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Negation in thesis and dissertation abstracts by English, Chinese, and Iranian writers from a cross-cultural perspective

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Abstract

The effective use of negation is a critical yet challenging aspect of academic writing, as it influences the clarity and persuasiveness of arguments. Despite its rhetorical importance and the potential impact of sociocultural factors on its usage, cross-cultural variations in the use of negative markers in theses and dissertations—particularly in abstracts, remain underexplored. Abstracts serve as a key persuasive genre, engaging readers by summarizing research findings and their significance. This study addresses this gap by examining how negative markers are used in English abstracts produced by postgraduate students from English-speaking, Chinese, and Iranian academic contexts. A corpus of 300 abstracts was analyzed using a corpus-based approach grounded in an interpersonal model of negation. Quantitative analyses, including descriptive statistics and log-likelihood testing, revealed both shared and distinct patterns across groups. Commonly used markers included “not,” “no,” “little,” and “few,” while markers such as “nowhere” and “nobody” were absent. Notable differences emerged: Iranian students showed more use of “no,” particularly as a consequence marker; English students employed affective negation more frequently; English and Chinese students diverged in their use of “little.” These findings underscore the influence of cultural and linguistic backgrounds on the rhetorical deployment of negation in academic writing. The study advocates for targeted pedagogical strategies in English for Academic Purposes programs that explicitly address the rhetorical functions of negation. Such strategies can improve L2 students’ writing quality, enhance nuanced expression, and reduce pragmatic miscommunication, thereby better preparing students for successful academic communication in diverse English-medium contexts.

Keywords: *abstracts, negation, metadiscourse, academic writing, English, Chinese, Iranian*

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Отрицание в аннотациях диссертаций английских, китайских и иранских авторов в кросс-культурном аспекте

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Аннотация

Эффективное использование отрицания – важный и сложный аспект академического письма, который влияет на ясность и убедительность аргументов. Несмотря на его риторическую важность и потенциальное влияние социокультурных факторов на использование отрицательных маркеров в диссертациях, в частности в аннотациях, которые служат ключевым жанром убеждения, вовлекающим читателей путем краткого изложения результатов и их значения, они остаются недостаточно изученными. Данное исследование устраняет этот пробел, изучая использование отрицательных маркеров в аннотациях на английском языке, написанных аспирантами из англоязычной, китайской и иранской академической среды. Материалом исследования послужили 300 аннотаций, которые были проанализированы с применением корпусного подхода, основанного на межличностной модели отрицания. Количественный анализ, включающий описательную статистику и проверку логарифмического правдоподобия, выявил как общие, так и различные закономерности в группах. Наиболее частотными оказались маркеры «not», «no», «little» и «few», в то время как такие маркеры, как «nowhere» и «nobody», отсутствовали. Выявились заметные кросс-культурные различия: иранские студенты чаще использовали «no», особенно в качестве маркера последствий; английские студенты чаще использовали аффективное отрицание; английские и китайские студенты расходились в использовании маркера «little». Полученные результаты свидетельствуют о влиянии культурных и языковых особенностей на риторическое отрицание в академическом письме. Данное исследование выступает за разработку целенаправленных стратегий в программах по английскому языку для академических целей, которые направлены на изучение риторических функций отрицания. Такие стратегии могут улучшить качество письма студентов – носителей языка и лучше подготовить их к успешной академической коммуникации в различных англоязычных контекстах.

Ключевые слова: аннотация, отрицание, метадискурс, академическое письмо, английский язык, китайский язык, иранский язык

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1. Introduction

Writing a thesis and dissertation is a significant academic achievement, particularly for postgraduate students whose first language is not English. These students must adapt to academic discourse while demonstrating their competence in conducting original research and producing high-quality writing (Paltridge & Starfield 2020, Sun & Crosthwaite 2022a).

Among the multiple sections of master's theses and doctoral dissertations, the abstract is considered crucial. It appears first and engages readers by summarizing the content and highlighting its significance (Bitchener 2010, Jiang & Hyland 2022a). More importantly, the abstract performs a persuasive role by showcasing the study's novelty and significance (Bitchener 2010). It acts as a quality filter, enabling readers to evaluate the study's relevance, purpose, methodology, key findings, and merit for further exploration. An ineffective abstract may signal inadequate academic performance. Consequently, abstracts are characterized as a high-stake genre, where authors should underscore both central arguments and broader contributions to the field (Jiang & Hyland 2017, 2022a).

While the structure and function of research abstracts have been widely studied (Boginskaya 2022, Jiang & Hyland 2017, Jiang & Hyland 2022a, Swales 1990), the use of negative markers remains underexplored (Jiang & Hyland 2022a, Li et al. 2023, Swales 2019). However, linguistic negation, encompassing forms from simple markers such as “no” or “not” (e.g., it was *not* a significant correlation) to complex morphological markers (e.g., *dis-*, *non-*, *-less*) and syntactic structures that negate propositional content (e.g., we *did not* find a significant correlation), plays a crucial rhetorical role in academic writing by expressing contrast, exclusion, and epistemic stance—key elements to the communicative functions of research abstracts. This gap limits our understanding of how these markers shape the academic discourse of abstracts. Despite their frequency and rhetorical salience, especially in signaling limitations, challenging prior work, or foregrounding research gaps, negative markers have not been systematically examined for their linguistic forms or discursive roles within this genre. Understanding their functions in abstracts, therefore, requires examining the broader linguistic phenomenon of negation, of which these markers are specific realizations.

Research has also identified the potential impact of linguistic and cultural backgrounds on writers' perceptions, and communication styles, particularly in the use of interpersonal language strategies such as metadiscourse (Crismore et al. 1993, Gritsenko et al. 2024, Hyland 2004, Hyland 2019, Sun & Crosthwaite 2022a). For example, hedging devices with multiple rhetorical and discursive functions, such as creating dialog, mitigating claims, and building rapport, are shaped by linguistic and sociocultural contexts (Kreutz & Harres 1997). Hyland (2004) posited that self-expression, argumentation, and reader engagement are closely tied to the cultural and professional norms of writing communities. Therefore, understanding sociocultural dimensions is essential for analyzing how writers from different backgrounds utilize linguistic resources such as negation. Nevertheless, the specific impact of sociocultural factors on the use of negation in academic writing remains relatively underexplored.

The present study examined variations in the use of negative markers in English thesis and dissertation abstracts among student writers from different linguistic and cultural backgrounds. Specifically, we studied English, Chinese, and Iranian postgraduate students. Each group represents a unique combination of

linguistic, educational, and cultural backgrounds. English students write in their native language, having internalized academic conventions from early education. In contrast, Chinese and Iranian students, as L2 writers, emerge from different educational systems, linguistic traditions and socio-rhetorical practices. While Chinese and Iranian cultures share common values such as collectivism, humility in argumentation, politeness, and indirect rhetorical strategies (Abdollahzadeh 2011, Deng & He 2023, Hu & Cao 2011), subtle distinctions in orthographic conventions and philosophical beliefs (e.g., Confucianism/Taoism and Islam) may affect how Iranian and Chinese students construct persuasive academic arguments in English. By comparing these groups, this study sought to illuminate how cultural and linguistic factors shape the use of negative markers in English academic writing. This understanding can inform culturally responsive writing instruction and facilitate clearer communication in academic contexts. Moreover, the study identified the most common forms and functions of negative markers in thesis and dissertation abstracts. The following research questions guided the investigation:

1. What negative markers, forms, and functions of negation are utilized in English thesis and dissertation abstracts by the postgraduate students from the three different L1 backgrounds (i.e., English, Chinese, and Iranian)?
2. How do the forms and functions of negation in the thesis and dissertation abstracts of the postgraduate students differ?

