



The Relationship Between Morphological Knowledge And Writing Proficiency Among Pakistani IELTS Examinees



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Abstract: The study examined the relationship between morphological knowledge and writing proficiency of Pakistani IELTS test candidates. The sample consisted of 131 (86 males and 45 females) Pakistani IELTS candidates. Two instruments (A test for morphological awareness and Prompt from IELTS writing task 2) were used to collect data. Pearson product-moment correlation was used to examine the correlation between morphological awareness and writing proficiency and the T-test to find the gender difference in both morphological awareness test scores and argumentative essay band scores. Further, the IELTS writing task 2 module was used to score argumentative essay writing. Findings revealed no statistically significant gender difference in argumentative essay writing band scores and a minor but statistically significant gender difference on the morphological awareness test. The results revealed females' superiority over males in morphological awareness. Likewise, Pearson product-moment correlation analysis showed no correlation between morphological understanding and writing proficiency.

Key Words: Morphological Awareness, Argumentative Writing, IELTS Test Takers, Correlational Study

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Introduction

Writing is at the centre of education and has always been a crucial step in language acquisition (Hyland & Hyland, 2006). Writing can demonstrate that a person has learned the entire speech if it is known (Emig, 1977). As a significant professional educational issue that supports a number of educational objectives and satisfies

certain learning demands on which the development of foreign language learners is predicated, learning to write in English as a foreign language is very widely regarded. There are four different forms of writing: expository writing (type a), narrative writing (type b), descriptive writing (type c), and persuasive/argumentative writing (type d). Several characteristics and factors, such as

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cohesive devices (Liu & Braine, 2005; Yang & Sun, 2012), critical thinking (Afshar et al., 2017; Preiss et al., 2013), extensive reading (Al-Mansour & Al-Shorman, 2014), voice (Zhao, 2017), and outline planning (Indriani, 2020), can have an impact on the complexity of the argumentative writing process. Instructional input (Mirlohi et al., 2012), motivational regulation strategies (Teng & Zhang, 2018), process genre approach (Huang & Zhang, 2019), lexical complexity (Ong & Zhang, 2010), task complexity (Rahimi, 2019), metacognitive strategies such as planning (Panahandeh & Asl, 2014), and also factors like computer-mediated learning (Sherafati et al., 2020), online learning environment (Valero Haro et al., 2019), and team achievement (Awada et al., 2020). Relevant to the current topic, writing has been found to be impacted by morphological awareness in a few past studies found (Zhang and Koda, 2012; Allen & Lembke, 2022; Apel, 2014; Green et al., 2003; McCutchen & Stull, 2015; Orcasitas-Vicandi, 2020; Silva & de Oliveira Martins-Reis, 2017). Here, our main concerns are writing ability and morphological knowledge as study factors.

A component of metalinguistics is morphological awareness, which is the conscious understanding of prefixes, roots, and suffixes (Carlisle, 2010; Levesque et al., 2017). One would specifically go through its theoretical foundation to understand the concept of morphological awareness and its consequences in language learning. Metalinguistics includes morphological awareness. The meta-language capabilities of a language, such as its syntax, semantics, phonemes, and lexeme (morpheme), are described by metalinguistics (Bowey, 1984; Hu, 2011). Additionally, given that metalinguistics is a subfield of linguistics that studies meta-languages, our area of research is pertinent to Tighe and Elizabeth's (2019) definition of meta-linguistics. Meta-language, according to Practice (2012), is a language used to discuss and comprehend another language. A language can be both an object language (the language being studied) and a meta-language at the same time (Nordquist, 2020). As a result, the metalinguistic aspects of syntax, semantics, phonemes, and lexemes are understood using meta-language. Metalinguistic awareness is another name for this. The ability to consciously think about, consider, grasp, and change the linguistic components of spoken and written language is described as metalinguistic

awareness by Lonigan (2006). Pragmatic, syntactic, and phonological awareness are the three separate subcategories of metalinguistic awareness. We are mainly concerned with syntactic awareness in this context, which is further divided into syntax (sentence level) and morphology (word level). Morphology is a branch of linguistics that focuses on the internal structuring and change of words (Mathews, 1991). Therefore, morphological awareness, which is a part of metalinguistics, is defined as conscious awareness of prefixes, roots, and suffixes (Carlisle, 2010; Levesque et al., 2017). The capacity to change one's understanding of the inherent morphemic structure of words is referred to as morphological awareness, according to Carlisle (1995). The above-mentioned theoretical underpinnings are used to define the term "morphological awareness," which serves as the independent variable in the current study. The following research inquiries will be addressed by the study:

Research Questions:

1. Is there any relationship between morphological awareness and writing proficiency of IELTS test takers?
2. Is there any statistically significant difference between male and female scores on writing proficiency tests?
3. Is there any statistically significant difference between the scores of males and females on the morphological awareness test?

