

Association of Gender, Ethnicity, Personality, Leadership Skills and Its Influence on Music Preferences Among Medical Students in Malaysia

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Abstract

Background: Music had evolved throughout time and so are its usages and its impact on people. Because of this, there are multiple factors that contributed to choices of music in individuals. This study was conducted to determine the effects of gender, ethnicity, and personality and leadership skills on music preference among medical students. *Methods:* This cross sectional study was carried out among undergraduate students of private medical university of Malaysia from March to April 2018. Self-administered questionnaire regarding music genre type, leadership skill and personality type were completed by 178 participants. The data were collected and analysed by using Microsoft Excel 2013 with the help of Epi-info software. Categorical data were summarized by using frequency and percentage while quantitative data are represented by mean and standard deviation. Odd ratio and multivariate linear regression was used to measure the association with confidential interval of 95% and level of significance of 0.05%. *Results:* 178 participants had volunteered in this study, 135 were identified as leaders whereas 43 were potential leaders and there were none without leadership skills. In music preferences, 35.4% preferred upbeat & conventional music, 33.5% preferred energetic & rhythmic music, and 23.9% prefer reflective & complex music whereas remaining 7.2% preferred intense & rebellious music. There was significant association between thinking/feeling type of personality and leadership skills. Moreover, there was significant association between ethnicity, leadership, personality and music preference among the students. *Conclusion:* Different personalities, ethnicities and gender have different preferences in music. Ethnicity affects music preferences due to attraction towards their own cultures. Different gender are influenced by their nature and emotions. For leadership skills, there was significant association towards music preferences and also thinking/feeling type of personality.

Keywords

Gender, Ethnicity, Personality, Leadership Skills, Music Preferences, Medical Students

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1. Introduction

Music is essentially defined as a combination of sounds that comprises of a set of rhythmic, dynamic and harmonic melodies; that are either produced through a medium

(instrumental) or vocal. It is not bold to say that music plays an imperative role in people live. Music holds an integrative part of culture as it conforms individual and social identity formation. It provides a sense of belonging to a society. Not only this shows that music has the capability to shape and mould individuals to who they are,

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but also has the potential to influence their lives. The usages of music is vast and it had evolved throughout the time; with its activities traced back to even 250 000 years ago [1]. Among few of its multitudinous usages in present time are: to regulate arousal and mood, to achieve personal identification (self-awareness) and it can be even used as a tool of expression and social relatedness [2].

Due to its extensive history, there are many aspects that has an influence on music. In this research, we are aiming to associate, if any, a correlation between gender, ethnicity, personality, and leadership skills to music preferences.

Music preference with relation to gender has showed there is significant different of music genre preference between men and women [3]. In a study previously conducted by Cooley A., women favourite genre of music are pop music, followed by pop rock, electronic music and hip hop. Male counterparts on the other hand preferred electronic music, followed by pop rock, hip hop, rap and heavy metal [4]. Their preference are not only based by the music genre but it includes other factors such as: the gender of the singer, theme and lyrics of the songs [5]. Unfortunately, there is no data on gender with music genre preference in Malaysia population.

Malaysia is a diverse nation that houses approximately 200 ethnic groups; of which 3 major groups consist of Malay, Chinese and Indian [6, 7]. Different ethnic groups have different music preferences due to their own culture, religion and upbringing. Most of study conducted prior are on how the culture are affecting the people in terms music selection as a whole rather than race or ethnic-specific [8]. This is due to familiarity and their exposure of music which dominantly related to their background and place [9]. However, a study done to secondary high school students in Malaysia has shown that ethnicity does play a role in the type of music preference which is either Malay, Chinese, Indian or Western popular or art music [10].

According to American Psychological Association (APA), the term personality, are collectively used to reflect on individual differences as a whole. This differences includes a specific set of characteristic patterns of thinking, feeling and behaving that are unique to that individual. Therefore a specific type of personality will favour certain music genre which reflects on its individuality. Previous literature findings had suggested a correlation between personalities on music preference. It was hypothesized that the sensing-intuition dimension would correlate with overall musical enjoyment. Moreover, extraversion also correlated with overall musical interest, particularly for rock music Following are the personality types included in this research: (i) extraversion or introversion, (ii) sensing or intuition, (iii) thinking or

feeling and (iv) judgement or perception

It is undeniable that leadership skills are essential in medial field. Most often than ever, leadership skills in medical personnel are being marginalized in comparison to medical skills. In a modern healthcare setting today, it is not uncommon to see a multidisciplinary team in an institution working side by side: physicians, nurses, medical assistants, etc. Therefore leadership skills are an utmost important in building an inter-professional teamwork [11].

