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Corpus-Based Analysis of Cohesive Devices in Academic Essays Written by Indonesian Students: Across-Gender Analysis

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ABSTRACT

Appropriate use of cohesive devices is vital in determining the quality of a writing product. The present study is aimed to find possible differences between male and female students in employing cohesive devices in writing as a tool to maintain coherence in the composition they made and the students' familiarity to the cohesive devices mentioned in Halliday and Hasan's Conjunction Device Taxonomy. Data were collected from 145 essays produced by the freshmen of Indonesian university students and students' responses to *Likert scale* questionnaires. The findings show the varieties of cohesive devices and the students' familiarity to them. It was identified that there were only limited numbers of cohesive devices that were used by the students and they were familiar with. In addition, the statistical analysis figured out that gender did not show significant difference in the use of the cohesive devices and the students' familiarity to them. Based on the limitations of the present study, recommendations are offered at the end of the paper.

Keywords: Academic essay, cohesive devices, corpus based analysis, gender

INTRODUCTION

In Indonesia, writing in English has recently been extensively paid attention due to university students' and/or lecturer's immediate needs to write abstracts, conference paper, theses, dissertations or journal articles. As a result, the issue of effective English academic writing appears

to be an important subject to study (Emilia & Hamied, 2015; Hasan & Marzuki, 2017; Khoiri & Widiati, 2017). There have been many researchers who investigate the elements of a good and effective English writing. One of the elements to produce good writing is the use of the taxonomy of appropriate cohesive devices suggested by Halliday and Hasan (1976). They reiterated that cohesive devices would link disconnected sequence of sentences in the text so that they as textual elements would form texture from any separated strings of sentences connected by cohesive tie (Ersanli, 2015; Khalil, 1989; Liu & Braine, 2005; Yang & Sun, 2012).

Various studies on the usage of cohesive devices are mushrooming even until today (Chiang, 2003; Leo, 2012; McCulley, 1985; Yin, 2015; Zarei et al., 2017). One of the recent studies explores the use of cohesive devices in ESP context. Yin (2015), for example, had investigated two different texts namely broadcast and written news by means of corpus linguistic analysis. The study figured out how linking adverbials were employed in both texts and how students perceived such linking adverbials. Yin's study aimed at understanding the usage patterns of the linking adverbials (i.e. one of the types of cohesive devices) and it is relevant to the ESP contexts. Hence, Yin's study confirmed and strengthened the findings of other studies (i.e. Halliday & Hasan, 1976; D. S. McNamara, 2010; T. McNamara, 2001) that demonstrated that it was mandatorily important for students to cope with kinds of cohesive devices,

especially to help them make explicit the meaning relationship between sentences in paragraphs which facilitated comprehension through appropriate cohesive markers.

Other studies using corpus data analysis to figure out how cohesive devices are employed to maintain textual ties yielded from different text types were conducted by Biber and Reppen (2002), and Carter and McCarthy (2006). Then, in their investigations on how cohesive devices were employed in argumentative essay writing produced by university students in China, Liu and Braine (2005) had stated the usage of varieties of cohesive devices as they were employed by Chinese students. It was further said that they employed common types, such as, 'and', 'but,' 'or', and 'so' more often than others. This is consistent with Khalil (1989) and Connor (1984). Khalil (1989), for instance, revealed that EFL students in Arab College students used less varied conjunctions in producing expository essay writing, while this also happened to students of ESL setting, the students tended to repeat the same variations or choices of conjunctions in their compositions. According to Connor (1984), this is different from their ability to use cohesive devices in their native languages.

Unlike these researchers, Ningsih (2016) in her thesis showed that Indonesian students were capable to use variety of cohesive devices in their composition; however, the variations depend very much on the proficiency of the students. Higher proficient students, referring to higher semester students, employ different types

of cohesive devices from those chosen by students from the semesters below. This researcher found out that the seventh semester students frequently used reference, the fifth semester students used repetition in lexical cohesion, and the students from semester three used conjunction. There are some other similar researches that claim that proficiency become one of the factors influencing the use of cohesive devices in writing essay (Basturkmen & von Randow, 2014; Crossley et al., 2016; Liu & Braine, 2005; Yang & Sun, 2012).

The present study aims to see how Indonesian students employ cohesive devices when composing an academic essay. By making use of students' corpora, the study figures out the variations of cohesive devices as they are used by students of different genders. Corpus based analysis is employed to build better understanding as well as maintaining the authenticity of the language used by the students (Ma, 2015).

The existing studies on language and gender have well documented the different use of linguistic aspects by male and female speakers. Women ask more questions than men (Fishman, 1983; Lakoff, 1975). Lakoff (1975) proposed that women tended to ask more tag questions which showed uncertainty than men; however, Holmes (1990) found out that men also employed more tag questions which showed uncertainty, while women used more tag questions to facilitate conversation, such as generating small talk. Lakoff (1975) also stated that women often used hedges, whilst Holmes (1990) reported that women

used the 'you know' with primary positive function more frequently than men did. Related to interruptions, it is concluded that more interruptions occur in cross-sex conversation than in same sex conversations, the interruptions are likely to be equally distributed between the participants in same-sex conversations, but unequally distributed in cross-sex conversation (West & Zimmerman, 1983; Zimmerman & West, 1975)

According to most of the earlier studies, genders are found to affect variations in language use and usage (Adams & Simmons, 2019; Ersanli, 2015; Holmes, 1990; Lakoff, 1975; West & Zimmerman, 1983; Zimmerman & West, 1975). However, it is still open chances to quantitatively signify the use of cohesive devises as employed by students in Indonesia particularly when they have to maintain the ties of the sentences in their essay. As genders are assumed to be important factors affecting variations in both language-uses and usages, the present study is interested to outlook how this factor has made variations across genders.

