The Influence of Personality on the Choice and Use of Music among Students in Malaysia

Ainin Sofiya Azhar, Nurul-Azza Abdullah[*]
National University of Malaysia

Abstract
Unbeknownst to many, music plays a significant role in people's daily lives, especially among students. With the increasing production of music containing worrisome elements (such as alcohol and drugs), many are worried that it will somehow affect the students' cognition, emotions, and behaviours. Furthermore, there is a widespread misconception that listening to music will automatically prompt an individual to think and feel in ways appropriate to the message of the music. A great example is a situation where an individual who listens to a song that contains elements of violence also practices violence in real life. Therefore, this study aims to identify the influence of personality on music preference and the uses of music among university students. This study was conducted quantitatively among university students in Malaysia. The questionnaire set included the demography section, BFI-10, Uses of Music, and STOMP inventories. In addition, the respondents were chosen using the snowballing method to adapt to the current situation. The data obtained were analyzed through correlation and multiple regression tests. Results showed that Openness to experience was the best predictor for preference for music. Individuals with neuroticism traits tend to listen to reflective and complex music and often use music for emotional reasons. The study failed to find a significant relationship between extraversion and the social uses of music. In conclusion, this study signified that individuals do not passively listen to any music given and would use it for various purposes according to their personalities. Lastly, these insights will benefit our current understanding of music and clarify the importance of music in our daily lives.
Keywords: Personality, Music, Students, Malaysia

Introduction
Music has unknowingly covered many people's daily lives, especially among students. This is not surprising because music can be heard anywhere, for example, in cafes, grocery stores, shopping malls, airports, vehicles, homes, etc. Music is often considered a fun element, but it has also become an essential part of human life because it is widely used in education, the purpose of marketing strategies in a business, therapy elements, and other elements. Now, music has become the main interest in most people's lives until it is used to meet a person's social, emotional and cognitive needs (Brown, 2012; Getz et al., 2011; Rentfrow et al., 2011). Therefore, it is unsurprising that local and international music is trendy, especially among young people looking for fun. According to a report by The International Federation of the Phonographic Industry (IFPI), in 2019, an average individual spends around 18 hours a week

just listening to music. In addition, 70.9% of Internet users in Malaysia aged 16 to 64 listen to songs online or use music streaming services (Hootsuite & We Are Social, 2021).

Every piece of music has a different composition, structure, and melody. Therefore, in the selection of music, individuals will usually only listen to specific genres of music. Based on past studies, this is due to personality differences. Stable personality traits will determine cognitive and physiological processes, so indirectly, personality traits will also determine the selection of an individual's musical criteria (Schäfer & Mehlhorn, 2017). Most studies use personality traits from the Big Five and the Short Test of Music Preference (STOMP) by Rentfrow and Gosling (2003) to prove it. Rentfrow & Gosling (2003) obtained the following four music genres through factor analysis, namely Reflective & Complex (RC; blues, jazz, classical, and folk), Intense & Rebellious (IR; rock, alternative, and heavy metal); Upbeat & Conventional (UC; country, soundtrack, religious and pop) and Energetic & Rhythmic (ER; rap/hip-hop, soul/funk, and electronica/dance). The personality traits of extraversion (extraversion) and Openness (Openness) were the main predictors of music choice. Individuals who score high on Openness tend to listen to music from the RC and IR categories. For extroverted individuals, they tend to choose ER-type music (Langmeyer et al., 2012; Vella & Mills, 2017).

People spend much time listening to music, not only because of the interest factor but people also take advantage of music as emotional regulation, cognitive stimulation and stimulus in the background (Chamorro-Premuzic & Furnham, 2007). Regarding personality, neurotic individuals are more sensitive to emotions and use music as a medium to regulate emotions. In addition, extroverted individuals use more music in the background because they have a lower level of cortical arousal than introverts (Eysenck & Eysenck, 1985 in Getz et al., 2011). The cognitive use of music positively correlates with the personality trait of Openness. This is because individuals have personality traits often linked to the need for cognition and a high sense of intellectual curiosity (Chamorro-Premuzic & Furnham, 2005).

Based on the above, it can be seen that there is a clear relationship between music and personality. Although various methods and instruments have been used to study this topic, most of these studies are conducted in Western countries with their own musical culture. Therefore, this study aims to examine the influence of personality on the choice and use of music in Malaysia, a country rich in various races, ethnicities and cultures. With ethnic diversity in one country, the study becomes more interesting to see the pattern of music selection from different individual backgrounds.