Leadership has been traditionally portrayed as an interpersonal phenomenon illustrating an interaction between leaders and subordinates [12]. Since, the leadership traits is something that has correlation to our core set of trait of personalities [13], it can also show the type of liking to the music we listen to. However, there has not been a study done proving whether this direct correlation exist between leadership traits or skill with music choices. Though a study done previously stated that music therapy does have a significant correlation with leadership skills [14].

The data regarding the association between gender, ethnicity, personality and leadership skills on music genre of medical students in Malaysia are currently lacking. Therefore in this study we would like to investigate under the following questions:

1. Is there any significant relationship between gender, ethnicity, personality, leadership skills and the music preferences?
2. What kind of music genre is associated with leaders?
3. What is the association of personality traits and leadership skills?

2. Methodology

2.1. Study Setting, Study Time, Study Population

A cross-sectional study is conducted from March 2018 to April 2018 to find out the association of gender, ethnicity, personality type, leadership skills and its influence on music preferences among medical students in Malaysia. This study is conducted on medicals students from a private medical college. All students who are willing to take part are included and incomplete questionnaire were excluded from the study.

2.2. Sample Size, Sampling

The sample size is calculated using formula for the estimation of finite population proportion, as shown below: [29]

$$n = \frac{Np(1-p)z_{1-\alpha/2}^2}{d^2(N-1) + P(1-P)Z_{1-\alpha/2}^2}$$

$$N = 861 \quad p = 0.272 \quad d = 0.06 \quad \alpha = 0.05$$

$$n = 170$$

The sample size, n , calculated for this study is 170 from the total population of students. The value $p=27.2\%$, which is the highest prevalence among the female population in their preference towards Pop music as compared to males [5]. The final sample size is calculated with inclusion of 30% of non-response rate from the sample size calculated.

Using the formula as follow:

$$n_{final} = \frac{n_{calculated}}{1 - non\ response\ rate}$$

$$n_{calculated} = 170, non\ response\ rate = 0.3$$

$$n_{final} = \frac{170}{1 - 0.3}$$

$$n = 243$$

The final target sample size for data collection is 243 participants from the private medical college. The sampling method is purposive sampling, of which students who do not give their written/informed consent and those who are not willing to take part in this study were excluded.

2.3. Procedure and Data Collection

Data is collected using a set of self-administered, questionnaire. This consists of socio demographics like age, gender and ethnicity along with music preferences, and personality type and leadership skill.

The music questionnaire used is the Short Test Of Music Preferences (STOMP) a validated questionnaire, with 7 point Likert scale (1=strongly dislike, 2=dislike, 3=somewhat dislike, 4=neither like or dislike, 5=somewhat like, 6=like, 7=strongly like) [30]. The music genre part consist of 14 types of music genre. These music genre are categorised into 4 main dimensions (reflective and complex, intense and rebellious, upbeat and conventional, energetic and rhythmic) that are used for analysis [28]. The Leadership Skills Questionnaire have 18 items whereby students have to rate themselves by using the 5 point Likert scale of choices (5=almost always true, 4=frequently true, 3=occasionally true, 2=seldom true, 1=almost never true) [31]. The personality type data collected by using Myers-Briggs Type Indicator (Short Version) questionnaire, where personality type is classified under 4 dimensions of personality types which mainly consist of extraversion/introversion, sensing/intuition, thinking/feeling and judgement/ perceiving. [32]

2.4. Data Processing and Data Analysis

After checking questionnaire, data entry will be done using the Microsoft Excel with help of Epi-info software for data analysis.