2. Literature review

2.1. Negation in academic writing

Negation in English grammar is a dynamic domain characterized by linguistic creativity and the constant development of strategies (Burke 2020). Negative markers express denials and contradictions (Tottie 1991), allowing for asserting authorial voice by rejecting or refuting alternative viewpoints (Sun & Crosthwaite 2022b) and enhancing persuasive argumentation by adding conviction to an argument (Herriman 2009). Negative marking can be divided into affixal negation (e.g., non-, dis-, un-, etc.) or non-affixal/clausal negation (Tottie 1991), which operates at the clause level to negate either the lexical verb or auxiliary (Example 1) or non-verbal elements (Example 2).

- (1) The findings also suggest that the international teaching materials **do not promote** non-Islamic western values. (Iranian abstract)
- (2) The findings reveal that the difference creates -triggers, but **not**-indicators, which depend on affective factors like interlocutors' willingness to signal non-comprehension. (Chinese abstract)

In non-affixal or clausal negation, the negative impact extends to the end of the clause, denying or rejecting the entire statement (Biber et al. 2021).

Negation serves multiple functions within academic discourse, such as rejecting recommendations and denying assertions (Tottie 1991), disclaiming

alternative positions, expressing stances, considering other possible positions (Martin & White 2005), and conveying uncertain concepts or factual information (Swale 2019). Webber (2004) further highlighted eight evaluative functions of negation, including unmet expectations, correcting assumptions, making comparisons, expressing dissatisfaction, disagreeing with others' viewpoints, indicating wholehearted agreement, expressing a cautious attitude, and adopting formulaic structures, although overlap between categories limits clear quantification. (Webber 2004).

Jiang and Hyland (2022a) identified two limitations in past classifications of negation. First, they often neglect the interpersonal roles commonly seen in academic writing (Jiang & Hyland 2022a). These interpersonal roles, however, are integral to successful academic writing as 1) they offer a means of commenting on one's own text and clarifying explanations, contradicting any assumption, and differentiating their standpoint from others, and 2) they help establish a relationship between the writer and the reader, facilitating clear communication of ideas and arguments (Hyland 2019). Second, prior studies have failed to clearly distinguish between the negation used to establish textual cohesion, and that used to express stance and reader-sensitive tone. To address these two limitations, Jiang & Hyland (2022a) proposed an interpersonal model of negation (which we adopt for the current study) comprising both *interactive* and *interactional* dimensions of communication (see Figure 1).

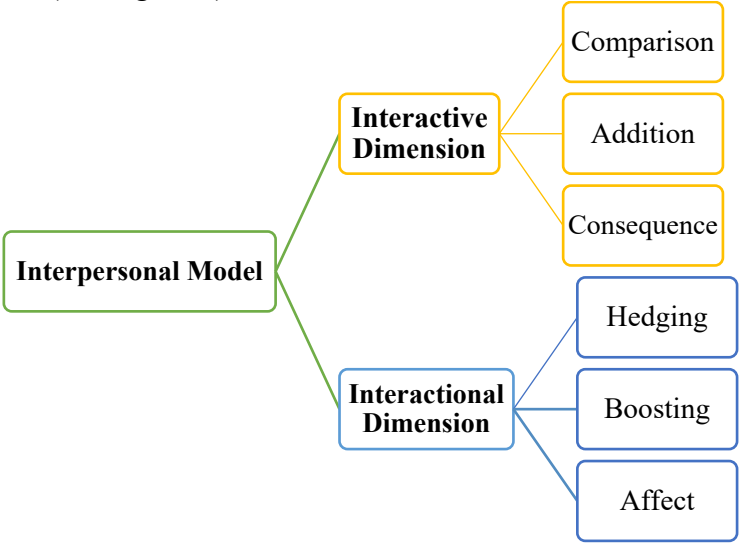


Figure 1. Interpersonal Model Suggested by Jiang and Hyland (2022a)

The *interactive* dimension of the interpersonal model (Jiang and Hyland 2022a: 62) pertains to how discourse is constructed to facilitate readers' comprehension of the intended meaning. In this dimension, negation helps establish connections between different text elements or emphasize the significance of certain elements by utilizing comparative, additive, and consequential relations to enhance the coherence and persuasiveness of information flow. There are three

types of interactive negation: *comparison*, *addition*, and *consequence*. *Comparison* negation highlights contrasting relationships between different elements. For instance, Example 3 reveals that while most studies on TBI have focused on task features and their implementation, they have overlooked the learners and their individual differences.

- (3) Most studies in TBI have primarily focused on the features of tasks and their implementation and **not the learners** and their individual differences (Iranian abstract).

Addition negation presents two interconnected pieces of information that are either surprising or unexpected, with the second piece of information often being even more surprising (Jiang & Hyland 2022a).

- (4) ...but L1 translation **neither** accelerates **nor** hinders the process of English vocabulary teaching and learning in terms of appropriate situational use (Chinese abstract).

Consequence negation is utilized to demonstrate that something is a result or consequence of an argument or study.

- (5) There **is not a significant** disciplinary and cultural specificity in the Chinese L2 English... (Chinese abstract).

In contrast, the *interactional* dimension (Jiang & Hyland 2022a: 63) centers on participants and emphasizes the writer's persona and communication style, aligning with community norms. Within this dimension, negation is situated within the framework of modality and affect, contributing to subjective assessments of the material at hand (Jiang & Hyland 2022a). Specifically, negation may be expressed through hedging, boosting, or other attitudinal signals, all of which serve to convey the writer's stance toward the topic being discussed (Jiang & Hyland 2022a).

The *interactional* dimension consists of three types of negation, namely, *hedging*, *boosting*, and *affect*. Hedging negation plays a crucial role in mitigating the fully illocutionary impact of a statement or evaluation. This helps to express reservations regarding the proposition or to convey a sense of respect toward the reader's potential alternative perspective (Jiang & Hyland 2022a).

- (6) Among the Interlanguage Pragmatics studies which have investigated the differential effect of different instructional treatments, **little** attention has been paid to... (Iranian abstract).

Boosting aims to amplify the expressive impact of a proposition, thereby reinforcing the level of commitment to a statement that would otherwise lack assertiveness or strength.

- (7) Contextual information such as the age, gender and social status of speaker and hearer is **never** presented (Chinese abstract).

Affect negation contributes to the writer's stance toward the presented content by challenging or denying the accuracy, adequacy or clarity of a study result (Jiang & Hyland 2022a). In Example 8, negation is utilized to challenge the idea of language being static and instead expresses the writer's support for dynamicity.

- (8) Human languages are *not* static entities. Linguistic conventions, whose social and communicative meaning are understood ... (English abstract).

2.2. Studies on negation in academic writing

While many researchers have explored genre analysis (Swales 1990), rhetorical functions (Parviz & Lan 2023), and linguistic features (Gritsenko et al. 2024) of abstracts, relatively few studies have focused on the use and functions of negation in research abstracts. Early foundational work by Graetz (1985), examining over 72 academic research abstracts using Systemic Functional Linguistics, revealed a general avoidance of negatives in abstracts across disciplines—characterized instead by past tense, third-person perspective, and passive constructions. Although later studies (e.g., Hyland 2004, Swales 1990) contested this claim by pointing to counterexamples and over assertion, the study by Graetz (1985) set the stage for recognizing patterned rhetorical choices in abstract writing across disciplines.

More recent studies such as Sun and Crosthwaite (2022a, 2022b) have provided more insights into the use of subtypes of negation in doctoral dissertations across disciplines, using the Appraisal framework. For instance, Sun and Crosthwaite (2022a) identified common and discipline-specific properties of negation markers and their coarticulations with other relevant Appraisal devices, but in other sections of research articles, such as limitations and introductions. Sun and Crosthwaite (2022b) revealed that *disalignment* was the most frequently used subtype of negation, along with “not” and “no”. However, the two studies are limited in their sample size (42,106 and 23,477 words, respectively) and focused on sections other than abstracts (e.g., limitations and introductions).

Jiang and Hyland (2022a) conducted a diachronic corpus-based study that provided a more nuanced analysis of negation used in research article abstracts over time. They proposed and employed the abovementioned interactive/interactional model and reported that negation played both interactive and interactional roles in shaping the rhetorical structures of abstracts aiding coherence and conveying the writer's stance. Specifically, negation was most frequently used for consequential connections and least for personal opinions (i.e., affect), although over time, a shift toward more affective and hedging uses emerged, reflecting evolving rhetorical practices in academic writing.

