R., and Piazza, M. (2018). Probing the mental representation of quantifiers. *Cognition* 181, 117–126. doi: 10.1016/j.cognition.2018.08.009

Noveck, Ira A., and Anne Reboul. "Experimental pragmatics: A Gricean turn in the study of language." *Trends in cognitive sciences* 12.11 (2008): 425-431. <https://doi.org/10.1016/j.tics.2008.07.009>

Montague, Richard. "The proper treatment of quantification in ordinary English." *Approaches to natural language: Proceedings of the 1970 Stanford workshop on grammar and semantics*. Dordrecht: Springer Netherlands, 1973.

Newstead, Stephen E., Paul Pollard, and D. Riezebos. "The effect of set size on the interpretation of quantifiers used in rating scales." *Applied ergonomics* 18.3 (1987): 178-182. [https://doi.org/10.1016/0003-6870\(87\)90001-9](https://doi.org/10.1016/0003-6870(87)90001-9)

Hammerton, Max. "How much is a large part?." *Applied ergonomics* 7.1 (1976): 10-12. [https://doi.org/10.1016/0003-6870\(76\)90004-1](https://doi.org/10.1016/0003-6870(76)90004-1)

Paterson, Kevin B., Ruth Filik, and Linda M. Moxey. "Quantifiers and discourse processing." *Language and Linguistics Compass* 3.6 (2009): 1390-1402. <https://doi.org/10.1111/j.1749-818X.2009.00166.x>

Katsos, Napoleon, et al. "Cross-linguistic patterns in the acquisition of quantifiers." *Proceedings of the National Academy of Sciences* 113.33 (2016): 9244-9249. <https://www.pnas.org/doi/10.1073/pnas.1601341113>

Birner, Betty J. *Introduction to pragmatics*. John Wiley & Sons, 2012.

Jacobson, Pauline. "An Introduction to the Syntax/Semantics Interface." (2014).

Ariel, Mira. "A 'just that' lexical meaning for most." *Where semantics meets pragmatics*. Brill, 2006. 49-91. From von Heusinger, Klaus, and Ken Turner, eds. *Where semantics meets pragmatics*. Vol. 16. BRILL, 2021.

Dobrovie-Sorin, Carmen, and Ion Giurgea. "1 Proportional Many/Much and Most." (2021): 14-51. From Filip, Hana, ed. *Countability in natural language*. Cambridge University Press, 2021.

Heim, Irene, and Angelika Kratzer. "Semantics in generative grammar." (1998).

Sanford, Anthony J., and Linda M. Moxey. "New perspectives on the expression of quantity." *Current Directions in Psychological Science* 12.6 (2003): 240-243. <https://doi.org/10.1046/j.0963-7214.2003.01270.x>

Sanford, Anthony J. "Context, attention and depth of processing during interpretation." *Mind & Language* 17.1-2 (2002): 188-206. <https://doi.org/10.1111/1468-0017.00195>

Yildirim, Ilker, et al. "Talker-Specificity and Adaptation in Quantifier Interpretation." *Journal of Memory and Language*, vol. 87, 2016, pp. 128-143, <https://doi.org/10.1016/j.jml.2015.08.003>.

Zamparelli, Roberto. "On singular existential quantifiers in Italian." *Existence: Semantics and syntax*. Dordrecht: Springer Netherlands, 2007. 293-328.

Montalto, Ruggero, Angeliek van Hout, and Petra Hendriks. "Acquiring the Ordering of Italian Near-Synonymous Quantifiers." *35th Annual Boston University Conference on Language Development*. Cascadilla Press, 2011.

Vender, Maria, Marta Lavarini, and Denis Delfitto. "Investigating the computation of scalar implicatures in Italian children with dyslexia: the role of quantifier properties." *Lingue e linguaggio* 19.2 (2020): 223-255. DOI: 10.1418/99004

Crisma, Paola. "Quantifiers in Italian." *Handbook of quantifiers in natural language* (2012): 467-534. From Keenan, Edward, and Denis Paperno, eds. *Handbook of quantifiers in natural language*. Vol. 90. Springer Science & Business Media, 2012.

Garzonio, Jacopo, and Cecilia Poletto. "Quantifiers as negative markers in Italian dialects." *Linguistic Variation Yearbook* 9.1 (2009): 127-152. <https://doi.org/10.1075/livy.9.04gar>

Garzonio, Jacopo, and Cecilia Poletto. "How bare are bare quantifiers? Some notes from diachronic and synchronic variation in Italian." *Linguistic Variation* 17.1 (2017): 44-67. <https://doi.org/10.1075/lv.17.1.03gar>

Magri, Giorgio. "Another argument for embedded scalar implicatures based on oddness in downward entailing environments." *Semantics and Pragmatics* 4 (2011): 6-1. <https://doi.org/10.3765/sp.4.6>

Kawashima, Ruriko. "The structure of extended nominal phrases: The scrambling of numerals, approximate numerals, and quantifiers in Japanese." *Journal of East Asian Linguistics* 7.1 (1998): 1-26.

Nishiguchi, Sumiyo. "Quantifiers in Japanese." *International Tbilisi Symposium on Logic, Language, and Computation*. Berlin, Heidelberg: Springer Berlin Heidelberg, 2007.

Hayashishita, J-R., and Ayumi Ueyama. "Quantity expressions in Japanese." *Handbook of Quantifiers in Natural Language* (2012): 535-612. From *Handbook of Quantifiers in Natural Language*, edited by Edward Keenan, and Denis Paperno, Springer Netherlands, 2012

Barner, David, et al. "Cross-linguistic relations between quantifiers and numerals in language acquisition: Evidence from Japanese." *Journal of experimental child psychology* 103.4 (2009): 421-440. <https://doi.org/10.1016/j.jecp.2008.12.001>

Fukushima, Kazuhiko. "Phrase structure grammar, Montague semantics, and floating quantifiers in Japanese." *Linguistics and Philosophy* 14 (1991): 581-628.

S. Miyagawa and K. Arikawa, "Locality in Syntax and Floating Numeral Quantifiers," in *Linguistic Inquiry*, vol. 38, no. 4, pp. 645-670, Oct. 2007, doi: 10.1162/ling.2007.38.4.645.

Yokota, Kenji. "Japanese floating numeral quantifiers as generalized quantifiers." *Language Sciences* 45 (2014): 123-134. <https://doi.org/10.1016/j.langsci.2014.06.017>

Bardel, Camilla, and Christina Lindqvist. "The role of proficiency and psychotypology in lexical cross-linguistic influence. A study of a multilingual learner of Italian L3." *Atti del VI Congresso di Studi dell'Associazione Italiana di Linguistica Applicata*. Perugia: Guerra Editore, 2007.

Sheng, Li, et al. "A robust demonstration of the cognate facilitation effect in first-language and second-language naming." *Journal of experimental child psychology* 141 (2016): 229-238. <https://doi.org/10.1016/j.jecp.2015.09.007>

Kim, Young-Suk. "Crosslinguistic influence on phonological awareness for Korean–English bilingual children." *Reading and Writing* 22 (2009): 843-861. <https://doi.org/10.1007/s11145-008-9132-z>

RAMIREZ, GLORIA, et al. "Morphological Awareness and Word Reading in English Language Learners: Evidence from Spanish- and Chinese-Speaking Children." *Applied Psycholinguistics*, vol. 32, no. 3, 2011, pp. 601–618., doi:10.1017/S0142716411000233.

Cuza, Alejandro. "Crosslinguistic influence at the syntax proper: Interrogative subject–verb inversion in heritage Spanish." *International Journal of Bilingualism* 17.1 (2013): 71-96. <https://doi.org/10.1177/1367006911432619>

Wang, Danyang, et al. "Cross-linguistic influences of L1 on L2 morphosyntactic processing: An fNIRS study." *Journal of Neurolinguistics* 63 (2022): 101063. <https://doi.org/10.1016/j.jneuroling.2022.101063>

Bu, Jiemin. "A Study of Relationships between L1 Pragmatic Transfer and L2 Proficiency." *English Language Teaching* 5.1 (2012): 32-43. : <http://dx.doi.org/10.5539/elt.v5n1p32>

Mazzaggio, Greta, et al. "On the Interpretation of Scalar Implicatures in First and Second Language." *Journal of Pragmatics*, vol. 171, 2021, pp. 62-75, <https://doi.org/10.1016/j.pragma.2020.10.005>.

Kupisch, Tanja. "Specific and generic subjects in the Italian of German–Italian simultaneous bilinguals and L2 learners." *Bilingualism: Language and Cognition* 15.4 (2012): 736-756. <https://doi.org/10.1017/S1366728911000691>

Meznah, Althawab. "Investigating the negative impact of pragmatic transfer on the acquisition of English pragmatics as perceived by L2 Learners: A review." *International Journal of English and Literature* 9.3 (2018): 18-24. <https://doi.org/10.5897/IJEL2018.1151>

Bardovi-Harlig, Kathleen, and Rex A. Sprouse. "Negative versus positive transfer." *The TESOL encyclopedia of English language teaching* (2018): 1-6. <https://doi.org/10.1002/9781118784235.eelt0084>.

Saville-Troike, Muriel, and Karen Barto. *Introducing second language acquisition*. Cambridge University Press, 2017.

Schwietzer, John W. "The Handbook of the Neuroscience of Multilingualism."

Grosjean, François. "Bilingualism: A short introduction." *The psycholinguistics of bilingualism* 2.5 (2013). From Grosjean, François, and Ping Li. *The psycholinguistics of bilingualism*. John Wiley & Sons, 2013.

The Handbook of Language Contact, edited by Raymond Hickey, John Wiley & Sons, Incorporated, 2020. ProQuest Ebook Central, <https://ebookcentral.proquest.com/lib/unive1-ebooks/detail.action?docID=6335166>.

Dewaele, Jean-Marc, Alex Housen, and Li Wei, eds. *Bilingualism: Beyond basic principles*. Vol. 123. *Multilingual matters*, 2003.

Kroll, Judith F., and Annette MB De Groot, eds. *Handbook of bilingualism: Psycholinguistic approaches*. Oxford University Press, 2009.

Kristin Lemhöfer, Katharina Spalek, Herbert Schriefers, Cross-language effects of grammatical gender in bilingual word recognition and production, *Journal of Memory and Language*, Volume 59, Issue 3, 2008, Pages 312-330, ISSN 0749-596X, <https://doi.org/10.1016/j.jml.2008.06.005>.

Wang, Danyang, et al. "Cross-Linguistic Influences of L1 on L2 Morphosyntactic Processing: An fNIRS Study." *Journal of Neurolinguistics*, vol. 63, 2022, p. 101063, <https://doi.org/10.1016/j.jneuroling.2022.101063>. Accessed 8 Jun. 2023.

Serratrice, Ludovica, and Cécile De Cat. "Individual Differences in the Production of Referential Expressions: The Effect of Language Proficiency, Language Exposure and Executive Function in Bilingual and Monolingual Children." *Bilingualism: Language and Cognition*, vol. 23, no. 2, 2020, pp. 371–386., doi:10.1017/S1366728918000962.

Serratrice, L., Sorace, A., Filiaci, F., & Baldo, M. (2009). Bilingual children's sensitivity to specificity and genericity: Evidence from metalinguistic awareness. *Bilingualism: Language and Cognition*, 12(2), 239–257. <https://doi.org/10.1017/S1366728909004027>

Appendix A

Test sentences of experiment 1

The test presents the quantifiers *pochi*, *alcuni*, *metà*, *molti*, *quasi tutti* used in Experiment 1A. As for Experiment 1B the quantifier *maggior parte* has been used instead of *molti*.

Context and test sentences are presented in the following.

Contesto 1

175 consumatori hanno acquistato il prodotto.

2 di questi consumatori hanno restituito il prodotto acquistato.

Test sentences:

- a. Pochi consumatori hanno restituito il prodotto acquistato.
- b. Alcuni consumatori hanno restituito il prodotto acquistato.
- c. Metà dei consumatori hanno restituito il prodotto acquistato.
- d. Molti dei consumatori hanno restituito il prodotto acquistato.
- e. Quasi tutti i consumatori hanno restituito il prodotto acquistato.

Contesto 2

168 pittori presentarono i loro dipinti nella galleria di arte.

5 di questi pittori provenivano dall'America Latina.

Test sentences:

- a. Pochi pittori provenivano dall'America Latina.
- b. Alcuni pittori provenivano dall'America Latina.
- c. Metà dei pittori provenivano dall'America Latina.
- d. Molti pittori provenivano dall'America Latina.
- e. Quasi tutti i pittori provenivano dall'America Latina.

Contesto 3

135 incidenti aerei si sono verificati nel mondo lo scorso anno.

7 di questi incidenti aerei si sono verificati in Russia.

Test sentences:

- a. Pochi incidenti aerei si sono verificati in Russia.
- b. Alcuni incidenti aerei si sono verificati in Russia.
- c. Metà di incidenti aerei si sono verificati in Russia.
- d. Molti incidenti aerei si sono verificati in Russia.
- e. Quasi tutti gli incidenti aerei si sono verificati in Russia.

Contesto 4

127 studenti iniziarono la facoltà di storia nell'anno accademico 2012.

9 di questi studenti cambiarono la facoltà dopo il primo semestre.

Test sentences:

- a. Pochi studenti cambiarono la facoltà dopo il primo semestre.
- b. Alcuni studenti cambiarono la facoltà dopo il primo semestre.
- c. Metà degli studenti cambiarono la facoltà dopo il primo semestre.

- d. Molti studenti cambiarono la facoltà dopo il primo semestre.
- e. Quasi tutti studenti cambiarono la facoltà dopo il primo semestre.

Contesto 5

158 autori presentarono i saggi per l'antologia.
14 di questi autori pubblicarono i loro saggi nell'antologia.

