
RESEARCH ARTICLE

Re-examining Contrastive Rhetoric: A Quantitative Study of Arab ESL Graduate Students' Persuasive Discourse

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ABSTRACT

This study quantitatively re-examined the contrastive rhetoric hypothesis by investigating the persuasive writing of advanced Arab English as second language (ESL) and US native English-speaking graduate students. The research aimed to determine if rhetorical performance could predict language/cultural background and identify specific rhetorical dimensions that might challenge Arab ESL writers due to first language (L1) transfer. The study utilized a quasi-comparative design with participants matched for educational level and disciplinary expertise. All writers responded to the same persuasive essay prompt under controlled conditions. Quantitative analyses included Multiple Discriminant Analysis (MDA) and Analysis of Variance (ANOVA) on holistic and four analytic measures of rhetorical performance (namely, argument superstructure, Toulmin's informal reasoning, persuasive appeals, persuasive adaptiveness). Contrary to the contrastive rhetoric hypothesis, the MDA failed to produce a model capable of significantly classifying writing samples by language/cultural background. ANOVA revealed no statistically significant differences in rhetorical performance between the Arab and US groups on any measure. Observed performance issues were common to both groups, and within-group variation was larger than between-group variation. These findings challenge Kaplan's (1966) assertion that rhetoric and logic are predetermined by native language and culture, suggesting that student writing problems are not necessarily use to negative transfer from L1, but are possibly shaped by a complex interplay of prior educational experiences, cultural influences, institutional contexts, and personal adaptation strategies. The study underscores the importance of methodological rigor in cross-cultural writing research and suggests pedagogical approaches might benefit from addressing the universal complexities of persuasive writing rather than focusing solely on presumed L1 interference.

KEYWORDS

contrastive rhetoric, cross-cultural variation, persuasive writing, persuasive appeals, argumentation, ESL writing, Arabic, quantitative analysis

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1. Introduction

Persuasive writing—one of the most frequently assigned genres in higher education (Connor, Gorman, & Vähäpassi, 1988)—is a cognitively demanding task (Bereiter, 1980) even for many native English-speaking (NES) students (Alexander et al., 2023). For second language (L2) writers, the challenge intensifies; beyond grammatical accuracy, writing persuasively requires making appropriate rhetorical choices that are sensitive to audience expectations and thus can persuade it to adopt the writer's point of view and motivate it to take action (Hyland, 2019). Kaplan's (1966) proposed the contrastive rhetoric hypothesis as an explanation for the writing problems of ESL writers, asserting that L2 writers often carry over rhetorical patterns from their first language (L1) that clash with those favored by native English-speaking audiences and that rhetoric and its underlying logic are not universal but predetermined by one's native language.

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Scholars have since debated the validity of the contrastive rhetoric hypothesis: While many educators embraced the contrastive rhetoric hypothesis and tailored instruction to contrast L1 and L2 linguistic and rhetorical conventions (Leki, 1991), empirical support for Kaplan's claim remains inconclusive and, in some cases, strongly contested (e.g., Kubota, 2004; Pennycook, 1998). The stakes of this debate are practical as well as theoretical. In academic settings, ESL writers who fail to employ the rhetorical patterns expected by native English-speaking audiences often risk diminished credibility (Mauranen, 1993) and tend to receive lower grades, even when their content knowledge is sound (Currie, 1990). Such evaluations can erode learners' self-confidence and reinforce deficit views of their discourse practices (Agnew, 1994). Faculty who mistake unfamiliar rhetorical choices for incoherence run the risk of overlooking substantive contributions. Thus, determining whether observed difficulties reflect L1 rhetorical transfer or other contextual factors is not only essential for empirically validating the contrastive rhetoric hypothesis, but also for designing equitable, evidence-based writing pedagogy.

Although persuasion lies at the heart of rhetoric (van Dijk, 1988), most contrastive rhetoric studies have examined exposition rather than persuasion (Scollon, 1997). Persuasive discourse, grounded in Aristotelian concepts of logos, ethos, and pathos, subsumes argumentation and thus offers a broader basis for cross-cultural comparison (Connor & Lauer, 1985, 1988). Yet research comparing argumentative/persuasive writing across languages is scarce, and investigations involving Arabic remain particularly limited and methodologically inconsistent (namely, Kamel, 1989; Koch, 1981; Ouauicha, 1986).

The present study addresses this gap by analyzing ESL and Arabic L1 persuasive essays written by advanced native Arabic-speaking (NAS) and English L1 persuasive essays by native English-speaking doctoral students of English. It focuses on five rhetorical dimensions linked to successful persuasion: argument superstructure, informal reasoning strategies, use of rational, credibility, and affective appeals, and degree of audience-oriented adaptiveness based on a series of seminal studies by Connor (1990) and Connor and Lauer (1985, 1988). By applying empirically validated analytic tools to essays produced in response to a common prompt, the study tests whether rhetorical performance can reveal systematic differences attributable to language background.

In particular, the study asks six research questions: (1) Can performance of US and Arab advanced writers on measures of select rhetorical dimensions on the same persuasive writing task accurately predict the writers' language/cultural background? (2) Within the Arab group, are there statistically significant differences between English L2 and Arabic L1 essays? (3) Between groups, do performances diverge in English essays and (4) in native-language essays? (5) Which dimensions, if any, pose particular challenges for Arab ESL writers, and (6) can those challenges be linked to L1 transfer?

Three research hypotheses guide the investigation. First, if Kaplan's (1966) claim is valid, writers' L1 should be predictable from the rhetorical patterns present in their English persuasive essays. Second, even with comparable disciplinary expertise, English L1 writers should outperform English L2 writers on those dimensions most susceptible to L1 transfer. Failure to support either condition would cast doubt on (the universality of) the contrastive rhetoric hypothesis and invite explanations that emphasize other factors. Third, persuasive writing will be significantly more problematic for NASs regardless of the language they were writing in compared to NESs.

Answering these questions promises multiple contributions. Theoretically, this study re-examines the validity of the contrastive rhetoric hypothesis, tests its universality, and extends it by centering persuasive discourse and bringing Arabic into a comparative framework long dominated by European and East Asian languages. It also revisits foundational claims about whether rhetorical and its underlying logic are language-bound or universally negotiable. Methodologically, the study provides further empirical examination of the validity and reliability of Connor's (1990) and Connor and Lauer's (1985; 1988) analytic tools and sheds light on how research design flaws might skew the results and undermine the conclusions of contrastive rhetoric studies. Pedagogically, the study findings should inform ESL and Arabic as a second language classrooms by identifying where explicit instruction in audience-oriented persuasion may benefit writers and where shared challenges suggest more generalizable support.

In sum, this study revisits the enduring question of whether rhetorical transfer explains advanced ESL writers' difficulties, focusing on a genre—persuasive writing—that is ubiquitous in higher education and central to rhetorical theory (Kinneavy, 1969, 1971). By juxtaposing Arabic and English persuasive essays produced under matched conditions, it seeks to clarify the extent to which rhetorical preferences are language-bound or adaptable. The resulting evidence should help scholars refine models of cross-cultural rhetoric and assist instructors in guiding students toward persuasive strategies that resonate with their intended audience without dismissing the rhetorical resources they bring from their own linguistic traditions.