Literature Review

Knowing how to use morphemes and other morphemic components in a sentence is known as morphological awareness. Knowing the minor word units is what is meant by the term "morphological awareness." The term "morphological awareness" has been defined in a variety of ways by different academics (Carlisle, 2000; Kirby et al., 2012), while some describe it primarily in terms of oral language skills (Deacon et al., 2013). According to Berninger et al. (2010), Carlisle (2000), Guo et al. (2011), and Apel (2014), morphological awareness is the understanding of word structure in both spoken and written language.

Different scales have been used by other devices to test morphological awareness. The

impact of morphological awareness on students' language proficiency—particularly their reading and listening skills—has been the subject of numerous research studies in the past (Carlisle, 2010; Choi et al., 2020; Kuo & Anderson, 2006). Some people employ exams that are both self-developed and modified. Carlisle (2000) conducted research or wrote articles utilizing tests he created. Another study using the self-created morphological awareness exam was conducted by Ku & Anderson (2003). Studies (Apel & Thomas-Tate, 2009; McBride-Chang et al., 2005; Tighe & Binder, 2015; To et al., 2016) that modified the Carlisle (2000) instrument are included below. Additionally, Vaknin-Nusbaum and Saiegh-Haddad (2020) updated an instrument from Vaknin-Nusbaum et al. (2016; Vaknin-Nusbaum, 2018) to assess learners' morphological awareness.

Numerous studies have investigated various derivational or additional morphological structures as inflection, including Tighe and Binder (2015), McBride-Chang et al. (2005), Bernstein et al. 2020, Tighe and Schatschneider (2016), To et al. (2016), Apel and Werfel (2014), and Apel and Thomas-Tate (2009). Even though some research made clear which topic they covered, many earlier studies failed to mention the topics included in the morphological awareness assessments.

Review of the Writing

Just argumentative writing, which is relevant to the study subject and its purpose, is the researchers' only area of interest. In argumentative writing, the writer's primary goal is to persuade the reader to agree with their position (Hee Choi, 1988). To achieve this, the author first makes a claim before providing thoughts and evidence to back it up (Harrell, 2005).

An idea is an argument, according to Toulmin et al. (1979), who defined an idea as "the series of connected statements and justifications that constitute the substance and power of the position for which a specific speaker is arguing." Hee Choi (1988) further characterized argument writing as argument. In English rhetoric, prose is a form of writing whose primary goal is to persuade the reader to agree with the writer's viewpoint.

Some sociocultural theorists (Bazerman, 2016; Beach, 2017) hold the opinion that a person's language is shaped by their society or

sociocultural system. There is also a cognitive approach that views writing or making an argument as a problem-solving procedure (Hayes, 2000; Stasaitis, 2016; Wijekumar et al., 2019; Flower & Hayes, 1980, 1981) that is a mental skill that might differ from person to person. The cognitive approach contends that the knowledge, motivation, and strategic behaviour of students have an impact on argumentative writing. According to a third set of theorists that support the linguistics perspective, texts are created in natural language by authors who have specific writing objectives and who choose their words and grammatical structures carefully (Duke et al., 2011). To identify the language characteristics linked to paper quality, MacArthur, Jennings, and Philippatkos (2019) looked into college students' essay writing.

Measurement of Argumentative Writing

The argumentation or model of argument in education was put forth by Toulmin (2003). A rational and complete conversation can be analyzed or created using this paradigm. It comprises six components (claim, grounds, warrant, backing, qualifier, and rebuttal) that aid in the development of certain aspects of your argument as well as the construction and step-by-step analysis of a logical argument. In earlier studies, argumentativeness has been measured in a wide variety of ways using various techniques. Measures can be divided into two categories: direct measures and indirect measures. Indirect measurement is the process of measuring something by measuring something else, whereas direct measures refer to measuring exactly what you aim to measure. Almost all studies that were examined used direct measures in the form of essays, stories, or paragraphs. The use of indirect metrics for evaluating argumentative works was only identified in one unique study (Allen & Lembke, 2022). Al-Mansour & Al-Shorman (2014); Garca-Sánchez & Fidalgo-Redondo (2006); W. Guo & Bai 2019; Indriani 2020; Preiss et al. (2013); Rahimi 2019; Rahimi & Zhang 2018; Sherafati et al. 2020; Teng & Zhang 2018; Valero Haro et al. 2019) are notable past studies regarding measuring argumentative writing through direct measures. The majority of studies employed rubrics to evaluate writers' levels of proficiency. The way that writing assessment rubrics are created and modified might make them different