Test sentences:

- a. Pochi autori pubblicarono i loro saggi nell'antologia.
- b. Alcuni autori pubblicarono i loro saggi nell'antologia.
- c. Metà degli autori pubblicarono i loro saggi nell'antologia.
- d. Molti autori pubblicarono i loro saggi nell'antologia.
- e. Quasi tutti gli autori pubblicarono i loro saggi nell'antologia.

Contesto 6

153 lettori si sono lamentati nell'email del reportage della Domenica.
17 di questi lettori ricevettero una risposta dall'editore.

Test sentences:

- a. Pochi lettori ricevettero una risposta dall'editore.
- b. Alcuni lettori ricevettero una risposta dall'editore.
- c. Metà dei lettori ricevettero una risposta dall'editore.
- d. Molti lettori ricevettero una risposta dall'editore.
- e. Quasi tutti i lettori ricevettero una risposta dall'editore.

Contesto 7

150 gatti furono adottati da nuovi padroni in New Brunswick lo scorso anno.
20 di questi gatti soffrirono di cimurro (malattia).

Test sentences:

- a. Pochi gatti soffrirono di cimurro.
- b. Alcuni gatti soffrirono di cimurro.
- c. Metà dei gatti soffrirono di cimurro.
- d. Molti gatti soffrirono di cimurro.
- e. Quasi tutti i gatti soffrirono di cimurro.

Contesto 8

134 persone richiesero il pagamento per l'assistenza familiare lo scorso mese.
20 di queste persone ricevettero il sussidio (l'aiuto economico).

Test sentences:

- a. Pochi ricevettero il sussidio.
- b. Alcuni ricevettero il sussidio.
- c. La metà ricevettero il sussidio.
- d. Molti ricevettero il sussidio
- e. Quasi tutti ricevettero il sussidio.

Context 9

136 studenti fecero un semestre all'estero lo scorso anno.

23 di questi studenti trascorsero il semestre all'estero nell'America del Sud.

Test sentences:

- a. Pochi studenti trascorsero il semestre all'estero nell'America del Sud.
- b. Alcuni studenti trascorsero il semestre all'estero nell'America del Sud.
- c. Metà degli studenti trascorsero il semestre all'estero nell'America del Sud.
- d. Molti studenti trascorsero il semestre all'estero nell'America del Sud.
- e. Quasi tutti gli studenti trascorsero il semestre all'estero nell'America del Sud.

Context 10

138 ricercatori presero parte al progetto.

26 di questi ricercatori raccolsero dati.

Test sentences:

- a. Pochi ricercatori raccolsero dati.
- b. Alcuni ricercatori raccolsero dati.
- c. Metà dei ricercatori raccolsero dati.
- d. Molti ricercatori raccolsero dati.
- e. Quasi tutti i ricercatori raccolsero dati.

Context 11

147 pensionati prenotarono una crociera sulla barca dei sogni.

31 di questi pensionati cancellarono il viaggio.

Test sentences:

- a. Pochi pensionati cancellarono il viaggio.
- b. Alcuni pensionati cancellarono il viaggio.
- c. Metà dei pensionati cancellarono il viaggio.
- d. Molti pensionati cancellarono il viaggio.
- e. Quasi tutti i pensionati cancellarono il viaggio.

Context 12

129 persone contrassero l'influenza aviaria in Cina.

30 di queste persone morirono a causa di malfunzionamento di organi.

Test sentences:

- a. Poche persone morirono a causa di malfunzionamento di organi.
- b. Alcune persone morirono a causa di malfunzionamento di organi.
- c. Metà delle persone morirono a causa di malfunzionamento di organi.
- d. Molte persone morirono a causa di malfunzionamento di organi.
- e. Quasi tutte le persone morirono a causa di malfunzionamento di organi.

Contesto 13

162 libri furono localizzati nelle loro librerie.

41 di questi libri trattano di linguistica.

Test sentences:

- a. Pochi libri trattano di linguistica.
- b. Alcuni libri trattano di linguistica.
- c. Metà dei libri trattano di linguistica.
- d. Molti libri trattano di linguistica.
- e. Quasi tutti i libri trattano di linguistica.

Contesto 14

173 compresse furono somministrate per il test.

47 di queste compresse contenevano un nuovo ingrediente attivo.

Test sentences:

- a. Poche compresse contenevano un nuovo ingrediente attivo.
- b. Alcune compresse contenevano un nuovo ingrediente attivo.
- c. La metà delle compresse contenevano un nuovo ingrediente attivo.
- d. Molte compresse contenevano un nuovo ingrediente attivo.
- e. Quasi tutte le compresse contenevano un nuovo ingrediente attivo.

Contesto 15

163 membri del club avevano il diritto a votare.

47 di questi membri del club presentarono un voto invalido.

Test sentences:

- a. Pochi membri del club presentarono un voto invalido.
- b. Alcuni membri del club presentarono un voto invalido.
- c. Metà dei membri del club presentarono un voto invalido.
- d. Molti membri del club presentarono un voto invalido.
- e. Quasi tutti i membri del club presentarono un voto invalido.

Contesto 16

146 Nazioni dell'ONU firmarono il trattato.

45 di queste Nazioni ratificano il trattato nei loro parlamenti.

Test sentences:

- a. Poche Nazioni ratificano il trattato nei loro parlamenti.
- b. Alcune Nazioni ratificano il trattato nei loro parlamenti.
- c. La metà delle Nazioni ratificano il trattato nei loro parlamenti.
- d. Molte Nazioni ratificano il trattato nei loro parlamenti.
- e. Quasi tutte le Nazioni ratificano il trattato nei loro parlamenti.

Contesto 17

128 turisti prenotarono un tavolo al ristorante “La Rana e la Pesca”.

42 di questi turisti si smarrirono durante la via.

Test sentences:

- a. Pochi turisti si smarrirono durante la via.
- b. Alcuni turisti si smarrirono durante la via.
- c. Metà dei turisti si smarrirono durante la via.
- d. Molti turisti si smarrirono durante la via.

e. Quasi tutti i turisti si smarrirono durante la via.

Context 18

144 coppie si sposarono nel 2010.

50 di queste coppie si separarono l'anno successivo.

Test sentences:

Poche coppie si separarono l'anno successivo.

b. Alcune coppie si separarono l'anno successivo.

c. La metà delle coppie si separarono l'anno successivo.

d. Molte coppie si separarono l'anno successivo.

e. Quasi tutte le coppie si separarono l'anno successivo.

Context 19

148 pagine descrissero il modello teorico.

55 di queste pagine furono dedicate solamente alla definizione del modello teorico.

Test sentences:

a. Poche pagine furono dedicate solamente alla definizione del modello teorico.

b. Alcune pagine furono dedicate solamente alla definizione del modello teorico.

c. La metà delle pagine furono dedicate solamente alla definizione del modello teorico.

d. Molte pagine furono dedicate solamente alla definizione del modello teorico.

e. Quasi tutte le pagine furono dedicate solamente alla definizione del modello teorico.

Context 20

131 comunità nel mio Stato Federale registrarono un abbassamento demografico.

51 di queste comunità registrarono una diminuzione demografica nell'intervallo percentuale di due cifre.

Test sentences:

a. Poche comunità registrarono una diminuzione demografica nell'intervallo percentuale di due cifre.

b. Alcune comunità registrarono una diminuzione demografica nell'intervallo percentuale di due cifre.

c. La metà delle comunità registrarono una diminuzione demografica nell'intervallo percentuale di due cifre.

d. Molte comunità registrarono una diminuzione demografica nell'intervallo percentuale di due cifre.

e. Quasi tutte le comunità registrarono una diminuzione demografica nell'intervallo percentuale di due cifre.

Context 21

164 impiegati si lamentarono delle precarie condizioni lavorative.

67 di questi lavoratori si dimisero di conseguenza.

Test sentences:

a. Pochi lavoratori si dimisero di conseguenza.

b. Alcuni lavoratori si dimisero di conseguenza.

- c. Metà dei lavoratori si dimisero di conseguenza.
- d. Molti lavoratori si dimisero di conseguenza.
- e. Quasi tutti i lavoratori si dimisero di conseguenza.

Context 22

130 turisti visitarono l'acquario di Londra.
56 di questi turisti pagarono la tariffa piena.

Test sentences:

- a. Pochi turisti pagarono la tariffa piena.
- b. Alcuni turisti pagarono la tariffa piena.
- c. Metà dei turisti pagarono la tariffa piena.
- d. Molti turisti pagarono la tariffa piena.
- e. Quasi tutti i turisti pagarono la tariffa piena.

Context 23

174 fumatori tentarono di smettere il loro vizio.
78 di questi fumatori si lamentarono dell'astinenza.

Test sentences:

- a. Pochi fumatori si lamentarono dell'astinenza.
- b. Alcuni fumatori si lamentarono dell'astinenza.
- c. Metà dei fumatori si lamentarono dell'astinenza.
- d. Molti fumatori si lamentarono dell'astinenza.
- e. Quasi tutti i fumatori si lamentarono dell'astinenza.

Context 24

142 scout rischiarono la sfida.
67 di questi scout fallirono nel loro compito.

Test sentences:

- a. Pochi scout fallirono nel loro compito.
- b. Alcuni scout fallirono nel loro compito.
- c. Metà degli scout fallirono nel loro compito.
- d. Molti scout fallirono nel loro compito.
- e. Quasi tutti gli scout fallirono nel loro compito.

Context 25

141 attori vennero a Londra per il casting.
69 di questi attori convinsero la giuria.

Test sentences:

- a. Pochi attori convinsero la giuria.
- b. Alcuni attori convinsero la giuria.
- c. Metà degli attori convinsero la giuria.
- d. Molti attori convinsero la giuria.
- e. Quasi tutti gli attori convinsero la giuria.

Context 26

160 studenti completarono il questionario.

82 di questi studenti non avevano i prerequisiti necessari per il corso.

Test sentences:

- a. Pochi studenti non avevano i prerequisiti necessari per il corso.
- b. Alcuni studenti non avevano i prerequisiti necessari per il corso.
- c. Metà degli studenti non avevano i prerequisiti necessari per il corso.
- d. Molti studenti non avevano i prerequisiti necessari per il corso.
- e. Quasi tutti gli studenti non avevano i prerequisiti necessari per il corso.

Context 27

149 pazienti necessitavano di un appuntamento per l'operazione.

79 di questi pazienti attesero per più di 6 mesi.

Test sentences:

- a. Pochi pazienti attesero per più di 6 mesi.
- b. Alcuni pazienti attesero per più di 6 mesi.
- c. La metà degli pazienti attese per più di 6 mesi.
- d. Molti pazienti attesero per più di 6 mesi.
- e. Quasi tutti i pazienti attesero per più di 6 mesi.

Context 28

155 bambini mangiarono nel bar.

85 di questi bambini riscontrarono veleno nel cibo.

Test sentences:

- a. Pochi bambini riscontrarono veleno nel cibo.
- b. Alcuni bambini riscontrarono veleno nel cibo.
- c. La metà dei bambini riscontrarono veleno nel cibo.
- d. Molti bambini riscontrarono veleno nel cibo.
- e. Quasi tutti i bambini riscontrarono veleno nel cibo.

Context 29

157 partecipanti del concerto portarono una bevanda durante l'intervallo.

89 di questi partecipanti del concerto ordinarono una bevanda alcolica.

Test sentences:

- a. Pochi partecipanti del concerto ordinarono una bevanda alcolica.
- b. Alcuni partecipanti del concerto ordinarono una bevanda alcolica.
- c. La metà dei partecipanti del concerto ordinarono una bevanda alcolica.
- d. Molti partecipanti del concerto ordinarono una bevanda alcolica.
- e. Quasi tutti i partecipanti del concerto ordinarono una bevanda alcolica.

Context 30

169 candidati si contendevano un posto all'università.

100 di questi candidati passarono il test di verifica.

Test sentences:

- a. Pochi candidati passarono il test di verifica.
- b. Alcuni candidati passarono il test di verifica.
- c. La metà dei candidati passarono il test di verifica.
- d. Molti candidati passarono il test di verifica.
- e. Quasi tutti i candidati passarono il test di verifica.

Context 31

132 donne provarono la crema anti rughe.

81 di queste donne notarono un miglioramento.

Test sentences:

- a. Poche donne notarono un miglioramento.
- b. Alcune donne notarono un miglioramento.
- c. Metà delle donne notarono un miglioramento.
- d. Molte donne notarono un miglioramento.
- e. Quasi tutte le donne notarono un miglioramento.

Context 32

161 studenti diedero il test.

101 di questi studenti seppero padroneggiare bene il contenuto del test.

Test sentences:

- a. Pochi studenti seppero padroneggiare bene il contenuto del test.
- b. Alcuni studenti seppero padroneggiare bene il contenuto del test.
- c. La metà degli studenti seppero padroneggiare bene il contenuto del test.
- d. Molti studenti seppero padroneggiare bene il contenuto del test.
- e. Quasi tutti gli studenti seppero padroneggiare bene il contenuto del test.

Context 33

172 ospiti visitarono Holiday Inn lo scorso mese.

112 di questi ospiti si fermarono solo per una notte.

Test sentences:

- a. Pochi ospiti si fermarono solo per una notte.
- b. Alcuni ospiti si fermarono solo per una notte.
- c. La metà degli ospiti si fermarono solo per una notte.
- d. Molti ospiti si fermarono solo per una notte.
- e. Quasi tutti gli ospiti si fermarono solo per una notte.

Context 34

170 persone vennero al concerto di beneficenza.

114 di queste persone donarono per la causa.

Test sentences:

- a. Poche persone donarono per la causa.
- b. Alcune persone donarono per la causa.
- c. Metà delle persone donarono per la causa.

- d. Molte persone donarono per la causa.
- e. Quasi tutte le persone donarono per la causa.