The personality type is scored based on the Myer Briggs type indicator scoring method and the highest data collected according to 4 main domain of personality types. Each question answered will be put a tally mark under the following headings. The letter with the most tally mark will represent the main personality domain of the two. The questions representing the personality domain is of the following: [32]

1. Questions 1, 5, 9, 13, 17 for extroversion/ introversion
2. Questions 2, 6, 10, 14, 18 for sensing / intuition
3. Questions 3, 7, 11, 15, 19 for thinking / feeling
4. Questions 4, 8, 12, 16, 20 for perceiving/ judgment

The total score obtained under the leadership part is classified as follows: [31]

1. The highest score (53-90) is for the students with excellent leadership skills/quality
2. The second highest score (35-52) is for the students who are doing a good job as a leader
3. Third score (18-34) is for the students who have to work hard on their leadership skills.

The scoring analysis for music preferences is by computing the average score for each of the dimensions using the items (music genre) listed below, with the highest marks reflecting their music preference out of the 4 categories: [28]

1. Reflective and complex = (classical + blues+ folk +jazz)/4
2. Intense and rebellious= (alternative +rock+ heavy metal)/3
3. Upbeat and conventional= (country + religious +pop+ soundtrack/theme songs)/ 4
4. Energetic and rhythmic= (dance/electronica + rap/hip-hop+ soul/funk)/3

The qualitative independent variables and dependent variables are calculated using Epi Info software (frequency and percentage). Quantitative data are represented by mean and standard deviation. The test of association is odds ratio and multivariate linear regression, confidential interval of 95% with level of significance of 0.05%.

2.5. Ethical Consideration

The objective of the study is briefed to participants. The students are allowed to participate voluntarily in this study and questionnaires are distributed after the written informed

consent is taken. The student's confidentiality and identity is maintained. The study protocol was reviewed and approved by the Research Ethics Committee of the private medical college.

3. Results

A total of 178 students which consisted of 116 MBBS students (65.17%) and 62 BDS students (34.83%) participated in this study. The mean age of participants was 22.59 with S.D. of 1.17. Out of which Chinese students had the highest frequency (n=76, 42.7%), followed by Indian students (n=61, 34.3%), Malay students (n=27, 15.1%) and others (n=14, 7.9%). The participants of this study were higher in the females (n=112, 62.92%) than of males (n=66, 37.08%). The data was shown in Table 1 below.

Table 1. Sociodemographic characteristics of participants (n=178).

Characteristic	Numbers (n)	Percentage (%)
Age (years), mean (s.d.)	22.59 (1.17)	-
20-21	15	8.43
22-24	156	87.64
25-31	7	3.93
Gender		
Female	112	62.92
Male	66	37.08
Courses		
BDS	61	34.83
MBBS	116	65.17
Ethnicity		
Chinese	76	42.7
Indian	61	34.3
Malay	27	15.1
Others	14	7.9

Personality of participants was divided into four categories: extraversion & introversion (E&I), sensing & intuition (S&N), thinking & feeling (T&F) and judgement & perception (J&P). Out of 178 students, 116 students had introversion personality which was 65.17% while 62 students had extraversion personality which was 34.83%. In sensing & intuition, 115 students had sensing personality (64.61%) while 63 students had intuition personality (35.39). In thinking & feeling personality 100 students had chosen feeling personality (56.18%) while 78 students with thinking personality (43.82%). In judgement & perception, 117 students had judgement personality (65.73%) while 61 students had perception personality (34.27%). For leadership, 135 students were with qualities of an excellent leader which was 75.84%, 43 students had potential to become a good leader which was 24.16% and there were no students with poor leadership skills. The data was shown in Table 2 below.

Table 2. Different types of personality and their leadership skills among participants.

Independent Variables	Number (n)	Percentage (%)
Total participants	178	-
Personality		
Extraversion	62	34.83%
Introversion	116	65.17%
Sensing	115	64.61%
Intuition	63	35.39%
Thinking	78	43.82%
Feeling	100	56.18%
Judgement	117	65.73%
Perception	61	34.27%
Leadership skills		
Leader	135	75.84%
Potential Leader	43	24.16%

In 178 students' music preferences, 7.2% (n=15) of students chose intense and rebellious music, 23.9% (n=50) of students preferred reflective and complex music, 33.5% (n=70) chose energetic and rhythmic music whereas the remaining 35.4% (n=74) preferred upbeat and conventional music. The total number of music preference is more than 178 as there were multiple answers from a small number of students. Mean scoring (SD) of all four genre of music are: Intense and rebellious music 5.37 (0.87), 4.72 (0.87) for reflective and complex music, 5.38 (0.97) for energetic and rhythmic music and 5.12 (0.90) for upbeat and conventional music. The data was shown in Table 3 below.