Jiang and Hyland (2022b) further examined trends in four linguistic features—passive, past tense, third person, and negation—in research abstracts from four academic disciplines over three decades. They identified an average of more than one negation in every two texts with sociologists using negation more frequently

than other disciplines did. Despite these insights into the multifaceted roles of negation in research article abstracts and the evolving patterns of usage across disciplines and timeframes, the two studies by Jiang and Hyland overlooked the sociocultural (Crismore et al. 1993, Herriman 2009) and linguistic backgrounds of the writers (Lantolf 1999, Sun & Crosthwaite 2022a)- factors that shape rhetorical strategies. Sociocultural factors play a critical role in shaping rhetorical practices, particularly in negotiating knowledge claims and constructing scientific arguments, which has been supported by multiple studies on metadiscourse. For instance, Noorian and Biria (2010) compared Iranian and American writers and noted similarities in the use of hedges, boosters, and attitude markers and differences in interpersonal marker use. Kong (2006) noted the differences in Chinese and English academic writers' strategies in evaluating others' ideas. Abdollahazadeh (2011) studied American and Iranian academic writers and reported convergences in hedging but differences in the frequency of using emphatics and attitude markers. Nevertheless, the only studies on negation use in academic writing across linguistic and cultural backgrounds are Li et al. (2023) and Sun and Jiang (2024).

Li et al. (2023) observed fewer use of negation markers by Chinese PhD. students compared to their American counterparts, and particularly with respect to interactional and interactive functions. Sun and Jiang (2024) also compared the use of negation in thesis limitation sections by 100 Chinese and American doctoral students and found American students employed more negation, particularly in conjunction with engagement and graduation resources, suggesting cultural and genre-specific expectations. While informative, the two studies, similar to previous metadiscourse studies, examined only two linguistic and cultural backgrounds, limiting generalizability of their findings.

In sum, despite the valuable insights provided by these previous studies on negation use in academic writing, few have directly compared the use of negative markers in abstracts written by students from multiple linguistic and cultural backgrounds. Given that abstracts serve as a critical gateway to research, understanding how negation functions across diverse student populations can reveal patterns of rhetorical awareness, potential challenges, and strategies for expressing evaluation, stance, and engagement. The present study addresses this gap by comparing the use and functions of negation in abstracts written by English, Chinese, and Iranian postgraduate students. By situating negation within broader meta discourse practices, this research contributes to our understanding of how linguistic and cultural backgrounds shape academic writing and offers pedagogical implications for supporting multilingual student writers. In addition, the current study draws on a substantially larger sample size than previous studies (e.g., Sun & Crosthwaite 2022a, 2022b), enhancing the reliability and generalizability of its findings.

3. Method

3.1. Linguistic model

The present study employed the interpersonal model of negation proposed by Jiang and Hyland (2022a), as reviewed earlier. This model is formulated within the social constructivist view and built upon Hyland's (2019) concept of metadiscourse.

3.2. Corpus selection

To minimize potential biases, specific inclusion criteria were strictly applied to each corpus group. First, theses and dissertations were selected from prestigious universities in English-speaking, Chinese, and Iranian contexts to ensure that they reflect standardized academic practices within each region. For the English L1 corpus, texts were sourced from various institutional repositories in the United States and the United Kingdom (see Appendix A), with supplementary data obtained from ProQuest Dissertations, Theses Global, e-theses on-line platforms, OATD.org and ethos.bl.uk.

For the Iranian corpus, we used three online university databases, namely, *Tehran University*, *Tarbiat Modares University*, and *Shahid Chamran University of Ahvaz*. The Chinese corpus was also retrieved from *Shanghai Jiao Tong University*, *Zhejiang University*, and *Shanghai International Studies University*. Notably, the first and second authors of the current study are of Persian and Chinese nationalities, respectively, which allowed them to access master's theses and doctoral dissertations written by L2 student writers.

All the universities are accredited to confer postgraduate degrees and are officially recognized as tier-1 institutions by the Ministry of Education of the People's Republic of China and the Ministry of Science, Research, and Technology of Iran (Appendix A). It is worth noting that focusing on prestigious universities helped filter in samples by writers with similar L2 proficiency and "comparable disciplinary expertise" (Tribble 2017: 34).

In both countries, postgraduate admission is contingent upon meeting specific language proficiency standards. Iranian MA and PhD candidates are required to meet certain language proficiency standards either through rigorous, highly competitive national university entrance exams or standardized commercial tests such as TOEFL and IELTS. Likewise, Chinese postgraduate students from the selected universities must fulfill some type of English language proficiency requirement (e.g., the College English Test, TEM, TOEFL, or IELTS) set by Chinese universities (Jin & Fan 2011, Li et al. 2023). Moreover, Iranian and Chinese MA programs typically span 2–3 years, while PhD programs generally require 3–5 years for completion. These programs involve coursework and empirical research projects guided by advisors or supervisors, allowing students to develop theoretical knowledge, research skills, and practical experience in their respective fields.

To construct the initial corpus, we applied a unified set of search terms- “MA thesis” or “master’s thesis” or “PhD dissertation” or doctoral dissertation” and “English” across multiple academic databases and repositories. This systematic search yielded a preliminary sample of 343 theses. In the second stage, we made sure to include a balanced representation of disciplines and degree levels (master’s and doctoral) within each group to control for potential variations arising from disciplinary norms and differences between academic levels (master’s vs. doctoral).

Third, the nationalities of L1 English student writers were verified via multiple public sources and platforms such as Researchgate, LinkedIn, Academia, Google Scholar, institutional profiles, first name and last name origins, research portals, biographies, and acknowledgements in the writing. In cases where the sources did not suffice, we emailed the writers to confirm their first language. However, it is important to note that any potential differences between American and British English were not considered during the analysis.

In the next step, to ensure consistent and reliable comparisons, we set four key selection criteria on the basis of the fundamental principles for corpus construction, as outlined by Sinclair (2005). First, data-driven empirical studies were prioritized to minimize possible linguistic construction variations. Second, studies published between 2013 and 2022 were selected to allow a sufficiently large sample size. Third, studies adopting a primarily quantitative approach were favored to minimize the potential impact of research topics and paradigms on the use of interpersonal language (Hyland & Jiang 2022a). The researchers assessed the studies based on information from the abstracts, research questions, and methods. Finally, only studies within English language-related majors, such as Applied Linguistics, TESOL¹, and TEFL², were included to control for potential disciplinary effects. Studies containing research reviews, abstracts and lay summaries instead of conventional abstracts were excluded. This multistage selection process yielded 309 studies. To attain a comparable corpus size, we randomly selected 100 theses and dissertations for each corpus corresponding to each L1 background, resulting in a total of 300 abstracts. Table 1 shows the detailed descriptive statistics. Since the chosen theses and dissertations were submitted to their respective academic institutions during the period spanning from 2013 to 2022, the likelihood of them undergoing refinement using AI tools is deemed minimal.

Table 1. Corpus characteristics

Groups	Datasets	Total words	Mean length	Min length	Max length	Standard Deviation
Iranian	100	33,428	334.28	120	704	110.26
Chinese	100	55,905	559.05	180	2123	331.77
English	100	25,488	254.88	69	745	114.49
Overall	300	114,821	382.74	69	2123	247.91

¹ TESOL refers to the field of Teaching English to Speakers of Other Languages.

² TEFL refers to the field of Teaching English as a Foreign Language.

3.3. Data analysis procedure

3.3.1. Taxonomy of commonly-used negative markers

In this study, we utilized a list of negative markers, specifically focusing on non-affixal/ clausal negation, as outlined by Jiang and Hyland (2022a). This list was originally built upon the categorization of *no-negatives* and *not-negatives* by Biber et al. (2021), along with the concept of *broad negatives* (e.g., *rarely* and *little*) introduced by Carter et al. (2011) and Sinclair et al. (2017). Table 2 shows the 17 commonly-used negative markers used in the current investigation.