Context 35

159 opuscoli furono disposte nel laboratorio sperimentale linguistico.

110 di questi opuscoli finirono nel cestino.

Test sentences:

Pochi opuscoli finirono nel cestino.

- b. Alcuni opuscoli finirono nel cestino.
- c. Metà di opuscoli finirono nel cestino.
- d. Molti opuscoli finirono nel cestino.
- e. Quasi tutti gli opuscoli finirono nel cestino.

Context 36

151 musicisti fecero le prove per il concerto.

107 di questi musicisti fecero errori in molte parti.

Test sentences:

- a. Pochi musicisti fecero errori in molte parti.
- b. Alcuni musicisti fecero errori in molte parti.
- c. Metà degli musicisti fecero errori in molte parti.
- d. Molti musicisti fecero errori in molte parti.
- e. Quasi tutti i musicisti fecero errori in molte parti.

Context 37

133 uomini cercarono un partner di vita.

97 di questi uomini utilizzarono un sito online di appuntamenti.

Test sentences:

- a. Pochi uomini utilizzarono un sito online di appuntamenti.
- b. Alcuni uomini utilizzarono un sito online di appuntamenti.
- c. La metà di uomini utilizzarono un sito online di appuntamenti.
- d. Molti uomini utilizzarono un sito online di appuntamenti.
- e. La maggior parte degli uomini utilizzarono un sito online di appuntamenti.

Context 38

167 soggetti presero un nuovo farmaco generico.

125 di questi soggetti tollerarono bene il farmaco.

Test sentences:

- a. Pochi soggetti tollerarono bene il farmaco.
- b. Alcuni soggetti tollerarono bene il farmaco.
- c. La metà di soggetti tollerarono bene il farmaco.
- d. Molti soggetti tollerarono bene il farmaco.
- e. La maggior parte degli soggetti tollerarono bene il farmaco.

Context 39

137 volontari sostennero il progetto di arte.

105 di questi volontari lavorarono anche come artisti.

Test sentences:

- a. Pochi volontari lavorarono anche come artisti.
- b. Alcuni volontari lavorarono anche come artisti.
- c. La metà dei volontari lavorarono anche come artisti.
- d. Molti volontari lavorarono anche come artisti.
- e. Quasi tutti i volontari lavorarono anche come artisti.

Context 40

171 atleti si allenarono per metà maratona.

135 di questi atleti si allenarono più di tre volte alla settimana.

Test sentences:

- a. Pochi atleti si allenarono più di tre volte alla settimana.
- b. Alcuni atleti si allenarono più di tre volte alla settimana.
- c. La metà dei atleti si allenarono più di tre volte alla settimana.
- d. Molti atleti si allenarono più di tre volte alla settimana.
- e. Quasi tutti gli atleti si allenarono più di tre volte alla settimana.

Context 41

154 impiegati presero l'opportunità di continuare l'educazione.

125 di questi impiegati migliorarono la loro prestazione come risultato.

Test sentences:

- a. Pochi impiegati migliorarono la loro prestazione come risultato.
- b. Alcuni impiegati migliorarono la loro prestazione come risultato.
- c. La metà dei impiegati migliorarono la loro prestazione come risultato.
- d. Molti impiegati migliorarono la loro prestazione come risultato.
- e. Quasi tutti gli impiegati migliorarono la loro prestazione come risultato.

Context 42

165 passeggeri presero il volo per Parigi.

137 di questi passeggeri si sedettero nella Economy Class.

Test sentences:

- a. Pochi passeggeri si sedettero nella Economy Class.
- b. Alcuni passeggeri si sedettero nella Economy Class.
- c. La metà dei passeggeri si sedettero nella Economy Class.
- d. Molti passeggeri si sedettero nella Economy Class.
- e. Quasi tutti i passeggeri si sedettero nella Economy Class.

Context 43

156 amici vennero al matrimonio.

133 di questi amici firmarono il libro degli ospiti.

Test sentences:

- a. Pochi amici firmarono il libro degli ospiti.
- b. Alcuni amici firmarono il libro degli ospiti.

- c. La metà degli amici firmarono il libro degli ospiti.
- d. Molti amici firmarono il libro degli ospiti.
- e. Quasi tutti gli amici firmarono il libro degli ospiti.

Context 44

126 persone presero l'esame per la patente.
110 di queste persone non passarono l'esame.

Test sentences:

- a. Poche persone non passarono l'esame.
- b. Alcune persone non passarono l'esame.
- c. La metà delle persone non passarono l'esame.
- d. Molte persone non passarono l'esame.
- e. Quasi tutte le persone non passarono l'esame.

Context 45

166 clienti terminarono il contratto telefonico.
148 di questi clienti scelsero la tariffa meno cara.

Test sentences:

- Pochi clienti scelsero la tariffa meno cara.
- b. Alcuni clienti scelsero la tariffa meno cara.
 - c. Metà degli clienti scelsero la tariffa meno cara.
 - d. Molti clienti scelsero la tariffa meno cara.
 - e. Quasi tutti i clienti scelsero la tariffa meno cara.

Context 46

139 connoisseurs del vino assaggiarono il nuovo vino.
126 di questi connoisseurs di vino lodarono il prodotto di alta qualità.

Test sentences:

- a. Pochi connoisseurs di vino lodarono il prodotto di alta qualità.
- b. Alcuni connoisseurs di vino lodarono il prodotto di alta qualità.
- c. La metà degli connoisseurs di vino lodarono il prodotto di alta qualità.
- d. Molti connoisseurs di vino lodarono il prodotto di alta qualità.
- e. Quasi tutti gli connoisseurs di vino lodarono il prodotto di alta qualità.

Context 47

143 lettori acquistarono un abbonamento di prova al giornale.
133 di questi lettori continuarono l'abbonamento al giornale.

Test sentences:

- a. Pochi lettori continuarono l'abbonamento al giornale.
- b. Alcuni lettori continuarono l'abbonamento al giornale.
- c. La metà dei lettori continuarono l'abbonamento al giornale.
- d. Molti lettori continuarono l'abbonamento al giornale.
- e. Quasi tutti i lettori continuarono l'abbonamento al giornale.

Context 48

145 tifosi di football guardarono la partita.

138 di questi tifosi di football bevvero birra durante la partita.

Test sentences:

- a. Pochi tifosi di football bevvero birra durante la partita.
- b. Alcuni tifosi di football bevvero birra durante la partita.
- c. Metà dei tifosi di football bevvero birra durante la partita.
- d. Molti tifosi di football bevvero birra durante la partita.
- e. Quasi tutti gli tifosi di football bevvero birra durante la partita.

Context 49

140 studenti completarono i loro studi nel 2014.

136 di questi studenti fecero una festa di laurea.

Test sentences:

- a. Pochi studenti fecero una festa di laurea.
- b. Alcuni studenti fecero una festa di laurea.
- c. Metà degli studenti fecero una festa di laurea.
- d. Molti studenti fecero una festa di laurea.
- e. Quasi tutti gli studenti fecero una festa di laurea.

Context 50

152 persone prenotarono per la celebrazione.

150 di queste persone vennero alla celebrazione.

Test sentences:

- a. Poche persone vennero alla celebrazione.
- b. Alcune persone vennero alla celebrazione.
- c. Metà delle persone vennero alla celebrazione.
- d. Molte persone vennero alla celebrazione.
- e. Quasi tutte le persone vennero alla celebrazione.

Experiment 2
Original test from Stateva 2020
Contexts and test sentences

Context 1

175 consumers bought the product.
2 of these consumers returned the product.

Test sentences:

- a. Few consumers returned the product.
- b. Some consumers returned the product.
- c. Half of the consumers returned the product.
- d. Most consumers returned the product.
- e. Almost all consumers returned the product.

Context 2

168 painters displayed their works of art in the gallery.
5 of these painters were from Latin America.

Test sentences:

- a. Few painters were from Latin America.
- b. Some painters were from Latin America.
- c. Half of the painters were from Latin America.
- d. Most painters were from Latin America.
- e. Almost all painters were from Latin America.

Context 3

135 airplane crashes occurred last year worldwide.
7 of these crashes occurred in Russia.

Test sentences:

- a. Few crashes occurred in Russia.
- b. Some of the crashes occurred in Russia.
- c. Half of the crashes occurred in Russia.
- d. Most crashes occurred in Russia.
- e. Almost all crashes occurred in Russia.

Context 4

127 students began a History major in the WS 2012.
9 of these students changed their major after the first semester.

Test sentences:

- a. Few students changed their major after the first semester.
- b. Some students changed their major after the first semester.
- c. Half of the students changed their major after the first semester.
- d. Most students changed their major after the first semester.
- e. Almost all students changed their major after the first semester.

Context 5

158 authors submitted essays for the anthology.

14 of these authors published their essays in the anthology.

Test sentences:

- a. Few authors published their essays in the anthology.
- b. Some authors published their essays in the anthology.
- c. Half of the authors published their essays in the anthology.
- d. Most authors published their essays in the anthology.
- e. Almost all authors published their essays in the anthology.

Context 6

153 readers complained via email about the Sunday reportage.

17 of these readers received a response from the editor-in-chief.

Test sentences:

- a. Few readers received a response from the editor-in-chief.
- b. Some readers received a response from the editor-in-chief.
- c. Half of the readers received a response from the editor-in-chief.
- d. Most readers received a response from the editor-in-chief.
- e. Almost all readers received a response from the editor-in-chief.

Context 7

Last year, 150 cats in New Brunswick adopted new owners.

20 of these cats suffered from distemper.

Test sentences:

- a. Few cats suffered from distemper.
- b. Some of these cats suffered from distemper.
- c. Half of these cats suffered from distemper.
- d. Most cats suffered from distemper.
- e. Almost all the cats suffered from distemper.

Context 8

134 people applied for family assistance payments last month.

20 of these people got the subsidy.

Test sentences:

- a. Few people got the subsidy.
- b. Some of these people got the subsidy.
- c. Half of these people got the subsidy.
- d. Most people got the subsidy.
- e. Almost allse people got the subsidy.

Context 9

136 students completed a semester abroad last year.

23 of these students spent their semester abroad in South America.

Test sentences:

- a. Few students spent their semester abroad in South America.
- b. Some students spent their semester abroad in South America.
- c. Half of the students spent their semester abroad in South America.
- d. Most students spent their semester abroad in South America.
- e. Almost all students spent their semester abroad in South America.

Context 10

138 researchers took part in the project.

26 of these researchers collected data.

Test sentences:

- a. Few researchers collected data.
- b. Some researchers collected data.
- c. Half of the researchers collected data.
- d. Most researchers collected data.
- e. Almost all researchers collected data.

Context 11

147 retirees booked a cruise on the dreamboat.

31 of these retirees canceled the trip.

Test sentences:

- a. Few retirees canceled the trip.
- b. Some of the retirees canceled the trip.
- c. Half of the retirees canceled the trip.
- d. Most retirees canceled the trip.
- e. Almost all retirees canceled the trip.

Context 12

129 people contracted bird flu in China.

30 of these people died due to multiple organ failure.

Test sentences:

- a. Few people died due to multiple organ failure.
- b. Some people died due to multiple organ failure.
- c. Half of the people died due to multiple organ failure.
- d. Most people died due to multiple organ failure.
- e. Almost all people died due to multiple organ failure.

Context 13

162 books were located in their library.

41 of these books dealt with linguistic topics.

Test sentences:

- a. Few of the books dealt with linguistic topics.
- b. Some of the books dealt with linguistic topics.
- c. Half of the books dealt with linguistic topics.
- d. Most books dealt with linguistic topics.

e. Almost all books dealt with linguistic topics.

Context 14

173 tablets were administered for the test.

47 of these tablets contained the new active ingredient.

Test sentences:

- a. Few tablets contained the new active ingredient.
- b. Some tablets contained the new active ingredient.
- c. Half of the tablets contained the new active ingredient.
- d. Most tablets contained the new active ingredient.
- e. Almost all tablets contained the new active ingredient.

Context 15

163 club members were eligible to vote.

47 of these club members submitted an invalid vote.

Test sentences:

- a. Few of the club members submitted an invalid vote.
- b. Some of the club members submitted an invalid vote.
- c. Half of the club members submitted an invalid vote.
- d. Most club members submitted an invalid vote.
- e. Almost all club members submitted an invalid vote.

Context 16

146 nations in the UNO signed the treaty.

45 of these nations ratified the treaty in their own parliaments.

Test sentences:

- a. Few nations ratified the treaty in their own parliaments.
- b. Some of the nations ratified the treaty in their own parliaments.
- c. Half of the nations ratified the treaty in their own parliaments.
- d. Most nations ratified the treaty in their own parliaments.
- e. Almost all nations ratified the treaty in their own parliaments.

Context 17

128 tourists reserved a table at The Frog and the Peach.

42 of these tourists got lost on their way there.

Test sentences:

- a. Few tourists got lost on their way there.
- b. Some tourists got lost on their way there.
- c. Half of the tourists got lost on their way there.
- d. Most tourists got lost on their way there.
- e. Almost all tourists got lost on their way there.

Context 18

144 couples got married in 2010.

50 of these couples separated one year later.

Test sentences:

- a. Few couples separated one year later.
- b. Some couples separated one year later.
- c. Half of the couples separated one year later.
- d. Most couples separated one year later.
- e. Almost all couples separated one year later.

Context 19

148 pages described the theoretical model.

55 of these pages were dedicated solely to the model definition.

Test sentences:

- a. Few pages were dedicated solely to the model definition.
- b. Some pages were dedicated solely to the model definition.
- c. Half of the pages were dedicated solely to the model definition.
- d. Most pages were dedicated solely to the model definition.
- e. Almost all pages were dedicated solely to the model definition.

Context 20

131 communities in my federal state registered a decrease in population.

