AWARENESS, ATTITUDES TOWARDS PLAGIARISM, AND ACCEPTANCE OF USING TURNITIN IN ACADEMIC WRITINGS AMONG UNDERGRADUATE STUDENTS

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ABSTRACT

The purpose of this study was to examine the association of awareness of plagiarism, attitudes towards plagiarism and acceptance of using Turnitin among undergraduate students in a public university. The study was conducted on 143 undergraduate students at Universiti Teknologi MARA, Negeri Sembilan campus. Data was collected using an online questionnaire in the Google Form platform. These students took the Academic Writing subject. The ordinal data were collected using the 5-point Likert Scale. By studying the normality of the data using Kolmogorov-Smirnov and Shapiro-Wilk statistical tests, the association between awareness of plagiarism, attitudes towards plagiarism, and acceptance of using Turnitin, can be made. The tests compared the sample's scores to a normally distributed set of scores with the same mean and standard deviation. This paper presents the major findings from non-parametric correlations (Spearman’s rank-order and Kendall Tau-b) and suggests future research direction in increasing undergraduates’ awareness of plagiarism and awareness of using Turnitin when submitting their academic assignments. To curb plagiarism among undergraduates in an academic writing course, the authors propose a plagiarism policy within academic institutions, strict sanctions on plagiarism, and teach students how to avoid plagiarism and the use of Turnitin.

Keywords: awareness of plagiarism, attitudes towards plagiarism, acceptance of using Turnitin, non-parametric association

INTRODUCTION

Background of the study

Plagiarism is taught in every academic writing class to make students aware of the seriousness of plagiarism as an academic offense in terms of ethics. Plagiarism should be avoided not only in academic writing as strict penalties are imposed to curb it such as course failure or termination from the university. However, plagiarism cases in academic work are mostly committed by undergraduates (Starovoytova & Namango, 2016).
Therefore, research on plagiarism should be conducted from time to time in order to understand what leads to the act of plagiarism among students. Researchers have found many factors that contribute to the act of plagiarism. It has been observed that numerous studies have been conducted on awareness towards plagiarism (Bairmani et al., 2021; Zainuddin et al., 2021; Mustafa, 2020; Jereb et al., 2018a), attitudes towards plagiarism (Farooq & Sultana, 2021; Javaeed et al., 2021; Lim & Huh, 2016) and acceptance of using Turnitin (Ayon, 2017; Nova & Utami, 2018; Amin, 2019; Zheng, 2021). Turnitin is an application which checks plagiarism in terms of how similar the assignment submitted in Turnitin is to other resources. The studies conducted examined the variables separately. The association between the three variables are not studied.

Up to date, there are limited studies conducted on the association of these three variables. Therefore, the purpose of this study was to examine the association of awareness of plagiarism, attitudes towards plagiarism, and acceptance of using Turnitin. The research question is: To what extent do awareness of plagiarism, attitudes towards plagiarism, and acceptance of using Turnitin associate one another?

Previous Studies on Plagiarism

The word plagiarism is described as “the practice of taking someone else's work or ideas and passing them off as one's own” (Oxford English Dictionary, 2021). Plagiarism is defined in many ways. Zheng (2021) provides a simple definition of plagiarism as using work or ideas from other people without proper acknowledgment. Ragavi and Devi (2019) define plagiarism as using someone’s ideas, methods, results, work, or words without citing the source and original author. Khadijah et al. (2018) describe plagiarism as the act of someone using another person’s idea without acknowledgement and attribution and claiming it belongs to him or her. Thus, when ideas or work from anyone which comes in any form are used and are not cited properly, it is considered plagiarism.

In a survey among Teaching English as a Second Language (TESL) students in a public university, students reported that despite their high awareness of plagiarism, the highest factor for plagiarizing is complying with the deadlines (Zainuddin et al., 2021). In terms of gender differences in students’ plagiarism awareness, Jereb et al. (2018a) found statistically significant gender specifically whereby female students show a more negative attitude towards plagiarism than male students. Students could be divided into three groups on awareness, namely (1) students who are aware of plagiarism but do not consider it wrong or unethical, (2) students who are unaware of plagiarism, and (3) students who are aware of plagiarism but continue to plagiarise despite knowing it to be wrong (Jereb et al., 2018a). University support and lecturers’ efforts and guidance in enforcing ethical practice among students can improve students’ understanding and increase their awareness on plagiarism to deter them from committing such unethical acts (Bairmani et al., 2021; Zainuddin et al., 2021; Mustafa, 2020; Jereb et al., 2018a)