from one another. Thus, earlier research that modified standardized rubrics (Rahimi, 2019; Rahimi & Zhang, 2018; Teng & Zhang, 2018; Valero Haro et al., 2019) that employed the well-known and widely-used composition grading method created by Jacobs, Zinkgraf, Wormuth, Hartfiel, and Hughey (1981) to assess students' writing. Al-Mansour & Al-Shorman (2014), Garca-Sánchez & Fidalgo-Redondo (2006), Indriani 2020, Preiss et al. (2013), and Sherafati et al. (2010) are research that helped build their rubric for assessing argumentative writing. The literature review revealed some studies that used scoring rubrics (analytical or holistic), as opposed to the debatable use of borrowed or self-adapted ones, to mark writings in studies of the relationship between MA and writing performance (Apel & Thomas-Tate, 2009; Green et al., 2003; McCutchen & Stull, 2015; Orcasitas-Vicandi, 2020; Silva & de Oliveira Martins-Reis, 2017). Some research (Apel & Thomas-Tate, 2009) mentioned employing a comprehensive rubric to score students' essay writing. Furthermore, some earlier research (Al-Mansour & Al-Shorman, 2014; Garca-Sánchez & Fidalgo-Redondo, 2006; Sherafati et al., 2020) used analytical rubrics to grade writing. The IELTS writing band descriptor was another trustworthy and reliable analytical rubric that had been utilized in earlier studies (Barkaoui, 2016; Yu et al., 2007). Although the use of a holistic rubric was favoured in the majority of previous research to evaluate writing, only a few of these studies (Al-Mansour & Al-Shorman, 2014; Garca-Sánchez & Fidalgo-Redondo, 2006; Teng & Zhang, 2018) indicated the qualifications of the raters who were employed for the evaluation. A few research (Apel and Thomas-Tate, 2009; W. Guo and Bai, 2019; Teng and Zhang, 2018; Valero Haro et al., 2019) made mention of the raters' training. As a result, this is an important limitation of the majority of the studies discussed above in the literature. Group differences in writing ability and morphological awareness. Male and female writers act differently, according to a number of theories (e.g., Levy, 1969; Burman et al., 2008). Numerous findings from earlier research have suggested that women perform and have better writing skills than men (Preiss et al., 2013; Signell, 2012; Persky et al., 2003; Halpern, 2000; Babayit, 2015; Troia et al., 2013; Graham et al., 2007; Guay et al., 2010; Bergman, 2010; Statensoffentligautredningar, 2009). Additionally, some well-known research has been published

that shows that women have an advantage in writing (Camarata & Woodcock, 2006; Scheiber et al., 2015; Pargulski & Reynolds, 2017;). Furthermore, similar studies (Babayit, 2015; Beard & Burrell, 2010; Bourke & Adams, 2012; Malecki & Jewell, 2003; Olinghouse, 2008) also demonstrated the advantage that women have over men when it comes to writing. In numerous research examining the connection between vocabulary proficiency and writing performance, it has been discovered that there is a statistically significant gender difference (Babayit, 2014; Dockrell & Connelly, 2015; Harrison et al., 2016; Kent et al., 2014). In early writing performance, female dominance was also observed (Berglund et al., 2005). In addition, Cole (1997) and Willingham & Cole (1997) conducted another study on the topic of gender disparities in writing with more than 4 million pupils. They came to the conclusion that women had maintained their language advantage for thirty years. Furthermore, several well-known studies (Lietz, 2006; Rosén, 2001; Wagemaker & Taube, 1996) revealed that women consistently outperformed men in writing across numerous nations. Additionally, according to certain research (e.g. Signell, 2012; Myhill, 2007; Kamari et al., 2012), boys are more proficient writers than girls. According to several studies (Adams et al., 2015; De Smedt et al., 2018; Williams & Larkin, 2013;) there are no appreciable gender differences in writing performance and competence. While Hyde (2005) focuses on the commonalities between the sexes rather than their disparities. As a result, language skills and gender have long been important considerations for theorists. As a result, a sizable body of research (Camarata & Woodcock, 2006; Education, 2016; Gibb et al., 2008; Y.S. Kim et al., 2015; Marks, 2008; Mickelson & Greene, 2006) supports the idea that gender plays a substantial influence in language learning. Theorist also offers a variety of theories to explain why gender affects language acquisition in unique ways. The theories that suggested socio-cultural explanations for gender disparities (in language learning), or perhaps a combination of both, were Bandura's (1986) social cognitive theory as applied by Eccles (1987, 1989) and Hackett (1985). First discovered by Kagan (1964), infants quickly categorize social behaviours and even intellectual work as either masculine or feminine based on prevailing cultural values and social roles. Writing, reading, and language are regarded as feminine skills (Plante et al., 2013), and gender

