

## Compulsive buying behavior and self-esteem among K-pop fan undergraduate medical students in Jakarta

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### ABSTRACT

The rising popularity of K-pop has attracted many teenagers and young adults. Fans tend to purchase idol merchandise as a sign of support and affection, which can lead to compulsive buying behavior. Compulsive buying behavior is one of the coping mechanisms for low self-esteem. This study aimed to investigate the relationship between self-esteem and compulsive buying behavior among undergraduate medical students in Jakarta who are fans of K-pop. A cross-sectional study was conducted involving 97 students, aged 18 to 25, from various medical schools in Jakarta who were actively engaged as members of a K-pop fan club. Data were obtained through the Revised Edwards Compulsive Buying Scale (ECBS-R) and the Rosenberg self-esteem Scale questionnaire. Among the 97 respondents, 35.1% with low self-esteem, and 51.6% with compulsive buying behavior. A significant relationship was found between self-esteem and compulsive buying behavior ( $p = 0.014$ ). In conclusion, low self-esteem is associated with compulsive buying behavior among K-pop fan medical students, particularly females, which may adversely impact their academic performance.

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## 1. INTRODUCTION

The phenomenon of Korean pop, better known as K-pop, has been exponentially growing over the 20th century. It has attracted teenagers and young adults along with the development of Korean culture, often called the Hallyu wave or Korean wave in Asia, especially in Indonesia [1]. K-pop idols commonly release merchandise such as light sticks, photo cards, posters, and albums. Fans often purchase these items impulsively as a way to express support for their idols, with such decisions typically driven by emotional attachment rather than rational evaluation [2]. These merchandise purchases usually occur continuously whenever K-pop idols release new merchandise, which can lead to the phenomenon of compulsive buying behavior [2].

Compulsive buying behavior occurs when a person makes continuous or excessive purchases that cannot be controlled due to failure to restrain impulses and a lack of control [3]. These adverse effects come in various forms, such as frustration and guilt for being unable to restrain oneself from buying goods they "want" instead of "need." [4]. Most K-pop fans only purchase items and then proceed to the store and display them because these items, such as posters and photocards, can only be displayed. If compulsive buying

occurs continuously, problems can arise in family relationships or those closest to them, and financial problems could lead to financial debt [5]. Compulsive buying behavior is usually driven by lower self-esteem. Some research shows a relationship between self-esteem and increased compulsive buying behavior. Compulsive buyers generally have higher self-awareness and lower self-esteem, so they try to compensate and cope by buying goods [6].

Some research conducted in Europe and America in 2020 shows changes in self-esteem from adolescence to mid-adulthood at the ages of 18-25 [7]-[9]. At that age, individuals can explore their identities, the years of instability, the age of self-discovery, and the age of having more opportunities with challenges, such as moving out of the house for the first time to attend college or start a job that encourages an individual to adapt to the things they experience [8]. In the process of adapting to live independently, solutions to foreign challenges will emerge, and several changes will likely impact the development of their personalities, one of which is self-esteem [8].

This study considers that undergraduate medical students tend to experience unstable self-esteem levels and compulsive buying that have a close relationship with self-esteem levels [10]. We also believe that focusing on the undergraduate medical students is important; they are a unique population in which transition to college is accompanied by plenty of stressors, in particular, often face high levels of stress and anxiety due to academic demands such as heavy workloads and pressure to perform, which can lower their self-esteem. In addition, no research has shown a relationship between self-esteem and compulsive buying among undergraduate medical students who are also K-pop fans, especially in Indonesia.

## 2. METHOD

This research is a cross-sectional online study from August to October 2022. The minimum sample size was calculated using the Lemeshow formula with a precision level of 0.05; initially, 97 participants were calculated, subsequently adjusted to 106 to accommodate a dropout rate of 10%. A Google Forms screening questionnaire and informed consent were distributed to K-pop fandom groups in Jakarta, such as Facebook K-pop idol fan pages and Twitter fan groups. Then, the sample was taken using the consecutive sampling method until the number of subjects needed in this study was fulfilled.