Table 2. Taxonomy of commonly-used negative markers

barely	little	few	not	no	nowhere	nobody	never	no one
neither	none	nor	nothing	seldom	rarely	hardly	scarcely	

3.3.2. Corpus processing and negative markers extraction

Corpus processing and negative marker extraction involved several steps. First, all samples were converted into Word files. Second, various elements such as titles, key words, footnotes, references, and linguistic examples were removed from the abstracts. The cleaned texts were then saved in plain text format and assigned a reference code (File No. 1 to File No. 300) to ensure the anonymity of the authors. Third, *AntConc* (2024) was used to extract targeted negative markers by importing 50 abstract word.docx files into *AntConc* for each subcorpus. Fourth, we created an advanced Search Query List containing 17 negative markers (Table 2) using the Key Word In Context (KWIC) function. This facilitated automatic searches and generated concordances with the specified negative markers. Fifth, we exported the generated lists to Excel files. Each line in the Excel file includes a negative marker located in the middle row, accompanied by its surrounding context. Following prior studies (e.g., Councill et al. 2010) which typically used a range of 5–10 words, we included 10 words on either side of the negative marker to provide additional context. The window of 10 words also suits our study specifically because it is considered a sufficient length to capture a complete syntactic unit in English and provides a computationally efficient and linguistically reasonable frame for analysis. In case 10 words did not suffice, original texts were retrieved for analysis. Finally, to ensure accuracy, each concordance was manually checked to confirm that the retrieved instances functioned as negations. This involved excluding extraneous cases such as “not least”, and “yes and no questions”. The negative markers were then manually categorized as interactive or interactional based on their functions.

3.3.3. Pilot analysis

To identify negative markers accurately and ensure consistent coding, we developed a protocol that provided clear instructions, criteria, and operational

definitions, supported by illustrative examples of the interpersonal model of negation. To maintain coding consistency, minimize bias, and identify areas for improvement, researchers subsequently conducted two rounds of pilot studies. In the first round, we independently coded 14 master’s and doctoral dissertations from previously excluded studies. Through discussion, we identified several non-negative markers included in the automatic output (e.g., Examples 9 and 10).

- (9) ***Last but not least***, this thesis attempts to suggest efficient methods to improve English teachers... (Chinese abstract).
- (10) ... but the washback was not intense, with most TEM preparation courses covering ***no more than*** half a semester (Chinese abstract).

In the second round, the researchers analyzed a randomly selected subset, comprising 5% of the entire dataset, where we identified more non-negative markers and certain negated phrases pertaining to the treatment and study design etc., as shown in Table 3.

Table 3. Non-negative markers and negated phrases associated with the treatment and study design

<i>Quite a few</i>	<i>More often than not</i>	<i>A few</i>	<i>To mention just a few</i>
<i>No-collocation treatment</i>	<i>The past few decades</i>	<i>No citation</i>	<i>No treatment group</i>
<i>No TESOL training</i>	<i>Not with their collocates</i>	<i>No WCF</i>	<i>Always to never</i>
<i>Non-gamified</i>	<i>No cue</i>	<i>Very little</i>	

Following two rounds of pilot analyses, a random 20% subset was selected for detailed analysis. After a four-week interval, the researchers met to compare negative markers, documenting and highlighting them in an Excel file based on the refined protocol. Disagreements were resolved through discussion. Using the “percent agreement” method described by Biber et al. (2007: 35), a high-level agreement of 96% was reached. The remaining data were subsequently coded by the second author. Finally, the first author conducted a comprehensive review of all the coding to ensure accuracy and consistency.

3.3.4. Statistical analysis

Following Jiang and Hyland (2022), we used a series of log-likelihood (LL) tests to statistically compare the use of negation markers across corpora. The LL tests were conducted using *GTest* function provided by the *DescTools* package in *R*. We also calculated %DIFF to assess the effect sizes of any observed significant differences using the formula $\%DIFF = \frac{(NF \text{ in } SC - NF \text{ in } RC) \times 100}{NF \text{ in } RC}$, where NF denotes the normalized frequency, SC denotes the study corpus, and RC denotes the reference corpus (Gabrielatos & Marchi 2011). %DIFF indicates the proportion of the difference between two normalized frequencies (Gabrielatos 2018). The LL test is widely used in corpus studies and is preferable to other tests such as

Chi-square test when the expected values are small (<5) (Dunning 1993, Rayson & Garside 2000). We also used Rayson’s (2016) log-likelihood calculator to crosscheck the results obtained using *R*, particularly LL and %DIFF; the calculator provides cutoff LL values for only different significance levels, such as $p < .05$, .01, .001, and .0001, respectively.

4. Results

This section presents the frequency, forms and functions of negative markers identified in postgraduate students’ thesis and dissertation abstracts based on the interpersonal model of negation.

4.1. Negative markers, forms and functions of negation

The results revealed a total of 369 instances of negation in the corpora, equating to 3.214 occurrences per 1000 words, as shown in Table 4.

Table 4. Statistical information on negative markers

	Iranian				Chinese				Native				Overall			
	raw	per 1000	Mean	SD	raw	per 1000	Mean	SD	raw	per 1000	Mean	SD	raw	per 1000	Mean	SD
Sum	112	3.350	–	–	171	3.059	–	–	86	3.374	–	–	369	3.214	–	–
not	60	1.795	.60	.964	108	1.932	1.08	1.368	55	2.158	.55	.821	223	1.942	.743	1.099
no	32	.957	.32	.510	30	.537	.30	.595	13	.510	.13	.485	75	.653	.250	.537
little	7	.209	.07	.293	5	.089	.05	.219	10	.392	.10	.302	22	.192	.073	.274
few	5	.150	.05	.219	13	.233	.13	.338	2	.078	.02	.141	20	.174	.067	.250
nor	3	.090	.03	.223	1	.018	.01	.100	2	.078	.02	.141	6	.052	.020	.162
none	2	.060	.02	.141	0	0	0	0	0	0	0	0	2	.017	.007	.082
neither	1	.030	.01	.100	1	.018	.01	.010	0	0	0	0	2	.017	.007	.082
seldom	1	.030	.01	.100	2	.036	.02	.141	0	0	0	0	3	.026	.010	.100
barely	1	.030	.01	.100	0	0	0	0	0	0	0	0	1	.009	.003	.058
rarely	0	0	0	0	2	.036	.02	.141	3	.118	.03	.171	5	.044	.017	.128
hardly	0	0	0	0	5	.089	.05	.261	0	0	0	0	5	.044	.017	.152
never	0	0	0	0	3	.054	.03	.171	0	0	0	0	3	.026	.010	.100
nothing	0	0	0	0	0	0	0	0	1	.039	.01	.100	1	.009	.003	.058
scarcely	0	0	0	0	1	.018	.01	.100	0	0	0	0	1	.009	.003	.058
nowhere	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
nobody	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
no one	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

To answer RQ1- what negative markers, forms, and functions of negation are utilized in English thesis and dissertation abstracts by the postgraduate students from the three L1 backgrounds (i.e., English, Chinese, and Iranian)-the results showed that “not, no, little, few” were the four most frequently used negatives across all three corpora, as shown in Figure 2. Interestingly, certain negative markers such as “nowhere, nobody, no one” did not appear in any of the corpora.

The results also revealed that “hardly, never, scarcely” appeared exclusively in the Chinese corpus, albeit with low frequencies.