51 of these communities registered decreases within the double-digit percent range.

Test sentences:

- a. Few communities registered decreases within the double-digit percent range.
- b. Some communities registered decreases within the double-digit percent range.
- c. Half of the communities registered decrease within the double-digit percent range.
- d. Most communities registered decrease within the double-digit percent range.
- e. Almost all communities registered decrease within the double-digit percent range.

Context 21

164 employees complained about the poor work conditions.

67 of these employees resigned soon thereafter.

Test sentences:

- a. Few employees resigned soon thereafter.
- b. Some employees resigned soon thereafter.
- c. Half of the employees resigned soon thereafter.
- d. Most employees resigned soon thereafter.
- e. Almost all employees resigned soon thereafter.

Context 22

130 tourists visited the London Aquarium.

56 of these tourists paid the full rate.

Test sentences:

- a. Few tourists paid the full rate.
- b. Some tourists paid the full rate.
- c. Half of the tourists paid the full rate.

- d. Most tourists paid the full rate.
- e. Almost all tourists paid the full rate.

Context 23

174 smokers attempted to give up their vice.
78 of these smokers complained of withdrawal.

Test sentences:

- a. Few smokers complained of withdrawal.
- b. Some smokers complained of withdrawal.
- c. Half of the smokers complained of withdrawal.
- d. Most smokers complained of withdrawal.
- e. Almost all smokers complained of withdrawal.

Context 24

142 scouts risked the dare.
67 of these scouts failed at the task.

Test sentences:

- a. Few scouts failed at the task.
- b. Some scouts failed at the task.
- c. Half of the scouts failed at the task.
- d. Most scouts failed at the task.
- e. Almost all scouts failed at the task.

Context 25

141 extras came to London for the casting.
69 of these extras convinced the jury.

Test sentences:

- a. Few extras convinced the jury.
- b. Some extras convinced the jury.
- c. Half of the extras convinced the jury.
- d. Most extras convinced the jury.
- e. Almost all extras convinced the jury.

Context 26

160 students completed the questionnaire.
82 of these students found fault with the course prerequisites.

Test sentences:

- a. Few students found fault with the course prerequisites.
- b. Some students found fault with the course prerequisites.
- c. Half of the students found fault with the course prerequisites.
- d. Most students found fault with the course prerequisites.
- e. Almost all students found fault with the course prerequisites.

Context 27

149 patients needed an appointment for an operation.
79 of these patients waited more than 6 months.

Test sentences:

- a. Few patients waited more than 6 months.
- b. Some patients waited more than 6 months.
- c. Half of the patients waited more than 6 months.
- d. Most patients waited more than 6 months.
- e. Almost all patients waited more than 6 months.

Context 28

155 children ate in the cafeteria.

85 of these children contracted food poisoning.

Test sentences:

- a. Few children contracted food poisoning.
- b. Some children contracted food poisoning.
- c. Half of the children contracted food poisoning.
- d. Most children contracted food poisoning.
- e. Almost all children contracted food poisoning.

Context 29

157 concert attenders bought a drink during intermission.

89 of these concert attenders ordered an alcoholic drink.

Test sentences:

- a. Few concert attenders ordered an alcoholic drink.
- b. Some concert attenders ordered an alcoholic drink.
- c. Half of the concert attenders ordered an alcoholic drink.
- d. Most concert attenders ordered an alcoholic drink.
- e. Almost all concert attenders ordered an alcoholic drink.

Context 30

169 applicants contended for one spot at the university.

100 of these applicants passed the assessment test.

Test sentences:

- a. Few applicants passed the assessment test.
- b. Some applicants passed the assessment test.
- c. Half of the applicants passed the assessment test.
- d. Most applicants passed the assessment test.
- e. Almost all applicants passed the assessment test.

Context 31

132 women tested the anti-wrinkle cream.

81 of these women noticed an improvement.

Test sentences:

- a. Few women noticed an improvement.

- b. Some women noticed an improvement.
- c. Half of the women noticed an improvement.
- d. Most women noticed an improvement.
- e. Almost all women noticed an improvement.

Context 32

161 students took the test.

101 of these students had a good command of the test content.

Test sentences:

- a. Few students had a good command of the test content.
- b. Some students had a good command of the test content.
- c. Half of the students had a good command of the test content.
- d. Most students had a good command of the test content.
- e. Almost all students had a good command of the test content.

Context 33

172 guests visited Holiday Inn last month.

112 of these guests stayed for only one night.

Test sentences:

- a. Few guests stayed for only one night.
- b. Some guests stayed for only one night.
- c. Half of the guests stayed for only one night.
- d. Most guests stayed for only one night.
- e. Almost all guests stayed for only one night.

Context 34

170 people came to the benefit concert.

114 of these people donated to the cause.

Test sentences:

- a. Few people donated to the cause.
- b. Some people donated to the cause.
- c. Half of the people donated to the cause.
- d. Most people donated to the cause.
- e. Almost all people donated to the cause.

Context 35

159 brochures were lying at the Experimental linguistics lab.

110 of these brochures ended up in the trash.

Test sentences:

- a. Few brochures ended up in the trash.
- b. Some brochures ended up in the trash.
- c. Half of the brochures ended up in the trash.
- d. Most brochures ended up in the trash.
- e. Almost all brochures ended up in the trash.

Context 36

151 musicians rehearsed for the concert.

107 of these musicians fumbled up several parts.

Test sentences:

- a. Few musicians fumbled up several parts.
- b. Some musicians fumbled up several parts.
- c. Half of the musicians fumbled up several parts.
- d. Most musicians fumbled up several parts.
- e. Almost all musicians fumbled up several parts.

Context 37

133 men sought a life partner.

97 of these men utilized an online dating site.

Test sentences:

- a. Few men utilized an online dating site.
- b. Some men utilized an online dating site.
- c. Half of the men utilized an online dating site.
- d. Most men utilized an online dating site.
- e. The vast majority of men utilized an online dating site.

Context 38

167 subjects took the new generic drug.

125 of these subjects tolerated the medication well.

Test sentences:

- a. Few subjects tolerated the medication well.
- b. Some subjects tolerated the medication well.
- c. Half of the subjects tolerated the medication well.
- d. Most subjects tolerated the medication well.
- e. Almost all subjects tolerated the medication well.

Context 39

137 volunteers supported the art project.

105 of these volunteers worked as artists as well.

Test sentences:

- a. Few volunteers worked as artists as well.
- b. Some volunteers worked as artists as well.
- c. Half of the volunteers worked as artists as well.
- d. Most volunteers worked as artists as well.
- e. Almost all volunteers worked as artists as well.

Context 40

171 athletes trained for the half marathon.

135 of these athletes trained more than three times per week.

Test sentences:

- a. Few athletes trained more than three times per week.
- b. Some athletes trained more than three times per week.
- c. Half of the athletes trained more than three times per week.
- d. Most athletes trained more than three times per week.
- e. Almost all athletes trained more than three times per week.

Context 41

154 employees took advantage of the offer for continuing education.

125 of these employees improved their performance as a result.

Test sentences:

- a. Few employees improved their performance as a result.
- b. Some employees improved their performance as a result.
- c. Half of the employees improved their performance as a result.
- d. Most employees improved their performance as a result.
- e. Almost all employees improved their performance as a result.

Context 42

165 passengers flew to Paris.

137 of these passengers sat in Economy Class.

Test sentences:

- a. Few passengers sat in Economy Class.
- b. Some passengers sat in Economy Class.
- c. Half of the passengers sat in Economy Class.
- d. Most passengers sat in Economy Class.
- e. Almost all passengers sat in Economy Class.

Context 43

156 friends came to the wedding.

133 of these friends signed the guestbook.

Test sentences:

- a. Few friends signed the guestbook.
- b. Some friends signed the guestbook.
- c. Half of the friends signed the guestbook.
- d. Most friends signed the guestbook.
- e. Almost all friends signed the guestbook.

Context 44

126 people took the driver's license exam.

110 of these people failed the exam.

Test sentences:

- a. Few people failed the exam.
- b. Some people failed the exam.
- c. Half of the people failed the exam.
- d. Most people failed the exam.

e. Almost all people failed the exam.

Context 45

166 clients terminated their cellular phone contract.

148 of these clients chose a less expensive rate.

Test sentences:

- a. Few clients chose a less expensive rate.
- b. Some clients chose a less expensive rate.
- c. Half of the clients chose a less expensive rate.
- d. Most clients chose a less expensive rate.
- e. Almost all clients chose a less expensive rate.

Context 46

139 wine connoisseurs tasted the new wine.

126 of these wine connoisseurs praised the high product quality.

Test sentences:

- a. Few wine connoisseurs praised the high product quality.
- b. Some wine connoisseurs praised the high product quality.
- c. Half of the wine connoisseurs praised the high product quality.
- d. Most wine connoisseurs praised the high product quality.
- e. Almost all wine connoisseurs praised the high product quality.

Context 47

143 readers purchased a test subscription of the newspaper.

133 of these readers continued the subscription of the newspaper.

Test sentences:

- a. Few readers continued the subscription of the newspaper.
- b. Some readers continued the subscription of the newspaper.
- c. Half of the readers continued the subscription of the newspaper.
- d. Most readers continued the subscription of the newspaper.
- e. Almost all readers continued the subscription of the newspaper.

Context 48

145 football fans watched the game.

138 of these football fans drank beer during the game.

Test sentences:

- a. Few football fans drank beer during the game.
- b. Some football fans drank beer during the game.
- c. Half of the football fans drank beer during the game.
- d. Most football fans drank beer during the game.
- e. Almost all football fans drank beer during the game.

Context 49

140 students completed their studies in 2014.

136 of these students held a graduation party.

Test sentences:

- a. Few students held a graduation party.
- b. Some students held a graduation party.
- c. Half of the students held a graduation party.
- d. Most students held a graduation party.
- e. Almost all students held a graduation party.

Context 50

152 people signed up for the celebration.

150 of these people actually came to the celebration.

Test sentences:

- a. Few people actually came to the celebration.
- b. Some people actually came to the celebration.
- c. Half of the people actually came to the celebration.
- d. Most people actually came to the celebration.
- e. Almost all people actually came to the celebration.

Experiment 3

Contexts & Test Sentences

状況&テスト文

Context 1

状況1

175 consumers bought the product.

2 of these consumers returned the product.

175 商品を購入した消費者数。

2 その内、商品を再購入した消費者数。

Test sentences:

テスト文:

- a. Few consumers returned the product.
 - b. Some consumers returned the product.
 - c. Half of the consumers returned the product.
 - d. Most consumers returned the product.
 - e. Almost all consumers returned the product.
- a. 再購入した消費者は少数しかない。/ほんの僅か。
 - b. 再購入した消費者は何人かいる。
 - c. 再購入した消費者は半数。
 - d. 再購入した消費者は大多数。
 - e. 再購入した消費者はほぼ全員。

Context 2

状況2

168 painters displayed their works of art in the gallery.

5 of these painters were from Latin America.

168 画廊に作品を展示した画家の数。

5 その内、南米出身の画家の数。

Test sentences:

テスト文:

- a. Few painters were from Latin America.
 - b. Some painters were from Latin America.
 - c. Half of the painters were from Latin America.
 - d. Most painters were from Latin America.
 - e. Almost all painters were from Latin America.
- a. 南米出身の画家は少数しかない。/ほんの僅か。
 - b. 南米出身の画家は何人かいる。
 - c. 南米出身の画家は半数。
 - d. 南米出身の画家は大多数。
 - e. 南米出身の画家はほぼ全員。

Context 3

状況3

135 airplane crashes occurred last year worldwide.

7 of these crashes occurred in Russia.

135 昨年世界中で発生した飛行機墜落事故の数。

7 その内、ロシアで発生した飛行機墜落事故の数。

Test sentences:

テスト文:

- a. Few crashes occurred in Russia.
 - b. Some of the crashes occurred in Russia.
 - c. Half of the crashes occurred in Russia.
 - d. Most crashes occurred in Russia.
 - e. Almost all crashes occurred in Russia.
- a. ロシアで発生した墜落事故数は少数しかない。/ほんの僅か。
 - b. ロシアで発生した墜落事故数は数回あった。
 - c. ロシアで発生した墜落事故数は半数を占める。
 - d. ロシアで発生した墜落事故数は大多数を占める。
 - e. ロシアで発生した墜落事故数はほぼ全て。

Context 4

状況4

127 students began a History major in the WS 2012.

9 of these students changed their major after the first semester.

127 WS2012で歴史学科で学び始めた学生数。

9 初学期後に学科を転向した学生数。

Test sentences:

テスト文:

- a. Few students changed their major after the first semester.
 - b. Some students changed their major after the first semester.
 - c. Half of the students changed their major after the first semester.
 - d. Most students changed their major after the first semester.
 - e. Almost all students changed their major after the first semester.
- a. 初学期後に学科を転向した学生は少数しかない。/ほんの僅か。
 - b. 初学期後に学科を転向した学生は何人かいる。
 - c. 初学期後に学科を転向した学生は半数。
 - d. 初学期後に学科を転向した学生は大多数。
 - e. 初学期後に学科を転向した学生はほぼ全員。

Context 5

状況5

158 authors submitted essays for the anthology.

14 of these authors published their essays in the anthology.

158 詩集に随筆を提出した著述家の数。

14 その内、詩集に随筆が掲載された著述家の数。。

Test sentences:

テスト文:

- a. Few authors published their essays in the anthology.
 - b. Some authors published their essays in the anthology.
 - c. Half of the authors published their essays in the anthology.
 - d. Most authors published their essays in the anthology.
 - e. Almost all authors published their essays in the anthology.
- a. 詩集に随筆が掲載された著述家は少数しかない。/ほんの僅か。
 - b. 詩集に随筆が掲載された著述家は何人かいる。
 - c. 詩集に随筆が掲載された著述家は半数。
 - d. 詩集に随筆が掲載された著述家は大多数。
 - e. 詩集に随筆が掲載された著述家はほぼ全員。

Context 6

状況6

153 readers complained via email about the Sunday reportage.