2. Literature Review

This section establishes a theoretical framework for the study by providing an account of the contrastive rhetoric hypothesis and a discussion of its ontological, epistemological, and axiological assumptions, foregrounding controversial issues in contrastive rhetoric that have motivated and informed the current study. Evaluation criteria for existing contrastive rhetoric studies on Arabic as well as research guidelines for the current study will be extracted from the discussion of such issues.

2.1 The birth, rise, and evolution of contrastive rhetoric

The study of how cultural and linguistic backgrounds influence written communication, particularly in a second language, forms the core of contrastive rhetoric. This field, initiated by Kaplan (1966), expanded the scope of contrastive analysis beyond sentence-level structures to examine rhetorical dimensions of writing. Kaplan's seminal, albeit controversial, publication, "Cultural Thought Patterns in Intercultural Education," posited that the writing challenges faced by ESL students stemmed not only from transferring grammatical patterns from their native language but also from transferring rhetorical patterns. He argued that a writer unfamiliar with the sociocultural constraints and underlying logical systems of English discourse would naturally revert to the patterns of their first language, leading to negative interference at the discourse level. Kaplan (1967) asserted that ESL teachers needed to explicitly instruct students on the rhetorical patterns acceptable in English to aid their academic success.

Kaplan's early research involved analyzing the paragraph development in the English expository writing of approximately 600 students from various cultural backgrounds, comparing it to typical English expository paragraphs. This analysis led him to conclude that each language and culture possessed a unique paragraph order. Kaplan further maintained that in languages like Arabic, the primary focus of writing rested on the language of the text rather than its propositional structure. He believed that both rhetoric and logic were culturally tied. Specifically, regarding Arabic, Kaplan (1966) suggested that argumentative writing by Arabs diverged from the linear and logical norms of English discourse because the genre itself did not exist in Arabic, and because Aristotelian, syllogistic logic was an alien concept to Arabs. He proposed that teaching Western rhetorical conventions could help ESL students meet Western audience expectations.

Kaplan's intuitive assertions resonated with many ESL educators, appealing to the idea that linking students' academic writing problems in US educational settings to their native language could provide remedies. Enthusiastic about the pedagogical promise of contrastive rhetoric, researchers began investigating cross-cultural rhetorical variation, with some initial findings seemingly confirming Kaplan's taxonomy of cultural thought patterns and supporting the contrastive rhetoric hypothesis. For extensive reviews of research on contrastive rhetoric, see Connor (1996), Connor and Kaplan (1987), Grabe and Kaplan (1989), Leki (1991), Reid (1993), and Silva (1993). Although Kaplan (1987, 2001) later modified his stance, he continued to uphold the unsubstantiated stereotypical view that English rhetoric is linear while others are nonlinear, and that native language determines ESL students' rhetorical choices in English.

The field of contrastive rhetoric has since evolved significantly, spurred by constructive criticism of Kaplan's foundational assumptions (e.g., Kubota, 2001; Saville-Troike and Johnson, 1994; Spack, 1997; and Zamel, 1997). This evolution has moved away from viewing ESL writers as merely constrained by their first language towards recognizing them as active learners whose emerging rhetoric results from the complex interaction of cultural and non-cultural factors. This shift involves debating fundamental questions about whether writers' rhetorical choices are predetermined by language/culture or are dynamically made based on contextual factors, writing situations, tasks, and perceptions of audience knowledge, values, and attitudes. Central to the debate are ontological, epistemological, and axiological issues in the theoretical assumptions of contrastive rhetoric. This healthy debate has led proponents to call for renaming it intercultural rhetoric, emphasizing the need to understand the complexities of intercultural communication in various contexts and to consider factors such as genre, context, and the dynamic interplay of cultural and individual agency in written discourse.

2.2 Ontological issues in contrastive rhetoric

The initial ontological framework of contrastive rhetoric, influenced by the Sapir-Whorf hypothesis (Sapir, 1929; Whorf, 1956) and negative transfer (Fries, 1945; Lado, 1957), viewed ESL writing problems as primarily due to the undesirable transfer of rhetorical structures from the first language. However, subsequent research has proposed alternative ontological perspectives. One of these perspectives is the influence of a broader set of cultural factors, where one's native language does not predetermine one's success or failure in learning a second language; however, one's native culture can affect mastery of the second language in general and ESL writing in particular in multiple ways. From this perspective, the influence of one's cultural background on one's rhetorical preferences is not necessarily confined to transfer of logical and rhetorical patterns from one's native language but can be due to other cultural dimensions such as L1 literacy practices, writing functions, writing conventions, the frequency and distribution of different writing genres (e.g., Connor, 1996; Liebman, 1988, 1992; Raimes, 1991). Another alternative explanation on ESL writing problems is based on the developmental hypothesis, which sees ESL writing problems as a natural part of second language mastery, irrespective of L1 transfer (e.g., Mohan & Lo, 1985). However, the developmental hypothesis fails to explain the writing problems of advanced ESL students (Leki, 1991). It is worth noting that the ongoing ontological debate has positively influenced the field by expanding its scope to investigate cross-cultural rhetorical variation and its causes more broadly. The current study aims to contribute to answering the fundamental ontological question of the role Arabic language and culture may play in shaping Arabs' rhetorical preferences.

2.3 Epistemological issues in contrastive rhetoric

Epistemological concerns were raised by both empiricists and social constructionists. Empiricists questioned the validity, reliability, and generalizability of findings, citing issues such as reliance on intuition rather than systematic analysis, lack of

foreign language knowledge, and absence of interrater reliability measures. A major epistemological concern is inadequate *tertium comparationis*—the necessity of comparing comparable samples (Connor, 1996; Connor & Moreno, 2005). Early studies often failed to control for factors like language of composition, proficiency, writing ability, age, gender, education level, writing task, topic, audience, genre, time constraints, and context.

A related research design flaw was comparing ESL writing to English L1 writing, often professional or “ideal” prose, rather than directly analyzing L1 writing (e.g., Carlson, 1988; Dennett, 1990; Söter, 1988; Stalker & Stalker, 1988). Analyzing L2 writing does not accurately describe L1 rhetorical patterns since detected variations might be due to interlanguage development or developmental interference rather than negative L1 transfer (e.g., Cahill, 2003; Connor, 1995; Hinds, 1983; Vähäpääsi, 1988). Research on developmental writing shows rhetorical patterns in ESL student writing can be a natural outcome of the learning process (e.g., Becker, 1995; Cumming, 1989; Leki, 1997; Pery-Woodley, 1990; Sasaki & Hirose, 1996). To accurately describe cross-linguistic variation, direct comparison of L1 writing by native speakers of the languages is necessary. Some studies that held such direct comparisons found that lack of L2 proficiency, rather than L1 background, was the cause of variation in ESL writing (e.g., Cook, 1988; Indrasuta, 1987). The current study addresses this by comparing both the ESL and Arabic L1 writing of highly advanced Arab writers to English L1 writing of comparable US writers on the same writing task.

Likewise, comparing student writing to idealistic or professional writing violates the *tertium comparationis* principle because student and professional writing are different genres with different contexts, audiences, and constraints such as time limits and lack of revision/editing opportunities (e.g., Connor, 1996; Kachru, 1999; Swales, 1990). Furthermore, research by Braddock (1974) and Severino (1993) has shown that professional native-speaker English writers do not always adhere to a strict linear paragraph structure as claimed by earlier contrastive rhetoric, and English L1 students face similar challenges in mastering writing skills as ESL students. The current study avoids this by comparing the writing of graduate students at the same educational level on the same topic.