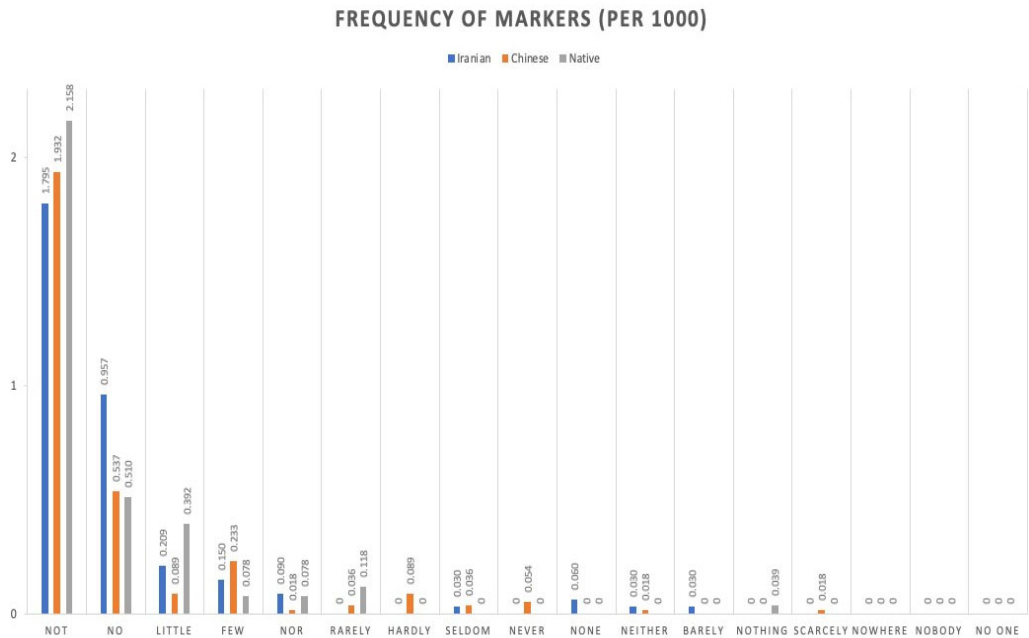


Figure 2. Frequency of negative markers (Per 1000)

Regarding the forms and functions of negation, the results showed that the interactive dimension of negation was more prevalent, constituting 61% of the total functional uses. Interactional use of the markers accounted for 39% of the variance. As shown in Table 5, within the interactive dimension, *consequence* accounted for 42%, followed by *addition* (10%) and *comparison* (9%), whereas within the interactional dimension, *hedging* accounted for 22%, followed by *affect* (11%) and *boosting* (6%). Appendix B contains the log-likelihood test results (LL, p-value, and effect size %DIFF) comparing the three corpora (i.e., Chinese vs. English, Iranian vs. English, and Iranian vs. Chinese) for each of the functions.

Table 5. Percentage of functional use of negation in the corpus

	Iranian			Chinese			English			Total		
	raw	(per 1000)	%	raw	(per 1000)	%	raw	(per 1000)	%	raw	(per 1000)	%
Interactive dimension	74	2.214	66	104	1.8603	61	46	1.805	53	224	5.878783	61
Consequence	56	1.675	50	70	1.25212	41	28	1.099	33	154	4.025923	42
Addition	7	0.209	6	20	0.35775	12	10	0.392	12	37	0.959497	10
Comparison	11	0.329	10	14	0.25042	8	8	0.314	9	33	0.893363	9
Interactional dimension	38	1.137	34	67	1.19846	39	40	1.569	47	145	3.904599	39

Hedging	23	0.688	21	36	0.64395	21	21	0.824	24	80	2.155913	22
Boosting	5	0.150	4	15	0.26831	9	3	0.118	3	23	0.53559	6
Affect	10	0.299	9	16	0.2862	9	16	0.628	19	42	1.213097	11
Sum	112	3.350	100	171	3.05876	100	86	3.374	100	369	9.783382	100

To answer RQ2 (i.e., how do the forms and functions of negation in the thesis and dissertation abstracts of the postgraduate students differ?), the log-likelihood test revealed that only two negative markers—*little* and *no*—were significantly used differently across the L1 backgrounds. Notably, the frequency of “no” in the Iranian corpus (.95 per 1000 words) was approximately twice as high as that in the Chinese (.537 per 1000 words) and English corpora (.653 per 1000 words). A significant difference was also observed in the use of “no” between Iranian and Chinese students (LL = 5.15, $p < .05$, %DIFF = 78.39) as well as between Iranian and English students (LL = 3.95, $p < .05$, %DIFF = 87.69). In the Iranian corpus, “no” was primarily used as a *consequence* marker, indicating the relationship between different elements and signifying the absence of a positive result or a meaningful connection that the student writers seek to convey (e.g., “no” in Example 11).

- (11) *No significant difference* was found between the participants’ oral literacy in L1, prior and after the investigation, nonetheless. (Iranian abstract)

Additionally, we observed a significant difference between English and Chinese student writers in the use of “little” (LL = 7.88, $p < .01$, %DIFF = -77.2). None of the other negation markers were found to be used significantly differently across corpora.

Regarding functions, Iranian students displayed a more pronounced imbalance in the use of negation across the two dimensions compared to English and Chinese students, with the interactive dimension being nearly twice as prevalent as the interactional dimension (Figure 3). Additionally, Iranian students demonstrated a propensity to utilize negative markers more frequently for *comparison* than *addition*, contrasting with English and Chinese students who tended to use more *addition* than *comparison*. For instance, Example 12 exemplifies this tendency by highlighting the influence of L2 glosses on the acquisition of word meanings, rather than the acquisition of word forms or reading comprehension.

- (12) L2 glosses can promote the acquisition of word meanings, **but not** the acquisition of word forms or reading comprehension. (Iranian abstract)

Statistically, there was a significant difference in the use of *affect* between English and Chinese students (LL = 4.81, $p < .05$, %DIFF = -54.41). English students tended to incorporate more affective markers (i.e., personal opinions) and subjective evaluations, emphasizing or highlighting certain aspects. Affective negation plays a role in the author’s evaluation, with an attitude commonly used to offer cautious criticism of or comment on existing knowledge. For instance, in Example 13, the phrase *has not previously been tested experimentally* utilizes

affective negation to highlight the absence of prior experimental tests conducted on this specific aspect, thus underscoring the novelty and significance of their research question.

- (13) Experiment 2 examines social cues and asks whether 2- and 3-year-olds can follow body and head orientation in a referential context. This has *not* previously been tested experimentally. (English abstract)

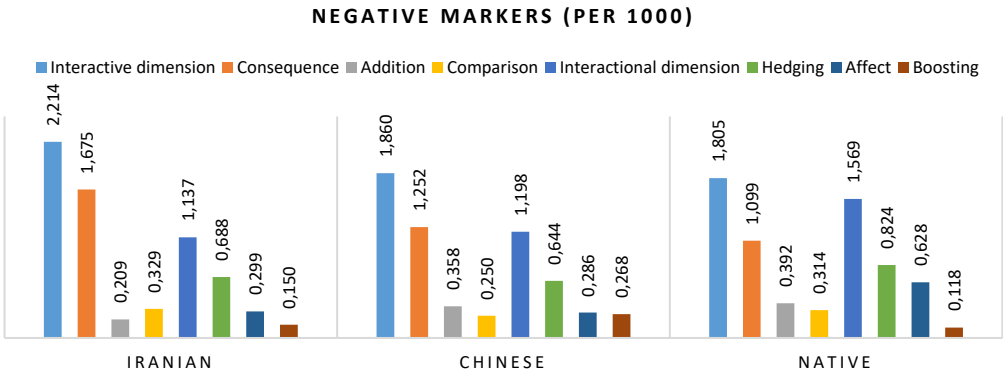


Figure 3. Interactive and Interactional Dimensions of Negation

5. Discussion

The present study explored and compared how postgraduate students from different backgrounds utilized negative markers in their English thesis and dissertation abstracts. Through this exploration, we sought to identify the most common forms and functions of negative markers employed by each group in their abstracts, and ascertain any similarities or differences based on the results.

5.1. What negative markers, forms, and functions of negation are utilized in English thesis and dissertation abstracts by the postgraduate students from the three different L1 backgrounds (i.e., English, Chinese, and Iranian)?