Literature Review
In the field of psychology, studies related to personality never end. This is so because personality plays a significant role in every individual's life. Antoñanzas (2021) studied personality, emotional intelligence, and aggressive behaviour in Spain. His sample consisted of students aged 15 to 18 years (n = 190) because the researcher wanted to see if the relationship between these three variables could be decisive when educating students to prevent antisocial behaviour in educational institutes. To do this, they conducted a quantitative study using the Big Five Personality Questionnaire for Children and Adults (BFQ-NA), Trait Meta-Mood Scale (TMMS-24) and State-Trait Anger Expression Inventory (STAXI). Through correlation analysis and multiple regression tests, the study results show that the

higher the value of clarity and internal control, the closer a person is to having awareness and Openness. Understanding feelings and having a high level of internal control allows participants to have a better knowledge of their situation and make decisions that are more in line with reality.

Gupta Parimal's (2020) study is about the relationship between personality and psychological well-being among university students during the control of the COVID-19 pandemic. This study is exploratory and cross-sectional, consisting of 500 university students. They used Google Forms to collect data, and the questionnaire included an inventory of the International Personality Item Pool (IPIP) and Ryff Psychological well-being. The results of their study show that extroverted individuals experience worse effects than other personality traits. This is because they are among the individuals who like to socialize and interact most with the world. Therefore, it is tough for them to adjust to being isolated from others. Individuals who score high on neurotic traits also have a low level of well-being during this pandemic because they are more emotional, easily anxious and tense compared to emotionally stable individuals.

The same goes for individuals who have the trait of Openness. This is probably because they cannot adapt to a significant change like Quarantine. Moreover, the way of learning has changed from traditional methods to online learning. They are not open to innovations, which reflects the anxiety that causes them to experience deadlock and uncertainty about their future. The traits of Agreeableness and awareness both have a positive correlation with psychological well-being during this pandemic. Gupta and Primal (2020) think this may be because individuals with awareness traits are disciplined and organized. Therefore, they do not experience significant difficulties complying with the implemented isolation order. For individuals with agreeable traits, due to their altruistic nature, these individuals are allowed to help and donate to those in need.

In addition, Zhou et al. (2017) have studied the relationship between personality and Internet addiction among teenagers as well as the role of coping style as a mediator of this relationship. 998 teenagers were recruited from five high schools in Wuhan and Shanghai, China. The Chinese version of the BFI Inventory, Simplified Coping Style Questionnaire and IA Diagnostic Questionnaire were used. Zhou et al. (2017) found that conscientiousness negatively predicted Internet addiction, while neuroticism positively predicted Internet addiction. Agreeableness predicts Internet addiction negatively, while extraversion and Openness predict Internet addiction positively. This study also found that emotion-focused coping mediated the relationship between personality and Internet addiction among adolescents. According to Zhou et al. (2017), neuroticism, extraversion, and Openness are more related to emotion-focused coping, while mindfulness traits are less related to emotion-focused coping. In addition, Agreeableness, conscientiousness, extraversion and Openness are also associated with problem-focused coping, while neuroticism does not have a significant relationship with coping.

Dalpé et al. (2019) conducted their study quantitatively online and obtained 284 participants. This study investigates the role of personality traits with aspects (facets) of the Big Five model in harmonious passion (HP) and obsessive passion (OP). Harmonious passion (HP) refers to a strong but controlled desire to engage in activities one enjoys. On the other hand, obsessive passion (OP) refers to an uncontrollable urge to engage in activities one likes (Dalpé et al.,

2019). The participants were required to answer a NEO-PI-R, Passion Scale questionnaire and Positive and Negative Affect Schedule (PANAS). The findings of the study show that the traits of awareness, Openness, Agreeableness and extraversion are positively related to HP. Agreeableness and extraversion are also associated with neuroticism and are positively related to OP. In addition, HP has a positive relationship with positive affect and a negative relationship with negative affect. OP, on the other hand, has a positive relationship with negative affect.

Several studies have investigated the relationship between personality and music preferences. Among them is a study by Upadhyay et al. (2017) conducted in India among students at Lucknow Campus, Amity University. This study involved three sets of respondents where 150 people participated in a free association task to produce a list of music genres, 445 respondents participated in a qualitative study to find out the basic dimensions in the scale of music choices to be used, and 229 respondents were involved in the main study. The results of the study show that music in India can be divided into five dimensions namely Intense & Electronic (IE), Devotional & Cultural (DC), Emotional & Melodious (EM), Spiritual & Reflective (SR) and Contemporary & Rhythmic (CR). According to the study, apart from IE and SR, the remaining dimensions of music choice are less similar to those reported in the study of Rentfrow and Gosling (2003). The cultural difference between India and America is a major factor, and this can be seen in some unique musical genres reported by students in India, such as Ghazal, Bhajan, Sufi, and so on. The results of the study also found that individuals with the personality trait of Openness tend to listen to music full of energy and use intensive electric musical instruments (IE), music that emphasizes obedience and love in different cultural and religious contexts (DC) as well as emotional and very melodious music (EM). Extroverted individuals with agreeable traits prefer listening to songs with spiritual elements, which can help in introspection (SR).