Another issue was comparing beginner ESL writing to advanced English L1 writing. Connor and Lauer (1988) have found out that native speakers of English master persuasive writing at more advanced developmental stages. In a study by Mohan and Lo (1985), paragraph organization in English writing by 12th graders, though merely acceptable, was significantly superior to that by 8th graders. This was true for both ESL and native English-speaking groups. Since contrastive rhetoric examines higher-level rhetorical structures, using samples from beginning ESL learners with limited grammar and vocabulary may confound results, making it unclear whether writing quality issues are due to L1 interference or poor English command. The current study analyzes the persuasive writing of advanced ESL and English L1 writers (doctoral students) to investigate this issue.

Empiricists also dismissed Kaplan’s intuitive approach to the description of rhetorical patterns employed by writers from different language backgrounds as unreliable and therefore inadequate for providing a basis for cross-linguistic rhetorical comparisons (Leki, 1991). Kaplan’s lack of first-hand knowledge of the languages he described and his reliance on his intuition rather than a unified analytical framework has resulted in inaccurate descriptions of the rhetorical patterns of these languages (Connor, 1996). Bar-lev (1986), for example, argued that the parallelism Kaplan noticed in the ESL writing of native speakers of Semitic languages could be interpreted as “fluidity, ... an alternative means for expressing text-cohesion” rather than lack of “hierarchical organization” (p. 237). Cahill (2003) challenged early descriptions of rhetorical patterns in Asian languages, arguing some perceived non-linearity and digression were equivalent to the Western rhetorical concept of amplification. Similar challenges have been made to assertions about Japanese rhetorical patterns (e.g., Hirose, 2003; Kubota, 1998a, 1998b).

Other epistemological concerns include lack of quantitative analysis, unreasonable exaggeration of cross-cultural differences, and overgeneralization of research findings based on limited or unrepresentative samples (Connor and Moreno, 2005; Guest, 2006; McCagg, 1996; Silva, 1993). For example, Kaplan (1966) did not use quantitative methods, and his descriptions were based on intuition even though he had a large corpus of 600 student writing samples. This has caused many to dismiss his descriptions and diagrams of the different culture-specific thought patterns as inaccurate, intuitive, subjective, and speculative overgeneralizations (e.g., Guest 2006; Leki, 1991). The current study employs quantitative analytical tools and statistical methods to enhance reliability and avoid relying solely on intuitive descriptions.

Social constructionists added another layer of epistemological critique, arguing that traditional contrastive rhetoric ignored the influence of contextual and situational factors on writing (Gee, 2005; Johns, 2003; Pahl & Rowsell, 2005). They emphasized the dynamic nature of writing as a culturally-embedded activity (e.g., Carson, 2001; Matsuda, 1997) shaped by factors like literacy practices, past writing experiences, instruction, discourse community norms, writing task, topic familiarity, subject matter knowledge, and audience awareness. Research shows that literacy practices vary across cultures and affect writing strategies (e.g., Carson, 2001). Similarly, educational contexts and writing instruction experiences differ significantly internationally, influencing rhetorical preferences and even classroom behavior (Carson and Nelson, 1994; Folman and Connor, 2005). For instance, argumentative/persuasive writing tasks common in US settings were reported by Arab and Japanese students as less emphasized in their L1 schooling, where transactional writing was more prominent (Liebman, 1992). Writing manuals in different languages may also reveal differing emphases, such as the focus on formal/informal logic versus dialectical logic/analogy, or the necessity of addressing opposition (Liu, 2005; also see Kirkpatrick, 2002). However, research on writing instruction does not automatically confirm L1 transfer, as instruction does not always manifest directly in student writing (Connor, 1987, Connor & Lauer, 1988; Ferris, 1994).

In addition to foregrounding the potential effect of contextual factors on how writers construct their writing, social constructionists also brought to light the need to consider the role that the “rhetorical situation” plays in shaping any piece of writing before any conclusions about cross-cultural variations are made (Bitzer, 1968). Variables like writing task, topic familiarity, and subject matter knowledge influence rhetorical choices, yet early contrastive rhetoric studies often overlooked these, weakening claims of cultural determinism. Research shows task complexity and type correlate with L2 writing performance (e.g., Hamp-Lyons & Mathias, 1994; Kuiken & Vedder, 2008), with prompts shaping outcomes (Hamp-Lyons, 1990). For instance, Cheng (2003) found that detailed prompts led Chinese ESL students to align more with Anglo-American rhetoric. Mohan and Lo (1985) noted topic unfamiliarity negatively affected coherence. Subject matter knowledge was also linked to overall writing quality (e.g., Mason & Scirica, 2006). The current study attempts to control for contextual factors by focusing on advanced graduate students in the same discipline. Situational variables will be controlled via the use of comparable samples produced under similar conditions.

2.4 Axiological issues in contrastive rhetoric

Axiological concerns highlight the issue of ethnocentrism in traditional contrastive rhetoric, where a particular language or rhetoric is implicitly or explicitly deemed superior. This has led to criticisms that the field has historically operated within a deficit model, describing non-Western rhetorics using negative terms and perpetuating stereotypes. Kaplan’s (1966) own language and diagrams, which portrayed non-English rhetorics as deviation from linear norms, have been criticized as ethnocentric and essentializing (e.g., Kubota, 2001; Saville-Troike and Johnson, 1994; Zamel, 1997). For instance, the notion of Arabic writing being characterized by excessive coordination and repetition, sometimes referred to as the *wa wa* (i.e., and and) method, has been presented by Yorkey (1977) as a deviation from English norms. Guest (2006) argues that such characterizations often rely on uncritical acceptance of speculative ideas and overgeneralizations. To address these concerns, contrastive rhetoric research and pedagogy should adopt unbiased, value-free guidelines, focusing on non-judgmental descriptions and explanations of differences. Pedagogy should present target language rhetorical patterns as alternatives rather than replacements for learners’ L1 strategies, aiming to help students become proficient commuters among literacy communities.

2.5 Contrastive rhetoric studies on Arabic L1

Turning to contrastive rhetoric studies specifically on Arabic, research prior to Kaplan, such as Shouby (1951), offered intuitive accounts of differences between Arabic and Western language and culture. Shouby described Arabic as “diffuse, undifferentiated, and rigid” (1951, p. 292), suggesting a lack of clarity and attention to connectivity and reader expectations, along with a florid, repetitive style characterized by over assertion and exaggeration. However, Shouby’s judgments, based largely on classical Arabic, are intuitively derived and axiologically biased and lack empirical proof (Leki, 1991).

Following Kaplan, some studies examined Arabic expository writing. Ostler (1987a) compared Saudi students’ ESL writing to published English professional writing, finding stylistic differences but suffering from significant methodological flaws, including inadequate *tertium comparationis*. Ostler (1987b) later compared Arab students’ ESL writing to English L1 freshman writing, reporting stylistic differences like Arabs’ greater use of parallel constructions and relative clauses, and differing placement of idea development. Reid (1988, 1992) also noted Arabs’ higher use of coordinate conjunctions in ESL writing. Williams (1994) and Mohamed and Omer (1999) compared Arabic texts or their translations to English, concluding Arabic writing shows characteristics of oral culture and more coordination than subordination. However, these studies are criticized for limited, dated, and literary samples, lack of statistical analysis, and failing to establish a link between coordination and logical organization (Ismail, 2010). Sa’Adeddin (1989) attributed negative transfer from Arabic to English L2 text development to a preference for the aural mode in Arabic compared to the visual mode in English, suggesting this makes Arab writing seem illogical to English speakers.