Among the studies on the usage of cohesive devices, none puts the concerns to see how genders affect the variations on the usage of cohesive devices. Language proficiency seems to be viewed as the basic factor affecting the use of cohesive devices in writing (Chiang, 2003; Connor, 1984; Khalil, 1989; McCulley, 1985; Yang & Sun, 2012; Zarei et al., 2017). There are less data concerning variations used by students of different genders. It was argued by Francis et al. (2001) that

genders did not affect students' academic writing styles. On the contrary, Adams and Simmons (2019) claimed that genders led to significant unique variance, independently of cognitive skills in writing development. The latter study provides ample evidence on how gender may affect the quality of writing. There is a possibility that gender may affect the usage of cohesive devices, too. In this study the researchers would like to see whether this possibility appears in the students' essay writing.

Ersanli (2015) had reiterated the variance in language use between male and female. From the excerpts in the corpora, it is revealed that there are a few similarities between male and female in viewing about life, while the difference seems remarkable as females usually think using their emotions, males tend to use their logic. Then, in certain cases related to career ambition, it signifies more manly than womanly. In short, the study successfully demonstrates that men and women are generally different from each other. This different perspective may affect male and female students in employing conjunctions in their writing. Unfortunately, there is not enough data showing how genders make significant differences or similarities in employing cohesive devices.

To respond to the scarcity of such data, the present study is aimed to investigate whether gender affects the use of cohesive devices among students in university level. It describes and analyzes students' writing tasks that have been completed by the first semester university students in Indonesia before they receive any training for developing English academic essay. The task is given to students, from non-English Departments, in their first day of English class.

Pertinent to this, two questions were addressed: (1) how students across genders demonstrate variations in their use of cohesive devices in their essay, (2) how is the degree of the students' familiarity towards the cohesive devices or conjunctions. The findings of the present study contribute data inventory concerning to the ability to use varied cohesive devices in writing and show differences in cohesive devices variations used by two different genders. Therefore, this study is important as it particularly serves data needed by English teachers to develop materials for English Academic Essay Writing.

METHODS

Study Design

This was a descriptive survey research and counted on a primarily quantitative framework to display Indonesian university students' use of cohesive devices in academic essays. Thus, this study was aimed to figure out differences as well as variations of cohesive devices as they were identified from corpora of the compositions yielded by students of different genders. The students joining this study were freshmen of undergraduate school who were starting to take General English Course focusing on academic writing. During the course the students were trained to write argumentative essays where knowledge on cohesive

devices were crucial in developing cohesive and coherent essays. Among the forty-four classes consisting of forty freshmen each, five English classes were taken as the data source. However, there were only 145 essays that meet the minimum required word counts which was 300 words.

In addition to writing an essay, the students were also asked to fill in a Likert scale questionnaire to measure their degree of familiarity to the cohesive devices among the male and female students. In this study, the researchers mainly focused on the differences in the use of the cohesive devices among different gender without looking at different proficiency, since the previous research by Ningsih (2016) had uncovered that students with different level of proficiency would employ different types of cohesive devices.

Corpus of the Students' Essays

As one of the instruments used in this study, students' essays were required to portray how cohesive devices were employed. Data were collected by compiling all the students' essays into one folder and converting into corpus using Python Linguistics Programming to identify kinds of cohesive devices used by students in their essay. The program performed the forms of variations of students' cohesive devices and listed the use of cohesive devices based on the percentage.

From Python Linguistic Programming, it was accounted that the corpus of students' essays was derived from 48.829 words comprised of 145 essays. The collection of essays was divided into two groups based on the gender of the students. One collection was derived from 66 essays (21.676 words) produced by female students and another collection was comprised of 79 essays (27.153 words) made by male students. The students were instructed to write an argumentative essay consisting of 300 words within thirty minutes. The prompt shown using a slide show was in Figure 1.
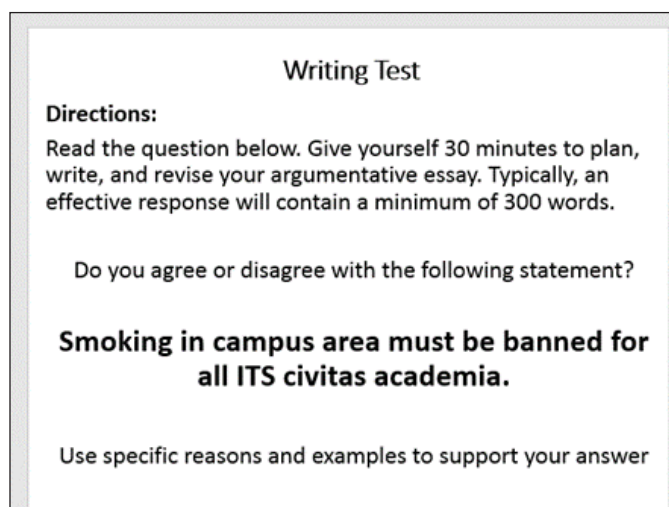

Figure 1. Sample of writing prompt

To collect data from students' essays, the researchers let the students write an essay in a computer room but not allowed to use any referencing tools such as googling or online dictionary. This condition was created to elicit students' writing ability under timely writing task with no internet assistance, and this condition was expected to enable students perform their *true* capacity in developing an argumentative essay. Figure 2 below is an example of the students' essays.

After the essays were collected, they were inputted into Python Linguistic Programming to generate the cohesive devises used by male and female students in the essays. The program then identified the variability of the cohesive devices used by the different gender of the students by following Halliday and Hasan's (1976) taxonomy framework of cohesive devices and the percentage of their usages. To see the difference between male and female students in using the cohesive devices, *boxplot* was used to display the data distribution, and *t Test* and *the Wilcoxon test* were used to see whether the use of the cohesive devices is significantly different between male and female students.

A Likert Scale Questionnaire

Another instrument, 5-point Likert Scale type questionnaire, was designed to serve data concerning the degree of familiarity to cohesive devices. The questionnaire was developed to elicit information about students' familiarity toward 64 English

One of the most common problems that are killing so many people around the world are smoking. They smoke because they want to release from stress, and they keep up with a lifestyles. Today ,the price of ciggarrette becomes more affordable, and this has made teenagers start early to smoke. Smoking gives teenagers a different feeling as they become more confident and look cool. Therefore, there are many students of ITS who like smoking and they smoke around the campus area. They might not be aware of the effects of the smoke to the surroundings. The effects of ciggarrete smokes are not good for the non smokers and the campus environment.