Ninety-seven respondents, ages 18 to 25, met the inclusion criteria. Inclusion criteria include K-pop fans who are medical students, K-pop fans who like one or more K-pop singers (solo, girlband, boyband) and have followed idol activities for more than one year, buy idol merchandise at least once a year, watch idol's activities online via social media or news outlets, follow the latest information and trends related to idols at least once a month and watches concerts through online and offline at least once a year. Meanwhile, the exclusion criteria include fans who are on hiatus and fans who have never purchased the idol's merchandise. Potential bias may arise in this study, such as those who are more passionate about K-pop and meet these inclusion criteria are also more likely to volunteer to participate, which we had anticipated with the detailed inclusion criteria.

The level of self-esteem was measured using the Rosenberg self-esteem scale, and the level of compulsive buying behavior was measured using the Revised Edwards Compulsive Buying Scale (ECBS-R). Both questionnaires are used in English without a validation process within the Indonesian context. The Rosenberg self-esteem scale (Cronbach's alpha in the range of 0.80-0.95) consists of 10 items, five expressed in positive statements and 5 in negative statements, using rating points (strongly agree = 3, agree = 2, disagree = 1, strongly disagree = 0). If the score is lower than 15 (<15), then self-esteem is low, and if it is 15-25, then self-esteem is average. Self-esteem is high if it is more than 26 (>26) [11].

The Revised Edwards Compulsive Buying Scale (ECBS-R, Cronbach's alpha is 0.87) is a revision of the Edwards Compulsive Buying Scale (ECBS) instrument. The ECBS-R scale contains 16 questions that are answered based on severity ("I completely agree" = 5 and "I do not agree" = 1). This instrument has a lowest score of 16 and a highest score of 80. The cut-off score for this instrument is 42, which means that individuals who get a score of less than 42 are not considered compulsive buyers, and a score of 42 or more is considered compulsive [12]. Data processing and analysis were performed using Microsoft Excel and SPSS v21.0. Bivariate analysis used the Chi-square statistical test with a significance value of  $p \leq 0.05$ .

## 3. RESULTS AND DISCUSSION

### 3.1. Results

This study involved 97 participants divided into 85 women (87.6%) and 12 men (12.4%). The largest age group that participated in this study was 18-20 years old (65%), followed by the 21-23 years old group (26.8%). Forty-nine respondents (50.5%) had an average monthly income (including parents' pocket money) ranging between IDR 1,200,000 – IDR 4,200,000, followed by a group with average monthly income ranging between IDR 500,000 – IDR 1,200,000 (40.2%), as shown in Table 1. Most

respondents have money obtained from their parents as pocket money to be used for daily needs; besides that, there is also money that they earn themselves. Most female respondents had lower self-esteem (35.1%), and 22 respondents (22.7%) aged 18-20 had lower self-esteem, followed by the age range 21-23 with 12 respondents (12.3%). Based on the average income per month (including pocket money from parents), the majority of those who earned IDR 1,200,000 – IDR 4,200,000 had lower self-esteem, with 16 respondents (16.4%), followed by those who earned IDR 500,000 – IDR 1,200,000 with 15 respondents (15.5%), as shown in Table 2.

Fifty female respondents (51.6%) had compulsive buying behavior, and 31 respondents aged 18-20 years old (31.9%) had compulsive buying behavior. Compulsive buying behavior was expected in the group with an income of IDR 500,000 – IDR 1,200,000 (21.6%) and the group with an income of IDR 1,200,000 – IDR 4,200,000 (28.8%), see Table 3. The Chi-square test results show a significant relationship between lower self-esteem and compulsive buying behavior among medical students' K-pop fans who reside in Jakarta, with an age range of 18-25 years old. ( $p = 0.014$ ), as shown in Table 4. Students with low self-esteem exhibit higher compulsive buying behavior compared to those with normal or high self-esteem.