17 of these readers received a response from the editor-in-chief.

153 Sundayの記事について電子メールで苦情を送った読者数。

17 その内、編集長から返答を受け取った読者数。

Test sentences:

テスト文:

- a. Few readers received a response from the editor-in-chief.
 - b. Some readers received a response from the editor-in-chief.
 - c. Half of the readers received a response from the editor-in-chief.
 - d. Most readers received a response from the editor-in-chief.
 - e. Almost all readers received a response from the editor-in-chief.
- a. 編集長から返答を受け取った読者は少数しかない。/ほんの僅か。
 - b. 編集長から返答を受け取った読者は何人かいる。
 - c. 編集長から返答を受け取った読者は半数。
 - d. 編集長から返答を受け取った読者は大多数。
 - e. 編集長から返答を受け取った読者はほぼ全員。

Context 7

状況7

Last year, 150 cats in New Brunswick adopted new owners.

20 of these cats suffered from distemper.

150 昨年ニュー・ブルンスウィックで新しい飼い主に引き取られた猫の数。

20 その内、ジステンパー症にかかった猫の数。

Test sentences:

テスト文:

- a. Few cats suffered from distemper.
- b. Some of these cats suffered from distemper.
- c. Half of these cats suffered from distemper.
- d. Most cats suffered from distemper.

- e. Almost all the cats suffered from distemper.
- a. ジステンパー症にかかった猫は少数しかない。/ほんの僅か。
 - b. ジステンパー症にかかった猫は何匹かいる。
 - c. ジステンパー症にかかった猫は半数。
 - d. ジステンパー症にかかった猫は大多数。
 - e. ジステンパー症にかかった猫はほぼ全て。

Context 8

状況8

134 people applied for family assistance payment last month.

20 of these people got the subsidy.

134 先月家族補助金を申請した人の数。

20 その内、補助金を受給した人の数。

Test sentences:

テスト文:

- a. Few people got the subsidy.
 - b. Some of these people got the subsidy.
 - c. Half of these people got the subsidy.
 - d. Most people got the subsidy.
 - e. Almost all people got the subsidy.
- a. 補助金を受給した人は少数しかない。/ほんの僅か。
 - b. 補助金を受給した人は何人かいる。
 - c. 補助金を受給した人は半数。
 - d. 補助金を受給した人は大多数。
 - e. 補助金を受給した人はほぼ全員。

Context 9

状況9

136 students completed a semester abroad last year.

23 of these students spent their semester abroad in South America.

136 昨年外国留学で1学期を終了した学生数。

23 その内、南米に留学し1学期を過ごした学生数。

Test sentences:

テスト文:

- a. Few students spent their semester abroad in South America.
 - b. Some students spent their semester abroad in South America.
 - c. Half of the students spent their semester abroad in South America.
 - d. Most students spent their semester abroad in South America.
 - e. Almost all students spent their semester abroad in South America.
- a. 南米に留学し1学期を過ごした学生は少数しかない。/ほんの僅か。
 - b. 南米に留学し1学期を過ごした学生は何人かいる。
 - c. 南米に留学し1学期を過ごした学生は半数。
 - d. 南米に留学し1学期を過ごした学生は大多数。

- e. 南米に留学し1学期を過ごした学生はほぼ全員。

Context 10

状況10

138 researchers took part in the project.

26 of these researchers collected data.

138 このプロジェクトに参加した研究者の数。

26 その内、データ収集をした研究者の数。

Test sentences:

テスト文:

- a. Few researchers collected data.
 - b. Some researchers collected data.
 - c. Half of the researchers collected data.
 - d. Most researchers collected data.
 - e. Almost all researchers collected data.
- a. データ収集をした研究者は少数しかない。/ほんの僅か。
 - b. データ収集をした研究者は何人かいる。
 - c. データ収集をした研究者は半数。
 - d. データ収集をした研究者は大多数。
 - e. データ収集をした研究者はほぼ全員。

Context 11

状況11

147 retirees booked a cruise on the dreamboat.

31 of these retirees cancelled the trip.

147 ドリームボート・クルーズに予約した定年退職者数。

31 その内、キャンセルした人数。

Test sentences:

テスト文:

- a. Few retirees cancelled the trip.
 - b. Some of the retirees cancelled the trip.
 - c. Half of the retirees cancelled the trip.
 - d. Most retirees cancelled the trip.
 - e. Almost all retirees cancelled the trip.
- a. キャンセルした人は少数しかない。/ほんの僅か。
 - b. キャンセルした人は何人かいる。
 - c. キャンセルした人は半数。
 - d. キャンセルした人は大多数。
 - e. キャンセルした人はほぼ全員。

Context 12

状況12

129 people contracted bird flu in China.

30 of these people died due to multiple organ failure.

129 中国で鳥インフルエンザにかかった人数。

30 その内、多臓器不全で死亡した人の数。

Test sentences:

テスト文:

- a. Few people died due to multiple organ failure.
 - b. Some people died due to multiple organ failure.
 - c. Half of the people died due to multiple organ failure.
 - d. Most people died due to multiple organ failure.
 - e. Almost all people died due to multiple organ failure.
- a. 多臓器不全で死亡した人は少数しかない。/ほんの僅か。
 - b. 多臓器不全で死亡した人は何人かいる。
 - c. 多臓器不全で死亡した人は半数。
 - d. 多臓器不全で死亡した人は大多数。
 - e. 多臓器不全で死亡した人はほぼ全員。

Context 13

状況13

162 books were located in their library.

41 of these books dealt with linguistic topics.

162 彼らの図書館に所蔵された本の数。

41 その内、言語学関連の本の数。

Test sentences:

テスト文:

- a. Few of the books dealt with linguistic topics.
 - b. Some of the books dealt with linguistic topics.
 - c. Half of the books dealt with linguistic topics.
 - d. Most books dealt with linguistic topics.
 - e. Almost all books dealt with linguistic topics.
- a. 言語学関連の本は少数しかない。/ほんの僅か。
 - b. 言語学関連の本は何冊かある。
 - c. 言語学関連の本は半数。
 - d. 言語学関連の本は大多数。
 - e. 言語学関連の本はほぼ全て。

Context 14

状況14

173 tablets were administered for the test.

47 of these tablets contained the new active ingredient.

173 このテストで投与された錠剤の数。

47 その内、新しい有効成分を含む錠剤の数。

Test sentences:

テスト文:

- a. Few tablets contained the new active ingredient.
 - b. Some tablets contained the new active ingredient.
 - c. Half of the tablets contained the new active ingredient.
 - d. Most tablets contained the new active ingredient.
 - e. Almost all tablets contained the new active ingredient.
- a. 新しい有効成分を含む錠剤は少数しかない。/ほんの僅か。
 - b. 新しい有効成分を含む錠剤は数個ある。
 - c. 新しい有効成分を含む錠剤は半数。
 - d. 新しい有効成分を含む錠剤は大多数。
 - e. 新しい有効成分を含む錠剤はほぼ全て。

Context 15

状況15

- 163 club members were eligible to vote.
- 47 of these club members submitted an invalid vote.
- 163 投票権があるクラブ会員数。
- 47 その内、無効投票をしたクラブ会員数。

Test sentences:

テスト文:

- a. Few of the club members submitted an invalid vote.
 - b. Some of the club members submitted an invalid vote.
 - c. Half of the club members submitted an invalid vote.
 - d. Most club members submitted an invalid vote.
 - e. Almost all club members submitted an invalid vote.
- a. 無効投票をしたクラブ会員は少数しかない。/ほんの僅か。
 - b. 無効投票をしたクラブ会員は何人かいる。
 - c. 無効投票をしたクラブ会員は半数。
 - d. 無効投票をしたクラブ会員は大多数。
 - e. 無効投票をしたクラブ会員はほぼ全員。

Context 16

状況16

- 146 nations in the UNO signed the treaty.
- 45 of these nations ratified the treaty in their own parliaments.
- 146 条約締結したUNO諸国の数。
- 45 その内、自国の国会で条約を批准した国の数。

Test sentences:

テスト文:

- a. Few nations ratified the treaty in their own parliaments.
- b. Some of the nations ratified the treaty in their own parliaments.
- c. Half of the nations ratified the treaty in their own parliaments.
- d. Most nations ratified the treaty in their own parliaments.
- e. Almost all nations ratified the treaty in their own parliaments.

- a. 自国の国会で条約を批准した国は少数しかない。/ほんの僅か。
- b. 自国の国会で条約を批准した国は何人かいる。
- c. 自国の国会で条約を批准した国は半数。
- d. 自国の国会で条約を批准した国は大多数。
- e. 自国の国会で条約を批准した国はほぼ全員。

Context 17

状況17

128 tourists reserved a table at The Frog and the Peach.

42 of these tourists got lost on their way there.

128 ザ・フロッグとザ・ピーチにテーブルを予約したツーリスト数。

42 その内、レストランに向かう途中で道に迷ったツーリスト数。

Test sentences:

テスト文:

- a. Few tourists got lost on their way there.
- b. Some tourists got lost on their way there.
- c. Half of the tourists got lost on their way there.
- d. Most tourists got lost on their way there.
- e. Almost all tourists got lost on their way there.
- a. レストランに向かう途中で道に迷ったツーリストは少数しかない。/ほんの僅か。
- b. レストランに向かう途中で道に迷ったツーリストは何人かいる。
- c. レストランに向かう途中で道に迷ったツーリストは半数。
- d. レストランに向かう途中で道に迷ったツーリストは大多数。
- e. レストランに向かう途中で道に迷ったツーリストはほぼ全員。

Context 18

状況18

144 couples got married in 2010.

50 of these couples separated one year later.

144 2010年に結婚したカップルの数。

50 その内、一年後に離婚したカップルの数。

Test sentences:

テスト文:

- a. Few couples separated one year later.
- b. Some couples separated one year later.
- c. Half of the couples separated one year later.
- d. Most couples separated one year later.
- e. Almost all couples separated one year later.
- a. 一年後に離婚したカップルは少数しかない。/ほんの僅か。
- b. 一年後に離婚したカップルは何組かいる。
- c. 一年後に離婚したカップルは半数。
- d. 一年後に離婚したカップルは大多数。
- e. 一年後に離婚したカップルはほぼ全て。

Context 19

状況19

148 pages described the theoretical model.

55 of these pages were dedicated solely to the model definition.

148 理論的モデルが記述されたページ数。

55 その内、理論的モデルのみが記述されたページ数。

Test sentences:

テスト文:

- a. Few pages were dedicated solely to the model definition.
- b. Some pages were dedicated solely to the model definition.
- c. Half of the pages were dedicated solely to the model definition.
- d. Most pages were dedicated solely to the model definition.
- e. Almost all pages were dedicated solely to the model definition.

- a. 理論的モデルのみが記述されたページは少数しかない。/ほんの僅か。
- b. 理論的モデルのみが記述されたページは数ページ。
- c. 理論的モデルのみが記述されたページは半数。
- d. 理論的モデルのみが記述されたページは大多数。
- e. 理論的モデルのみが記述されたページはほぼ全て。

Context 20

状況20

131 communities in my federal state registered a decrease in population.

51 of these communities registered decreases within the double-digit percent range.

131 私の連邦州で人口減少が記録されたコミュニティの数。

51 その内、10%以上の人口減少が記録されたコミュニティの数。

Test sentences:

テスト文:

- a. Few communities registered decreases within the double-digit percent range.
- b. Some communities registered decreases within the double-digit percent range.
- c. Half of the communities registered decreases within the double-digit percent range.
- d. Most communities registered decreases within the double-digit percent range.
- e. Almost all communities registered decreases within the double-digit percent range.

- a. 10%以上の人口減少が記録されたコミュニティは少数しかない。/ほんの僅か。
- b. 10%以上の人口減少が記録されたコミュニティがいくつかある。
- c. 10%以上の人口減少が記録されたコミュニティは半数。
- d. 10%以上の人口減少が記録されたコミュニティは大多数。
- e. 10%以上の人口減少が記録されたコミュニティはほぼ全て。

Context 21

状況21

164 employees complained about the poor work conditions.

67 of these employees resigned soon thereafter.

164 劣悪な労働条件について苦情を出した従業員数。

67 その内、その後すぐに辞職した従業員数。

Test sentences:

テスト文:

- a. Few employees resigned soon thereafter.
 - b. Some employees resigned soon thereafter.
 - c. Half of the employees resigned soon thereafter.
 - d. Most employees resigned soon thereafter.
 - e. Almost all employees resigned soon thereafter.
- a. その後すぐに辞職した従業員は少数しかない。/ほんの僅か。
 - b. その後すぐに辞職した従業員は何人かいる。
 - c. その後すぐに辞職した従業員は半数。
 - d. その後すぐに辞職した従業員は大多数。
 - e. その後すぐに辞職した従業員はほぼ全員。

Context 22

状況22

130 tourists visited the London Aquarium.

56 of these tourists paid the full rate.

130 ロンドン水族館を訪れたツーリスト数。

56 その内、正規入場料を払ったツーリスト数。

Test sentences:

テスト文:

- a. Few tourists paid the full rate.
 - b. Some tourists paid the full rate.
 - c. Half of the tourists paid the full rate.
 - d. Most tourists paid the full rate.
 - e. Almost all tourists paid the full rate.
- a. 正規入場料を払ったツーリストは少数しかない。/ほんの僅か。
 - b. 正規入場料を払ったツーリストは何人かいる。
 - c. 正規入場料を払ったツーリストは半数。
 - d. 正規入場料を払ったツーリストは大多数。
 - e. 正規入場料を払ったツーリストはほぼ全員。

Context 23

状況23

174 smokers attempted to give up their vice.