Firstly, the ciggarette smoke can harm people around the smokers. The smoke can cause non smokers around the smokers as they inhale the smoke that can cause diseases like problems with respiratory. They even can suffer from cancer because they frequently inhale the ciggarette smokes. They never smoke but living around the smokers have made them suffer fom the same diseases like smokers.

Secondly the smoke can pollute the environment. Many smokers like littering the ciggarette bud; therefore, smoking can cause the environment dirty. In addition, the smoke outhaled by smokers can increase air pollution. The smoke contains some poisoinous substances that are not good if inhaled by others. The ashes are also not good as they make dust.

All and all, smoking is all means bad; therefore, this should not become a habit especially for students of ITS. The bad effects from smoking are inevitable so ITS must make a reguation to ban smoking from academic life of the academia. There should not be given a space for smokers to smoke in campus area. If this is carried out, there will be less number of students or other academia who smoke in campus. Thus, campus will be free from polluting ciggarette smokes.

Figure 2. Sample of student's essay

conjunctions as listed in Conjunction Device Taxonomy introduced by Halliday and Hasan (1976). The instruction in the questionnaires was written in Indonesian language to avoid misinterpretation. The responses were arranged using 5-point scales comprised by the lowest scaled 1 representing the lowest familiarity as students did not recognize and even not realize that a specific device was one of the kinds of conjunctions, and, at the other pole, the highest was scaled 5 representing the highest level of familiarity as students could not only recognize the device but they could apply it as well. *An Independent Sample t Test* was performed by using SPSS software estimating the significant difference between male and female students in term of their familiarity to the cohesive devices.

Validity and Reliability of the Questionnaire

To serve good quality of instrument, the validity and reliability of the questionnaire items were measured using *Pearson Correlation and Cronbach's Alpha*. The former was used to indicate the validity of each item in the familiarity questionnaire.

Result of validity testing indicated that each item showed significance value of *Pearson Correlation* (Sig.) smaller than 5%; therefore, it was said that the result of testing the familiarity to each cohesive devices was valid and could be used for further analysis.

Result of reliability testing in Table 1 indicated that the questionnaire represented high *Cronbach's Alpha* coefficient (i.e. higher than 0.60) and thus the reliability testing showed that the questionnaire items were reliable and data collected using this instrument could serve reliable data that could be further analyzed for the purpose of this present research.

Thus, the questionnaire was found to be valid and reliable and could be used to collect the intended data concerning the familiarity of the students towards cohesive devices.

RESULTS AND DISCUSSION

Variations in the Use of Cohesive Devices in Students' Essay

Using corpus based analysis, students' corpora show the use of four types of cohesive devices as proposed in the cohesive taxonomy in Halliday and Hasan (1976), namely additive, adversative, causal, and temporal conjunctions. Then those four types are comprised of 64 kinds of conjunctions; from which 38 kinds of conjunctions were found to be used in students 'compositions. Figure 3 below illustrates students 'use of cohesive devices taken from both corpora, from males and females.

The graphs in Figure 3 describe that 'and' is one of the conjunctions that is scaled 5 and refer to the most often used conjunctions by both male and female students. The

Table 1
Result of reliability testing for familiarity questionnaire items

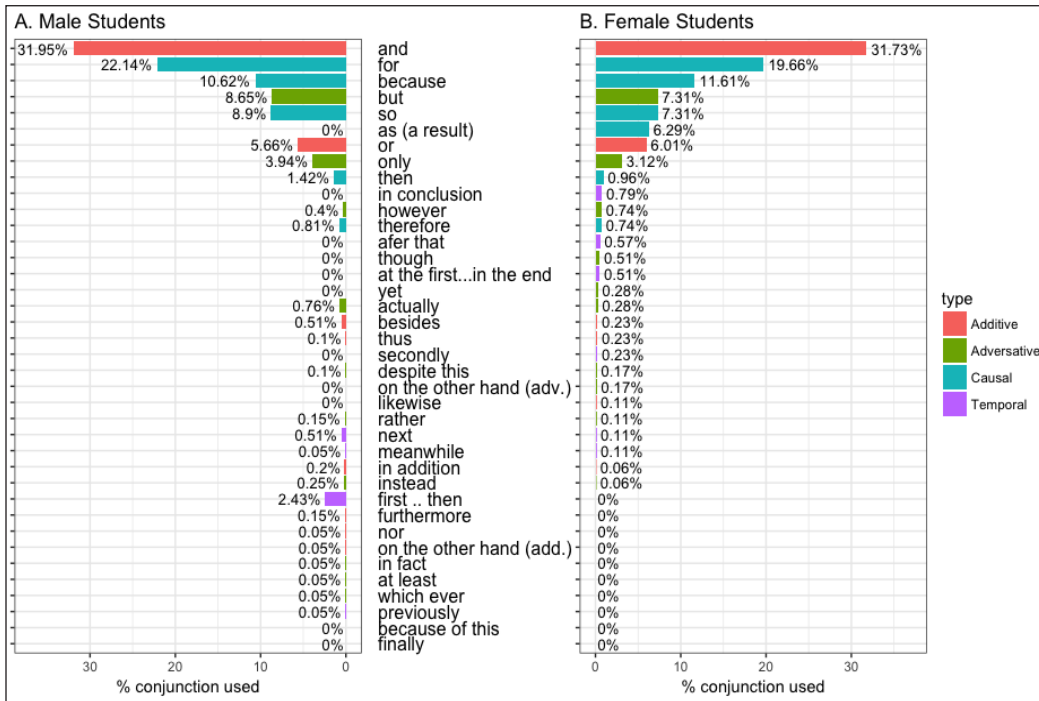| Variable	Cronbach's Alpha	Critical value	Decision
Familiarity towards the use of conjunctions	0.968	≥ 0.60	Reliable

Figure 3. Graphs of the illustration for the students' use of conjunctions

percentage in female respondents was 31.7%, while male respondents were 32%. The 'and' conjunction was significantly high in its occurrence in both male and female students' corpora. Despite this similarity, both male and female students' corpora revealed a discrepancy in the use of 'as a result'. It was better known and more used by female students than male students. The percentage was remarkably different, from which it was shown that in female corpora, the percentage was 6.3% while in the corpora of male students, there was 0%. Then, some conjunctions such as 'First... then', 'furthermore', 'nor', 'on the other hand', 'in fact', 'at least', 'which ever' and 'previously' were used more often by male students than females. Female students did not use these types of conjunctions.