Doushaq (1986) compared Arabic L1 and English L2 writing of Arab students, finding weaknesses in organization, unity, cohesion, and development in both. English-major students showed more coherence in English, leading Doushaq to suggest potential “reversed positive transfer” (p. 35) from ESL instruction to L1 writing. However, the study lacked a comparison group of native English speakers, and it is unclear if the English compositions were more coherent due to instruction or less frequent L1 practice.

Liebman (1992) investigated the educational backgrounds of Arab and Japanese students, finding that Arabic L1 writing instruction emphasized transactional purposes and logical evidence in persuasive writing, but persuasive tasks were infrequent. While highlighting the importance of instructional environment, her reliance on student recollection and the disconnect between instruction and actual writing are limitations.

2.6 Contrastive rhetoric studies on argumentative/persuasive writing of Arabic L1 speakers

Despite the centrality of persuasion to rhetoric, research specifically comparing argumentative/persuasive writing across languages is scarce, and studies involving Arabic are particularly limited and methodologically inconsistent. Koch’s (1981) work, though not explicitly framed as contrastive rhetoric initially, significantly contributed to the debate on Arabic rhetoric, claiming a highly paratactic structure and argumentation based on repetition rather than logic. However, she used nonrepresentative,

outdated political/oratorical samples and made invalid overgeneralizations. Her analysis lacked a valid model of argumentation, and she failed to account for the authors’ backgrounds, the political nature of the texts, or audience effects.

Ouaouicha (1986) directly investigated Kaplan’s and Koch’s claims regarding Arabic argumentative writing, using Toulmin’s model of argument for analysis. Comparing Arabic L1 and English L2 writing of Moroccan students with English L1 and Arabic as a Foreign Language writing of US students across different educational levels, Ouaouicha’s study was significant for comparing comparable groups and using a comprehensive analytical framework. His findings contradicted Kaplan and Koch, showing evidence of both linear and nonlinear reasoning in both Moroccan and US writing, and use of claim/data structures and warrants by both groups. Ouaouicha reported that while repetition and parallelism were present in Arab writing, they were not dominant. Accordingly, he rejected the idea of linguistic determinism, suggesting differences were better explained by social and historical aspects of culture and discourse community conventions. However, Ouaouicha’s study had flaws, including a potentially culturally biased writing prompt, lack of statistical analysis to confirm significance, absence of interrater reliability measures, and inconsistent reporting of results (for details, see Ismail, 2010).

Kamel (1989) also studied Arab argumentative writing, comparing the English and Arabic writing of Arab students at various levels using measures of syntactic maturity, audience adaptation, and argumentation strategies. She aimed to test Kaplan’s transfer claim and Koch’s claim about repetition/presentation over logical evidence. Kamel found that Arab students wrote more sophisticated essays in Arabic than English, using more audience adaptation and balanced arguments. Her study suggested that L2 rhetorical abilities correlate with exposure, experience, and target language proficiency rather than L1 transfer. However, Kamel’s study was limited by a small, diverse sample, lacked comparison to native English speakers, did not include measures of overall writing quality, and had limitations in its analysis of audience adaptation and informal reasoning.

In conclusion, while contrastive rhetoric has evolved theoretically and methodologically, there remains a significant gap in understanding Arabs’ persuasive strategies. The few existing studies on this topic suffer from serious research flaws and offer conflicting conclusions, leaving unanswered questions about rhetorical preferences, similarities/differences with native English speakers, and potential L1 transfer in persuasive writing. This underscores the need for methodologically sound empirical research focusing on Arab persuasive discourse within the updated theoretical framework of contrastive rhetoric. The current study is designed to address this gap by examining the persuasive writing of advanced Arab and Anglo-American writers under controlled conditions, contributing to both theoretical understanding and pedagogical practices. The goal is to contribute to a more comprehensive theory of contrastive rhetoric in general and add to our understanding of the nature of cross-cultural and cross-linguistic variation in persuasive written discourse in particular.

3. Method

3.1 Design

This quasi-comparative study investigated the validity of the contrastive rhetoric hypothesis by comparing the persuasive essays of advanced native Arabic-speaking and native English-speaking writers. The writing samples for this contrastive rhetoric study consisted of three sets of solicited persuasive texts from two independent groups: ESL (Set 1a) and Arabic L1 (Set 1b) texts by Arab doctoral students enrolled in an English studies program; and English L1 texts by US doctoral students enrolled in an English studies program (Set 2); Table 1 summarizes the groups involved in the study. By holding task, topic, time on task, disciplinary specialization, and educational level constant, the design isolated language background as the primary independent variable. The purpose of the comparison is to test the following null hypotheses:

- 1. Rhetorical performance cannot accurately predict language/cultural background.
- 2. There is no statistically significant difference between Arab advanced ESL writers and U.S. advanced native English-speaking writers on the writing task regardless of the language.
- 3. The measured rhetorical dimensions are not significantly more problematic for NASs regardless of the language they were writing in compared to NESSs.

Table 1: The Groups Involved in the Study

Native language	Group 1 (N=30)		Group 2 (N=30)
	Arabic		English
Language of composing	English L2	Arabic L1	English L1
Data set	ESL (1a) (N=30)	AL1 (1b) (N=30)	EL1 (2) (N=30)

3.2 Participants

Sixty volunteers—30 native Arabic speakers and 30 native English speakers—were recruited. To ensure adequate comparability between the two participant groups, a detailed examination of their demographic and educational backgrounds was conducted using data from a language history questionnaire. Gender distribution was balanced in both groups, with 15

males and 15 females in each to neutralize potential confounding effects. Age distribution was also comparable, with the majority of participants in both groups (66.7%) aged between 25 and 35, and the overall age range was 25 to 48 years. All native English-speaking participants were U.S. citizens. All the native Arabic speakers reported their country of origin as the same as their citizenship with 53.3% from Egypt and 46.7% from Jordan.

All U.S. participants and 60% of Arab participants were studying in the U.S., with the remainder in Egypt (26.7%) and Jordan (13.3%). Most Arab participants had limited prior living experience in an English-speaking country. Only one of the 12 non-U.S.-based Arab participants had lived in the U.S. for 2 years, and the US-based Arab participants had been living in the US for periods ranging from six months to 7 years, with a mean of 2.42 years. Thus, only 23.3% of all Arab participants had lived in an English-speaking country for more than 2 years when the writing samples were collected.

Educational backgrounds were also largely comparable. All participants were enrolled in doctoral English programs in the United States, Egypt, or Jordan. All U.S. participants received their first degree from a U.S. university, while all Arab participants received theirs from an Arab university. 93.3% of Arab participants and 80% of U.S. participants held an English-related first degree. Foreign language experience varied, but none of the U.S. participants reported having studied or spoken Arabic, suggesting no Arabic influence on their rhetoric. All Arab participants reported English as their first foreign/second language, with varying degrees of proficiency and learning experience.

A potential difference noted was the frequency of writing; half of the Arab participants reported rarely writing in Arabic, their native language, compared to 86.67% of U.S. participants writing daily in English. Despite this, more than two thirds of Arab participants rated their Arabic writing skills as very good or better. The demographic and educational characteristics across the two participant groups were generally comparable, fulfilling the assumptions for *tertium comparationis* (Connor & Moreno, 2005).