Table 3. Numbers of students' preference of different types of music.

	Number (%) ^a	Mean (SD)
Reflective & Complex	50 (23.9%)	4.72 (0.87)
Intense & Rebellious	15 (7.2%)	5.37 (0.87)
Upbeat & Conventional	74 (35.4%)	5.12 (0.90)
Energetic & Rhythmic	70 (33.5%)	5.38 (0.97)

^aMultiple answers

The results of multivariate linear regression analysis in Table 4. Male shows higher preference score compared to female medical students, with regression coefficient, $b=1.11$, 95% confidence interval [CI] of 0.57-1.65 ($p<0.001$) for reflective and complex music. Based the ethnicity, Indians have higher music preference compared to Chinese with value $b=1.02$, 95%CI 0.46-1.59 ($p<0.001$). The other ethnicity include Malay and Others also having a higher score $b=1.18$, 95% CI 0.44-1.93 and ($p=0.001$), and $b=0.90$, 95% CI -0.13-1.92 ($p=0.085$) respectively. As for the leader having $b=1.77$, 95% CI of 1.26-2.29 ($p<0.001$) which has higher preference than potential leader.

On personality types, introverts favours this music more than extroverts with $b=1.13$, 95% CI 0.64-1.62 ($p<0.001$). Sensing individuals shown more interest than intuitive individuals with $b=0.90$, 95% CI 0.38-1.42 ($p<0.001$).

Based on their nature, thinking individuals has negative association compared to feeling individual with $b=-0.01$, 95% CI $-0.56-0.55$ ($p=0.983$). Individuals with perceiving

traits has $b=0.66$, 95% CI $0.12-1.20$ ($p=0.017$) which has higher score on this type of music preference than judging traits individual.

Table 4. Association between gender, ethnicity, leadership and personality with reflective and complex music.

Independent Variable	Reflective & Complex Regression coefficient (b)	95% CI for b	P value
Gender (M/F)	1.11	0.57,1.65	<0.001
Ethnicity (India/Chinese)	1.02	0.46,1.59	<0.001
Ethnicity (Malay/Chinese)	1.18	0.44,1.93	0.001
Ethnicity (Others/Chinese)	0.90	-0.13,1.92	0.085
Leadership (Leader /Potential Leader)	1.77	1.26,2.29	<0.001
Personality types			
Introversion/extraversion	1.13	0.64,1.62	<0.001
Sensing/Intuition	0.90	0.38,1.42	<0.001
Thinking/Feeling	-0.01	-0.56,0.55	0.983
Perceiving/Judging	0.66	0.12,1.20	0.017
Coefficient determination, $r^2=86\%$			

*CI=confident interval

The results of multivariate linear regression analysis are shown in Table 5. Male shows higher preference score compared to female, with regression coefficient, $b=1.45$, 95% CI $0.95-1.95$ ($p<0.001$) for intense and rebellious music. Based on ethnicity, Indian have higher music preference compared to Chinese with value $b=1.39$, 95% CI $0.87-1.91$ ($p<0.001$). These include Malay and Others also having a higher score $b=1.08$, 95% CI $0.39-1.76$ and ($p=0.002$), and $b=1.38$, 95% CI $0.44-2.32$ ($p=0.004$) respectively. For leadership, leader has $b=1.07$, 95% CI of $0.59-1.54$ ($p<0.001$) which shows higher preference than

potential leader.

On personality types, introverts favours this music more than extroverts with $b=0.90$, 95% CI $0.45-1.35$ ($p<0.001$). Sensing individuals are more than intuitive individuals with $b=0.53$, 95% CI $0.05-1.00$ ($p=0.030$). Based on their nature, thinking individuals has positive association compared to feeling individual with $b=0.08$, 95% CI $-0.44-0.59$ ($p=0.768$). Individuals with perceiving traits has $b=0.34$, 95% CI $-0.16-0.84$ ($p=0.177$) which is higher but insignificant to judging traits individual.

Table 5. Association between gender, ethnicity, leadership and personality with intense and rebellious music.