In addition, Herrera et al. (2018) conducted a qualitative study online in Brazil. The respondents of this study include 1050 university students who reside in Brazil. This study is also like the study of Upadhyay et al. (2017), which produced a distinctive musical dimension according to the music genre they obtained through an inventory adaptation of the Questionnaire on Musical Style Preferences (Cremades et al., 2010 in Herrera et al., 2018). The dimensions of music found are Classical & Ethnic Music, Rock Music, Brazilian Mainstream Music, Latin Dance Music, Brazilian Music, Electronic Music, American Music, Alternative Music, Afro-American Music, Pop Music and Upbeat Music. In this study, the personality trait of Openness was positively correlated with all the dimensions mentioned except the dimension of Afro-American Music. Agreeableness personality traits are positively correlated with music that emphasizes positive emotions, such as Brazilian Music and Latin Dance Music. However, this trait and consciousness have a negative relationship with antiauthoritarian music such as Rock Music, Afro-American Music and Alternative Music. The trait of extraversion has a positive correlation with all dimensions; among them, the correlation with Brazilian mainstream music is the strongest. Finally, the researcher found that the personality trait of emotional stability is negatively related to Rock Music and positively to Latin Dance Music, Brazilian Music and Classic & Ethnic Music.

In addition, Fricke and Herzberg conducted a study in Germany (2017). This qualitative study uses the music dimension from the Short Test of Music Preferences Revised (STOMP-R;

Rentfrow et al., 2011). The model includes five factors: Mellow, Unpretentious, Sophisticated, Intense and Contemporary. The researcher found that extraversion traits are related to Contemporary and Mellow dimensions. The trait of Openness has a relationship with the unpretentious dimension and Agreeableness. Agreeableness is associated with contemporary, sophisticated, melodic, and intense. The Intense dimension also has a relationship with the trait of neuroticism but has a negative relationship with the trait of conscientiousness. Conscientiousness traits also have a negative relationship with the Unpretentious dimension.

A study by Langmeyer et al. (2012) was also conducted in Germany, mainly among young adults aged around 21-26 years. In this study, open individuals prefer RC and IR music types over UC, while extroverted individuals like UC, ER and IR music. Neurotic individuals are less interested in IR-type music and prefer UC music. Trait agreeableness only had an influence on UC-type music selection, while awareness had no relationship with music selection.

The following study was conducted in Nigeria among undergraduate students at the University of Lagos (Aroyewun & Karatu, 2020). This study aims to investigate the role of gender and personality in music choice. The musical dimension is also reorganized and divided into Reflective/Complex, Edgy/Aggressive, Energetic/Upbeat and Conventional/Simple. This study commented that extraversion and openness traits have a significant positive relationship with all four dimensions of music choice. Agreeableness personality traits are associated only with energetic music choice, while conscientiousness positively correlates with Aggressive, Energetic and Conventional music choice dimensions. Neuroticism positively correlates with the dimension of music choice, which is reflective and energetic.

Vella & Mills' (2017) study was conducted in America. However, this study only focuses on the influence of the personality traits of Openness and extraversion on music. The study sample involved 122 undergraduate students. The study's results show that the personality trait of Openness positively correlates with the dimensions of RC and IR. This trait also has a negative correlation with UC music choice. In addition, this study concluded that individuals with high scores for the trait of Openness often associated with art or music tend to use music in a certain way that suits their chosen genre, for example, by appreciating the complexity of the musician's composition and technique when listening to RC music selections and potentially handling the emotional experience when listening to IR music selections. Researchers also stated that extraversion traits, including sociability, activity, and the tendency to experience positive emotions, are factors in choosing music with high arousal and positive emotions, such as in the ER and UC dimensions.

Rauf and Rasheed (2017) have done this study in Karachi, Pakistan. Compared to other studies, this study had only 70 university respondents. The study results show that extroverted individuals prefer music from the ER dimension more. As for the RC dimension, individuals with personality traits of Openness and neuroticism are interested in this choice of music. Individuals with agreeableness personality traits are less fond of IR music choices. This study also did not find any significant relationship between mindfulness traits and different music choices.