78 of these smokers complained of withdrawal.

174 禁煙治療で悪習慣を止めようとする喫煙者の数。

78 その内、禁断症状を訴えた喫煙者数の数。

Test sentences:

テスト文:

- a. Few smokers complained of withdrawal.
- b. Some smokers complained of withdrawal.
- c. Half of the smokers complained of withdrawal.

- d. Most smokers complained of withdrawal.
- e. Almost all smokers complained of withdrawal.
- a. 禁断症状を訴えた喫煙者は少数しかない。/ほんの僅か。
- b. 禁断症状を訴えた喫煙者は何人かいる。
- c. 禁断症状を訴えた喫煙者は半数。
- d. 禁断症状を訴えた喫煙者は大多数。
- e. 禁断症状を訴えた喫煙者はほぼ全員。

Context 24

状況24

142 scouts risked the dare.

67 of these scouts failed at the task.

142 勇敢に任務を試みた偵察兵数。

67 その内、任務に失敗した偵察兵数。

Test sentences:

テスト文:

- a. Few scouts failed at the task.
- b. Some scouts failed at the task.
- c. Half of the scouts failed at the task.
- d. Most scouts failed at the task.
- e. Almost all scouts failed at the task.
- a. 任務に失敗した偵察兵は少数しかない。/ほんの僅か。
- b. 任務に失敗した偵察兵は何人かいる。
- c. 任務に失敗した偵察兵は半数。
- d. 任務に失敗した偵察兵は大多数。
- e. 任務に失敗した偵察兵はほぼ全員。

Context 25

状況25

141 extras came to London for the casting.

69 of these extras convinced the jury.

141 配役を求めてロンドンに来たエキストラの数。

69 その内、審査団を確信させたエキストラの数。

Test sentences:

テスト文:

- a. Few extras convinced the jury.
- b. Some extras convinced the jury.
- c. Half of the extras convinced the jury.
- d. Most extras convinced the jury.
- e. Almost all extras convinced the jury.
- a. 審査団を確信させたエキストラは少数しかない。/ほんの僅か。
- b. 審査団を確信させたエキストラは何人かいる。
- c. 審査団を確信させたエキストラは半数。
- d. 審査団を確信させたエキストラは大多数。

- e. 審査団を確信させたエキストラはほぼ全員。

Context 26

状況26

160 students completed the questionnaire.

82 of these students found fault with the course prerequisites.

160 アンケートに全て答えた学生数。

82 その内、前提条件の誤りを発見した学生数。

Test sentences:

テスト文:

- a. Few students found fault with the course prerequisites.
 - b. Some students found fault with the course prerequisites.
 - c. Half of the students found fault with the course prerequisites.
 - d. Most students found fault with the course prerequisites.
 - e. Almost all students found fault with the course prerequisites.
- a. 前提条件の誤りを発見した学生は少数しかない。/ほんの僅か。
 - b. 前提条件の誤りを発見した学生は何人かいる。
 - c. 前提条件の誤りを発見した学生は半数。
 - d. 前提条件の誤りを発見した学生は大多数。
 - e. 前提条件の誤りを発見した学生はほぼ全員。

Context 27

状況27

149 patients needed an appointment for an operation.

79 of these patients waited more than 6 months.

149 手術の予約が必要な患者数。

79 その内、6カ月以上待たされた患者数。

Test sentences:

テスト文:

- a. Few patients waited more than 6 months.
 - b. Some patients waited more than 6 months.
 - c. Half of the patients waited more than 6 months.
 - d. Most patients waited more than 6 months.
 - e. Almost all patients waited more than 6 months.
- a. 6カ月以上待たされた患者は少数しかない。/ほんの僅か。
 - b. 6カ月以上待たされた患者は何人かいる。
 - c. 6カ月以上待たされた患者は半数。
 - d. 6カ月以上待たされた患者は大多数。
 - e. 6カ月以上待たされた患者はほぼ全員。

Context 28

状況28

155 children ate in the cafeteria.

85 of these children contracted food poisoning.

155 カフェテリアで食べた子供たちの数。

85 その内、食中毒にあたった子供たちの数。

Test sentences:

テスト文:

- a. Few children contracted food poisoning.
 - b. Some children contracted food poisoning.
 - c. Half of the children contracted food poisoning.
 - d. Most children contracted food poisoning.
 - e. Almost all children contracted food poisoning.
- a. 食中毒にあたった子供たちは少数しかない。/ほんの僅か。
 - b. 食中毒にあたった子供たちは何人かいる。
 - c. 食中毒にあたった子供たちは半数。
 - d. 食中毒にあたった子供たちは大多数。
 - e. 食中毒にあたった子供たちはほぼ全員。

Context 29

状況29

157 concert attenders bought a drink during intermission.

89 of these concert attenders ordered an alcoholic drink.

157 コンサート中に飲み物を買った客の数。

89 その内、アルコール飲料を注文した客の数。

Test sentences:

テスト文:

- a. Few concert attenders ordered an alcoholic drink.
 - b. Some concert attenders ordered an alcoholic drink.
 - c. Half of the concert attenders ordered an alcoholic drink.
 - d. Most concert attenders ordered an alcoholic drink.
 - e. Almost all concert attenders ordered an alcoholic drink.
- a. アルコール飲料を注文した客は少数しかない。/ほんの僅か。
 - b. アルコール飲料を注文した客は何人かいる。
 - c. アルコール飲料を注文した客は半数。
 - d. アルコール飲料を注文した客は大多数。
 - e. アルコール飲料を注文した客はほぼ全員。

Context 30

状況30

169 applicants contended for one spot at the university.

100 of these applicants passed the assessment test.

169 大学の定員一人に対して入試を受けた学生数。

100 その内、評価テストを通過した学生数。

Test sentences:

テスト文:

- a. Few applicants passed the assessment test.
- b. Some applicants passed the assessment test.

- c. Half of the applicants passed the assessment test.
- d. Most applicants passed the assessment test.
- e. Almost all applicants passed the assessment test.
- a. 評価テストを通過した学生は少数しかない。/ほんの僅か。
- b. 評価テストを通過した学生は何人かいる。
- c. 評価テストを通過した学生は半数。
- d. 評価テストを通過した学生は大多数。
- e. 評価テストを通過した学生はほぼ全員。

Context 31

状況31

132 women tested the anti-wrinkle cream.

81 of these women noticed an improvement.

132 抗しわクリームを試用した女性の数。

81 その内、改善を見た女性の数。

Test sentences:

テスト文:

- a. Few women noticed an improvement.
- b. Some women noticed an improvement.
- c. Half of the women noticed an improvement.
- d. Most women noticed an improvement.
- e. Almost all women noticed an improvement.
- a. 改善を見た女性は少数しかない。/ほんの僅か。
- b. 改善を見た女性は何人かいる。
- c. 改善を見た女性は半数。
- d. 改善を見た女性は大多数。
- e. 改善を見た女性はほぼ全員。

Context 32

状況32

161 students took the test.

101 of these students had a good command of the test content.

161 テストを受けた学生数。

101 その内、テスト内容をよく理解できた学生数。

Test sentences:

テスト文:

- a. Few students had a good command of the test content.
- b. Some students had a good command of the test content.
- c. Half of the students had a good command of the test content.
- d. Most students had a good command of the test content.
- e. Almost all students had a good command of the test content.
- a. テスト内容をよく理解できた学生は少数しかない。/ほんの僅か。
- b. テスト内容をよく理解できた学生は何人かいる。
- c. テスト内容をよく理解できた学生は半数。

- d. テスト内容をよく理解できた学生は大多数。
- e. テスト内容をよく理解できた学生はほぼ全員。

Context 33

状況33

172 guests visited Holiday Inn last month.

112 of these guests stayed for only one night.

172 先月ホリデー・インを訪れた客数。

112 その内、一泊だけ泊まった客数。

Test sentences:

テスト文:

- a. Few guests stayed for only one night.
 - b. Some guests stayed for only one night.
 - c. Half of the guests stayed for only one night.
 - d. Most guests stayed for only one night.
 - e. Almost all guests stayed for only one night.
- a. 一泊だけ泊まった客は少数しかない。/ほんの僅か。
 - b. 一泊だけ泊まった客は何人かいる。
 - c. 一泊だけ泊まった客は半数。
 - d. 一泊だけ泊まった客は大多数。
 - e. 一泊だけ泊まった客はほぼ全員。

Context 34

状況34

170 people came to the benefit concert.

114 of these people donated to the cause.

170 慈善コンサートの来た人数。

114 その内、寄付をした人の数。

Test sentences:

テスト文:

- a. Few people donated to the cause.
 - b. Some people donated to the cause.
 - c. Half of the people donated to the cause.
 - d. Most people donated to the cause.
 - e. Almost all people donated to the cause.
- a. 寄付をした人は少数しかない。/ほんの僅か。
 - b. 寄付をした人は何人かいる。
 - c. 寄付をした人は半数。
 - d. 寄付をした人は大多数。
 - e. 寄付をした人はほぼ全員。

Context 35

状況35

159 brochures were lying at the Experimental linguistics lab.

110 of these brochures ended up in the trash.

159 実験言語ラブに残っているパンフ数。

110 その内、ゴミ箱に捨てられたパンフ数。

Test sentences:

テスト文:

a. Few brochures ended up in the trash.

b. Some brochures ended up in the trash.

c. Half of the brochures ended up in the trash.

d. Most brochures ended up in the trash.

e. Almost all brochures ended up in the trash.

a. ゴミ箱に捨てられたパンフは少数しかない。/ほんの僅か。

b. ゴミ箱に捨てられたパンフは数枚。

c. ゴミ箱に捨てられたパンフは半数。

d. ゴミ箱に捨てられたパンフは大多数。

e. ゴミ箱に捨てられたパンフはほぼ全て。

Context 36

状況36

151 musicians rehearsed for the concert.

107 of these musicians fumbled up several parts.

151 コンサートのリハーサルをした演奏者数。

107 その内、数か所誤った演奏者数。

Test sentences:

テスト文:

a. Few musicians fumbled up several parts.

b. Some musicians fumbled up several parts.

c. Half of the musicians fumbled up several parts.

d. Most musicians fumbled up several parts.

e. Almost all musicians fumbled up several parts.

a. 数か所誤った演奏者は少数しかない。/ほんの僅か。

b. 数か所誤った演奏者は何人かいる。

c. 数か所誤った演奏者は半数。

d. 数か所誤った演奏者は大多数。

e. 数か所誤った演奏者はほぼ全員。

Context 37

状況37

133 men sought a life partner.

97 of these men utilized an online dating site.

133 ライフ・パートナーを探した男性の数。

97 その内、オンライン・デート・サイトを使った男性の数。

Test sentences:

テスト文:

a. Few men utilized an online dating site.

- b. Some men utilized an online dating site.
- c. Half of the men utilized an online dating site.
- d. Most men utilized an online dating site.
- e. The vast majority of men utilized an online dating site.
- a. オンライン・デート・サイトを使った男性は少数しかない。/ほんの僅か。
- b. オンライン・デート・サイトを使った男性は何人かいる。
- c. オンライン・デート・サイトを使った男性は半数。
- d. オンライン・デート・サイトを使った男性は大多数。
- e. オンライン・デート・サイトを使った男性はほぼ全員。

Context 38

状況38

167 subjects took the new generic drug.
 125 of these subjects tolerated the medication well.
 167 新しい後発医薬を飲んだ被験者数。
 125 その内、この投薬をよく許容した被験者数。

Test sentences:

テスト文:

- a. Few subjects tolerated the medication well.
- b. Some subjects tolerated the medication well.
- c. Half of the subjects tolerated the medication well.
- d. Most subjects tolerated the medication well.
- e. Almost all subjects tolerated the medication well.
- a. この投薬をよく許容した被験者は少数しかない。/ほんの僅か。
- b. この投薬をよく許容した被験者は何人かいる。
- c. この投薬をよく許容した被験者は半数。
- d. この投薬をよく許容した被験者は大多数。
- e. この投薬をよく許容した被験者はほぼ全員。

Context 39

状況39

137 volunteers supported the art project.
 105 of these volunteers worked as artists as well.
 137 アート・プロジェクトを支援したボランティア数。
 105 その内、アーティストとしても活躍したボランティア数。

Test sentences:

テスト文:

- a. Few volunteers worked as artists as well.
- b. Some volunteers worked as artists as well.
- c. Half of the volunteers worked as artists as well.
- d. Most volunteers worked as artists as well.
- e. Almost all volunteers worked as artists as well.
- a. アーティストとしても活躍したボランティアは少数しかない。/ほんの僅か。
- b. アーティストとしても活躍したボランティアは何人かいる。

- c. アーティストとしても活躍したボランティアは半数。
- d. アーティストとしても活躍したボランティアは大多数。
- e. アーティストとしても活躍したボランティアはほぼ全員。

Context 40

状況40

171 athletes trained for the half marathon.

135 of these athletes trained more than three times per week.

171 ハーフ・マラソンに向けてトレーニングした選手数。

135 その内、毎週3回以上トレーニングした選手数。

Test sentences:

テスト文:

- a. Few athletes trained more than three times per week.
- b. Some athletes trained more than three times per week.
- c. Half of the athletes trained more than three times per week.
- d. Most athletes trained more than three times per week.
- e. Almost all athletes trained more than three times per week.
- a. 毎週3回以上トレーニングした選手は少数しかない。/ほんの僅か。
- b. 毎週3回以上トレーニングした選手は何人かいる。
- c. 毎週3回以上トレーニングした選手は半数。
- d. 毎週3回以上トレーニングした選手は大多数。
- e. 毎週3回以上トレーニングした選手はほぼ全員。

Context 41

状況41

154 employees took advantage of the offer for continuing education.