3.3 Writing Task

All writers responded to the same persuasive prompt¹ originally created for the International Association for the Evaluation of Educational Achievement project (Purves & Takala, 1982). The prompt directed writers to identify a serious community problem, persuade a specific audience of its urgency, and present a detailed solution plan backed by evidence. Writers could either choose from example topics supplied in the prompt (e.g., smoking in public spaces, inadequate teacher-training programs) or nominate a problem of their own. Explicit audience specification encouraged attention to reader expectations.

Translation and Counterbalancing

The English prompt was forward-translated into Arabic by two certified translators and back-translated by two bilingual professors. All four translators compared versions, reconciled discrepancies, and produced a final Arabic prompt functionally equivalent to the English original. Native Arabic-speaking participants wrote two essays—one in English and one in Arabic—separated by at least two weeks to minimize practice effects. To counterbalance possible order effects, the native Arabic-speaking group was randomly split: Subgroup 1A wrote first in Arabic, Subgroup 1B wrote first in English. The native English-speaking participants composed a single essay in English. The prompt was presented in English for both the English L1 and L2 writing tasks, and in Arabic for the Arabic L1 writing task.

3.4 Measures

Writing performance was measured via four analytic measures of rhetorical features in addition to overall writing quality. Overall writing quality was measured holistically on a 0-5-point scale reflecting overall organization, development, cohesion, and language control. The analytic measures were adopted from a variety of sources as follows:

1. Argument superstructure: using a four-point scale by Connor and Lauer (1988) based on Kummer's (1972) problem-solution framework, raters recorded the presence of Situation, Problem, Solution, and Evaluation moves.
2. Informal reasoning: a nine-point scale by Connor and Lauer's (1988) based Toulmin's (1958) informal reasoning model assessing clarity of Claims, sufficiency of Data, and appropriateness of Warrants (1–3 points each).
3. Persuasive appeals: frequency and effectiveness of rational (logos), credibility (ethos), and affective (pathos) appeals were scored 0–3 on three subscales (Connor & Lauer, 1988).
4. Persuasive adaptiveness: audience orientation was judged on Delia, Kline, and Burleson's (1979) nine-point hierarchy (0–8), ranging from no recognition of audience needs to explicit adaptation that anticipates objections and aligns benefits with reader values.

Both the analytic and holistic scores were used as the dependent variables in the study with group membership (i.e., ESL, Arabic L1, English L1) as the independent variable. Holistic scores additionally served as validity checks for analytic measures.

¹ See Connor and Lauer (1988) for a copy of the writing prompt.

3.5 Rater Training, Scoring, and Interrater Reliability

Two bilingual raters—each a PhD holder in English with over a decade of ESL teaching and assessment experience—completed eight hours of rhetorical analysis training, scoring training, and norming. Raters jointly applied each rubric, discussed rationale, and aligned interpretations. After training, the raters independently evaluated the 60 English and 30 Arabic essays while blind to group, language, and order. Adjacent agreement (within one point) was 100% across all dimensions based on a Pearson inter-rater correlation coefficient of $r=1.0$. Correlation coefficients for exact agreement ranged from $r=.68$ (warrant scores) to $r=.00$ (superstructure components), exceeding benchmarks for writing assessment. After initial scoring, raters reviewed essays with no exact agreement in a reconciliation meeting and negotiated consensus scores, which form the data analyzed here.

3.6 Validity

Several design features strengthened internal validity: (a) participants shared comparable educational level and disciplinary expertise, satisfying the *tertium comparationis* requirement; (b) texts were produced in response to the same prompt under uniform conditions, controlling for topic and task effects; and (c) order effects in the native Arabic-speaking group were counterbalanced. The analytic measures (i.e., argument superstructure, Toulmin's informal reasoning, persuasive appeals, persuasive adaptiveness) had been previously validated in other studies (Connor, 1990; Connor & Lauer, 1985, 1988; Ferris, 1994), but an internal check was included for this specific study. To do so, a forward stepwise multiple regression analysis (MRA) was performed with the analytic measures as predictor variables and overall writing quality as the criterion variable. The purpose was to determine if performance on these select rhetorical dimensions could accurately predict overall writing performance as measured by holistic scores. Detailed results of the regression analysis are reported in the results section.

3.7 Ethical Considerations

The study protocol received approval from the author's institutional review board at the time the study was conducted. Participants were informed of the voluntary nature of the study, their right to withdraw without penalty, and confidentiality safeguards. Consent forms emphasized that essays would be used solely for research, stored on encrypted drives, and reported only in aggregate form. No financial incentives were provided.

3.8 Data Analysis

Descriptive statistics, including means and standard deviations, were calculated for each group and language to summarize the data. As mentioned earlier, multiple regression analysis (MRA) was planned to check for the validity of the analytic measures. Prior to conducting the MRA, a Pearson correlation matrix was generated to assess multicollinearity among the independent variables. This analysis revealed strong positive correlations ($r>.70$) among five variables: claim, data, warrant, rational appeals, and argument superstructure.

Given the potential for multicollinearity to inflate standard errors and lead to overfitted models, steps were taken to address this issue. The rational appeals variable was removed from further analysis. To reduce multicollinearity among the Toulmin components, an aggregated Toulmin score was computed to replace the individual claim, data, and warrant subscores. This aggregated score demonstrated strong correlations with the original variables, ranging from 77.8% to 92.1%, supporting its use as a composite measure while maintaining conceptual integrity.

Multiple discriminant analysis (MDA), employing a Wilks' lambda stepwise procedure, was performed. The purpose of the MDA was to determine which individual analytic variables or combination of variables could best classify the writing samples into their respective data sets: ESL, Arabic L1, and English L1. The classification was based on the statistical merit of the analytical variables and the accuracy of the resulting classification.

Finally, analysis of variance (ANOVA) was conducted to explore the effect of group membership (ESL, Arabic L1, and English L1) on the writers' performance across the holistic and analytic measures. Assumptions of normality and homogeneity of variance were inspected and satisfied before running the ANOVA.

4. Results

Quantitative analyses, specifically multiple regression analysis (MRA), multiple discriminant analysis (MDA), and analysis of variance (ANOVA), were employed to examine the persuasive writing performance of native Arabic speakers and U.S. native English speakers. The primary objectives were to investigate whether performance on a select set of rhetorical dimensions could accurately predict language/cultural background. This approach was designed to directly test Kaplan's (1966) claim regarding first language transfer as an explanation for ESL writing challenges.

4.1 Descriptive statistics

Descriptive statistics were computed for all 90 writing samples produced by participants across the three categories: NAS writing in ESL and in Arabic L1, and NES writing in English as their first language (English L1). The holistic scores revealed a range from 2 to 4 with an overall mean of 2.89 (SD = 0.64). No participants scored 0 or 1, which was somewhat expected given their status as graduate students in English studies programs, suggesting they all managed to address the task without fundamental

structural issues. However, the overall mean score being slightly below average, and the fact that only 14 out of the 90 participants (15.55%) achieved the highest score of 4, with the majority (57.78%) scoring 3, indicates that achieving high overall quality on this specific persuasive task may have presented challenges. This could potentially be due to situational constraints such as time limits or a lack of real-world incentive often present in academic writing tasks.