In a study to validate a scale to measure attitudes toward plagiarism, Farooq and Sultana (2021) found that positive attitudes toward plagiarism, negative attitudes toward plagiarism, and subjective norms demonstrated a high level of convergence among the items. Similarly, Javaeed et al. (2021) and Ragavi and Devi (2019) found that lack of awareness and a positive attitude towards plagiarism contribute to medical students committing this
offense. These supported the convergent validity of the constructs. Lim and Huh’s (2016) study on attitudes and knowledge on plagiarism among medical students found a lack of knowledge on plagiarism among medical students’ knowledge.

LITERATURE REVIEW

Acceptance of using Turnitin

Turnitin is a highly recognized and trusted anti-plagiarism software used worldwide for academic writing. This software works in detecting matches between an uploaded paper and its content in the database within a very short period. Turnitin can show matching and plagiarized parts in a paper and the percentage which has been plagiarized. Two most welcomed features were the easy comprehensibility of the similarity report and the convenience of the system in submitting assignments. However, the acceptance of this software is very much debatable.

In a study of 42 undergraduate students using Turnitin software in a Middle East university by Mohammadkarimi and Amin (2019), it was found that the students were aware of the concept and kinds of plagiarism and their reasons for plagiarizing even while using Turnitin software.

Ayon’s (2017) research examined 157 college students in a university in the Middle East who participated in a survey using Turnitin as plagiarism software. Results of his study revealed that 75% of the participants agreed to the use of Turnitin as a plagiarism detector. However, only about half of them (57%) rated their experiences with this software as effective and 48.9% perceive the use of it as beneficial to students’ overall education. This could be due to the reason that the inconsistent use of Turnitin has created unspotted acts of plagiarism. The problem is further compounded by the fact that students’ acts of plagiarism go unpunished and have contributed to them committing continuous acts of plagiarism.

Zheng’s (2021) study on the perceptions of Chinese university students on the use and effectiveness of Turnitin in EAP writing also revealed that most students perceived Turnitin as an effective tool for reflecting and reducing plagiarism in their writing. Using Turnitin in EAP writing had not only shown a change in students’ writing behaviour but also in their attitudes towards plagiarism. 81.5% reported using Turnitin improved their EAP writing by allowing them to improve their writing conventions, especially paraphrasing. Thus, Turnitin was not only an anti-plagiarism tool but served as an educational tool too.

However, Nova and Utami’s (2018) study on 20 EFL undergraduates who used Turnitin in a university in Bandung, Indonesia reveals unsatisfactory responses towards their similarity index from Turnitin. This is due to a misunderstanding about plagiarism and the Turnitin system. Students were confused with Turnitin’s inability in differentiating direct quotations, common phrases, and citations. This led to confusion in students’ understanding of plagiarism. Most of the students were confused about the plagiarism itself and how it works on Turnitin, especially in the similarity percentage result. Students were unhappy using the software and preferred lectures’ feedback and cross-checking. Thus, there exist mixed feelings among users of Turnitin as a plagiarism detector. While it has been hailed as good software to reduce plagiarism, the poor enforcement and monitoring of this software have led to acts of plagiarism still being rampant among students.
RESEARCH METHODOLOGY

The quantitative research was conducted by using a questionnaire that was developed using Google Forms. The questionnaire was distributed via the class WhatsApp groups to gather data on students’ demographic information, awareness of plagiarism, attitudes toward plagiarism, and acceptance of using Turnitin. The questionnaire was adapted from Kreijns et al. (2004). It contained four parts – Part A (demographic questions), Part B (questions on social presence), Part C (questions on sociability), and Part D (questions on social space).

Participants

The sample was selected by purposive sampling that consisted of undergraduate students at Universiti Teknologi MARA Cawangan Negeri Sembilan, Kampus Seremban. The students enrolled in the academic writing course. The respondents were 143 (19 male and 124 female) aged 20-26 years old. The frequency distribution and percentage of the age of the respondents are shown in Table 1. The age range is 20 to 26 years old. More than half of the students (62.9 percent) are 22 years old. The gender distribution according to age distribution is shown in Figure 1.