Independent variable	Intense & Rebellious Regression coefficient (b)	95% CI for b	P value
Gender (M/F)	1.45	0.95,1.95	<0.001
Ethnicity (India/Chinese)	1.39	0.87,1.91	<0.001
Ethnicity (Malay/Chinese)	1.08	0.39,1.76	0.002
Ethnicity (Others/Chinese)	1.38	0.44,2.32	0.004
Leadership (Leader /Potential Leader)	1.07	0.59,1.54	<0.001
Personality types			
Introversion/ extraversion	0.90	0.45,1.35	<0.001
Sensing/Intuition	0.53	0.05,1.00	0.030
Thinking/ Feeling	0.08	-0.44,0.59	0.768
Perceiving /Judging	0.34	-0.16,0.84	0.177
Coefficient determination, $r^2=82\%$			

*CI=confident interval

The results of multivariate linear regression analysis are shown in Table 6. Compared with female, male shows higher preference score on upbeat and conventional music, with regression coefficient, $b=1.25$, 95% CI $0.69-1.81$ ($p<0.001$). Based on ethnicity, Indian and Malay have higher music preference compared to Chinese with value $b=1.35$, 95% CI $0.77-1.94$ ($p<0.001$), and value $b=0.99$, 95% CI $0.22-1.76$ ($p=0.012$) respectively. However, other of ethnicity shows insignificant regression coefficient with $b=0.67$, 95% CI $-0.39-1.73$ ($p=0.212$). For leadership, leader has $b=1.88$, 95% CI of $1.34-2.41$ ($p<0.001$) which shows higher preference

on this type of music than potential leader.

On personality types, introverts favours this music more than extroverts with $b=1.35$, 95% CI $0.85-1.86$ ($p<0.001$). Sensing individuals favours this type of music more than intuitive individuals with $b=0.81$, 95% CI $0.28-1.35$ ($p=0.003$). Based on their nature, thinking individuals has higher score compared to feeling individual with $b=0.07$, 95% CI $-0.50-0.65$ ($p=0.805$). Individuals with perceiving traits has $b=0.55$, 95% CI $-0.01-1.10$ ($p=0.055$) which shows higher preference score than judging traits individual but insignificant.

Table 6. Association between gender, ethnicity, leadership and personality with Upbeat and Conventional music.

Independent variable	Upbeat & Conventional Regression coefficient (b)	95% CI for b	P value
Gender (M/F)	1.25	0.69,1.81	<0.001
Ethnicity (India/Chinese)	1.35	0.77,1.94	<0.001
Ethnicity (Malay/Chinese)	0.99	0.22,1.76	0.012
Ethnicity (Others/Chinese)	0.67	-0.39,1.73	0.212
Leadership (Leader/ Potential Leader)	1.88	1.34,2.41	<0.001
Personality types			
Introversion / Extraversion	1.35	0.85,1.86	<0.001
Sensing/ Intuition	0.81	0.28,1.35	0.003
Thinking /Feeling	0.07	-0.50,0.65	0.805
Perceiving / Judging	0.55	-0.01,1.10	0.055
Coefficient determination, $r^2 = 86\%$			

*CI=confident interval

Table 7 showed the results of multivariate linear regression analysis on energetic and rhythmic music. Male shows higher preference score compared to female with value of $b=1.32$, 95% CI 0.79-1.86 ($p<0.001$). Based on ethnicity, Indian have higher music preference compared to Chinese with value $b=2.21$, 95% CI 1.65-2.77 ($p<0.001$). Malay and others were also having significant higher preference than Chinese with $b=1.40$, 95% CI 0.67-2.14 ($p<0.001$), and $b=1.47$, 95% CI 0.46-2.48 ($p=0.004$) respectively. When comparing on leadership, leader has $b=1.39$, 95% CI of 0.88-1.90 ($p<0.001$) which shows higher preference than potential leader in this music.

Based on personality types, introverts favours this music more than extroverts with $b=1.07$, 95% CI 0.59-1.55 ($p<0.001$). Sensing individuals show more interest than intuitive individuals with $b=0.80$, 95% CI 0.29-1.31 ($p=0.002$). Comparing with feeling individuals, thinking individuals has insignificant lower preference score on the music with $b=-0.003$, 95% CI -0.55-0.55 ($p=0.991$). Individuals with perceiving traits has $b=0.57$, 95% CI 0.04-1.110.84 ($p=0.177$) which is positive association and higher preference on this music genre compared to judging traits individual.