Performance was also summarized across the four analytic measures. On the argument superstructure scale, most participants demonstrated proficiency in establishing and developing a problem ($m = 1.00$ for establishing a problem). Only a small percentage failed to propose solutions (4.44%) or provide sufficient background information (16.67%). However, evaluating the suggested solutions was less consistently included, with only about half of the participants overall incorporating this element. Participants with lower holistic scores (scoring 2) were less likely to provide evaluations compared to those scoring 3 or 4. In a nutshell, while macro-level argument structuring was generally strong at this advanced level, the evaluation component was a notable exception across the sample.

For Toulmin's informal reasoning scale, the overall mean scores were 1.82 for claim, 1.74 for data, and 1.28 for warrant (each on a 3-point subscale). The lower mean score for warrants suggests that participants found it more difficult to explicitly articulate the connection or bridging assumption between their claims and the data provided. The writers might have omitted explicit warrants assuming the audience could infer this link.

Analysis of persuasive appeals, scored on 3-point subscales, showed overall mean scores of 1.76 for rational appeals, 1.23 for credibility appeals, and 1.16 for affective appeals. The relatively lower performance on credibility and affective appeals compared to rational appeals indicates a predominant focus on presenting arguments and evidence rather than explicitly appealing to the audience's emotions or the writer's own credibility. This finding is potentially influenced by factors such as time constraints during the writing task or academic training experiences that might emphasize argumentative writing over broader persuasive strategies involving ethos and pathos.

The persuasive adaptiveness scale yielded an overall mean score of 3.73 out of 8. This below-average score suggests that comprehensive audience adaptation, including anticipating objections and aligning benefits with reader values, was not consistently demonstrated by the participants. This finding aligns with previous research indicating that counter-argumentation is often uncommon in L1 student writing (e.g., Connor, 1987; Connor & Lauer, 1988; Ferris, 1994). The prompt itself, while specifying audience, might not have sufficiently emphasized the need for rebuttals, contributing to this result.

Table 2 summarizes the means and standard deviation values for the holistic and analytic variables for all participants in the study as a group

Table 2: Means and SD for All Analytic Variables by Holistic Scores

	Holistic scores (Range = 2-4; $M = 2.89$; $SD = .644$)							
	Holistic Score = 2 ($N=24$)		Holistic Score = 3 ($N=52$)		Holistic Score = 4 ($N=14$)		Total ($N=90$)	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Background	.46	.509	.96	.194	1.00	.000	.83	.375
Problem	1.00	.000	1.00	.000	1.00	.000	1.00	.000
Solution	.83	.381	1.00	.000	1.00	.000	.96	.207
Evaluation	.13	.338	.56	.502	.93	.267	.50	.503
Argument superstructure	2.42	.881	3.52	.505	3.93	.267	3.29	.811
Claim	1.17	.381	1.85	.538	2.86	.363	1.82	.712
Data	1.04	.204	1.83	.513	2.64	.497	1.74	.680
Warrant	1.04	.204	1.25	.437	1.79	.426	1.28	.450
Added Toulmin	3.25	.676	4.92	1.082	7.29	.611	4.84	1.572
Rational appeals	1.08	.408	1.81	.487	2.71	.469	1.76	.692
Credibility appeals	.92	.504	1.25	.519	1.71	.469	1.23	.562
Affective appeals	.38	.576	1.33	.678	1.86	.663	1.16	.820
Persuasive adaptiveness	2.37	1.377	3.90	1.053	5.43	1.284	3.73	1.527

4.2 Results of Multiple Regression Analysis

A forward stepwise multiple regression analysis was conducted to check the validity of the analytic scales used in the study by examining how accurately participants' rhetorical performance (analytic scores) could predict the overall writing quality of their essays (holistic scores). The criterion variable in the regression model was specified as holistic scores; the predictor variables were argument superstructure, added Toulmin, credibility appeals, affective appeals, and persuasive adaptiveness scores. The MRA assumptions of normality, independence of error multicollinearity was not found to be an issue with this final set of variables. The MRA results indicated that four of the five variables included in the final model significantly predicted overall writing quality, providing support for the validity of the analytic measures in this context. This confirms that the analytic models used in the analysis are valid measures of persuasive writing quality. Informal reasoning, represented by the aggregated Toulmin score, emerged as the strongest single predictor, accounting for a substantial 66.1% ($p > .001$) of the variance observed in the holistic scores. This finding underscores the critical importance of effectively constructing claims, supporting them with data, and implicitly or explicitly linking them via warrants for overall success in persuasive writing. Persuasive adaptiveness also contributed significantly to the prediction, adding 4.8% ($p > .001$) of the variance when entered into the model, suggesting that tailoring the message to audience concerns positively impacts raters' judgments of writing quality. Argument superstructure contributed a further significant 3.3% ($p = .001$) to the predictive model, indicating that the inclusion and structuring of the basic problem-solution components (background, problem, solution) also play a role in overall holistic scores. Affective appeals contributed a smaller, but still statistically significant, 1.5% ($p = .024$) to the prediction, suggesting that while not as dominant as reasoning or adaptiveness, the effective use of emotional appeals can slightly improve perceived quality. The credibility appeals variable did not reach the threshold for significant contribution to the prediction of overall writing quality and was thus excluded from the final regression model, implying that as measured in this study, explicit appeals to credibility did not significantly influence raters' holistic evaluations. Table 3 shows the results of the stepwise multiple regression analysis

Table 3: Stepwise Regression Model Summary

					Change Statistics					
Model ^e	R	R ²	Adjusted R ²	Std. Error of the Estimate	R ² Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.813 ^a	.661	.657	.377	.661	171.248	1	88	.000	
2	.842 ^b	.709	.702	.351	.048	14.417	1	87	.000	
3	.861 ^c	.742	.733	.333	.033	11.026	1	86	.001	
4	.870 ^d	.757	.746	.325	.015	5.312	1	85	.024	1.978

a. Predictors: (Constant), added Toulmin score

b. Predictors: (Constant), added Toulmin score, persuasive adaptiveness

c. Predictors: (Constant), added Toulmin score, persuasive adaptiveness, argument superstructure

d. Predictors: (Constant), added Toulmin score, persuasive adaptiveness, argument superstructure, affective appeals

e. Dependent Variable: Holistic scores

4.3 Results of MDA

Following the MRA, MDA and ANOVA were conducted to directly address the core research questions related to the contrastive rhetoric hypothesis, focusing on group comparisons and the potential for predicting language/cultural background from rhetorical performance. The MDA specifically aimed to test the null hypothesis that rhetorical performance could not accurately predict language/cultural background. This analysis, employing a Wilks' lambda stepwise procedure, sought to determine if the individual analytic variables, or a combination thereof, could effectively classify the writing samples into their respective groups. The MDA failed to produce any model that could significantly discriminate among the three data sets with a reasonable degree of accuracy. Not a single analytic variable met the statistical significance threshold required for inclusion in the stepwise discriminant model. Therefore, the null hypothesis could not be rejected, indicating a lack of statistical evidence that the measured rhetorical performance could accurately predict the writers' first language or cultural background based on their writing samples. Table 4 summarizes the mean and standard deviation values for the different holistic and analytic measures categorized by data set. Table 5 summarizes the significance of F-values for each analytic variable specified for, but not entered in, the MDA.