Table 1. Characteristics of respondents

Characteristics		Frequency	Percentage (%)
Gender	Woman	85	87.6
	Man	12	12.4
Age	18-20	64	65
	21-23	26	26.8
	24-25	7	7.2
Average income per month	< IDR 500,000	6	6.2
	IDR 500,000 – IDR 1,200,000	39	40.2
	IDR 1,200,000 – IDR 4,200,000	49	50.5
	IDR 4,200,000 – IDR 20,800,000	3	3.1
	IDR 20,800,000 – IDR 41,700,000	0	0
	> IDR 41,700,000	0	0

Table 2. Distribution of gender, age, and income on the level of self-esteem

Characteristics		Self-esteem					
		Low		Normal		High	
		N	%	N	%	N	%
Gender	Woman	34	35.1	20	20.6	31	31.9
	Man	1	1.1	7	7.2	4	4.1
Age	18-20	22	22.7	18	18.5	24	24.7
	21-23	12	12.3	5	5.2	9	9.3
	24-25	1	1.1	4	4.1	2	2.1
Income	< IDR 500,000	4	4.1	2	2.1	0	0
	IDR 500,000 – IDR 1,200,000	15	15.5	11	11.3	13	13.4
	IDR 1,200,000 – IDR 4,200,000	16	16.4	13	13.4	20	20.6
	IDR 4,200,000 – IDR 20,800,000	0	0	1	1.1	2	2.1

Table 3. Distribution of gender, age, and income on compulsive buying behavior

Characteristics		Compulsive buying behavior			
		Negative		Positive	
		N	%	N	%
Gender	Woman	35	36.1	50	51.6
	Man	9	9.3	3	3.1
Age	18-20	33	34.0	31	31.9
	21-23	9	9.3	17	17.5
	24-25	2	2.1	5	5.2
Income	< IDR 500,000	3	3.1	3	3.1
	IDR 500,000 – IDR 1,200,000	18	18.6	21	21.6
	IDR 1,200,000 – IDR 4,200,000	21	21.6	28	28.8
	IDR 4,200,000 – IDR 20,800,000	2	2.1	1	1.1

Table 4. Relationship between self-esteem level and compulsive buying behavior

Self-esteem	Compulsive buying behavior				Total		p-value
	Negative		Positive		N	%	
	N	%	N	%			
Low	9	9.3	26	26.8	35	36.1	0.014
Normal	15	15.5	12	12.4	27	27.8	
High	20	20.6	15	15.5	35	36.1	
Total	44	45.4	53	54.6	97	100	

### 3.2. Discussion

#### 3.2.1. Gender differences

A low level of self-esteem, followed by compulsive buying behavior, is studied to result from the fear of rejection from the surrounding environment and social groups. In this study, we found that lower self-esteem is higher among female students aged 18-20. A similar result was found in a study by Luthfi and Harsono [13], which found that most early young adult women who were K-pop fans had lower self-esteem. The other study conducted by Shrestha *et al.* [14] during the COVID-19 pandemic on medical students in Kathmandu also found that female students suffered lower self-esteem than males.

College represents a period of change and development for young adults, marked by diverse influences that can impact their self-confidence. Modern college women encounter significant expectations, including finding a life partner, establishing a career, achieving financial autonomy, and nurturing a social circle, all of which can lead to feelings of diminished self-worth. One significant aspect of this self-esteem crisis is linked to poor body image in females. The global phenomenon of the Korean Wave encompasses culture, music, lifestyle, and pictures of what women should be. The idealized image of slimness and attractiveness, mirrored by idols, becomes a standard to fulfill; if not, someone will feel a sense of not being good enough. Research indicates a reciprocal relationship between body image dissatisfaction and self-esteem, highlighting the complex interplay between societal influences and personal perception [15].