Table 7. Association between gender, ethnicity, leadership and personality with Energetic and Rhythmic music.

Independent variable	Energetic & Rhythmic Regression coefficient (b)	95% CI for b	P value
Gender (M/F)	1.32	0.79, 1.86	<0.001
Ethnicity (India/Chinese)	2.21	1.65, 2.77	<0.001
Ethnicity (Malay/Chinese)	1.40	0.67, 2.14	<0.001
Ethnicity (Others/Chinese)	1.47	0.46, 2.48	0.005
Leadership (Leader/ Potential Leader)	1.39	0.88, 1.90	<0.001
Personality types			
Introversion / Extraversion	1.07	0.59, 1.55	<0.001
Sensing /Intuition	0.80	0.29, 1.31	0.002
Thinking /Feeling	-0.003	-0.55, 0.55	0.991
Perceiving/ Judging	0.57	0.04, 1.11	0.036
Coefficient determination, $r^2 = 87\%$			

*CI=confident interval

The mean score for leaders who preferred reflective and complex music is 4.27 whereas potential leaders scored 4.38. In intense and rebellious music, leaders had a mean score of 3.36 and potential leaders scored 3.73. Leaders who had

chosen upbeat and conventional music had a mean score 4.56 while potential leaders had a score of 4.64. Lastly for energetic and rhythmic music, leaders' mean score was 4.27 and potential leaders' were 4.60.

Table 8. Mean score of music preferences based on leadership skills.

Type of Music Genre	Leader		Potential leader	
	mean score (SD)	range	mean score (SD)	range
Reflective and Complex	4.27 (1.05)	1.75-6.00	4.37 (0.85)	2.25-5.75
Intense and Rebellious	3.39 (1.30)	0.66-6.70	3.73 (1.21)	1.67-7.00
Upbeat and Conventional	4.56 (1.08)	1.75-7.00	4.65 (0.94)	2.75-6.25
Energetic and Rhythmic	4.27 (1.43)	1.00-7.00	4.60 (1.11)	2.33-7.00

Table 9 shows the association between types of personality with leadership skills. There was significant association between Thinking/Feeling personalities with leadership skills. Students with higher feeling personality were less

likely to be leaders with odds ratio 0.4667 (95% CI 0.2242-0.9714). However, there were no significant association between Extraversion/Introversion, Intuition/Sensing and Perceiving/Judging with leadership skills.

Table 9. Association of types of personality with leadership skills.

Independent Variables	Leadership Skills		Odd Ratio (95% CI)	Chi-Square	P value
	Leaders N (%)	Potential Leaders N (%)			
Personality					
Extraversion (E)	74.19%	25.81%	0.87 (0.43- 1.78)	0.14	0.707
Introversion (I)	76.72%	23.28%	1 (Ref.)		
Intuition (N)	73.02%	26.98%	0.79 (0.39- 1.60)	0.42	0.514
Sensing (S)	77.39%	22.61%	1 (Ref.)		
Thinking (T)	83.33%	16.67%	1 (Ref.)	4.25	0.039
Feeling (F)	70.00%	30.00%	0.47 (0.22- 0.97)		
Perceiving (P)	68.85%	31.15%	0.57 (0.28- 1.15)	2.48	0.116
Judgement (J)	79.49%	20.51%	1 (Ref.)		

4. Discussion

The purpose of this cross-sectional study conducted is to find out the correlation between gender, ethnicity, personality, leadership skills and music preferences among medical students in Malaysia. Kurdek (1987) found that most of the times, adolescents use music listening as coping strategy to deal with stress [21]. According to Brown & Hendee (1989) and Christenson & Roberts (1998), adolescents between 12 and 18 years old listen to over 10 000 hours of music [22, 24]. Both of these statements clearly show the importance of music in personal and social lives of people.

Music preferences are consistently related to personality characteristics, generally confirming prior research in United States [3]. In this current study, the findings show more introverts prefer Upbeat & Conventional and energetic & rhythmic music compared to extraverts. According to a previous study from Pakistan, energetic & rhythmic music has a strong correlation with extraversion because they are active, social, assertive and outgoing [17]. Evidence suggests that extraverts prefer upbeat & conventional type of music too [18]. This is because studies have shown that extraverts need high stimulating environment due to their low cortical arousal level [26], while introverts need low stimulating environment due to their high cortical arousal level [27]. Contrasting to the evidences, the result of the current study shows that even introverts can like high stimulating environment.