A study was also conducted in Japan (Brown, 2012). Like previous studies, the sample of this study was university students in Tokyo, but compared to other studies, this study used the HEXACO personality theory (Ashton & Lee, 2008 in Brown, 2012). This model includes six domains (Humility-Honesty et al.), each with four more personality traits. This study also used a particular genre of music chosen by the respondents in the initial study and compared it with the genre found in the study of Rentfrow and Gosling (2003). This study has three dimensions, which are Reflective (classical, gospel, jazz, opera, enka), Energetic (rap, soul, reggae) and Intense (punk, metal, rock, pop). This study shows that the openness domain and its subdomains have the most positive correlations with the Reflective dimension and each of the genres below. The sociability subdomain, under the extraversion domain, is related to the pop music genre. Apart from that, the researcher did not find any significant relationship between personality in terms of domains, traits, and music genres.

A study by Dunn et al. (2011) was conducted in the Netherlands, but the sample consisted of participants of different nationalities. This is because this study involves employees from the Royal Philips Electronics company. This study involved the STOMP inventory, NEO-PI-R and the measurement of the participants' music-listening activities through software for a period of three months. The study results show that the respondents, in particular, are more likely to find and listen to music from the genre they report liking. Extroverted individuals are interested in pop, dance, rap and religious music genres. The agreeableness personality trait has a positive correlation with the choice of soundtracks, while neuroticism is associated with classical songs, and Openness is associated with the jazz music genre.

On the other hand, a study conducted by Neuman et al. (2016) wanted to know if there is a relationship between song lyrics in different music genres and personality. The Five Factor Model theory, used for personality variables and music dimensions in the study of Rentfrow & Gosling (2003), is also used. Natural Language Processing analysis was used to analyze the words used in the expository essays written by the participants. This study found that the compositions of extroverted individuals significantly resemble lyrics in the dimensions of ER music, such as dance music and hip hop. Neurotic individuals use similar words in the RC dimension. However, individuals who have emotional stability tend to use words similar to music genres from the ER and UC dimensions. Next, individuals who score high on the awareness personality trait use more words that resemble song lyrics on the UC dimension and less on the RC dimension, likewise for individuals who score high on agreeable personality traits. Individuals with high scores on Openness tend to use words that resemble music lyrics in the RC dimension and less in ER and UC.

The study of Ferwerda et al. (2017) has used secondary data obtained from the myPersonality website. Researchers found that individuals with high scores on Openness like to listen to new age, classic, blues, country, world, folk, jazz and alternative music. Individuals who score high on awareness are less likely to listen to folk and alternative music choices. Individuals with high scores on agreeableness traits also prefer folk and country music choices. Extroverted individuals are more interested in R&B and rap, while neurotic individuals are more interested in alternative music genres than other genres.

For studies on personality and the use of music, Chamorro-Premuzic et al. (2010a) conducted an online qualitative study using simple non-probabilistic techniques. The condition imposed

is fluency in English. The study results show that extroverted individuals often use music in the background while doing an activity. If the individual has a high level of emotional stability, they use music less to regulate their emotions or mood. The openness trait also affects a person's tendency to use music for intellectual or cognitive stimulation.

Next, Chamorro-Premuzic et al. (2010b) used a simple random sampling technique for their study and obtained 535 respondents. Researchers found that men use music as a cognitive stimulus, while women are likelier to use it to regulate emotions. They also found that neuroticism was associated with the use of music for emotion, and Openness is associated with the use of music cognitively. In addition, the extraversion trait was found to have a negative correlation with the use of music for cognition. Emotional intelligence hurts the use of music as background.

Panayides (2013) also studied the role of personality and mood in using music when doing a task requiring high cognitive skills, such as computer programming. This study was conducted on 34 University of Miami students who took a computer programming course. The study results show that in this study's sample, many scored high for the personality trait of Openness. The researcher stated that this is possible because abstract thinking and creative problem-solving should have the nature of Openness. The study results show that the trait of Openness can predict the use of music as a cognitive stimulus and background among computer programming course students. Music as a cognitive stimulus positively correlates with the level of musical activity and the time spent listening to music daily.

Getz et al. (2011) conducted a study on effect, music use and music choice in a sample of adolescents in South Africa. This study involved students from two secondary schools in Pietermaritzburg. The study results show that positive affect correlates with the background and cognitive use of music, while negative affect is positively associated with listening to music for emotional use. This study also did not get results from the relationship between affect and music choice as in the study of Rentfrow & Gosling (2003; 2006 in Getz et al., 2011). The study stated that chronic emotional states may not strongly influence music choices but that songs in each dimension can capture different emotional states.