125 of these employees improved their performance as a result.

154 継続的教育の機会を活用した従業員数。

125 その内、パフォーマンスと実績が向上した従業員数。

Test sentences:

テスト文:

- a. Few employees improved their performance as a result.
- b. Some employees improved their performance as a result.
- c. Half of the employees improved their performance as a result.
- d. Most employees improved their performance as a result.
- e. Almost all employees improved their performance as a result.
- a. パフォーマンスと実績が向上した従業員は少数しかない。/ほんの僅か。
- b. パフォーマンスと実績が向上した従業員は何人かいる。
- c. パフォーマンスと実績が向上した従業員は半数。
- d. パフォーマンスと実績が向上した従業員は大多数。
- e. パフォーマンスと実績が向上した従業員Aはほぼ全員。

Context 42

状況42

165 passengers flew to Paris.
137 of these passengers sat in Economy Class.
165 パリへ飛んだ乗客数。
137 その内、エコノミー席に座った乗客数。

Test sentences:

テスト文:

- a. Few passengers sat in Economy Class.
 - b. Some passengers sat in Economy Class.
 - c. Half of the passengers sat in Economy Class.
 - d. Most passengers sat in Economy Class.
 - e. Almost all passengers sat in Economy Class.
- a. エコノミー席に座った乗客は少数しかない。/ほんの僅か。
 - b. エコノミー席に座った乗客は何人かいる。
 - c. エコノミー席に座った乗客は半数。
 - d. エコノミー席に座った乗客は大多数。
 - e. エコノミー席に座った乗客はほぼ全員。

Context 43

状況43

156 friends came to the wedding.
133 of these friends signed the guestbook.
156 結婚式に来た友人の数。
133 その内、ゲスト・ブックにサインした友人の数。

Test sentences:

テスト文:

- a. Few friends signed the guestbook.
 - b. Some friends signed the guestbook.
 - c. Half of the friends signed the guestbook.
 - d. Most friends signed the guestbook.
 - e. Almost all friends signed the guestbook.
- a. ゲスト・ブックにサインした友人は少数しかない。/ほんの僅か。
 - b. ゲスト・ブックにサインした友人は何人かいる。
 - c. ゲスト・ブックにサインした友人は半数。
 - d. ゲスト・ブックにサインした友人は大多数。
 - e. ゲスト・ブックにサインした友人はほぼ全員。

Context 44

状況44

126 people took the driver's license exam.
110 of these people failed the exam.
126 運転免許テストの受験者数。
110 その内、試験に落ちた人数。

Test sentences:

テスト文:

- a. Few people failed the exam.
- b. Some people failed the exam.
- c. Half of the people failed the exam.
- d. Most people failed the exam.
- e. Almost all people failed the exam.
- a. 試験に落ちた人は少数しかない。/ほんの僅か。
- b. 試験に落ちた人は何人かいる。
- c. 試験に落ちた人は半数。
- d. 試験に落ちた人は大多数。
- e. 試験に落ちた人はほぼ全員。

Context 45

状況45

166 clients terminated their cellular phone contract.

148 of these clients chose a less expensive rate.

166 携帯電話契約を解除した顧客数。

148 その内、より安い契約を選んだ顧客数。

Test sentences:

テスト文:

- a. Few clients chose a less expensive rate.
- b. Some clients chose a less expensive rate.
- c. Half of the clients chose a less expensive rate.
- d. Most clients chose a less expensive rate.
- e. Almost all clients chose a less expensive rate.
- a. より安い契約を選んだ顧客は少数しかない。/ほんの僅か。
- b. より安い契約を選んだ顧客は何人かいる。
- c. より安い契約を選んだ顧客は半数。
- d. より安い契約を選んだ顧客は大多数。
- e. より安い契約を選んだ顧客はほぼ全員。

Context 46

状況46

139 wine connoisseurs tasted the new wine.

126 of these wine connoisseurs praised the high product quality.

139 新しいワインを試飲したワイン鑑定家の数。

126 その内、高品質だと称えたワイン鑑定家の数。

Test sentences:

テスト文:

- a. Few wine connoisseurs praised the high product quality.
- b. Some wine connoisseurs praised the high product quality.
- c. Half of the wine connoisseurs praised the high product quality.
- d. Most wine connoisseurs praised the high product quality.
- e. Almost all wine connoisseurs praised the high product quality.
- a. 高品質だと称えたワイン鑑定家は少数しかない。/ほんの僅か。

- b. 高品質だと称えたワイン鑑定家は何人かいる。
- c. 高品質だと称えたワイン鑑定家は半数。
- d. 高品質だと称えたワイン鑑定家は大多数。
- e. 高品質だと称えたワイン鑑定家はほぼ全員。

Context 47

状況47

- 143 readers purchased a test subscription of the newspaper.
- 133 of these readers continued the subscription of the newspaper.
- 143 新聞試し契約を契約した読者数。
- 133 その内、新聞契約を継続した読者数。

Test sentences: a

テスト文:

- a. Few readers continued the subscription of the newspaper.
- b. Some readers continued the subscription of the newspaper.
- c. Half of the readers continued the subscription of the newspaper.
- d. Most readers continued the subscription of the newspaper.
- e. Almost all readers continued the subscription of the newspaper.
- a. 新聞契約を継続した読者は少数しかない。/ほんの僅か。
- b. 新聞契約を継続した読者は何人かいる。
- c. 新聞契約を継続した読者は半数。
- d. 新聞契約を継続した読者は大多数。
- e. 新聞契約を継続した読者はほぼ全員。

Context 48

状況48

- 145 football fans watched the game.
- 138 of these football fans drank beer during the game.
- 145 試合を観戦したサッカーファンの数。
- 138 その内、試合中にビールを飲んだファンの数。

Test sentences:

テスト文:

- a. Few football fans drank beer during the game.
- b. Some football fans drank beer during the game.
- c. Half of the football fans drank beer during the game.
- d. Most football fans drank beer during the game.
- e. Almost all football fans drank beer during the game.
- a. 試合中にビールを飲んだファンは少数しかない。/ほんの僅か。
- b. 試合中にビールを飲んだファンは何人かいる。
- c. 試合中にビールを飲んだファンは半数。
- d. 試合中にビールを飲んだファンは大多数。
- e. 試合中にビールを飲んだファンはほぼ全員。

Context 49

状況49

140 students completed their studies in 2014.

136 of these students held a graduation party.

140 2014年の学業を終了した学生数。

136 その内、卒業パーティを行った学生数。

Test sentences:

テスト文:

a. Few students held a graduation party.

b. Some students held a graduation party.

c. Half of the students held a graduation party.

d. Most students held a graduation party.

e. Almost all students held a graduation party.

a. 卒業パーティを行った学生は少数しかない。/ほんの僅か。

b. 卒業パーティを行った学生は何人かいる。

c. 卒業パーティを行った学生は半数。

d. 卒業パーティを行った学生は大多数。

e. 卒業パーティを行った学生はほぼ全員。

Context 50

状況50

152 people signed up for the celebration.

150 of these people actually came to the celebration.

152 祝賀式に申し込んだ人数。

150 祝賀式に実際に参加した人数。

Test sentences:

テスト文:

a. Few people actually came to the celebration.

b. Some people actually came to the celebration.

c. Half of the people actually came to the celebration.

d. Most people actually came to the celebration.

e. Almost all people actually came to the celebration.

a. 祝賀式に実際に参加した人は少数しかない。/ほんの僅か。

b. 祝賀式に実際に参加した人は何人かいる。

c. 祝賀式に実際に参加した人は半数。

d. 祝賀式に実際に参加した人は大多数。

e. 祝賀式に実際に参加した人はほぼ全員。

Appendix B

Introduction and consent form for Experiment 1 and Experiment 2 followed by the Translation in English

Italian Monolingual test

Introduzione
Consenso per raccolta dati anonimo

Sei invitato a partecipare a uno studio di ricerca condotto da Megumi Tona, studente del corso di Laurea Magistrale in Scienze del Linguaggio presso l'Università Ca' Foscari di Venezia e l'Università di Nova Gorica, Slovenia. Lo studio è curato dal Prof. Penka Stateva (Università di Nova Gorica) e Prof. Alessandra Giorgi (Università di Venezia). Questo esperimento fa parte di un progetto di ricerca sulla semantica e sulla pragmatica del linguaggio naturale.

In questo studio, ti verranno presentati 50 contesti, ciascuno dei quali è accompagnato da 5 frasi che li riassumono. Usando una scala di valutazione da 1 (inappropriato) a 5 (molto appropriato), indica in che modo ogni frase descrive il contesto in modo appropriato in base al tuo intuito.

Nota: questo esperimento non mette alla prova la tua conoscenza della tua lingua italiana. A noi interessano solo le tue personali intuizioni sui significati rispetto ai contesti forniti. Pertanto, non soffermarti sui contesti, e non consultare fonti esterne (es. grammatiche). Segui semplicemente la tua prima intuizione quando valuti l'adeguatezza di ciascuna delle frasi per un dato contesto. Quando hai finito con un contesto, fai clic sul pulsante "Avanti" per passare a quello successivo. L'esperimento dura circa 40 minuti. Se necessario, puoi fare delle brevi pause dopo aver valutato completamente un contesto.

Questa ricerca è anonima. Anonimo significa che non registreremo alcuna informazione su di te che potrebbe identificarti. Non ci sarà alcun collegamento tra la tua identità e la tua risposta nella ricerca. Ciò significa che non registreremo il tuo nome, indirizzo, numero di telefono, data di nascita, ecc. Se acconsenti a partecipare allo studio, ti verrà assegnato un codice numerico casuale che verrà utilizzato in ogni test e nel questionario. Non ci sarà modo di ricollegare le tue risposte a te. Pertanto, la raccolta dei dati è anonima.

Non ci sono rischi prevedibili nella partecipazione a questo studio. La partecipazione a questo studio è volontaria. Potrai scegliere di non partecipare, e potrai recedere in qualsiasi momento durante le procedure dello studio senza alcuna penalità a tuo carico. Inoltre, puoi scegliere di non rispondere a domande con cui non ti senti a tuo agio.

Si prega di compilare le informazioni di seguito e fare clic sul collegamento per continuare

Età:

Sesso:

Maschio

Femmina

Madre Lingua 1:

Madre Lingua 2:

Seconda Lingua:

livello: A1 A2 B1 B2 C1 C2

Vista:

normale

corretto a normale

I confirm that I have read the above and agree to participate in the experiment

Introduction/CONSENT FORM FOR ANONYMOUS DATA COLLECTION

You are invited to participate in a research study that is being conducted by **Megumi Tona**, a student in the Double degree MA program in Language Science at Ca'Foscari University of Venice and the University of Nova Gorica, Slovenia. The study is supervised by **prof. Penka Stateva** (University of Nova Gorica) and **prof. Alessandra Giorgi** (University of Venice). This experiment is part of a research project on natural language semantics and pragmatics.

In this study, you will be presented with 50 contexts each of which is accompanied by 5 sentences summarizing them. Using a grading scale from 1 (inappropriate) to 5 (very appropriate), please indicate how appropriately each sentence describes the context according to your intuition.

Please note: this experiment does not test your knowledge of **Italian**. We are interested only in your personal intuitions about meanings with respect to the contexts provided. Therefore, do not dwell on the contexts, and do not consult any external sources (e.g. grammar books). Simply follow your first hunch when evaluating the adequacy of each of the sentences for a given context. When you are through with a context, click on the "Next" button, to move on to the next one. The experiment lasts approximately 40 minutes. If needed, you can take short pauses after completely evaluating a context.

This research is anonymous. Anonymous means that we will record no information about you that could identify you. There will be no linkage between your identity and your response in the research. This means that we will not record your name, address, phone number, date of birth, etc. If you agree to take part in the study, you will be assigned a random code number that will be used on each test and the questionnaire. There will be no way to link your responses back to you. Therefore, data collection is anonymous.

There are no foreseeable risks to participation in this study. Participation in this study is voluntary. You may choose not to participate, and you may withdraw at any time during the

study procedures without any penalty to you. In addition, you may choose not to answer any questions with which you are not comfortable.

Please fill in the information below and click on the link to continue.