Table 4: Means and Standard Deviations for All Variables by Data Set

	ESL (N=30)		AL1 (N=30)		EL1 (N=30)		Total (N=90)	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Holistic	2.90	.607	2.80	.664	2.97	.669	2.89	.644
Background	.80	.407	.83	.379	.87	.346	.83	.375
Problem	1.00	.000	1.00	.000	1.00	.000	1.00	.000
Solution	.97	.183	1.00	.000	.90	.305	.96	.207
Evaluation	.47	.507	.43	.504	.60	.498	.50	.503
Argument superstructure	3.23	.817	3.27	.740	3.37	.890	3.29	.811
Claim	1.80	.664	1.77	.728	1.90	.759	1.82	.712
Data	1.73	.640	1.63	.615	1.87	.776	1.74	.680
Warrant	1.30	.466	1.27	.450	1.27	.450	1.28	.450
Added Toulmin	4.83	1.464	4.46	1.516	5.03	1.752	4.84	1.572
Rational appeals	1.73	.583	1.60	.675	1.93	.785	1.76	.692
Credibility appeals	1.17	.592	1.20	.484	1.33	.606	1.23	.562
Affective appeals	1.03	.850	1.10	.845	1.33	.758	1.16	.820
Persuasive adaptiveness	4.00	1.414	3.67	1.446	3.53	1.717	3.73	1.527

Table 5: Variables Not in the Analysis

Step	Sig. of F to Enter	Wilks' Lambda
0		
Holistic scores	.606	.989
Argument superstructure	.806	.995
Claim scores	.756	.994
Data scores	.415	.980
Warrant scores	.951	.999
Added Toulmin score	.687	.991
Rational appeals	.485	.983
Credibility appeals	.596	.988
Affective appeals	.334	.975
Persuasive adaptiveness	.481	.983

4.4 Results of ANOVA

Finally, analysis of variance (ANOVA) was performed to explore the effect of group membership on the writers' performance across the holistic and analytic measures. Contrary to the contrastive rhetoric hypothesis, the ANOVA results ($F [2, 87] = .050 - 1.110, p = .334 - .951$), as summarized in Table 6, demonstrated that the variance observed *within* the groups was larger than the variance *between* the groups for all measured rhetorical dimensions. Thus, the results failed to reject the two null hypotheses that (a) there is no statistically significant difference between Arab advanced ESL writers and U.S. advanced native English-speaking writers on the writing task regardless of the language and consequently that (b) the measured rhetorical dimensions are not significantly more problematic for NASs regardless of the language they were writing in compared to NESs.

Table 6: ANOVA for all Groups

		df	Mean Square	F	Sig.
Holistic scores	Between Groups	2	.211	.504	.606
	Within Groups	87	.419		
	Total	89			
Argument superstructure	Between Groups	2	.144	.216	.806
	Within Groups	87	.669		
	Total	89			
Claim scores	Between Groups	2	.144	.280	.756
	Within Groups	87	.516		
	Total	89			
Data scores	Between Groups	2	.411	.888	.415
	Within Groups	87	.463		
	Total	89			
Warrant scores	Between Groups	2	.011	.050	.951
	Within Groups	87	.221		
	Total	89			
Added Toulmin score	Between Groups	2	1.011	.377	.687
	Within Groups	87	2.685		
	Total	89			
Rational appeals	Between Groups	2	.411	.730	.485
	Within Groups	87	.563		
	Total	89			
Credibility appeals	Between Groups	2	.178	.521	.596
	Within Groups	87	.341		
	Total	89			
Affective appeals	Between Groups	2	.744	1.110	.334
	Within Groups	87	.670		
	Total	89			
Persuasive adaptiveness	Between Groups	2	1.733	.739	.481
	Within Groups	87	2.346		
	Total	89			

This indicates that any perceived difficulties in these rhetorical dimensions were shared by both the Arab participants and their native English-speaking counterparts. This finding aligns with previous findings suggesting similar writing challenges exist for both native English-speaking and ESL writers, even at advanced proficiency levels. This finding is corroborated by Attiya (2022), who reported more similarities than differences in persuasion in American English and Egyptian Arabic TED Talk narratives. In her study, both favored subject-matter rhetorical structure relations, built ethos via personal experiences, and used emotive words, graphic vividness, and metaphors or pathos. Their logos employed cause/effect and associational models, parallelism, and rhetorical queries. The finding also aligns with previous findings suggesting similar writing challenges exist for both native English-speaking and ESL writers, even at advanced proficiency levels.

Thus, the empirical results of this study do not support the contrastive rhetoric hypothesis that problems in ESL writers' performance are due to first language transfer. This is because they found no statistical evidence that:

1. Rhetorical performance could accurately predict language/cultural background.
2. The English L1 writing of NESs was significantly better quality than the ESL writing of NASs.
3. The measured rhetorical dimensions were significantly more problematic for NASs regardless of the language they were writing in compared to NESs.

In summary, the analyses successfully provided empirical support for the validity of the analytic measures used to assess persuasive writing quality. While Arab participants demonstrated similar rhetorical performance issues in both their ESL and Arabic L1 writing, cross-cultural comparisons failed to support the core assumptions of the contrastive rhetoric hypothesis. Crucially, rhetorical performance could not predict language/cultural background, and there were no statistically significant differences in rhetorical performance between the U.S. and Arab writers across the different writing conditions. The observed challenges in persuasive writing were common to both groups, and the data did not support the claim that these problems were caused by L1 transfer as proposed by the contrastive rhetoric hypothesis.

5. Discussion

The findings of this study, particularly the absence of statistically significant differences in persuasive writing performance between advanced Arab ESL graduate students and their U.S. native English-speaking counterparts, raise significant questions about the validity of the contrastive rhetoric hypothesis as proposed by Kaplan (1966). Specifically, the empirical data did not yield evidence to support the central tenet that first language (L1) transfer serves as the primary explanation for the rhetorical challenges experienced by second language (L2) writers.

The results directly challenge Kaplan's (1966) fundamental ontological assertion that rhetoric and its underlying logical structures are not universally shared but are instead predetermined by one's cultural and linguistic background. In contrast, the observed similarity in the distribution of rhetorical performance and the types of writing problems encountered by both the Arab and U.S. groups align more closely with Whorf's (1956) perspective, which posits that "laws of logic [and] reason ... are supposed to be the same for all observers of the universe" (p. 208). The empirical evidence from this study suggests that at an advanced level of academic writing proficiency, shared logical processes and the inherent cognitive demands of the task itself may exert a more substantial influence on the shape of persuasive discourse than language-specific rhetorical preferences purportedly transferred from the L1.

Furthermore, the findings lead us to critically re-examine stereotypical and ethnocentric claims that have historically characterized some discourse within contrastive rhetoric. Assertions such as Kaplan's (1966, 2001) insistence on the inherent linearity of English prose contrasted with the presumed non-linearity of other languages are not supported by the data here. Unlike some earlier studies, this research did not find evidence to substantiate claims like Reid's (1984) characterization of American academic prose as "dominantly linear, utterly straightforward, and very specific," or descriptions of Arabic as an "immensely poetic language, filled with coordinate clauses and a tendency toward generality and analogy" (p. 449). While deviations from typical or idealized standard English rhetorical norms were indeed observed in the persuasive essays written by the Arab participants, the U.S. participants exhibited similar types of deviations when assessed against the same criteria. This suggests that the "problems" identified in the writing samples may be more accurately attributed to the inherent cognitive complexity of the persuasive writing task itself, or perhaps to factors common to the developmental stages of student writing, rather than being solely indicative of L1 rhetorical interference. This conclusion is supported by Li's (2024) recent meta-ethnographic qualitative synthesis of 26 studies exploring nonnative English speakers students' English academic writing experiences in higher education reveals a multifaceted landscape where challenges do not necessarily stem from ingrained L1 habits and differing L1/L2 conventions and schemata, but can be due to issues with critical thinking and argumentation potentially shaped by a complex interplay of prior educational experiences, cultural influences, institutional contexts, and personal adaptation strategies.