The results revealed 369 instances of negation (3.214, per 1000) in our dataset. This challenges Graetz’s claim that negatives are absent in abstracts and aligns with recent studies (Jiang & Hyland 2022a, 2022b, Li et al. 2023, Sun & Crosthwaite 2022a, 2022b). Among the 17 commonly-used negative markers, “not, no, little, few” were the four most frequently used across all three corpora, which is consistent with previous studies (Jiang & Hyland 2022a, 2022b, Li et al. 2023, Sun & Crosthwaite 2022a). As core negative constructs in English, “not” and “no” are common in formal written discourse and often serve as default options for negation (Biber et al. 2021, Carter et al. 2011), allowing writers to negate alternative propositions and engage readers dialogically (Sun & Jiang 2024). In contrast, “few” and “little” serve as hedging devices creating quasi-negative statements that communicate “reduced intensity and non-prominent pitch” to mitigate

disagreement and maintain social harmony (Larsen-Freeman & Celce-Murcia 2016: 198). Our findings indicated that the postgraduate students in this study were cognizant of this strategy and employed it to enhance their communication with their readers.

Notably, certain commonly used negative markers such as “nowhere, nobody, no one” were conspicuously absent across the corpora. This finding supports earlier research (Jiang & Hyland 2022a) and suggests convergence between L2 postgraduate students with their English counterparts. One possible reason is the shared disciplinary context; they may be aware of English academic writing norms and familiar with shared discursual patterns in English reading and writing within the global context (Chen & Jun Zhang 2017, Sun & Jiang 2024) and employed this strategy to cultivate solidarity within the research community. Moreover, categorical negatives can be easily contradicted by a single counterexample (Swales, personal communication, November, 11, 2023). Compared with affirmative statement (e.g., “Few researchers support X”), constructing arguments through these negation forms (e.g., “Nobody believes X”) may weaken the persuasiveness and impact of the argument, which is critical to academic writing.

With respect to the forms and functions of negation, interactive uses were more prevalent than interactional uses across the three corpora. This suggests that postgraduate students primarily focused on constructing a persuasive and coherent discourse by assisting readers in navigating texts via enhanced surface textual cohesion (Jiang & Hyland 2022a), rather than expressing personal evaluation. This aligns with the ultimate goal of metadiscourse (Afzaal et al. 2021) to facilitate the creation of a cohesive and well-structured text and provides additional support for earlier studies that reported an overreliance on interactive features in academic writing across various genres and types of metadiscourse markers (Afzaal et al. 2021, Hyland 2004, Jiang & Hyland 2022a, 2022b, Li et al. 2023).

Among the interactive dimensions, *consequence* markers were more prevalent than others, highlighting the significance of asserting cause-effect relationships, effects or outcomes in academic writing (Jiang & Hyland 2022a, Li et al. 2023), including the consequences of specific arguments, experimental results, or theoretical frameworks. On the other hand, within interactional functions, *hedging* was the most commonly used negative marker. It appeared that students used hedging as a rhetorical strategy to create distance from their assertions, thereby protecting themselves from potential criticism while maintaining scholarly caution.

- (14) While some researchers suggest that cooperative learning is an effective instructional strategy, it is worth considering that it may not always lead to positive outcomes in all educational settings... (English abstract)

While such a distancing approach may reduce the writer’s perceived commitment (Hyland 2019), the use of hedging signals L2 pragmatic competence (Chen & Jun Zhang 2017). The writers in this study may not only understand the importance of differentiating between factual information and speculation claims in academic writing but also recognize the necessity of presenting their arguments

logically and persuasively to their intended readership (Abdollahzadeh 2011). Overall, our findings are consistent with those of prior research (Chen & Jun Zhang 2017, Jiang & Hyland 2022a, Li et al. 2023).

5.2. How do the forms and functions of negation in the thesis and dissertation abstracts of the postgraduate students differ?

Consistent with prior research (e.g., Li et al. 2023), which reported more interactional metadiscourse resources used by English student writers, our study revealed that English student writers used more interactional markers than their Chinese and Iranian peers did. The difference may stem from two factors. First, certain interactional markers (e.g., hedging and boosting) are semantically complex (e.g., expressed in more ways or conveying a wider range of meaning), posing acquisition challenges for L2 learners (Hyland 2019). Second, language proficiency plays a crucial role—greater proficiency has been linked with increased use of interactional markers (Hyland 2019, Park & Oh 2018). As L2 writers, especially EFL students, generally have lower English proficiency than their L1 peers do, they tended to employ fewer interactional markers. Furthermore, the results indicated that only one function, namely, *affect*, was significantly different across groups: English student writers tended to use more *affect* compared to their Chinese counterparts, suggesting a tendency to explicitly express attitudes toward propositions and arguments in their writing with a preference for crafting a more explicit persona (see Example 15).

- (15) In this thesis, I argue that learners at this level have figurative resources that have *not* yet been acknowledged. (English abstract)

This inclination may reflect cultural values and rhetorical preferences. Grounded in Aristotelian traditions, Western academic discourse values directness and responsibility in conveying authority and expressing arguments (Abdollahzadeh 2011, Hyland 2019). Conversely, Chinese culture values implicitness and reader responsibility, favoring indirect expressions (Deng & He 2023, Hyland 2019, Paltridge & Starfield 2020). This aligns with the socio-rhetorical framework's view of how different linguistic and cultural contexts shape preferences for either writer-based or reader-based prose (Blagojevic 2004).

Another plausible explanation may stem from broader sociocultural tendencies. Western cultures often emphasize individualism and the free expression of ideas regardless of who the readers are or “how the task is structured” (Crismore et al. 1993: 66), possibly impacting rhetorical strategies in using attitudinal or assertive language in writing (Abdollahzadeh 2011). Moreover, the higher use of *affect* by English students may indicate confidence and a desire to convey epistemic commitment (Hyland 1998, 2019). Nevertheless, other issues, such as limitations in sample size or framework, may also be present, and addressing these issues could aid in detecting differences in the future.

Interestingly, the markers “hardly, scarcely, never” appeared exclusively in the Chinese corpus, although infrequently. While “hardly” and “scarcely” basically serve as hedges, “never” functions as a boosting marker. These markers can serve dual roles: they can decrease authorial certainty or epistemic commitment, and enhance commitment by excluding alternative perspectives (Hu & Cao 2011, Hyland 1998, 2019). Their presence may reflect L1 transfer from the Chinese language, as suggested by prior studies (Hu & Cao 2011, Wang & Jiang 2018). In examples 16–17, Chinese students in the study used “hardly” and “scarcely” to acknowledge research gaps while hedging their own assertions, enabling them to position themselves within the scholarly conversation (Swales 1990, Webber 2004), which represents a tactful way to foster community acceptance and solidarity.

- (16) However, their actual values and the methods and means by which to assess them have *hardly* been touched upon. (Chinese abstract)
- (17) However, the application of FA for process-based academic English writing (AEW) of college students has *scarcely* been studied. (Chinese abstract)

The presence of “*never*” in the Chinese corpus echoes findings from Li et al. (2023), who noted its frequent use in Chinese PhD theses. This finding may highlight the use of “*never*” as a characteristic feature of Chinese academic writing, reflecting distinct discursive practices within the Chinese linguistic context, although overuse of “*never*” risks sounding overly categorical and may hinder reader engagement by excluding alternative views (Li et al. 2023). Nevertheless, the frequency of “*never*” in the Chinese corpus was notably low (0.054 per 1000 words). A larger dataset would help further clarify the discursive significance of this marker, particularly in Chinese academic writing.

Moreover, the frequency of “*no*” in the Iranian corpus appeared to be approximately twice as high as that in the other two corpora, possibly reflecting the linguistic and rhetorical preferences of Iranian students. Primarily used as a consequence marker, “*no*” explicitly signifies the absence of results or associations while building arguments in academic writing (Jiang & Hyland 2022a), with the risk of making overstatements (Herriman 2009). Our findings suggest that Iranian postgraduate students prioritized more emphatic structures and assertive language (compared with using *not*-negations). This also echoes Davoodifar’s (2008) findings on Persian academic writers’ preference for categorical assertions in knowledge-making claims, emphasizing a stable and unalterable reality. However, further research is needed to comprehend these patterns across corpora.