Age:

Sex: female
 male

Mother tongue 1:

Mother tongue 2:

Foreign/second language:

level: A1 A2 B1 B2 C1 C2

Vision: normal
 corrected to normal

I confirm that I have read the above and agree to participate in the experiment

Introduction and consent form for Experiment 3

匿名データ収集についての紹介と同意書

ヴェニスのカフオスカリ大学とスロヴェニアのノヴァゴリツァ大学で言語科学のMAプログラムを専攻している、トナ メグミ が実施している調査研究に協力して下さる方を募っています。この研究はノヴァゴリツァ大学のペンカ スタテバ教授と、カフオスカリ大学の、アレキサンドラ ジョル ジ教授によって監督されています。この実験は、自然言語の意味論と語用論に関する研究プロジェクトの一部です。

この研究では、50 の文脈が提示され、それぞれにそれらを要約した 5 つの文が付随しています。1 (不適切) から 5 (非常に適切) までの評価尺度を使用して、各文が文脈をどの程度適切に説明しているかを、あなたの直感に従って示してください。

注意 :この実験は、日本語の知識をテストするものではありません。私たちは、示された文章に関する意味についての、あなたの個人的な直感にだけ関心があります。従って、文脈にこだわったり、外部の情報源(文法書等)を参照したりしないで下さい。示された文章に対する妥当性を評価するときは、最初の直感に従って下さい。

一つの質問が終わったら ボタンをクリックして、次の質問に進みます。実験は、約40分間かかりますが、必要に応じて、一つの質問を終了した後、次の質問を始める 前に、短い休憩を取っても構いません。

この調査は匿名です。匿名とは、お客様を特定できる情報を記録しないことを意味します。あなた の身元と研究におけるあなたの反応との間には何の関連もありません。これは、あなたの名前、住所、電話番号、生年月日などを記録しないことを意味します。研究への参加に同意すると、各 テストとアンケートで使用されるランダムなコード番号が割り当てられます。あなたの回答をあなたにリンクする方法はありません。したがって、データ収集は匿名です。

この研究への参加に予測可能なリスクはありません。この研究への参加は任意です。参加しないことを選択することも、研究手続き中はいつでも参加を取り消すことができます。また、不快な 質問には回答しないことを選択することもできます。

以下の情報を入力し、リンクをクリックして続行してください

皆様のご協力どうもありがとうございました。

歳 (age):

性別 (gender):

男 (man)

女達 (woman)

母語 (mothertongue):

光景 (sight):

正常な視覚 (normal sight)

眼鏡を使用している、または眼鏡の手術を受けている(either use glasses or underwent eyes operation)

Appendix C

Results - Average for each items of each quantifier

Experiment 1 A
Table 14

ITEM	%	POCHI	ALCU NI	META'	MOLTI	QUASI TUTTI
1	1.14286	4.767	2.837	1.093	1.093	1.093
2	2.97619	4.432	3.568	1	1.045	1
3	5.18519	4.089	3.756	1	1.378	1.022
4	7.08661	4.628	3.744	1.023	1.047	1
5	8.86076	4.535	3.953	1	1.116	1.116
6	11.1111	4.614	3.659	1.045	1.114	1.023
7	13.3333	3.465	4.302	1.047	1.605	1
8	14.9254	4.571	3.881	1	1.119	1
9	16.9118	3.591	4.364	1.045	1.295	1.045
10	18.8406	4.159	4.136	1	1.182	1.023
11	21.0884	3.512	4.209	1	1.744	1
12	23.2558	2.93	4	1.047	2.163	1.047
13	25.3086	2.523	3.977	1.295	2.068	1.136
14	27.1676	2.667	3.933	1.311	1.844	1.111
15	28.8344	2.465	3.605	1.372	2.512	1.07
16	30.8219	3.186	4	1.256	1.837	1.209
17	32.8125	2.178	3.711	1.467	2.756	1.111
18	34.7222	1.884	3.209	1.698	3.302	1.163
19	37.1622	1.907	3.279	1.651	3.14	1.279
20	38.9313	2.182	3.318	1.864	2.955	1.295
21	40.8537	1.667	3.089	2.267	3.667	1.378
22	43.0769	1.977	3.512	2.476	2.605	1.279

23	44.8276	1.556	2.956	2.956	3.378	1.622
24	47.1831	1.444	2.533	4.089	3.622	1.6
25	48.9362	1.381	2.512	4.093	2.953	1.419
26	51.25	1.286	2.071	4.81	3.524	1.476
27	53.0201	1.256	2.31	3.837	4.07	1.744
28	54.8387	1.159	2.093	3.75	4.386	1.864
29	56.6879	1.349	2.419	3	4	1.884
30	59.1716	1.182	1.841	1.682	4.227	2.455
31	61.3636	1.227	2.465	2.455	4.341	2.568
32	62.7329	1.205	1.682	1.409	4.523	3.364
33	65.1163	1.159	1.977	1.455	4.591	3.159
34	67.0588	1.227	2.182	1.386	4.773	3.341
35	69.1824	1.091	1.727	1.273	4.682	3.909
36	70.8609	1.045	2	1.409	4.75	3.318
37	72.9323	1.159	2.159	1.568	4.5	4.159
38	74.8503	1.209	1.837	1.488	4.581	4.558
39	76.6423	1.093	1.93	1.163	4.674	3.907
40	78.9474	1.07	1.791	1.209	4.744	3.814
41	81.1688	1.14	1.744	1.256	4.744	4.326
42	83.0303	1.163	1.628	1.14	4.628	4.233
43	85.2564	1.114	1.545	1.159	4.568	4.545
44	87.3016	1.023	1.512	1.047	4.581	4.744
45	89.1566	1.048	1.581	1.093	4.581	4.558
46	90.6475	1.023	1.767	1.209	4.419	4.628
47	93.007	1.023	1.558	1.07	4.326	4.93
48	95.1724	1.023	1.628	1.07	4.318	4.909

49	97.1429	1.023	1.419	1.093	4.256	4.93
50	98.6842	1.024	1.333	1.024	4.048	5

Experiment 1B
Table 15

ITEM	%	POCHI	ALCUNI	META'	MAGGIO R PARTE	QUASI TUTTI
1	1.14286	4.462	2.72	1	1	1
2	2.97619	4.63	3.346	1	1	1
3	5.18519	4.111	3.852	1	1.038	1.038
4	7.08661	4.731	3.52	1	1	1
5	8.86076	4.481	3.741	1.038	1.074	1.038
6	11.1111	4.571	4	1.074	1.148	1.148
7	13.3333	3.654	3.926	1.038	1.038	1.148
8	14.9254	4.64	3.96	1.042	1.04	1.125
9	16.9118	3.357	4.071	1.071	1.143	1.143
10	18.8406	4	4.143	1	1.038	1
11	21.0884	3.222	4.37	1	1.038	1.038
12	23.2558	3	4.37	1	1.115	1.038
13	25.3086	2.96	4.16	1.125	1.292	1.125
14	27.1676	2.577	3.769	1.2	1.32	1.04
15	28.8344	2.63	3.815	1.148	1.111	1.148
16	30.8219	2.923	3.962	1.077	1	1.077
17	32.8125	2.615	3.923	1.308	1.192	1.308
18	34.7222	2.231	3.769	1.32	1.2	1.16
19	37.1622	2.038	3.815	1.538	1.308	1.115

20	38.9313	2.28	3.92	1.4	1.32	1.2
21	40.8537	1.654	3.192	2.346	1.667	1.5
22	43.0769	1.846	3.692	2.346	1.462	1.385
23	44.8276	1.259	3.074	3.037	1.778	1.222
24	47.1831	1.241	2.379	4	1.69	1.276
25	48.9362	1.357	2.643	4.143	1.714	1.357
26	51.25	1.08	2.2	4.6	2.44	1.32
27	53.0201	1.24	2.4	3.538	3.077	1.462
28	54.8387	1.083	2.208	3.125	3.12	1.75
29	56.6879	1.321	2.5	3.25	3.172	1.857
30	59.1716	1.222	2.259	1.741	4.107	2.444
31	61.3636	1.462	2.769	2.077	3.667	2
32	62.7329	1.462	2.154	1.538	3.808	2.577
33	65.1163	1.08	2.2	1.32	4.423	2.48
34	67.0588	1.346	2.231	1.385	4.333	3
35	69.1824	1.08	2.04	1.12	4.385	3.12
36	70.8609	1.077	2.269	1.538	4.385	2.885
37	72.9323	1.192	2.346	1.346	4.296	3.231
38	74.8503	1	1.852	1.148	4.741	3.296
39	76.6423	1.04	1.92	1.32	4.68	3.52
40	78.9474	1.077	2.038	1.154	4.538	3.885
41	81.1688	1.077	1.846	1.115	4.654	3.885
42	83.0303	1.034	1.931	1.138	4.793	3.862
43	85.2564	1.04	2.12	1.16	4.692	4.32
44	87.3016	1.038	1.769	1.115	4.704	4.741
45	89.1566	1	1.833	1.083	4.56	4.458

46	90.6475	1.24	1.84	1.2	4.615	4.769
47	93.007	1.04	1.72	1.08	4.48	4.692
48	95.1724	1.04	1.72	1.12	4.462	4.769
49	97.1429	1.036	1.714	1.107	4.5	4.966
50	98.6842	1	1.222	1	3.963	4.929

Experiment 2
Table 16

ITEMS	%	FEW	SOME	HALF	MOST	ALMOST ALL
1	1.142857	4.861	1.829	1	1	1
2	2.97619	4.917	2.694	1.029	1.114	1
3	5.185185	4.889	3.333	1.029	1	1
4	7.086614	4.889	3.528	1	1	1
5	8.860759	4.583	4.167	1	1.059	1
6	11.11111	4.472	4.028	1	1.028	1.028
7	13.33333	4.444	4.139	1.057	1.086	1.029
8	14.92537	4.306	4.029	1.028	1.083	1
9	16.91176	4.167	4.528	1.056	1.083	1.056
10	18.84058	3.944	4.472	1.056	1.056	1.056
11	21.08844	2.806	4.722	1	1	1
12	23.25581	3.139	4.694	1	1	1.029
13	25.30864	2.514	4.861	1.056	1.057	1.056
14	27.16763	2.029	4.722	1.057	1.086	1
15	28.83436	1.806	4.722	1.083	1.028	1.028
16	30.82192	2.343	4.75	1	1.114	1.029

17	32.8125	2.343	4.694	1.114	1.057	1.029
18	34.72222	1.765	4.694	1.206	1.147	1.029
19	37.16216	1.514	4.556	1.2	1.143	1.029
20	38.9313	1.486	4.639	1.343	1.114	1.086
21	40.85366	1.314	4.583	1.286	1.171	1.086
22	43.07692	1.343	4.389	1.8	1.514	1.114
23	44.82759	1.229	4.314	2.686	1.829	1.118
24	47.1831	1.429	4.056	4.083	1.486	1.229
25	48.93617	1.086	3.556	4.611	1.429	1.257
26	51.25	1.118	2.889	4.861	1.972	1.086
27	53.02013	1.059	3.361	3.471	3.028	1.147
28	54.83871	1.088	3.361	2.824	3.235	1.206
29	56.6879	1.086	3.083	2.429	3.806	1.265
30	59.1716	1	2.639	1.265	4.556	1.735
31	61.36364	1.057	2.857	1.486	4.361	1.429
32	62.73292	1.057	3	1.286	4.833	1.886
33	65.11628	1.114	3.139	1.114	4.778	1.857
34	67.05882	1.057	3.056	1.371	4.583	1.771
35	69.18239	1.086	2.4	1.086	4.917	2.057
36	70.86093	1.114	2.528	1.229	4.722	2.143
37	72.93233	1.029	2.194	1.2	4.694	2.8
38	74.8503	1.063	2.286	1.094	4.889	2.375
39	76.64234	1.057	2	1.114	4.806	2.257
40	78.94737	1.057	2.114	1.171	4.75	2.171
41	81.16883	1.057	1.8	1.114	4.861	2.543
42	83.0303	1.111	2	1.083	4.917	2.389

43	85.25641	1.114	1.714	1.114	4.889	2.886
44	87.30159	1.029	1.457	1.057	4.694	4.029
45	89.15663	1.059	1.629	1.088	4.833	3.143
46	90.64748	1.056	1.583	1.056	4.694	4.139
47	93.00699	1.056	1.472	1.111	4.306	4.722
48	95.17241	1.029	1.571	1.086	4.722	4.278
49	97.14286	1	1.486	1.059	4.278	4.806
50	98.68421	1	1.257	1.029	2.971	5

Experiment 3
Table 17

ITEM	%	FEW	SOME	HALF	MOST	ALMOST
1	1.14286	5	4	1	1	1
2	2.97619	4.75	4.5	1	1	1
3	5.18519	3.5	4.25	1	1.25	1
4	7.08661	4.75	5	1	1	1
5	8.86076	4.5	4.25	1	1	1
6	11.1111	4.75	4.5	1	1	1
7	13.3333	3.5	3.5	1	1	1
8	14.9254	4	3.75	1	1	1.25
9	16.9118	3	2.75	1	1	1
10	18.8406	4	3.5	1	1	1
11	21.0884	3	2.75	1.5	1	1
12	23.2558	2.75	3	1	1.25	1
13	25.3086	1.25	2.5	1.25	1	1

14	27.1676	2.5	2.25	1.25	1	1
15	28.8344	2	2	1.75	1	1
16	30.8219	2.25	2	1.5	1.25	1
17	32.8125	1.75	2.25	2.5	1.5	1.25
18	34.7222	1.75	1.25	2.25	1.5	1
19	37.1622	1.25	1.75	1.75	1	1
20	38.9313	1.5	2.5	1.5	1.25	1
21	40.8537	1	1.25	3.75	1.75	1
22	43.0769	2	2.25	2.25	1	1
23	44.8276	1	1.25	3	1.75	1.5
24	47.1831	1	2	4	1.5	1
25	48.9362	1.25	1.25	4.25	1.5	1
26	51.25	1	1.25	5	1.5	1
27	53.0201	1.25	1	5	1.75	1
28	54.8387	1	1.5	4.75	2	1.25
29	56.6879	1	1	4.25	2	1
30	59.1716	1	1.75	2.25	3.75	2.25
31	61.3636	1.25	1.25	2.75	3.25	2
32	62.7329	1	1	1.75	4	2.5
33	65.1163	1	1	2.5	4	2
34	67.0588	1	1.25	1.75	4.25	2.5
35	69.1824	1	1	1	4	2.75
36	70.8609	1	1	2	3.5	2.25
37	72.9323	1.25	1.5	2.5	4	1.25
38	74.8503	1	1	1.5	4.25	3.25
39	76.6423	1	1	2	4.5	3.25

40	78.9474	1	1	1.5	4.5	2.75
41	81.1688	1	1	1.5	4.75	3.75
42	83.0303	1	1	2	4.25	3.25
43	85.2564	1	1	1.25	4.5	3.25
44	87.3016	1	1	1.25	4.75	4.25
45	89.1566	1	1	1.25	5	4.5
46	90.6475	1	1	1	5	4.5
47	93.007	1	1.25	1	5	4.5
48	95.1724	1	1.5	1.25	5	4.5
49	97.1429	1	1	1	4.75	4.75
50	98.6842	1	1	1	4.5	5