stereotypes exist for both men and women in society (Halpern et al., 2011).

Reading through the literature reveals some previous studies that demonstrate the beneficial connection between morphological awareness and language learners' writing proficiency (e.g., Choi et al., 2020; Kim & Kim, 2013; Apel et al., 2012; Berninger et al., 2010; Deacon et al., 2009; Goodwin & Ahn, 2013; Green et al., 2003; Walker & Hauerwas, 2006; Green et al. According to the findings, students' morphological knowledge has a favourable impact on their writing ability.

Researchers on this topic discovered a research gap in terms of demographics, context, and methodology while reviewing relevant local and international studies on the issue. The association between morphological awareness and writing ability has not been studied in the Pakistani setting. Additionally, no one has conducted research locally, nationally, or internationally on IELTS test takers to look at how well they write and how well they comprehend morphology.

Another gap researcher for this study discovered that there is no instrument currently available for measuring morphological awareness that evaluates all facets of it.

Methodology

The current research uses a correlational research design. A correlational study is one in which the link between two variables is explored and investigated without the researcher influencing or controlling the variables (Bailey et al., 2010).

Pakistani IELTS test takers make up the study's target group for data collection. IELTS test takers from Pakistan in Punjab province are the study's data source. Additionally, all participants are citizens of Pakistan, have academic backgrounds beyond the intermediate level, and range in age from 18 to 25. 131 IELTS test takers from IELTS institutes in Punjab make up the study's sample size. According to Fraenkel et al. (2012), 30 individuals constitute the bare minimum admissible sample size for a correlational investigation. However, with 131 people, our sample size is much better. For sampling, a practical sampling method is employed.

In addition to the challenge and the Morphological Awareness Test, students were also

given a 4-page blank sheet to write their argumentative essays on. In order to manage the data and reduce the chance of mixing up tests or sheets, the MA Test and Prompt Plus sheets both had a number coded on top of them. The Morphological Awareness Test (36 items) and the essay writing activity each took place over the course of two hours, which were allocated to the participants. However, the participants were not under any time pressure.

Data collection for both variables has been done using two separate instruments. A prompt and topic were employed to organize the contentious writing information for an argumentative essay. Additionally, a morphological awareness test has been created by adapting and changing two previous morphological awareness exams.

In order to create an advanced form of morphological awareness test that could measure all aspects of morphology and morphological knowledge, two existing tests for morphological awareness that do not measure all aspects of morphological awareness were adapted and modified. This test will be used to collect data to assess the participants' morphological awareness. The test utilized in this study is an adaptation and modification of two previous tests that were used in the studies mentioned below (Carlisle, 2000; To et al., 2016).

The Derivational and the Decomposition of Word Morphemes are the two topics addressed in Carlisle's (2000) morphological awareness test. However, "Nancy, L. & Tighe" (2016) found the second test that was used to generate a new trial in position. This modified version of the test used in their study (To et al., 2016) added four crucial morphological awareness elements, making it new and distinct from the test developed by Carlisle in 2000 (Orthographical shift change, phonological shift change, both Ortho & Phono shift change and NO-shift change). However, Nancy, L. & Tighe (2016) only applied the test change to the derivational form morphology portion of the original Carlisle (2000) test, leaving the decomposition form morphology portion, which is of equal importance. Because of this, a third test will be created for this study that will cover both DMorph (derivational form morphology) and Bmorph (base form morphology), also known as decomposition form morphology, as well as the four components of morphological awareness: (a)

orthographic shift change, (b) phonological shift change, (c) both Ortho & Phono shift change, and (d) NO-shift change. There are thirteen items per facet addressed. In this third, newly created test, there are now 104 total objects.