The prevalence of compulsive buying behavior highlighted in this study showed a significant increase among female respondents. Our findings aligned with Amin *et al.* [16] study on compulsive buying among medical students in Riyadh, Saudi Arabia, which similarly noted a predominance of female compulsive buyers. Villardefrancos' and Otero-López [17] study shows that there is a tendency for avoidance coping, which can lead to compulsive buying, which is higher in women ( $p < 0.001$ ). Anxiety, which is influenced by low self-esteem, is also thought to be the cause of high levels of compulsive buying in female students, as they suffer from depression and anxiety more than their male colleagues. Another study suggests that male students are more likely to engage in avoidance coping activities with other types of addiction, such as pathological gambling or substance use, compared to purchasing activities [18].

#### 3.2.2. Socioeconomic status and intellectual level

The prevalence of low and high self-esteem in this study is the same. A previous study by Farwa *et al.* [19] show that socioeconomic status is related to self-esteem, usually measured by education, employment, and income. Individuals with better education, jobs, and higher incomes certainly have better self-esteem, and vice versa. In contrast, Maraz *et al.* [20] reported no linear association between compulsive buying behavior and socioeconomic status. This can be explained by the higher percentage of normal and higher self-esteem because, in this study, most respondents have an average income per month (including the provision of pocket money from parents) of IDR 1,200,000 – IDR 4,200,000, which indicates the socioeconomic status of most respondents was good.

Another factor that can affect one's self-esteem is one's intellectual level. Medical students are generally considered high achievers with average or higher intellectual capacities. Thus, individuals with better academic scores and intellectual capacity had average or higher self-esteem than individuals with lower academic scores and intellectual capacity. This proves this study's high standard and high self-esteem because respondents are medical students. According to research on medical students at Jimma University by Gidi *et al.* [21], more than half of the respondents had normal self-esteem. Research by Arshad [22] also showed significant results between self-esteem and academic achievement among university students.

#### 3.2.3. Pandemic influence and age differences

In the current study, as predicted, there was an increase in the prevalence of compulsive buying among K-pop fans. One of the causes of the high level of compulsive buying by K-pop fans in this study is the result of the COVID-19 pandemic. The COVID-19 pandemic during this study was also one of the main factors in decreasing self-esteem among K-pop fans. During the pandemic, individuals spent more time at home and experienced peak boredom, making K-pop fans idolize celebrities as a medium to eliminate their

boredom [23]. Maraz and Yi [24] showed that compulsive shopping behavior increased during the pandemic compared to the period before COVID-19.

Compulsive buyers spend four times more time on the internet than non-compulsive buyers, as the internet is now straightforward to access. Apart from that, K-pop fans prefer to feel temporary happiness and pleasure when making purchases, which results in them being more focused on the shopping process than on the use of goods [25]. This also explains why the prevalence of compulsive buying in this study was higher than in previous studies. Besides that, online shopping trends through social networking sites (SNS) and Social Commerce, especially during and after the COVID-19 pandemic, have had a major impact on the high level of compulsive buying prominent among female consumers [18].

The results of this study found that individuals who were in college, aged 18-20-year-olds, were the most likely to engage in compulsive buying compared to older age groups. College students, whose emotional maturity is still developing and forming their identities, are prone to making irrational impulse purchases. These purchases are not driven by necessity but rather by a desire to conform to current trends and gain social acceptance [26]. The results of this study are contrary to another study by Ye *et al.* [27] using samples from two regions, Hong Kong and China, which found that 11.3% of respondents showed compulsive buying behavior in emerging adulthood aged 18-25, and 18.5% in early adulthood aged 30-39 years. In early adulthood, individuals work for several years after college graduation. They are more likely to overspend and have a lot of financial capabilities than individuals in emerging adulthood. This shows that individuals in an older age range generally have more compulsive buying behavior than those still in college.