Table 1. Frequency and Percentage of Age

<table>
<thead>
<tr>
<th>Age</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>7</td>
<td>4.9</td>
<td>4.9</td>
<td>4.9</td>
</tr>
<tr>
<td>21</td>
<td>20</td>
<td>14.0</td>
<td>14.0</td>
<td>18.9</td>
</tr>
<tr>
<td>22</td>
<td>90</td>
<td>62.9</td>
<td>62.9</td>
<td>81.8</td>
</tr>
<tr>
<td>23</td>
<td>16</td>
<td>11.2</td>
<td>11.2</td>
<td>93.0</td>
</tr>
<tr>
<td>24</td>
<td>8</td>
<td>5.6</td>
<td>5.6</td>
<td>98.6</td>
</tr>
<tr>
<td>25</td>
<td>1</td>
<td>.7</td>
<td>.7</td>
<td>99.3</td>
</tr>
<tr>
<td>26</td>
<td>1</td>
<td>.7</td>
<td>.7</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>143</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

Figure 1. Age and Gender Distribution of the Respondents
Data collection

Ordinal data were collected using the Likert Scale. The Likert scale was made up of five response items from 1 (strongly disagree) to 5 (strongly agree) for respondents to choose. There are four sections in the questionnaire. Section A is the demographic profile of the age and gender of the respondent. Section B is a set of 11 items about awareness of plagiarism, followed by Section C which consists of 10 items on attitudes towards plagiarism, and lastly, 14 items in Section D are about the acceptance of using Turnitin. The data for ordinal scales are converted to discrete data by summing up all the scores of the items for each variable.

To find the association between awareness of plagiarism, attitudes towards plagiarism, and acceptance of using Turnitin, the normality of the data was examined first by using Kolmogorov-Smirnov and Shapiro-Wilk statistical tests. The tests compare the sample's scores to a normally distributed set of scores with the same mean and standard deviation. The null hypothesis is the sample distribution is normally distributed and the contradicting statement is the alternative hypothesis.

Since the ordinal data is commonly not normally distributed, Spearman’s rank-order coefficient and Kendall Tau-b are the appropriate non-parametric correlation measures. According to Akoglu (2018), correlation coefficients of non-normal distribution should be calculated from the rank and not from the actual values. These two correlation tests are designed for this purpose and invariant to any monotonic relationship.

The Spearman Rho is calculated by the formula:

\[ \rho = \frac{\sum(R[x]_i - \bar{R}[x])(R[y]_i - \bar{R}[y])}{\sqrt{\sum(R[x]_i - \bar{R}[x])^2 \sum(R[y]_i - \bar{R}[y])^2}} \] (1)

where \( \bar{R}[x]_i \) and \( \bar{R}[y]_i \) are the ranks of the variables \( x \) and \( y \). Ranks are adjusted for ties (if the ties are present) using an average rank for each tie group. The equation is often expressed in the form of differences between \( n \) paired ranks \( d_i = R[x]_i - R[y]_i \) as:

\[ \rho = 1 - 6 \frac{\sum(d_i^2 + T_x + T_y)}{n(n^2 - 1)} \] (2)

\( T_x \) and \( T_y \) are the correction terms for ties. When the ties are not present, the formula can be expressed as:

\[ \rho = 1 - 6 \frac{\sum d_i^2}{n(n^2 - 1)} \] (3)

The Kendall Tau-b correlation coefficient is formulated as:

\[ \tau_b = \frac{n_c - n_d}{\sqrt{(n_0 - n_1)(n_0 - n_2)}} \] (4)
where $n_c$ is the number of concordant pairs, $n_d$ - number of discordant pairs or inversions and $n_0 = \frac{1}{2} n(n - 1)$. When there are no ties, $n_1 = 0$ and $n_2 = 0$, the formula becomes $\tau_a = (n_c - n_d) / n_0$; otherwise $n_1 = \frac{1}{2} \sum t_i (t_i - 1)$, $n_2 = \frac{1}{2} \sum u_j (u_j - 1)$, where $t_i$ is the number of ties in the $i^{th}$ group of tied values for the first variable, and $u_j$ is the number of ties in the $j^{th}$ group of tied values for the second variable. Kendall Tau measures the degree of concordance of two variables’ ranks. The coefficient decreases as the number of discordant pairs (inversions) increase.