Other information shows discrepancy in the use of some conjunctions such as 'in conclusion', 'after that', 'though', 'at the first ... in the end', 'yet', 'secondly', 'on the other hand' and 'likewise' which were better known and used more by female respondents. The percentage of male respondents who use this type of conjunctions was 0%. Then other conjunctions, namely, 'because of this' and 'finally' conjunctions, were found to have no occurrence. Neither male nor female respondents did not use these conjunctions. This is depicted from the percentage (*viz*. 0%) between female and male respondents who use this type of conjunction.

Although the differences between male and female students were identified through different percentages displayed in Figure 3, speaking statistically, such representation

would not be able to display the data distribution in detail way. Therefore, the researchers represent data again using *boxplot* (please refer to Figure 4), a statistical representation for organizing and displaying data that are relatively easy to create with a five-number summary. Then, to make sense of the data, the interpretations of the significant differences toward normal distribution are performed using *t Test and the Wilcoxon test.*

To make sense of boxplot depicted in Figure 4, *t Test* was performed. Prior to t-test estimation, some assumptions needed to be checked:

1. whether the samples are paired. Pertinent to this assumption, as seen in Figure 3, the sample is paired.
2. whether the samples are large enough. In respond to this assumption, it is displayed in Figure 3 that there are 38 paired conjunctions, which can be categorized large enough.
3. In terms of data normality, despite the size of the data being adequately large, the researchers still need to check data normality using the Shapiro-Wilk normality test for differences. And the result is presented below,

Results of the Shapiro-Wilk normality test:

```
Shapiro-Wilk normality test
data:  d
W = 0.63762, p-value = 1.879e-08
```

The analysis shows that the p-value is much smaller than significance level 0.05, i.e. the data is significantly different from normal distribution. Ergo, normality of data CANNOT be assumed. Therefore, it is recommended to use the t-Test and non-parametric paired two-samples Wilcoxon test.
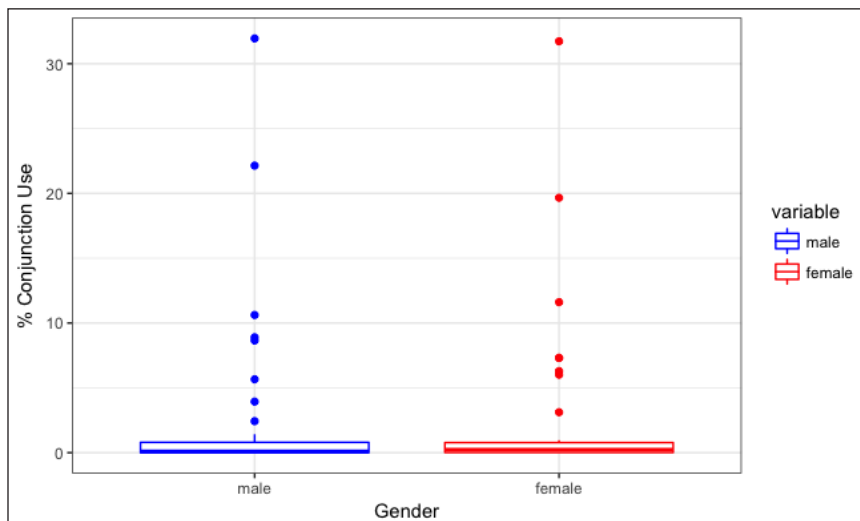

Figure 4. Boxplot of the distribution of conjunction use of male and female students

t Test

```
Paired t Test
data:  value by variable
t = -0.0012704, df = 37, p-value
= 0.999
alternative hypothesis: true
difference in means is not equal
to 0
95 percent confidence interval:
-0.4199752  0.4194489
sample estimates:
mean of the differences -0.0002631579
```

As the p-value (0.99) is much greater than the significance level used in the test (0.05), we can conclude that the difference in conjunction use between male and female students is insignificant. This can be seen on the following illustration (see Figure 5). The grey lines connect the conjunction pairs, and as we can see, almost all of these lines have very small slopes, indicating a high level of similarity in values.
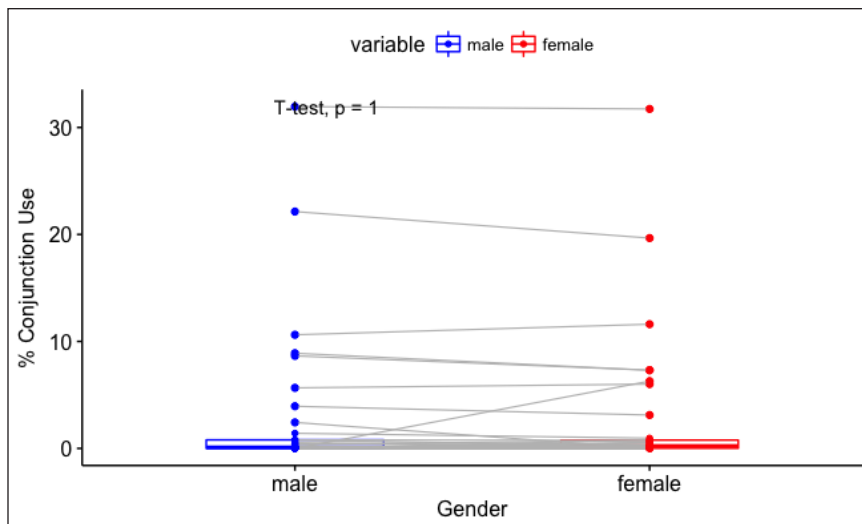
Figure 5. Result of t test for significant difference in the use of cohesive devises from male and female students' essays

Wilcoxon Test

The following is the result of the Wilcoxon test performed to the data in Figure 3.

```
Wilcoxon signed rank test with
continuity correction
data:  value by variable
V = 353.5, p-value = 0.7532
alternative hypothesis: true
location shift is not equal to 0
```

Again, as in the t-test result, the p-value from the Wilcoxon test shows that the difference is insignificant. This can also be seen on the following illustration (Figure 6). The grey lines connect the conjunction pairs, and as we can see, almost all of these lines have very small slopes, indicating a high level of similarity in values.