Finally, L1 student writers and Chinese student writers differed significantly in their use of “*little*”. In other words, L1 student writers demonstrated a higher frequency of employing “*little*” compared to their Chinese counterparts. Recognizing the importance of addressing opposing viewpoints and extensive training in presenting and anticipating counterarguments, it is unsurprising that

Anglo-American academic writers employ hedging markers to ensure their scholarly writing reflects an appropriate level of caution, tentativeness, and commitment. By doing so, they aimed to make their positions, arguments, or claims more acceptable and understandable to other members of their discourse communities (Hu & Cao 2011).

6. Conclusion and implications

This study investigated the use of negative markers in thesis and dissertation abstracts written by postgraduate students from English, Chinese, and Iranian backgrounds. The findings indicated that these students employed negation for various functions. The most frequently used negative markers were “not, no, little, few”, while “nowhere, nobody, no one” were noticeably absent. Interactive functions, especially as consequence markers, were more prevalent than interactional functions were, with hedging being the most frequent interactional use. English postgraduate students also used more interactional markers, especially affect-related negation. This pattern likely reflects academic training in Anglophone contexts, which tends to encourage explicit stance-taking, evaluative language, and authorial presence as part of writer-responsible discourse norms. In contrast, Iranian students showed a marked preference for categorical *no*-constructions, signaling a rhetorical tendency toward assertiveness and epistemic certainty. This aligns with Persian academic conventions that often value strong, unambiguous claims as a means of enhancing argumentative force. Chinese students, by comparison, favored a set of negation markers such as *hardly*, *scarcely*, and *never*, using them to subtly highlight research gaps or contrast prior findings while maintaining an overall implicit rhetorical style. This reflects a reader-responsible approach to writing, where indirectness and deference are valued as signs of rhetorical appropriateness.

These findings contribute important new knowledge to the field by illuminating how sociocultural and linguistic backgrounds shape academic writing practices. The inclusion of three linguistically and culturally distinct student populations expands previous research, which was limited to two-group comparisons, and highlights nuanced differences in rhetorical preferences and discursive strategies. Importantly, this study addresses a gap in the literature regarding how negation functions within the high-stakes genre of abstracts. Additionally, the adoption of Jiang and Hyland’s (2022a) interpersonal model of negation provided a richer, more grounded understanding of how students engage with readers, express evaluation, and construct an academic stance. Unlike traditional models focused on surface structure or frequency, this approach reveals how negation supports both textual coherence (interactive) and stance-taking (interactional). By connecting linguistic choices to broader communicative goals, the model offers a more comprehensive account of how students navigate disciplinary expectations and cultural norms in academic discourse.

Pedagogically, the findings suggest the need to incorporate negation more explicitly into academic writing instruction, particularly for L2 postgraduate students. Helping them understand the functional role of negation in academic writing could enhance their use of rhetorical devices, which is linked to language development (Hyland 2004). The study further emphasizes the importance of teaching negation not only as a grammatical feature but also as a rhetorical strategy. While offering valuable insights, the study has certain limitations. To improve generalizations, a larger sample of theses and dissertations is needed. The focus on language-related disciplines may limit cross-disciplinary applicability. Due to limited metadata, factors such as gender and individual writing proficiency could not be accounted for. Future studies with broader samples and richer metadata (e.g., proficiency scores, discipline, gender) are needed to refine our understanding of how negation is influenced by sociocultural and individual variables. Additionally, exploring other sections beyond abstracts would offer a more comprehensive picture of negation use in academic genres.

Availability of data and material

The data are available upon request from the authors.

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CRedit authorship contribution statement

Muhammed Parviz: Conceptualization, Data Collection, Methodology, Writing – Original Draft, Supervision. **Qiusi Zhang:** Data Collection, Data Analysis, Statistical Analysis, Validation, Writing – Review & Editing

References

- Abdollahzadeh, Esmaeel. 2011. Poring over the findings: Interpersonal authorial engagement in applied linguistics papers. *Journal of Pragmatics* 43 (1). 288–297. <https://doi.org/10.1016/j.pragma.2010.07.019>
- Afzaal, Muhammad, Muhammad Ilyas Chishti, Chao Liu & Chenxia Zhang. 2021. Metadiscourse in Chinese and American graduate dissertation introductions. *Cogent Arts & Humanities* 8 (1). 1970879. <https://doi.org/10.1080/23311983.2021.1970879>
- Biber, Douglas, Ulla Connor & Thomas Upton. 2007. *Discourse on the Move: Using Corpus Analysis to Describe Discourse Structure*. Amsterdam: John Benjamins Publishing. <https://doi.org/10.1075/sci.28>
- Blagojević, Savka N. 2004. Metadiscourse in academic prose: A contrastive study of academic articles written in English by English and Norwegian speakers. *Studies About Linguistics* 5. 60–67.
- Boginskaya, Olga. 2022. Functional categories of hedges: A diachronic study of Russian-medium research article abstracts. *Russian Journal of Linguistics* 26 (3). 645–667. <https://doi.org/10.22363/2687-0088-30017>

- Burke, Isabelle. 2020. Negation in Australian English: From bugger all to no worries. In Louisa Willoughby & Howard Manns (eds.), *Australian English reimaged: Structure, features and developments*, 51–65. Abingdon Oxon UK: Routledge.
- Chen, Chenghui & Lawrence Jun Zhang. 2017. An intercultural analysis of the use of hedging by Chinese and Anglophone academic English writers. *Applied Linguistics Review* 8 (1). 1–34. <https://doi.org/10.1515/applirev-2016-2009>
- Councill, Isaac, Ryan McDonald & Leonid Velikovich. 2010. What's great and what's not: Learning to classify the scope of negation for improved sentiment analysis. In *Proceedings of the workshop on negation and speculation in natural language processing*. 51–59.
- Crismore, Avon, Raija Markannen & Steffensen Margaret. 1993. Metadiscourse in persuasive writing. A study of texts written by American and Finnish university students. *Written Communication* 10 (1). 39–71.
- Davoodifard, Mahshad. 2008. Functions of hedges in English and Persian academic discourse: Effects of culture and the scientific discipline. *ESP Across Cultures* 5. 23–48.
- Deng, Liming & Ping He. 2023. “We may conclude that:” A corpus-based study of stance-taking in conclusion sections of RAs across cultures and disciplines. *Frontiers in Psychology* 14. 1175144.
- Dunning, Ted. 1993. Accurate methods for the statistics of surprise and coincidence. *Computational Linguistics* 19 (1). 61–74.
- Gabrielatos, Costas & Anna Marchi. 2011. *Keyness: Matching metrics to definitions. Theoretical-methodological challenges in corpus approaches to discourse studies and some ways of addressing them*. <https://eprints.lancs.ac.uk/id/eprint/51449>
- Gritsenko, Elena S. & Olivier Mozard T. Kamou. 2024. Academic English melting pot: Reconsidering the use of lexical bundles in academic writing. *Russian Journal of Linguistics* 28 (3). 615–632. <https://doi.org/10.22363/2687-0088-39663>
- Herriman, Jennifer. 2009. Don't get me wrong! Negation in argumentative writing by Swedish and British students and professional writers. *Nordic Journal of English Studies* 8 (3). 117–140.
- Hu, Guangwei & Feng Cao. 2011. Hedging and boosting in abstracts of applied linguistics articles: A comparative study of English-and Chinese-medium journals. *Journal of Pragmatics* 43 (1). 2795–2809.
- Hyland, Ken. 1998. *Hedging in Scientific Research Articles*. Philadelphia: John Benjamins Publishing Company.
- Hyland, Ken. 2004. Disciplinary interactions: Metadiscourse in L2 postgraduate writing. *Journal of Second Language Writing* 13 (2). 133–151.
- Hyland, Ken. 2019. *Metadiscourse. Exploring Interaction in Writing*. Continuum, Oxford.
- Jin, Yan & Jinsong Fan. 2011. Test for English majors (TEM) in China. *Language Testing* 28 (4). 589–596.
- Jiang, Kevin & Ken Hyland. 2017. Metadiscursive nouns: Interaction and cohesion in abstract moves. *English for Specific Purposes* 46. 1–14.
- Jiang, Kevin & Ken Hyland. 2022a. “The datasets do not agree”: Negation in research abstracts. *English for Specific Purposes* 68. 60–72.
- Jiang, Kevin & Ken Hyland. 2022b. Changes in research abstracts: Past tense, third person, passive, and negatives. *Written Communication* 40 (1). 210–237.
- Kong, Kenneth C. 2006. Linguistic resources as evaluators in English and Chinese research articles. *Multilingua* 25 (1–2). 183–216.
- Kreutz, Heinz & Annette Harres. 1997. Some observations on the distribution and function of hedging in German and English academic writing. *Trends in Linguistics Studies and Monographs* 104. 181–202.