Cabedo-Mas et al. (2021) conducted a study on the use and perception of music in a sample of Spanish citizens (n = 1868). In particular, this study aims to identify how Spanish people use music during the quarantine period during the COVID-19 pandemic. They also study the perception of the effects of music on everyday life, especially during isolation. Cabedo-Mas et al. (2021) have used a self-constructed inventory consisting of items on music identity, use and knowledge of music initiatives and perceptions of the impact of music during the COVID-19 pandemic. The results of their study found that when the amount of time spent at home increased, the perception of the intensity of music use also increased. Some participants, professional musicians and amateurs, aspire to use music to raise spirits among neighbours and the general public, especially during this pandemic. The participants also reported that they use music because it is very helpful to overcome confinement at home (51.4%), calm themselves (53.3.9%), escape from the real world (56.0%), improve their mood (62.9%) or accompany them (58.1%).

Upadhyay et al. (2016) studied the relationship between music choice, listening style, music function, perceived aesthetic atmosphere (feel) and personality. This quantitative study in India involved 77 participants and music choice measurement tools, music engagement scale, FoM Scale, music emotion scale, and BFI. Based on the study's results, the researchers found that 27.3% of respondents listen to music between 6 and 10 hours per day. In addition, romantic songs and movie songs are generally more popular than other genres. This is reasonable because most of them report listening to music to regulate emotions compared to other listening styles such as analytically, associatively and moving the body. The study results also show that music mainly serves as a source of joy, self-soothing, motivation or reminding individuals of past events. A significant relationship was found between hours spent actively listening to music and motivational music, $r(77) = .25$, $p < .05$, and between passive listening and music that reminds of past events, $r(77) =. 38$, $p < .01$. There is also a positive and highly significant relationship ($p < 0.01$) between the function of music and the personality trait of Openness, such as with music being a source of stimulation ($r = 0.306$), motivating ($r = 0.378$) and calming ($r = 0.297$).

Lonsdale & North (2010) have also conducted a study on the use, especially with music appreciation. This study differs slightly from other studies because it contains four small studies with different samples. The media appreciation model (McQuail et al., 1972 in Lonsdale & North, 2010) is used in this study, including surveillance, personal identity, personal relationships, and diversion. The first study involved 300 undergraduate students and was quantitative in nature. Researchers do so because they want to investigate why people listen to music. The second study was conducted to determine the importance of listening to music compared to other leisure activities. This study involved 117 undergraduate students and is also a quantitative study. A self-developed questionnaire was used by Lonsdale and North (2010). The third study is a qualitative study conducted in a sample of 189 undergraduate psychology students. The last study by Lonsdale & North (2011) examined the reasons for listening to music in different age groups. Seven hundred participants were recruited from three sixth-form colleges, three university campus libraries, and some individuals from the general public.

Overall, the results of this study show that individuals often listen to music to regulate mood, reduce boredom or pass the time. This is followed by using music as a social function and using music to get to know others and the world, which is the last reason. Other than that, music can be used as a background, to reflect on the past, to enjoy it, to participate in musical behaviour, as a stimulus for social interaction, and as a distraction. The researcher found that the participants listened to music more than watching television, listening to the radio, playing computer games, etc. Moreover, second to spending time on their hobbies, participants reported spending more money on listening to music each month than on other activities. They also found that music becomes less important to them as people get older. This may be due to differences in responsibilities and priorities in life.

Method
The design of this study is a descriptive and inferential quantitative survey so that it can empirically and systematically identify the influence of personality on the choice and use of music among university students in Malaysia. This study was conducted at University-level Institutes of Higher Education (IPT) throughout Malaysia. The university is a higher education

institution that provides tertiary education after primary and secondary education. With this, the students can continue their studies to the Foundation, Certificate/Diploma, Bachelor's and postgraduate level (Kamus Dewan, 2013; Nazneen Ismail et al., 2019). Based on the Department of Higher Education (2017, 2021), there are 20 public universities and 61 private universities (including overseas branch campuses) across the country.

This study's population is university students in Malaysia. According to the Ministry of Higher Education, there were 1,122,007 enrollments in 2020. Because it involves a large population, a sampling study will be done.

Before that, the sample size was determined based on the formula introduced by Yamane (1967), which is shown in Figure 3.1. This formula assumes 95% for the level of confidence and 0.5 for the degree of difference. Based on the population size, the recommended sample size is at least 384 students.

This study collects data through questionnaires. Alkibsi (2015) stated that this method is very suitable for obtaining various answers from a large sample of respondents. In addition, closed questions are used to be relevant to the study's title and objective. Furthermore, it is used to get different answers and, at the same time, easily compare and process them through a standardized coding system for analysis. This questionnaire is divided into four parts: Part A, part B, part C, and Part D. Part A is the demographic part, part B is the music selection part, and part C is the music usage part. Part D is the last part and is the part about personality. All questions are provided in bilingual English and Malay except for part B, which is only in English.