In short, the statistical analysis using the *t Test* and non-parametric paired two-samples *Wilcoxon test* results in the same conclusion that there was no significant difference in the use of cohesive devices between male and female students.
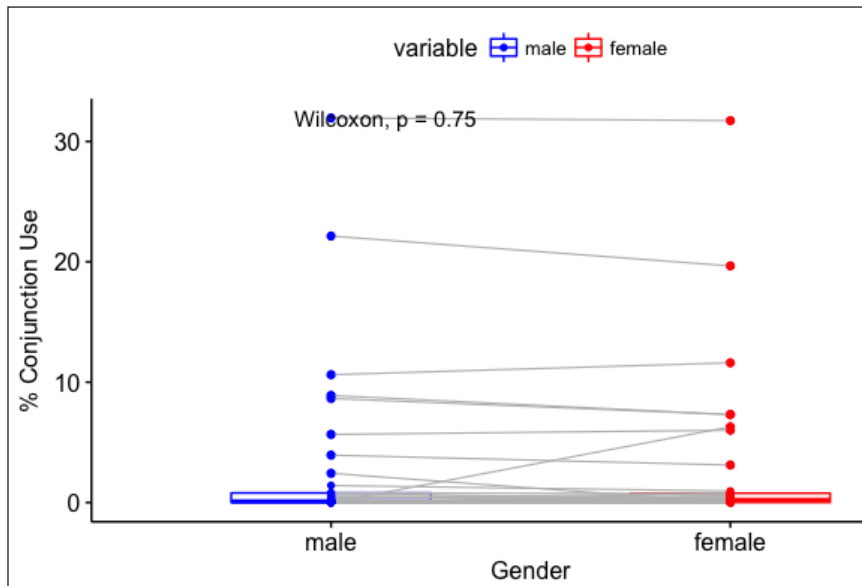
Figure 6. Result of Wilcoxon Test

Degree of Familiarity towards Use of Cohesive Devices (viz. Conjunction)

The questionnaires distributed to see respondents' familiarity toward each conjunction revealed a possible reason why some conjunctions were used more often than others, or more preferred than others. The survey results are depicted in the following figures.

Figure 7 and Figure 8 describe subsequently the familiarity of male and female students based on the result of questionnaire. Each scale is described in different color. Cohesive device is marked as the least familiar when given red color and scale 1 in the graph. Other color, tosca green represents a group of cohesive devices almost not known and given point or scale 2. While in the middle position, the group of cohesive markers that are somewhat familiar for the students. This kind of cohesive

devices are given 3 scale and yellow in color. Next group of cohesive devices is denoted by scale 4 and orange in color. This group represents a group of familiar kinds of cohesive devices. Finally, the most familiar group of cohesive devices are made in blue color and given scale 5.