- Lantolf, James P. 1999. Second culture acquisition: Cognitive considerations. In Eli Hinkel (ed.), *Culture in language teaching and learning*, 28–42. Cambridge: Cambridge University Press.
- Li, Xuelan, Kevin Jiang & Jing Ma. 2023. A cross-sectional analysis of negation used in thesis writing by L1 and L2 PhD students. *Journal of English for Academic Purposes* 64. 101264.
- Martin, James R. & Peter R. White. 2005. *The Language of Evaluation: Appraisal in English*. Palgrave Macmillan.
- Noorian, Mina & Reza Boria. 2010. Interpersonal metadiscourse in persuasive journalism: A study of texts by American and Iranian EFL columnists. *Journal of Modern Languages* 20 (1). 64–79.
- Paltridge, Brian & Sue Starfield. 2020. *Thesis and Dissertation Writing in a Second Language* (2nd edn.). London: Routledge.
- Park, Sehee & Sun-Young Oh. 2018. Korean EFL learners' metadiscourse use as an index of L2 writing proficiency. *The SNU Journal of Education Research* 27 (2). 65–89.
- Parviz, Muhammed & Ge Lan. 2023. A corpus-based investigation of phrasal complexity features and rhetorical functions in data commentary. *Journal of Language and Education* 9 (3). 90–109.
- Rayson, Paul & Roger Garside. 2000. Comparing corpora using frequency profiling. In Adam Kilgariff & Tory Berber Sardinha (eds.), *Proceedings of the workshop on comparing corpora*, 1–6. Stroudsburg: Association for Computational Linguistics.
- Sinclair, John. 2005. Corpus and text: Basic principles. In Martin Wynne (ed.), *Developing linguistic corpora: A guide to good practice*, 1–16. Oxbow Books. <http://users.ox.ac.uk/~martinw/dlc/index.htm>.
- Sun, Shuyi Amelia & Peter Crosthwaite. 2022a. “The findings might not be generalizable”: Investigating negation in the limitations sections of PhD theses across disciplines. *Journal of English for Academic Purposes* 59. 101155.
- Sun, Shuyi Amelia & Peter Crosthwaite. 2022b. “Establish a niche” via negation: A corpus-based study of negation within the move 2 sections of PhD thesis introductions. *Open Linguistics* 8 (1). 189–208.
- Sun, Shuyi Amelia & Kevin Jiang. 2024. “The results might not fully represent...”: Negation in the limitations sections of doctoral theses by Chinese and American students. *Text & Talk* 45 (3). 365–389.
- Swales, John M. 1990. *Genre Analysis: English in Academic and Research Settings*. Cambridge: Cambridge University Press.
- Swales, John M. 2019. The futures of EAP genre studies: A personal viewpoint. *Journal of English for Academic Purposes* 38. 75–82.
- Tottie, Gunnel. 1991. *Negation in English Speech and Writing: A Study in Variation*. Academic Press.
- Tribble, Christopher. 2017. ELFA vs. Genre: A new paradigm war in EAP writing instruction. *Journal of English for Academic Purposes* 25. 30–44.
- Wang, Jingjing & Feng Jiang. 2018. Epistemic stance and authorial presence in scientific research writing. In Pilar Mur-Duenas & Jolanta Sinkuniene (eds.), *Intercultural perspectives on research writing*, 195–216. John Benjamins Publishing Company.
- Webber, Pauline. 2004. Negation in linguistics papers. In Gabriella Del Lungo Camiciotti & Elena Tognini-Bonelli (eds.), *Academic discourse: New insights into evaluation*, 181–202. Peter Lang AG, European Academic Publishers.

Other Sources

Anthony, Laurence. 2024. AntConc (Version 4.3.0) [Computer Software]. Tokyo, Japan: Waseda University. Available from <https://www.laurenceanthony.net/software>.

Biber, Douglas, Stig Johansson, Geoffrey Leech, Susan Conrad & Edward Finegan. 2021. *Longman Grammar of Spoken and Written English*. London: Longman.

Bitchener, John. 2010. *Writing an Applied Linguistics Thesis or Dissertation: A Guide to Presenting Empirical Research*. Red Globe Press. Springer Nature Limited.

Carter, Ronald, Michael McCarthy, Geraldine Mark & Anne O’Keeffe. 2011. *English Grammar Today: An A-Z of Spoken and Written Grammar*. Cambridge: Cambridge University Press.

Graetz, Naomi. 1985. Teaching EFL students to extract structural information from abstracts. In J. M. Ulijn & A. K. Pugh (eds.), *Reading for professional purposes: Methods and materials in teaching languages*, 123–135. Leuven: Acco.

Larsen-Freeman, Diane & Marianne Celce-Murcia. 2016. *The Grammar Book: Form, Meaning, and Use for English Language Teachers*. Cengage Learning.

Rayson, Paul. 2016 *Log-likelihood Spreadsheet*. <http://ucrel.lancs.ac.uk/llwizard.html>.

Sinclair, John, Maree Airlie, Robin Scrimgeour, Lisa Todd & Celia Wigley. 2017. *Collins Cobuild English Grammar* (4th edn.). Collins Cobuild: HarperCollins Publishers Limited.

Appendix A

US and UK universities from which masters’ theses and doctoral dissertations were obtained

American Universities	No.	British Universities	No.
Portland State University	20	The University of Edinburgh	21
SIT graduate institute	7	University of Birmingham	10
Purdue University	13	Aston University	9
University of Massachusetts Boston	10	University of Warwick	10

Chinese and Iranian universities from which masters’ theses and doctoral dissertations were obtained

Chinese Universities	N o.	Iranian Universities	No.
Shanghai Jiao Tong University	21	Tehran University	31
Zhejiang University	12	Tarbiat Modares University	30
Shanghai International Studies University	67	Shahid Chamran University of Ahvaz	39

Appendix B

	Chinese vs. English			Iranian vs. English			Iranian vs. Chinese		
	LL	p	%DIFF	LL	p	%DIFF	LL	p	%DIFF
Interactive dimension									
Consequence	0.03	0.86	3.08	1.2	0.27	22.66	1.29	0.26	19
Addition	0.35	0.55	13.98	3.46	0.06	52.49	2.6	0.11	33.79
Comparison	0.06	0.81	-8.82	1.66	0.2	-46.63	1.61	0.2	-41.47
	0.25	0.61	-20.21	0.01	0.92	4.84	0.45	0.5	31.4
Interactional dimension									
Hedging	1.78	0.18	-23.63	2.02	0.15	-27.56	0.07	0.79	-5.15
Boosting	0.79	0.38	-21.84	0.36	0.55	-16.49	0.06	0.8	6.85
Affect	2.02	0.16	127.96	0.11	0.74	27.08	1.4	0.24	-44.25
	4.81	0.03	-54.41	3.5	0.06	-52.35	0.01	0.91	4.53

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