The fact that both of the previously developed tests were used to explore the relationship between morphological awareness and reading skills in both studies (Carlisle, 2000; To et al., 2016) is another justification for developing new tests for morphological awareness. As the objective of this study was to examine the relationship between the writing abilities of language users, it was necessary to create new tests or alter existing ones in order to make them appropriate for this particular study. The new morphological awareness test has undergone the piloting process to confirm its validity and reliability. 500 college students participated in the piloting procedure, which involved piloting.

The final version of the morphological awareness test was produced following item analysis and piloting. There are 36 elements in it with discrimination values greater than 0.4, and there are four key aspects. These four basic components are built using Base Form (BMorph) and Derived From (DMorph) Morphology items. For instance, item number nine, "Repulse," is a DMorph item, much like in the Ortho-shift state, and item number thirteen, "Guidance," is a BMorph item. Therefore, this exam is more accurate than other tests created to evaluate morphological knowledge. It covers every facet that has to be examined when gauging students' morphological awareness.

The morphological awareness test's assessment was carried out methodically. The morphological awareness test resulted in a 36 overall score. Each item received one point, and incorrect responses received 0 points.

For the Y variable (argumentative writing), which was obtained from the previous IELTS writing problem, a prompt or topic was required for data collection.

Writing an argumentative essay has been graded using the IELTS Writing Assignment 2 module. This assignment has nine levels of competence, from non-user to expert user, and each level is represented by a band score from 0 to 9.

Reliability has been examined for each

instrument utilized in this investigation. After the piloting process, the MA test's reliability was examined using the Cronbach alpha coefficient. Second, a topic or prompt was taken from www.ielts.org, a dependable and reputable source that guaranteed its validity. Third, Cambridge English Language Assessment produced the IELTS Writing Task 2 module, which has been used for scoring writing data. Additionally, there was no concern about dependability coefficients because they are employed in numerous types of studies all around the world.

The process of coding the data came next after data collection. Additionally, every significant term, heading, and subheading was coded into the analysis numeric expression. Each variable and word had a unique "Code" and "Value." As an illustration, the code "SA" and value "1" belong to Skylark Academy. Following the coding of the data set, the data was then entered into an Excel sheet. The data was triple-checked after entry to ensure that no values were missing or entries were made incorrectly.

Data Analysis

The data was examined by the latest version of the SPSS software. The T-test was additionally utilized to assess gender differences in both continuous variables, and Pearson Product Moment Correlation was performed to look into the link between the two variables.

To evaluate whether the T-test and Pearson Product Moment Correlation were appropriate, all crucial conditions (Randomness, Outliers, and Linearity) were first examined. These crucial conditions demonstrate if the data are normal enough to be examined using the T-test and Pearson Product Moment Correlation, or whether they are appropriate for use.

Scale of Measurement

Data has also qualified for the T-test and Pearson Product Moment Correlation concerning the required measurement scale as a variable. Morphological Awareness and Writing Proficiency Test scores are continuous variables measured at an interval scale.

Independence of Observation

Data also met the criteria for the T-test and

Pearson Product Moment Correlation because the two variables (the results of the morphological awareness test and the writing proficiency test) satisfied the requirement for independent observation, which qualifies the data for these tests. It's because data from 25 IELTS prep schools spread across three cities in the Punjab region was gathered. Additionally, each participant belongs to just one group.

Normal Distribution

The skewness value for morphological awareness test scores was $-.078$, while for the IELTS band score, it was $.084$. The sample consisted of 129 cases. The skewness value and size of the model indicate that the data were normally distributed

and can be analyzed through the T-test and Pearson product-moment product.

Test of Linearity

The appropriateness of the continuous variables (the results of the morphological awareness tests and the band scores for the essays) for Pearson product-moment correlation was determined using the linearity test. The test's findings for linearity are shown below:

The p-value in the previous table, which is higher than 0.05 ($.935 > 0.05$), indicates that the two continuous variables in the study—the essay band scores and the outcomes of the morphological awareness exam—have a linear connection.