Then, to see how different the degree of familiarity to cohesive devices between male and female students, *comparative analysis* was employed to perform. The result of this analysis would make senses and determine whether there was any statistical evidence that the degree of familiarity between male and female students in using conjunctions was significantly different or not, and this study used *Independent Sample t Test* to measure the difference. Then, the comparative analysis in this present study was performed by the help of SPPS software.
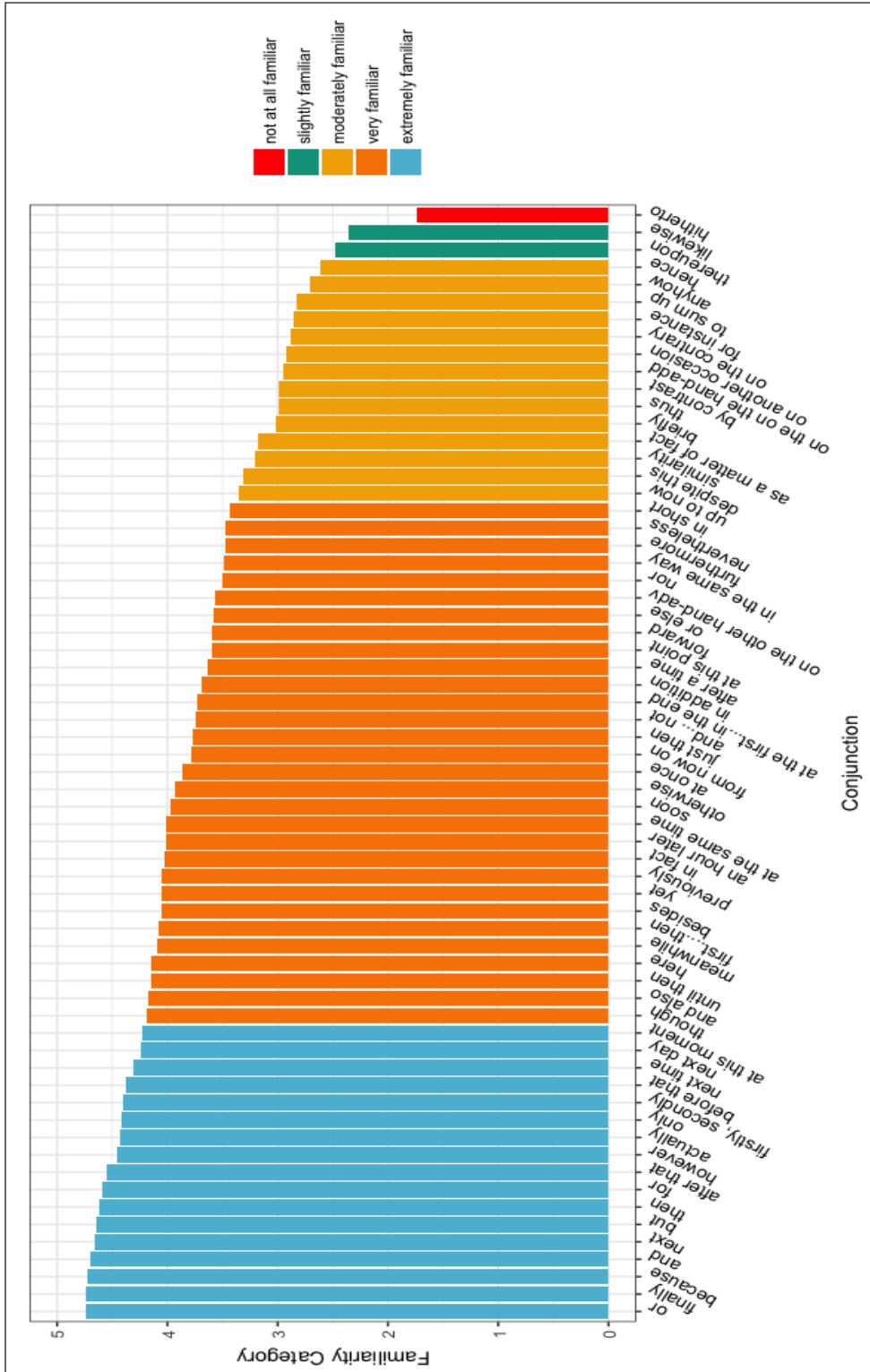
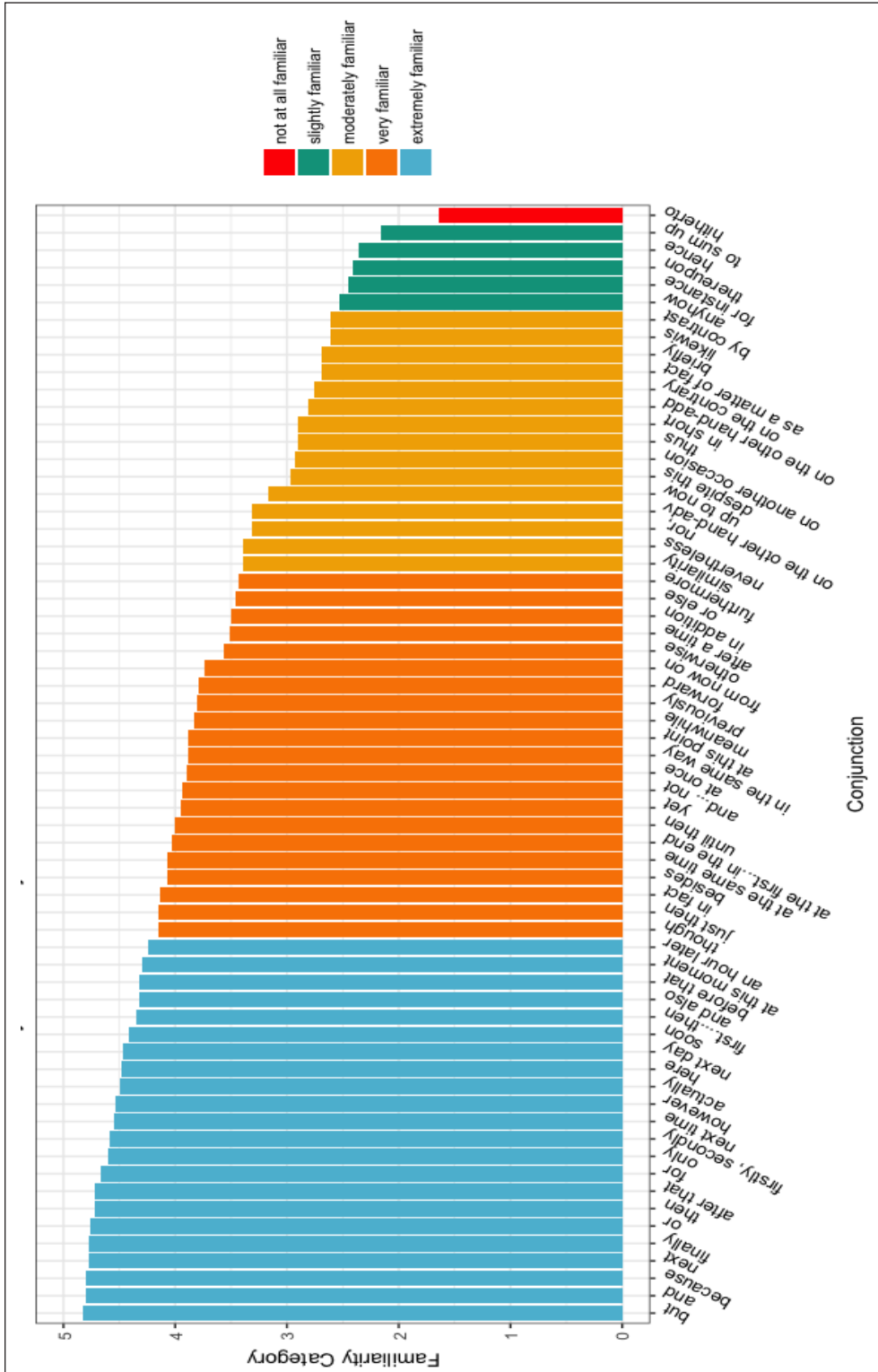*Figure 7.* Male students' familiarity towards cohesive devices

Figure 8. Female's familiarity towards cohesive devices

Prior to *Independent Sample t Test* estimation, the testing of normality was obtained in order to draw accurate and reliable conclusions about the reality. SPPS software was performed to present normality data in Table 2 below:

The result of Normality Testing of the data using Kolmogorov Smirnov statistic shows that both male and female students provided significance value (Sig.) greater than 5%, it is assumed that the data for degree of familiarity to use conjunctions between male and female students were normal, as a consequence the *Independent Sample t Test* is valid to be employed.