The values of correlation coefficients range from minus one to one. The positive correlation indicates that both variables' rankings are rising. The negative correlation, on the other hand, means that as the rank of one variable rises, the rank of the other variable falls. The null hypothesis is no association between the variables and vice versa for the alternate hypothesis. The standard 99 and 95 percent confidence intervals are used. The rule of thumb of the correlation coefficients equal to or above +0.70 or -0.70 imply a strong relationship; correlations closer to +0.5 and -0.5 indicate a moderate relationship; and correlations less than +0.5 and -0.5 indicate a weak relationship (Rumsey, 2009). However, there are slight differences between statisticians and researchers regarding the cut-off point of the interpretation. The analysis is run using SPSS version 20.

RESULTS AND DISCUSSIONS

Outcome 1

The frequency distributions illustrated by the histograms in Figure 2 indicate a skewed and lack of symmetry distribution among the purposive sampling of 143 students. Therefore, the distribution deviates from the normal distribution. To make a more precise decision, the inferential statistical tests for normality which are the Kolmogorov-Smirnov and Shapiro-Wilk tests were conducted. The results for these two statistical tests were consistent and robust with a significant p-value at a 5 percent level as shown in Table 2. It provides a strong justification to reject the null hypothesis of a normal distribution which concludes the non-normality data as indicated in the histograms.
Table 2. Test of Normality

<table>
<thead>
<tr>
<th></th>
<th>Kolmogorov-Smirnov</th>
<th>Shapiro-Wilk</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Statistic</td>
<td>df</td>
</tr>
<tr>
<td>Awareness of Plagiarism</td>
<td>.125</td>
<td>143</td>
</tr>
<tr>
<td>Attitudes towards Plagiarism</td>
<td>.130</td>
<td>143</td>
</tr>
<tr>
<td>Acceptance of using Turnitin</td>
<td>.155</td>
<td>143</td>
</tr>
</tbody>
</table>

**Outcome 2**

The non-parametric correlations which are Spearman’s rank-order coefficient and Kendall Tau-b are used to examine the association of the variables. Both correlation tests are suitable for a non-linear bivariate relationship as portrayed in Figure 3. The patterns of the scatter plots display the relationship that is approaching monotonic. Therefore, the assumption of the scores is fulfilled if one variable must be monotonically related to the other variable.

(a) Awareness of Plagiarism and Attitudes towards Plagiarism
Awareness, attitudes towards plagiarism, and acceptance of using turnitin in academic writings among undergraduate students (W.Z.W. Mustapha, N. F. Z. Abidin, T.S.A.S. Ahmad, I. Ahmad, S. Paramasivam)

(b) Awareness of Plagiarism and Acceptance of using Turnitin

![Scatter Plots of the Variables](image)

(c) Attitudes towards Plagiarism and Acceptance of using Turnitin

**Figure 3.** Scatter Plots of the Variables

### Outcome 3

#### Table 3. Non-Parametric Tests of Correlation between the Variables

<table>
<thead>
<tr>
<th></th>
<th>Awareness of Plagiarism</th>
<th>Attitudes towards Plagiarism</th>
<th>Acceptance of using Turnitin</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Spearman's rho</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Awareness of Plagiarism</td>
<td>1.000</td>
<td>-.280**</td>
<td>.447**</td>
</tr>
<tr>
<td>Attitudes towards Plagiarism</td>
<td>-.280**</td>
<td>1.000</td>
<td>-.203*</td>
</tr>
<tr>
<td>Acceptance of using Turnitin</td>
<td>.447**</td>
<td>-.203*</td>
<td>1.000</td>
</tr>
<tr>
<td><strong>Kendall's tau_b</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Awareness of Plagiarism</td>
<td>1.000</td>
<td>-.209**</td>
<td>.333**</td>
</tr>
<tr>
<td>Attitudes towards Plagiarism</td>
<td>-.209**</td>
<td>1.000</td>
<td>-.157*</td>
</tr>
<tr>
<td>Acceptance of using Turnitin</td>
<td>.333**</td>
<td>-.157*</td>
<td>1.000</td>
</tr>
</tbody>
</table>