Table 1
ANOVA

| | | | Sum of Squares | df | Mean Square | F | Sig. |
|-------------------------|-------------------|--------------------------------|----------------|-------|-------------|------|------|
| Essay_Band *Mrph_Awr | Between Groups | (Combine) | 88.140 | 111 | .794 | .609 | .935 |
| | | Linearity | .976 | 1 | .976 | .748 | .399 |
| | | Deviation from linearity | 87.164 | 110 | .792 | .608 | .935 |
| | Within Groups | 22.167 | 17 | 1.304 | | | |
| Total | | | 110.306 | 128 | | | |

As a consequence of the data passing the test for randomness, the conditions for the T-test and Pearson product-moment correlation were satisfied for both data sets of variables (morphological awareness test scores and essay band scores).

instances in the data, of whom 85 were men and 44 were women.

The results may have been impacted by the male percentage, which is more than twice as high as the female %. Levene's test for homogeneity of variances results, however, show that the feared discrepancy in the percentage of each gender does not exist. The results of Levene's test demonstrate that the impacts of the continuous variables—the essay band scores and the morphological awareness test outcomes—are equally disputed.

Results And Discussions

Descriptive Statistics

The frequencies of gender (GEN) are shown in the table below. It is clear that there were 129 total

Table 2
Descriptive Statistics of Gender

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-------|-----------|---------|---------------|--------------------|
| Valid | 1 | 85 | 65.9 | 65.9 | 65.9 |
| | 2 | 44 | 34.1 | 34.1 | 100.0 |
| | Total | 129 | 100.0 | 100.0 | |

The tables below provide descriptive statistics for both continuous variables (i.e., essay band scores and morphological awareness test scores).

Table 3

Descriptive Statistics of MA Test scores and IELTS Band scores

| | | Mrph_Awr | Essay Band |
|------------------------|---------|----------|------------|
| N | Valid | 1299 | 129 |
| | Missing | 0 | 0 |
| Mean | | 20.60 | 3.79 |
| Std. Error of Mean | | .662 | .082 |
| Median | | 20.71 | 4.00 |
| Mode | | 25 | 4 |
| Std. Deviation | | 7.516 | .928 |
| Skewness | | -.078 | .084 |
| Std. Error of Skewness | | .213 | .213 |
| Kurtosis | | -.325 | -.307 |
| Std. Error of Kurtosis | | .423 | .423 |
| Minimum | | 1 | 2 |
| Maximum | | 40 | 7 |

A total of 36 points were initially awarded for the MA test, covering the four aspects (Aspect 1: 8, Aspect 2: 8, Aspect 3: 6, and Aspect 4: 6). We take into account or assign ten marks to each of the four components in order to give them equal weight. After giving each component equal weight, the final score for the MA test is 40. The MA test's median score is 20.71 and its mode is 25, with a mean of 20.60 (a total of 40). The falling value of the skewness (i.e.,.078) shows that the data is typically distributed.

Nine bands made up the IELTS essay score. Essay band scores lacked sufficient spread, as seen by the mean essay band score of 3.79 and the standard deviation of .928. The results of the morphological awareness exam, on the other hand, had a standard deviation of 7.516, which indicated substantially larger space. The falling

value of the skewness value of the IELTS band scores (i.e.,.084) indicated that the data was normally distributed. As a result, the descriptive statistics for scores show that the data was standard and distributed regularly.

Gender-Wise Comparison on Morphological Awareness Score

According to the first hypothesis, there was no statistically significant difference between male and female mean scores on the morphological awareness exam. An independent samples t-test was carried out to verify this claim. The outcomes are shown in the following table of group data, which demonstrates that the mean score of females (21.46) was higher than that of males (20.16).

Table 4

Group Statistics of Morphological Awareness scores

| | Gender | N | Mean | Std. Deviation | Std. Error Mean |
|----------|--------|----|-------|----------------|-----------------|
| Mrph_Awr | Male | 85 | 20.16 | 7.035 | .763 |
| | Female | 44 | 21.46 | 8.385 | 1.264 |

The results of the independent samples t-test are produced and given below:

Table 5

Independent Sample T-test or Morphological Awareness scores

| | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | 95% Confidence Interval of the Difference | |
|----------|-------------------------|---|------|------------------------------|--------|-----------------|-----------------|-----------------------|---|---------|
| | | F | Sig. | T | Of | Sig. (2-tailed) | Mean Difference | Std. Error Difference | Lower | Upper |
| Mrph_AWr | Equal variances assumed | 5.153 | .025 | -.934 | 127 | .352 | -1.30413 | 1.39650 | -4.06755 | 1.45930 |
| | Equal variances assumed | | | .883 | 74.949 | .380 | .130413 | 1.47658 | 4.24567 | 1.63741 |