Testing the *Independent Sample t Test* by the help of SPSS software, the result displays the degree of familiarity to cohesive devices that are mostly not significantly different, as depicted in Table 3 as follows:

As the above mentioned, the result of testing the *Independent Sample t* Test for familiarity towards the use of conjunctions shows that levels of familiarity between male and female students were relatively similar as signified by the averages that were respectively the same between male and female students: 3.76287 and 3.75417. The estimation for *Independent Sample t Test* indicated the significance value (Sig.) of 0.934 (greater than 5%); therefore, statistically speaking, there was no significant difference in the degree of familiarity towards the use of conjunctions between male and female students.

The result of testing using *Independent Sample t Test* for familiarity to cohesive devices for both groups of students, male and female is tabulated in the following Table 4.

The *Independent Sample t Test* results of the students' familiarity in each conjunction show that there were 12 conjunctions that produced a significance value (Sig.) smaller than 5%. This is statistically significant difference in the familiarity of male and female students towards the 12 Cohesive Devices.

Among those 12 cohesive devices, there were 6 markers that had higher familiarity in male students, namely: *for instance, by contrast, as a matter of fact, otherwise, to*

Table 2
Result of normality testing

Variable	Gender	Kolmogorov-Smirnov Z	Sig.	Decision
Familiarity towards the use of conjunctions	Male	0.593	0.873	Normal
	Female	0.549	0.924	Normal

Table 3
Result of independent sample t test familiarity data

Variable	Mean		Independent Samples Test		
	Male	Female	t	Sig.	Decision
Total familiarity towards the use of conjunctions	3.76287	3.75417	0.083	0.934	not significantly different

Table 4
The result of testing t test independent sample for familiarity to cohesive device

Familiarity towards the use of conjunctions	Mean		Independent Samples Test		
	Male	Female	t	Sig.	Decision
1) and	4.69	4.79	-1.146	0.254	not significantly different
2) and also	4.18	4.33	-1.012	0.314	not significantly different
3) nor,	3.50	3.31	1.039	0.301	not significantly different
4) and... not	3.74	3.93	-1.188	0.237	not significantly different
5) or	4.73	4.78	-0.558	0.578	not significantly different
6) or else	3.58	3.47	0.553	0.582	not significantly different
7) Furthermore	3.47	3.43	0.177	0.860	not significantly different
8) In addition	3.69	3.50	1.011	0.314	not significantly different
9) Besides	4.03	4.09	-0.320	0.750	not significantly different
10) For instance	2.92	2.38	2.379	0.019	significantly different
11) Thus	2.98	2.90	0.396	0.693	not significantly different
12) Likewise	2.35	2.60	-1.183	0.239	not significantly different
13) Similarity	3.21	3.40	-0.919	0.360	not significantly different
14) In the same way	3.48	3.86	-2.017	0.046	significantly different
15) by contrast	3.08	2.50	2.687	0.008	significantly different
16) yet	4.05	3.95	0.549	0.584	not significantly different
17) though	4.19	4.16	0.236	0.814	not significantly different
18) only	4.42	4.60	-1.450	0.150	not significantly different
19) but	4.56	4.91	-3.572	0.001	significantly different
20) However	4.45	4.53	-0.648	0.518	not significantly different
21) Nevertheless	3.47	3.40	0.354	0.724	not significantly different
22) Despite this	3.31	2.97	1.506	0.135	not significantly different
23) in fact	4.03	4.14	-0.659	0.511	not significantly different
24) actually	4.44	4.50	-0.488	0.626	not significantly different
25) as a matter of fact	3.18	2.69	2.130	0.035	significantly different
26) on the other hand	3.56	3.31	1.075	0.285	not significantly different
27) at the same time	3.98	3.98	0.006	0.995	not significantly different
28) on the contrary	2.89	2.76	0.562	0.575	not significantly different
29) Anyhow	2.71	2.53	0.783	0.435	not significantly different
30) for	4.60	4.67	-0.680	0.498	not significantly different
31) because	4.73	4.79	-0.709	0.480	not significantly different
32) then	4.61	4.72	-1.017	0.311	not significantly different
33) otherwise	4.06	3.43	3.356	0.001	significantly different
34) next	4.66	4.78	-1.136	0.258	not significantly different
35) after that	4.55	4.72	-1.525	0.130	not significantly different
36) just then	3.77	4.16	-2.082	0.040	significantly different
37) at the same time	4.03	4.16	-0.669	0.505	not significantly different
38) previously	4.05	3.81	1.351	0.179	not significantly different

Table 4 *(continue)*

Familiarity towards the use of conjunctions	Mean		Independent Samples Test		
	Male	Female	t	Sig.	Decision
39) before that	4.37	4.33	0.315	0.754	not significantly different
40) first....then	4.08	4.34	-1.558	0.122	not significantly different
41) at the first...in the end	3.73	4.03	-1.518	0.132	not significantly different
42) at once	3.87	3.90	-0.134	0.893	not significantly different
43) thereupon	2.48	2.41	0.332	0.740	not significantly different
44) soon	3.97	4.41	-2.765	0.007	significantly different
45) after a time	3.63	3.52	0.518	0.606	not significantly different
46) next time	4.24	4.62	-2.672	0.009	significantly different
47) on another occasion	2.92	2.93	-0.052	0.959	not significantly different
48) next day	4.27	4.47	-1.221	0.224	not significantly different
49) an hour later	4.02	4.24	-1.257	0.211	not significantly different
50) meanwhile	4.10	3.83	1.439	0.153	not significantly different
51) until then	4.15	4.00	0.848	0.398	not significantly different
52) at this moment	4.23	4.29	-0.440	0.661	not significantly different
53) firstly, secondly	4.40	4,59	-1.329	0.186	not significantly different
54) finally	4.74	4.78	-0.396	0.693	not significantly different
55) up to now	3.35	3.17	0.862	0.391	not significantly different
56) hitherto	1.74	1.64	0.586	0.559	not significantly different
57) at this point	3.60	3.88	-1.358	0.177	not significantly different
58) here	4.15	4.48	-2.091	0.039	significantly different
59) from now on	3.79	3.74	0.231	0.818	not significantly different
60) hence	2.61	2.36	1.015	0.312	not significantly different
61) forward	3.60	3.79	-1.014	0.312	not significantly different
62) to sum up	2.82	2.16	2.696	0.008	significantly different
63) in short	3.44	2.90	2.333	0.021	significantly different
64) briefly	3.02	2.69	1.389	0.168	not significantly different