The finding of more similarities than differences between the writing of the ESL (Arab) and native English-speaking (U.S.) writers in this study resonates with and is supported by the results of several earlier investigations that also challenged or prompted modifications to the stronger claims of contrastive rhetoric. For example, Braddock (1974) demonstrated that even professional native English writers do not invariably adhere to a strict linear paragraph structure, sometimes employing alternative rhetorical patterns, contrary to the assumptions of earlier contrastive rhetoric theorists. Similarly, Benson, Deming, Denzer, and Valeri-Gold (1992) found notable similarities in topic choices and development patterns among basic writers from diverse linguistic backgrounds, concluding that essays rated poorly across different cultures shared more commonalities than differences. Raimes (1985, 1987) and Zamel (1983) also concluded that many writing difficulties faced by ESL students are in fact common challenges shared by English L1 students as well. Ouaouicha (1986), using Toulmin's model, reported the presence of both linear and non-linear reasoning modes in the writing of both Moroccan (Arabic L1/ESL) and U.S. (English L1/AFL) students. This study extends these previous findings by demonstrating that these similarities and shared challenges persist even at the advanced graduate level of academic writing.

From a research methodology standpoint, the current study provides further empirical validation of Connor's (1990) and Connor and Lauer's (1985, 1988) analytic measures. More importantly, the current study's inability to find empirical support for the contrastive rhetoric hypothesis through a comparative analysis of groups carefully selected for adequate *tertium comparationis* highlights potential methodological limitations in some previous studies in the field. By implementing rigorous research design measures, such as controlling for educational level, disciplinary expertise, writing task, topic, and time on task, and comparing comparable student groups writing in both their L1 and L2 (for the Arab group) and L1 (for the U.S. group), this study aimed to isolate the effect of language background more effectively than has often been done historically. The finding that statistically significant cross-cultural rhetorical variations may be less pronounced when such rigorous controls are in place suggests that studies based more on intuition than systematic empirical evidence, or those employing methodologically flawed designs, may have inadvertently exaggerated the degree of cross-cultural differences while overlooking underlying similarities. By deliberately addressing these methodological considerations, this study offers a different perspective on the nature and extent of rhetorical variation across these specific language groups.

The study's results indicating that the within-group variation in rhetorical performance was considerably larger than the between-group variation challenges the notion that first language is the primary or sole determinant of an individual's rhetorical

style. This pattern of variance suggests that factors beyond L1 background may play a more substantial role in explaining the observed differences and challenges in writing. Such factors could include individual characteristics (such as proficiency levels, prior writing experience and instruction, or personal writing style), situational elements (such as the specific demands and constraints of the writing task or context), and broader contextual influences (like educational background, exposure to academic discourse norms, or disciplinary conventions). These factors may interact in complex ways to shape emerging rhetoric, a perspective more aligned with the evolution of contrastive rhetoric towards recognizing ESL writers as active learners navigating multiple influences rather than being merely constrained by L1 transfer. This perspective contrasts with the reductionist view of the strong version of the contrastive rhetoric hypothesis, which primarily attributes writing problems to negative L1 transfer.

6. Pedagogical Implications

Findings of this study call for pedagogical approaches that might benefit from addressing the universal complexities of writing in general and persuasive writing as a genre in particular rather than focusing solely on presumed L1 interference. Recognizing that mastering academic persuasive writing presents significant cognitive and rhetorical complexities for writers regardless of their first language background could lead to the development of more effective teaching strategies that address the inherent challenges of the task itself, rather than disproportionately focusing on presumed L1 interference. Given that both advanced ESL and native English-speaking writers in this study exhibited similar profiles in their persuasive writing performance and shared common areas of challenge, ESL pedagogy might also gain valuable insights by drawing upon research findings and pedagogical approaches developed within English L1 composition studies. By acknowledging shared difficulties, instructors can better support students in developing sophisticated persuasive strategies that are effective for their intended audience, while also valuing the rhetorical resources students bring from their own linguistic and cultural traditions.

7. Limitations

Despite efforts to control for potential confounding variables and improve upon previous methodologies, this study has several limitations. Convenience sampling restricts the generalizability of findings to the wider populations of advanced Arab ESL or US English L1 writers, as random sampling was not feasible. Furthermore, the Arab participant group included nationals from only two countries, Egypt and Jordan, meaning the results might not extend to writers from other Arab nations, and variation between these subgroups was not examined. The study also involved an engineered writing task conducted under controlled conditions rather than in a genuine rhetorical context, which could influence performance. Although participants were advanced, the potential positive effect of prior ESL training on the Arab writers' performance cannot be entirely ruled out. Finally, it is worth noting that both Arabic and English rhetorical traditions share roots in Greco-Roman heritage, a factor that might contribute to observed similarities and warrants investigation with languages from distinct traditions.

8. Suggestions for Future Research

Future research directions in ESL writing could productively shift focus from solely investigating L1 transfer to exploring the complex interplay of factors such as prior educational experiences, cultural influences beyond linguistic structure, institutional contexts, and individual strategies shaping writing development. Enhancing methodological rigor remains crucial, including ensuring robust *tertium comparationis*, utilizing validated analytical measures, and comparing writers' L1 and L2 texts where feasible. Expanding research to diverse languages, genres, writing tasks, and proficiency levels will provide a more nuanced understanding. Finally, empirical research must continue to challenge stereotypical or ethnocentric claims and inform pedagogy that addresses the universal cognitive demands of persuasive writing while valuing multilingual students' diverse rhetorical backgrounds.

9. Conclusion

This study quantitatively re-examined the contrastive rhetoric hypothesis, specifically investigating the persuasive writing of advanced Arab ESL graduate students compared to US native English-speaking graduate students under controlled conditions. The aim was to determine if rhetorical performance could predict language/cultural background and if specific rhetorical dimensions were particularly challenging for Arab ESL writers due to L1 transfer.

Contrary to the strong version of the contrastive rhetoric hypothesis, the empirical results did not support the claim that first language transfer is the primary explanation for rhetorical challenges experienced by L2 writers. Multiple discriminant analysis failed to produce a model that could significantly classify writing samples by language/cultural background based on measured rhetorical features. Furthermore, analysis of variance revealed no statistically significant differences in rhetorical performance between the Arab and US groups on holistic or analytic measures. Observed performance issues were common to both groups, and within-group variation was larger than between-group variation.

These findings challenge Kaplan's (1966) assertion that rhetoric and logic are predetermined by one's native language and culture. Instead, the results suggest that, at least at advanced levels, shared logical processes and the inherent cognitive demands of persuasive writing may play a more significant role. The study also underscores the potential for methodological

rigor to reveal more similarities than differences compared to earlier research based on intuition or flawed designs. Pedagogically, recognizing shared challenges suggests that ESL instruction may benefit from addressing the universal complexities of persuasive writing, potentially drawing insights from English L1 composition pedagogy, rather than focusing predominantly on presumed L1 interference.

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