Result

overall, this study involved a total of 506 respondents who were students from public and private universities in Malaysia. The number of female respondents who participated was 411 people (81.2%), more than the number of male respondents who were only 95 (18.8%). Next, the mean age of the study sample was 22.84 years (SD = 5.13), with ages ranging from 18 to 59 years. Most respondents were between 18 and 24 years old (90.1%, n = 456).

In addition, the respondents consisted of 447 people (88.3%) who were Malay, 32 people (6.3%) who were Chinese, 8 were Indian (1.6%), 6 were Sabah Bumiputera (1.2%), 5 were Bumiputera. Sarawak (1.0%) and only one other race, Serani (0.2%).

As for religion, the number of respondents who are Muslim is 453 people (89.5%), followed by Christianity, which has 21 respondents (4.2%), Buddhism with 18 people (3.6%) and Hindus with nine people (1.8%). Two people are agnostic (0.4%), two people practice Sikhism (0.4%), and one calls himself a freethinker (0.2%).

In addition, most respondents came from the state of Selangor (36.2%), followed by the state of Johor (9.9%). Next, followed by the states of Kelantan (8.3%), Kuala Lumpur (7.9%), Penang (6.1%), Perak (5.3%), Pahang (4.5%), Negeri Sembilan (4.3%), Kedah (3.8%), Sabah (3.0%), Sarawak (2.6%) and Malacca (1.8%). Both Labuan and Perlis have only one respondent from those states.

The number of public university students (79.8%) who participated in this study was more than that of private university students (20.2%). The majority of them are undergraduate students (76.9%). 19.2% of students are taking a certificate or diploma, 3.4% are undergraduate students, and 0.6% are PhD students.

The study's results also showed that most respondents reported listening to music for half an hour up to 9 hours a week. The average number of hours for the entire sample is 13.8 hours a week (SD = 16.1). Based on Table 4.3, it was found that the respondents prefer listening to music on smartphones (n = 451) and computers or laptops (n = 410) compared to other devices. Based on Table 4.4, this may be due to most respondents listening to music through online music streaming services. 48.8% of respondents prefer listening to music through video streaming services like YouTube over audio streaming services such as Spotify and Joox (48.0%). Table 4.5 and Figure 4.2 shows that in this sample, 37.4% almost never listen to or download music from unlicensed sources, 47.2% rarely do it, 12.5% usually do it, and 3.0% do it almost always.

The study results on the type of music that is the choice of public and private university students in Malaysia. The mean for the ER dimension is 5.33, which is the highest compared to the mean of the other dimensions. The second highest dimension is the UC dimension (mean = 5.25), which only differs from the ER dimension by 0.08. The RC and IR dimensions both have means of 4.50 and 4.33.

For the variable of music choice, only the IR domain has a good consistency value, with a Cronbach's Alpha value of 0.734. An item was deleted to obtain it. The ER domain has a Cronbach's Alpha value of 0.605, which is still acceptable. Meanwhile, RC and UC, which have Cronbach's Alpha values of 0.573 and 0.499, are weak.
Next, for the variable of music use, the consistency value for music in the background is good, with a Cronbach's Alpha value of 0.716. Both emotional and cognitive music uses have acceptable Cronbach's Alpha values of 0.634 and 0.636.

Last but not least is personality. The extraversion personality trait has the highest internal consistency value, with a Cronbach's Alpha value of 0.746. The consistency values for the traits of Openness (α = 0.331), Consciousness (α = 0.418) and Agreeableness (α = 0.306) are at a very weak and unacceptable level.

Pearson's correlation analysis was conducted to determine the correlation between personality traits and music choices among IPT students in Malaysia. The study's findings are shown in Table 4.10, which shows six significant correlations.

Among them is the relationship between the personality trait of Openness, which has a positive, weak and highly significant relationship with RC (r = 0.141, p < 0.001) and IR (r = 0.136, p < 0.001). The correlation between Openness and ER is positive, weak and significant (r = 0.104, p < 0.05). This shows that an increase in the 'openness' trait will increase the tendency to listen to music from the RC, IR and ER dimensions and vice versa.

As for the awareness trait, it has a positive, weak and significant correlation with RC (r = 0.09, p < 0.05). Moreover, the correlation between awareness and ER is negative, weak and

significant (r = -0.094, p < 0.05). This shows that increased trait awareness will increase music selection from the RC dimension. However, increased personality traits will also decrease the choice to listen to ER music.
In addition, the correlation between agreeable traits and RC is positive, weak and highly significant (r = 0.123, p < 0.001).