As seen in the T-Test table above, there was a significant difference between the scores of males (M=20.16, SD= 7.035) and females (M=21.46, SD= 8.38), with a $t(127)=-.934$ p value of .325 (i.e., $.325 > .05$). As a result, the null hypothesis is disproved. This indicates that women are statistically significantly more aware of morphological differences than men. However, the above result was consistent with the widespread perception that women are more linguistically skilled and do better overall. Females have also been found to perform well in other linguistic abilities that have not yet been studied, such as reading comprehension (Deacon et al., 2014; Vaknin-Nusbaum & Saiegh-Haddad, 2020), vocabulary knowledge (H. Zhang & Koda, 2018),

listening (Babayiit, 2014; Choi et al., 2020), and grammatical knowledge (Hu, 2011).

Gender-Wise Comparison on IELTS Essay Band Score

The second hypothesis was that there is no statistically significant difference between the mean scores of males and females on IELTS essay band scores. This hypothesis was also estimated through an independent sample T-test. The results in the table below reveal that the mean value for females (3.86) was somehow more significant than that of the mean value for males (3.76).

Table 6

Group Statistics of IELTS Essay Band scores

| | Gender | N | Mean | Std. Deviation | Std. Error Mean |
|------------|--------|----|------|----------------|-----------------|
| Essay_Band | Male | 85 | 3.76 | .937 | .102 |
| | | 44 | 3.86 | .917 | .138 |

The results of the independent samples t-test are produced and given below:

Table 7

Independent Sample T-test Of IELTS Essay Band scores

| | Test for Equality of | t-test for Equality of Means |
|--|----------------------|------------------------------|
|--|----------------------|------------------------------|

| | | Variances | | | | Sig. (2tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference | |
|------------|-----------------------------|-----------|------|-------|--------|-------------------|--------------------|--------------------------|--|--------|
| | | F | Sig. | t | Lower | | | | Upper | |
| Essay_Band | Equal variances assumed | .076 | .783 | -.606 | 127 | .545 | -.10481 | .17283 | | .23719 |
| | Equal variances not assumed | | | -.611 | 88.772 | .543 | -.10481 | .17164 | -.44587 | .23625 |

The results of the T-test in the aforementioned table show that there is no significant difference in the results for males (M=3.76, SD=.937) and females (M=3.86, SD=.917), with a $t(127)=-.611$, $p=.543$ (i.e., $.543 > 0.05$) indicating that there is no significant difference. As a result, the independent sample test findings supported the null hypothesis. The findings are in line with numerous earlier studies (Williams & Larkin, 2013) and show that women do not write more proficiently than men. Additionally, it was clear that some earlier studies (Hedges & Nowell, 1995; Hyde, 2014) had reported results similar to those of the current investigation. Hyde's (2005) gender similarities theory, which contends that gender differences in cognition are negligible, also lends

support to the findings of the current study.

Correlation between Argumentative Essay Writing and Morphological Awareness

Finally, the third hypothesis of this current study was related to the relationship between morphological awareness test scores and IELTS essay band scores. It was hypothesized that morphological awareness was unrelated to IELTS essay band scores. A Pearson correlation coefficient was computed to assess the relationship between morphological awareness and essay band scores. The results of which are given below:

Table 8

Correlation Coefficient between Morphological awareness scores and IELTS Essay Band scores

| | | Mrph_Awr | Essay_Band |
|------------|---------------------|----------|------------|
| Mrph_Awr | Pearson Correlation | 1 | .094 |
| | Sig. (2-tailed) | | .289 |
| Essay_Band | Pearson Correlation | .094 | 1 |
| | Sig. (2-tailed) | .289 | |
| | | 129 | 129 |

The above result, which demonstrates no correlation between the results on the morphological awareness exam ($r(127)=.094$, $p=.289$), is displayed in the table. As a result, the study's null hypothesis on the relationship between writing ability and morphological awareness is validated. The major goal of this study is to examine the relationship between

language learners' writing skills and their comprehension of morphology. As can be observed from the Pearson product-moment correlation table above, there is no significant link between writing ability and morphological awareness ($r=.094$, less than ($r=0.7$), with a significance value of ($p=.289$) ($p > 0.05$). The findings of this study are resolutely in opposition

to the majority of the literature on the connection between morphological awareness and writing. The findings of this current study, however, are in line with those of Zhang & Koda (2012).