sum up, and *in short.* Then, there were 6 other markers that had a higher familiarity in female students, they were: *namely, in the same way, but, just then, soon, next time*, and *here.*

DISCUSSION

Studies on genders as one of the factors in language learning, uses and usages have begun since the last three decades (Holmes, 1990; Lakoff, 1975; West & Zimmerman, 1983; Zimmerman & West, 1975) and they still continue until today (Adams & Simmons, 2019; Ersanli, 2015; Francis et al., 2001). This means that it is pivotal to keep investigating how genders might affect the results of language learning. Although results are not always the same, in some cases gender becomes a determinant factor affecting learning, but there are also researches to show that it does not make any significant difference. Among those studies,

none attempts to see how genders have affected the use of cohesive devices. Along with the growing importance of coping with ability to write good academic writing, it is mandatory to consider the knowledge of cohesiveness and sentence ties that can only be attained by having knowledge about how to use cohesive devices in writing.

The result of this study could provide data concerning the use of cohesive devices in students 'writing and specifically reveal if gender make the choices similar or different. Through 66 argumentative essays with total 21.676 words produced by female freshmen students, and 79 essays with 27.153 words made by male freshmen students, the study could demonstrate variations in their use of cohesive devices in their essays. From 64 kinds of cohesive device enlisted in the Taxonomy proposed by Halliday and Hasan (1976), 38 markers were found to be employed in the essays of students from all genders. This research showed common types of markers including '*and*', and '*or*' and they were found to be most frequently used cohesive devices by students of different genders. Other common types like *for*, *because*, and *so*; and then, *but* and *only* were found to be markers that were used in moderately high frequency. This finding enriched the previous research finding of Liu and Braine (2005) which stated only four common types namely *and*, *but*, *so*, and *or* that were commonly used by students. Although this study gave some additional types, it was still limited to specific variations like what had been mentioned in some other studies like Khalil (1989) and

Connor (1984). Then, it was inferred that after more than two decades, there was no progress made to make students use more variations in using cohesive devices in their writing. This fact was in contradictory to the fact that knowledge about sentence ties that were brought by the use of varied and proper cohesive devices is important (Crossley et al., 2016; McCulley, 1985).

Comparing male and female in using cohesive devices, this study figured out that gender could not be categorized as one of the determinant factors affecting the use of cohesive devices in writing. The result of t Test and Wilcoxon test performed by researchers did not show a significant difference in utilizing cohesive devices between male and female students. Thus, teachers or other education practitioners do not need to be worried about genders in making them learned by the students. The treatments and exercises can be given equally the same for students either for male or female student groups. This finding is in line with what had been cited by Francis et al. (2001).

Related to the familiarity of students towards cohesive devices valid and reliable questionnaire employed by the researchers has uncovered that out of 64 types of cohesive devices enlisted by Halliday and Hasan's taxonomy, there was 38 markers known by both male and female students. The degree of familiarity between male and female students were found not significantly different. However, among those 38 markers that were identified familiar to male and female students, there were *twelve* types

of markers that were known better by one group than another group. Six markers including *for instance, by contrast, as a matter of fact, otherwise, to sum up,* and *in short* were identified to be the most known by the male students; meanwhile, the other six *namely in the same way, but, just then, soon, next time*, and *here* were found to be the most known by female students. Compared to varieties used by students in their writing, among those twelve familiar conjunctions, it is only *but* that can be identified from students' writing.

Among the previous studies concerning the use of cohesive devices in writing, there is none dealing with students' familiarity to the types of cohesive devices. This study can show its novelty by figuring out the list of known cohesive devices. Moreover, this study also uncovers the students are familiar with the varieties of cohesive devices. Finally, this study is able to reveal both evidences concerning the variations used in students' essays and the varieties familiar to the students. Therefore, this finding can give contribution for pedagogical implication particularly when helping students to improve their knowledge about sentence ties or cohesiveness in developing a good essay (McCulley, 1985).

CONCLUSION

This study has some limitations. Firstly, this study was conducted among a specific group of Indonesian students; therefore, its findings do not represent the whole Indonesian students. Secondly, this study did not check how familiarity towards cohesive devices can affect the students in performing them in their essay. Last, another limitation of the present study is rather than giving attention to all kinds of cohesive devices proposed in the Halliday and Hasan's Taxonomy, conjunctions are the only focus in the present study.

This study reports that cohesive devices which are required to produce good academic essay writing employed by students, both male and female, in relatively limited number of variations. Unfortunately, the findings approve that after about three decades this issue has been studied by researchers, there is almost no progress made to make students have better knowledge about cohesive devices. The finding is paradox to the fact that writing good academic essay is now becoming mandatory for students in university levels as they are demanded to write academic articles, thesis, dissertations, and the like. In line with the importance of coping with the knowledge about cohesive devices, further researches need to be conducted. For further researches, the researchers make some recommendations. Firstly, the subjects of the study should be made larger so that the generalizability of the findings can be served. Secondly, a correlation between the usage or choices of cohesive devices with degree of familiarity towards cohesive devices needs to be calculated. The following research should not limit to the use of one variety of cohesive devices, namely conjunctions, since sentence ties can be developed through several other varieties of devices. Finally, to test degree

of familiarity, further researches can develop a test to provide more valid and reliable instrument to elicit the data.

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