Sensing-Intuition dimension of personality also plays a very important key role in understanding music preferences [19]. The results show sensing individuals prefer all the four categories of music more compared to intuition individuals. Sensing individual is someone who gives importance for

facts and reality while intuition individual gives importance for possibilities and potential [20]. A previous study suggests sensing people prefer music structure which has more realistic concrete properties of music while intuition people prefer emotions in music [19]. The current results partially do not support this evidence because in this study, sensing individuals have chosen music which has emotional influences too.

Myer Briggs theory says thinking-feeling pair reflects one's style of decision making [20]. In this study, Thinking individuals have negative association with reflective & complex music, negative association with intense & rebellious and upbeat & conventional music and insignificant lower preference level in energetic & rhythmic music compared to Feeling individuals but these findings are less relevant to show the real association between personality and music preference. Even the previous study results are less stable or helpful to understand the relationship, this may be because Rentfrow and Gosling (2003) scale is not examining emotional preferences in music, but instead investigating the preference for music genres [19]. Therefore, it does not help to explain this relationship in detailed.

Next, in judging-perceiving dimension, perceiving traits show moderately higher preference than judging individuals. Judging personality has no association with any of the music genres and no previous research has explained about this finding with a sensible reason. The lack of evidence is due to limited research on personality and music preferences, specifically by using Myer Briggs theory. Most of the previous studies are done based on the Big Five Personality test. Evidence suggests that perceiving, sensing and intuition are playing a major role in music preference [19]. However, contrary to previous research, only sensing individuals have higher association with music preferences.

For the association between leadership skills and music preferences, the results show most of the students with leadership potentiality have higher preference levels for upbeat & conventional and energetic & rhythmic music than students with excellent leadership skills. Evidences do not support this result because all the previous researches explains the influence of music on development of leadership skills, whereas this study emphasise on influence of leadership skills on music preference which is was yet to be further explored. Finding suggests leadership skills has positive association with music influences. The current result can be explained as leadership skills is partly an inherent trait that is similar to personality traits in ways, that it can influence our choice in different types of music.

One of the hypotheses is gender influences music preferences. In this study males exhibit higher preferences score compared to females for all four types of music genres. The current results support the evidence which states that males prefer more hard rock music (more to upbeat & conventional and energetic & rhythmic music) while girls prefer more soft, romantic and dance-oriented music [22]. Another study suggests that music preferences influence by gender of both listeners and performers [23]. Christenson (1998) states females choose music based on the influence of the music on their emotions [22]. There are many researches with different theories for gender bias in music preferences but still there is a need more justification for this gender bias in music preferences.

Association of ethnicity and music preference shows Indians have significant association than Chinese participants. Malays and other participants also have higher preference level than Chinese in all four types of music genres. This result can be explained by the culture variations but not properly established in this study due to lack of music choices given to the participants based on their culture. Previous study suggests that “preference ethnic” and “familiarity ethnic” are important variables in music preference [9]. Students’ music preferences influence by their familiarity [9]. The findings presented here unable to support the evidence as it could not establish ethnic-based and non-ethnic based music. When music of a particular ethnic group is given as an option, participants from that particular ethnic group tend to give more ratings based on their own culture [10]. For example, evidence from Mccrary, J (1993), shows that black listeners have given higher preference ratings for black performers compared to white performers [25]. So, it has been proven that ethnicity influences music preferences.

There is limitation in this study. This study results cannot be generalised as we had included the students from only one private college. For future research, we recommend including students from other universities or colleges and also adding

examples of songs for each type of genre. Moreover, ethnicity-based music and familiarity-based music options should be given for the participants to choose. Future study should also include more male participants in order to study gender differences.

5. Conclusion

Different personalities have different preferences in music. This is because music preferences reflect our individualities and show which affective pleasures we enjoy. Ethnicity also affects music preferences due to attraction towards their own cultures. Both gender have different preferences towards music which are influenced by their nature and emotions as males prefer hard rock music and female more of soft, romantic and dance-oriented music. As for different leadership skills, there is positive association towards music preferences and thinking-feeling type of personalities.

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