The output of the multiple linear regression analysis shows that two personality traits significantly influence the RC dimension: Openness and Agreeableness. Consciousness traits, extraversion and neuroticism do not significantly influence the RC dimension. The findings showed that personality explained 3.6% of the total variation of the RC dimension. Overall, the goodness of fit model was significant, F (5, 500) = 3.768, p < 0.05.

Next, Table 4.12 also found that the traits of Openness and awareness significantly influenced ER's choice of music. In contrast, the rest of the personality traits did not significantly influence it. Findings also show that personality explains 2.6% of the total variance of ER dimensions. The good fit model is also significant F (5, 500) = 2.663, (p < 0.05).

For IR, Table 4.13 shows that only the openness personality trait significantly influences the music dimension. Other personality traits do not have a significant influence on the IR dimension. Additionally, personality explained 3.3% of the total variation of IR dimensions. The goodness of fit model is also significant, F (5, 500) = 3.402 (p < 0.05).

Multiple linear regression analysis was also conducted to find out the influence of personality on the use of music. For the use of music as a background, Table 4.16 shows that only the personality trait of Openness has a significant influence, while the rest of the personality traits do not. Findings also show that overall personality describes 3.7% of the total variation in the use of music as a background, and the good fit model shows that it is significant, F(5, 500) = 3.797, p < 0.05.

In addition, based on Table 4.17, two personality traits significantly influence the use of music for emotions, namely Openness and neuroticism. The personality traits of extraversion, conscientiousness and Agreeableness did not significantly influence the use of music for emotions. Personality explained 4.8% of the total variance in using music for emotion. This relationship's goodness of fit model is highly significant, F(5, 500) = 5.046, p < 0.001.

The personality trait of Openness also significantly influences the use of music for cognitive functions. However, other personality traits did not have a significant effect. Overall, personality explained 4.4% of the total variance in cognitive use of music. The goodness of fit model for this relationship is also highly significant, F(5, 500) = 4.601, p < 0.001.

Discussion
The current study has sought to replicate and extend previous studies on the topic of music and personality. Specifically, it has investigated the influence of personality on the choice of music and the use of music in a sample of university students in Malaysia. The results obtained support almost all the hypotheses built on previous studies.

At the same time, researchers found that university students in Malaysia spend an average of 13.8 hours a week just listening to music. They often listen to music through smartphones and computers. According to the Malaysian Communications and Multimedia Commission (SKMM, 2020), 98.7% of Internet users in Malaysia use smartphones to access the Internet, while 37.9% use laptops and 16.2% use desktop computers. The study respondents also reported that they tend to use music streaming services in the form of videos, such as YouTube. This is not surprising because MCMC reports that the YouTube application is the second highest social network application used by Internet users in Malaysia, with 80.6%.

Despite the existence of such music streaming services, there are still individuals who listen to or download music from unlicensed sources. From the study sample, 47.2% rarely do it, 12.5% usually do it, and 3% always listen to or download pirated music.

The study's results also found that university students in Malaysia like to listen to energetic and rhythmic music (ER). The results also show that music is often used to regulate emotions among respondents. Next, it appears that, as a whole, the study sample has the highest scores for openness traits compared to other personality traits.

In this study, the first and second hypotheses involve the personality trait of Openness. The study found that this personality trait has a positive and very significant relationship with the RC music dimension. This result is not surprising given that it can be found in several studies of other countries such as Japan (Brown, 2012), the United States (Rentfrow & Gosling, 2003; Zweigenhaft, 2008), Canada (George et al., 2007), the Netherlands (Delsing et al., 2008), Germany (Langmeyer et al., 2012) and others. This means that individuals with this trait have an active imagination and appreciate the aesthetic value of being interested in complex types of music in terms of acoustics and structure. This is because they like musical styles that reinforce their view of being artistic and sophisticated (Costa & McCrae, 1992; Nusbaum & Silva, 2011; Rentfrow & Gosling, 2003).

Next, the openness trait was also found to have the same relationship with IR. This result is parallel and supported by existing literature (Aroyewun & Karatu, 2020; Neuman et al., 2016; Vella & Mills, 2017; Zweigenhaft, 2008). Rentfrow & Gosling (2003) argue that individuals who like to listen to loud and rebellious music tend to be curious about different things, like to take risks, are physically active and consider themselves smart. These characteristics are similar to those of individuals with a dominant openness trait.

Nevertheless, this study has also shown that the trait of Openness has a positive and significant correlation with the musical dimension of ER, and this finding can only be found in the study of George et al. (2007) and Zweigenhaft (2008). Brown (2012) found a significant negative correlation between Openness and ER in his study. This is likely due to other variables influencing a person's music choices, such as cultural differences, social background, experience and musical education (Schäfer & Mehlorn, 2017). In addition, the choice to listen to different types of music genres may be explained by the basic characteristics of the personality traits. Individuals who possess the trait of Openness have been proven to be flexible and have an interest in variation in general, and perhaps this can also be applied to music choices (Costa & McCrae, 1992; Ferwerda et al., 2017).