#### **3.2.4. Relationship between low self-esteem, compulsive buying behavior, and medical students**

A significant relationship was found between low self-esteem and compulsive buying behavior among medical students' K-pop fans who reside in Jakarta, with an age range of 18-25 years old. These results align with previous studies showing that low levels of self-esteem are related to compulsive buying behavior. Vilanty and Sumaryanti [28] with 99 university students, showed significant results between self-esteem and compulsive buying in Bandung, Indonesia, who shopped online. Rahmah and Megawati [29] studied intergenerational compulsive purchases of females, including baby boomers, X generation, and Y generation, aged 24-65. This study indicates that no significant but negative relationship exists between self-esteem and compulsive buying behavior in all generations, showing an inverse relationship between the two variables. The lower the self-esteem score, the higher the compulsive buying score, and vice versa. The results of this study are also consistent with Villardefrancos and Otero-López [17] study among Spanish university students, which summarized correlations between low self-esteem and compulsive buying.

Medical students experience significant anxiety and stress because of their academic pressure, including expectations for high performance, extensive workloads, sleep disturbances, time constraints, and occasionally financial challenges. Recent systematic reviews and meta-analyses confirm that depression affects medical students globally, with anxiety reported as the most prevalent mental health concern [30]. Female students showed a higher susceptibility to anxiety and depression compared to their male counterparts [30], [31]. Studies show that the stress, anxiety, and demands of medical training can lead to low self-esteem [21]. Although medical students generally have good self-esteem, research shows that a significant percentage may experience low self-esteem, which can be associated with burnout and anxiety [32]. Another study conducted on undergraduate medical students in Jakarta, Indonesia, showed a significant relationship between anxiety levels and compulsive buying. The prevalence of compulsive buying appeared to increase with the severity of the anxiety [33].

Based on the age, during which many changes occur, the level of self-esteem of medical students can change, such as instability and feelings of indecisiveness. A lot of people who have just entered the early adulthood phase often experience anxiety and depression. Many of them rely on social media to get social support. Subsequently, feelings of indecisiveness that arise in early adulthood can lead to feelings of depression and anxiety, as they feel they must be more mature than before [8]. Individuals who feel anxious and depressed will run away and escape reality to idols or celebrities. This has led to the emergence of K-pop fans who have lower self-esteem [9].

This study shows that lower self-esteem has a relationship with compulsive buying behavior, and compulsive buying behavior is one of the coping mechanisms for individuals with lower self-esteem. Compulsive buyers use impulse buying to achieve an idealized self and an imagined sense of happiness, as well as to express themselves through anxiety that can lead to negative consequences, including decreased ability to work efficiently, deteriorating relationships, dropping out of medical school, and other health problems. Greater attention to the psychological well-being of medical students is urgently needed.

The limitations of this study are in the samples taken, where the majority of respondents were female, and very few of them were male respondents, so there is a possibility that the results obtained are less

representative among male K-pop fans. In addition, the analysis of demographic data from the research sample should be expanded to include a broader range of participants beyond medical students, such as dental, nursing, and pharmacy students, as well as factors related to online shopping activities, the online applications used for shopping, and credit card usage.

#### 4. CONCLUSION

Lower self-esteem triggers compulsive buying behavior in K-pop fan medical students. Female students are more prone to engage in compulsive buying behavior. Compulsive buying in medical students who are K-pop fans is a coping mechanism accompanied by anxiety, which can lead to serious psychiatric problems. Interventions addressing the mental health of medical students should be initiated. Suggestions for further research include recruiting more male respondents and a broader range of participants who are K-pop fans to enhance representation and validate the data.

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#### AUTHOR CONTRIBUTIONS STATEMENT

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C : Conceptualization

M : Methodology

So : Software

Va : Validation

Fo : Formal analysis

I : Investigation

R : Resources

D : Data Curation

O : Writing - Original Draft

E : Writing - Review & Editing

Vi : Visualization

Su : Supervision

P : Project administration

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#### CONFLICT OF INTEREST STATEMENT

Authors state no conflict of interest.

#### ETHICAL APPROVAL

This research was approved by the ethical review commission of the Faculty of Medicine and Health Sciences, Atma Jaya Catholic University of Indonesia, with the number 08/08/KEP-FKIKUAIJ/2022.

#### DATA AVAILABILITY




Data availability is not applicable to this paper as no new data were created or analyzed in this study.

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