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

The results in Table 3, indicate that Spearman’s rho ($\rho$) and Kendall’s tau_b ($\tau_b$) coefficients of all associations are significant at the $p < .05$ level. The results are robust when both tests are consistent and not too far from one another. The findings demonstrated that the association between Awareness of Plagiarism and Attitudes towards Plagiarism ($\rho=-0.280$, $\tau_b=-0.209$, $p<0.01$) and Attitudes towards Plagiarism and Acceptance of using Turnitin ($\rho=-0.203$, $\tau_b=-0.157$, $p<0.01$) are negatively correlated to each other. However, the magnitudes of the correlation for both associations are weakly correlated. Surprisingly a weak positive association exists between Awareness of Plagiarism and Acceptance of using Turnitin ($\rho=0.447$, $\tau_b=0.333$) at a 5 percent significance level.
Discussions

First and foremost, the strength of correlations between variables was assessed by using Guildford’s scales (1973): weak (r=.2 and below), moderate: r=.2 to .7, strong: r=.7 to .9, and very strong: r=.9 to 1.0). Thus, the interpretation of the strength of the associations between the variables in the discussion is based on the scale.

There was a slightly moderate negative association between Awareness of Plagiarism and Attitudes towards Plagiarism (ρ=-0.280, τb=-0.209, p<0.01). It means that students are likely to plagiarize more when they are more aware of plagiarism. This may be due to the fact that the students are aware of plagiarism but do not consider it wrong or unethical, and they are aware of plagiarism but continue to plagiarize despite knowing it to be wrong (Jereb et al., 2018a).

This finding is consistent with findings in the study by Zainuddin et al. (2021) which revealed that high awareness towards plagiarism did not hinder the TESL students in a public university to plagiarise as the most prominent factor to plagiarise was to comply with the deadline of assignments. This insight is crucial to note that increasing awareness towards plagiarism cannot curb the plagiarism act among students. Therefore, other measures need to be emphasised by universities. One of them is the enforcement of stringent regulations and strict penalties on those who commit plagiarism as these may discourage them to engage themselves in the act (Farooq & Sultana, 2021).

Another measure is based on Zainuddin’s finding that students need adequate time to complete their assignments so that they may not commit the act of plagiarism as they may have ample time to acknowledge other people’s ideas and work appropriately.

Another finding indicates that there was a weak positive association between Attitudes towards Plagiarism and Acceptance of using Turnitin (ρ=-0.203, τb=-0.157, p<0.01). This provides the insight that students would be less likely to plagiarise when they have higher acceptance of using Turnitin. This may be due to the fact that the tool is able to inform them if they plagiarise. Thus, they will acknowledge the ideas or work taken from any sources. Mohammadkarimi and Amin (2019) indicated that students were aware of the concept and kinds of plagiarism and their reasons for plagiarizing even while using Turnitin software.

Finally, the finding indicates that there was a moderate positive association Awareness of Plagiarism and Acceptance of using Turnitin (ρ=0.447, τb=0.333) at a 5 percent significance level. This finding provides a crucial insight that using Turnitin is significant to curb the act of plagiarism as it may increase students’ awareness on plagiarism. This is due to the fact that the tool can indicate the similar text taken from online resources. As a result, when they plagiarise unintentionally, they have the opportunity to correct the part where they plagiarise by adding the proper acknowledgement. Prior research demonstrated that Turnitin helps to curb plagiarism by improving students’ writing conventions, especially paraphrasing (Zheng, 2021), and is an effective and beneficial tool for checking plagiarism (Ayon, 2017). Thus, the application of Turnitin should be encouraged to check students’ work in order to avoid the act of plagiarism.

CONCLUSION

Plagiarism is an unethical practice that can be regarded as cheating because students copy the effort of others as their works without acknowledging the original authors or
sources. The students who plagiarize tend to continue the unethical practice at the workplace. The higher institutions, particularly institution enforcement as proposed by de Lambert et al. (2015) are recommended to increase the awareness of plagiarism to the students and reduce the cases of plagiarism among tertiary students. The effort to increase the awareness can be made via campaigns and support by each lecturer in class where they can emphasize the cons of plagiarism. Thus, it is important to control plagiarism among students to reduce the negative impacts in the future.

The results displayed may not be accurate to interpolate the whole higher institution students in Malaysia as this study was only conducted to the selected students in Seremban Campus. Future studies may increase the sample size by considering a variety of higher institutions in Malaysia to provide more precise results that can portray the population. In addition, there are various measures taken by higher institutions to curb the act of plagiarism. Thus, the effectiveness of the measures also needs to be evaluated.

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