Additionally, the current study contrasts with the works (Kim & Kim, 2013). Writing Hangeuls, an agglutinative language with intricate particles and suffixes, required a high level of morphological awareness, according to Kim & Kim (2013). In contrast to the results of the present study, previous studies (Apel et al., 2012; Berninger et al., 2010; Deacon et al., 2009; Goodwin & Ahn, 2013; Green et al., 2003; A. H. Kim & Kim, 2013; Walker & Hauerwas, 2006) have found a substantial association between MA and writing skills.

Additionally, in light of previous research findings that demonstrated a significant relationship between morphological awareness and writing, it is necessary to discuss the causes of and provide an explanation for the findings of the current study, which show no significant relationship between MA and writing. There is a chance that some factors, which may or may not have an impact on the outcomes of the two tests, will have an impact, leading to results that are different from those of previous research in the literature. The participants' haphazard and rapid test-taking behaviour may have influenced the results and prevented the test-score results from reflecting the participants' true levels of ability. This is the first possible explanation for the study's unexpected outcomes. It's because a fast trial can't accurately assess a language learner's capabilities. This study does not use a pre-test, or post-test research methodology, where an intervention is presented as an input and then a post-test is carried out to assess the impact of the intervention on students. The following studies that demonstrate a link between writing and morphological awareness often use pre- and post-test designs with morphological information introduced as an intervention (Bowers et al., 2010; Goodwin & Ahn, 2013; D. Zhang & Koda, 2012). The impact of morphological awareness on oral skills like reading comprehension has been studied in the past, according to research (Bernstein et al., 2020; Deacon et al., 2014; Kieffer & Lesaux, 2012; Kirby et al., 2012; Kuo & Anderson, 2006; Tighe et al., 2019), so viewing and interpreting those studies will help us understand the role of morphological knowledge in writing skills. The

majority of the studies investigating the influence of morphological awareness on reading, listening, and speaking abilities in the previously listed studies found a strong connection between MA and linguistic abilities like listening and reading. The findings of the current study thus conflict with those of all of those investigations. The literature on morphological awareness and its effects on linguistic performance also suggests that the results of this new study are unexpected. Therefore, under the guise of prior studies demonstrating a high association between morphological awareness and literary accomplishments, we must take into account that a lack of correlation may be caused by an error or unavoidable circumstances. For instance, providing participants with an incentive is not appropriate when a dangerous and unavoidable circumstance may have influenced the outcomes. It has to do with the participants' reasons for taking the tests on morphological awareness and essay writing. The inner urge, drive, passion, or desire that prompts one to take a certain action is known as motivation, according to Brown (2000).

Conclusion

Finding the link between IELTS test takers' writing abilities and morphological awareness was the primary objective of this study. In addition, this study found no evidence of a significant relationship between MA and writing abilities, which is in contrast to the majority of conventional findings of earlier studies that indicated a significant relationship between morphological awareness and writing accomplishments (Bowers et al., 2010; Goodwin & Ahn, 2013; McCutchen et al., 2014; McCutchen & Stull, 2015; Nagy et al., 2014). This study also had two additional sub-aims: to identify gender differences in morphological awareness test scores and gender disparities in essay band scores. The T-test results on the results of the morphological awareness test also showed a statistically significant difference between male and female students, demonstrating the superiority of females over males in the morphological awareness test results. Further T-test results on essay band scores revealed no statistically significant difference between male and female scores, demonstrating that women do not possess superior writing skills to men.

Limitations and Recommendations

While this study makes an effort to look at the connection between morphological awareness and writing ability, there are certain restrictions. The small sample size for this study is its primary drawback. Because one participant in the data is only from the Punjab province of Pakistan, it also has less diversity. The sample size should also be wide and diverse, with individuals drawn from around the country, for better findings. The study's inability to provide participants (IELTS

test takers) with an incentive or reward for their participation, which can have an impact on their motivation to perform well on a test in the summer, is its second restriction. Extrinsic motivation, such as incentives or rewards, can increase intrinsic motivation to complete tasks. The third study restriction is that only one evaluator was used to rate essay works because they were expensive evaluators. As a result, if there were multiple judges and inter-rater reliability was ensured, the possibility of human mistakes in the scoring of essay writing may be avoided.

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