The results of the next study could not support the third hypothesis, which is that there is a positive relationship between the personality trait of neuroticism and the music dimension of RC. On the other hand, this study did not find any significant relationship between neuroticism and RC, and this is in line with several previous studies (e.g. Ferwerda et al., 2017; George et al., 2007; Rentfrow & Gosling, 2003; Zweigenhaft, 2008). However, this study found a negative correlation between neuroticism and RC music dimensions, similar to previous studies (e.g. George et al., 2007; Rentfrow & Gosling, 2003), unlike Rauf & Rasheed (2017) who found a positive but weak relationship and in the study of Dunn et al. (2011) who found a positive relationship between neuroticism and only one genre in this dimension of music, which is classical.

In the study of Rentfrow & Gosling (2003), extroverted individuals like lively music and have vocals as in the dimension.

UC. Neumann et al. (2016) also found that the words used in expository essays written by extroverted individuals are almost similar to those found in dance and hip-hop music. Such findings can also be found in the study of Aroyewun & Karatu (2020), Ferwerda et al. (2017), George et al. (2007), Langmeyer et al. (2012) and Vella & Mills (2017). However, this study cannot support the findings of previous studies where the relationship shows a positive correlation, but it is not as significant as in the studies of Zweigenhaft (2008) and Rauf & Rasheed (2017). In this study, the extraversion trait also did not have any significant relationship with other dimensions of music.

An unexpected result obtained in this study is a positive and highly significant correlation between the trait of Agreeableness and the dimension of RC. This kind of relationship is usually not significant in past studies, but the relationship remains positive (Ferwerda et al., 2017; George et al., 2007; Langmeyer et al., 2012; Rentfrow & Gosling, 2003; Zweigenhaft, 2008). However, Franěk's (2009) study conducted in the Czech Republic found that the relationship between agreeableness traits and the RC dimension was positive and significant among individuals aged between 41 and 50.

As for the influence of personality on the use of music, the results of this study have supported two of the three hypotheses for the relationship. First, the study's results have shown that the personality trait of neuroticism predicts the use of music in terms of emotions. This means that neurotic individuals tend to use music to regulate their emotions. This finding is in line with previous studies (Chamorro-Premuzic & Furnham, 2007; Chamorro-Premuzic et al., 2009a; Chamorro-Premuzic et al., 2009b; Vella & Mills, 2017). This is because neurotic individuals experience a higher level of intensity in terms of negative emotions (Costa & McCrae, 1992). Miranda & Blas-Rochette (2018) argue that although neuroticism is related to more emotional regulation through music, it does not necessarily indicate that emotional regulation through music is a mismatch effect for the trait of emotional instability. On the other hand, it is important to know that there are two forms of emotional regulation, which are appropriate (adaptive) and maladaptive (maladaptive), which should be used more carefully when it involves the use of music.

Next, this study also supports that the trait of Openness is able to predict an individual's tendency to use music as a cognitive stimulus, even though this can be found in previous studies (Chamorro-Premuzic & Furnham, 2007; Chamorro-Premuzic et al., 2010a; Panayides,

2013; Vella & Mills, 2017). According to Chamorro-Premuzic & Furnham (2005), individuals with this personality trait are often associated with the need for cognition and a high sense of intellectual curiosity.

The results of the study also found that the trait of Openness can influence individuals to use music emotionally and as a background. Vella & Mills (2017) stated that this may be due to this trait, which often relates to artistic value or music choice, tending to use music in certain ways that suit their chosen genre. For example, they listen to music from the RC dimension to appreciate the complexity of the musician's composition and technique. In contrast, they listen to IR music when they want to regulate emotions. However, in terms of background, past studies have not found any significant relationship between these uses and openness traits.

This study also could not prove the relationship between the trait of extraversion and the use of music in hindsight, and this is very different from previous studies that have been done in Spain and Malaysia (Chamorro-Premuzic et al., 2009a; Chamorro-Premuzic et al., 2009b). However, the findings of this study are consistent with several other studies (Chamorro-Premuzic & Furnham, 2007; Chamorro-Premuzic et al., 2010b; Panayides, 2013; Vella & Mills, 2017). Studies that prove the relationship between extraversion and background music argue that using this music generally helps increase the cortical arousal level. As stated, the study results may be due to differences in culture, social background, experience and musical education (Schäfer & Mehlorn, 2017). Therefore, more in-depth research on the influence of extraversion traits on the use of music may be necessary.

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