

# Smartphone Effect Against Students Psychosocial Changes in Kebumen Regency, Central Java, Indonesia

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## Smartphone Effect Against Students Psychosocial Changes in Kebumen Regency, Central Java, Indonesia

Efecto de los teléfonos inteligentes sobre los cambios psicosociales de los  
estudiantes en la Regencia de Kebumen, Java Central, Indonesia

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### SUMMARY

**Objective:** The purpose of this study was to understand the psychosocial changes in students due to smartphone use in Kebumen Regency, Central Java, Indonesia in 2021.

**Methods:** This study was qualitative research with a phenomenological approach. The sampling technique was purposive sampling, with a total of 5 participants who used smartphones. Data analysis was conducted using qualitative analysis. Demographic data was performed descriptively. Quantitative data was obtained through dept interviews with respondents.

**Results:** The respondents had different self-control. A total of five participants experienced a decrease in response to the environment. Four participants experienced changes in consumptive behavior. We found two participants had physical problems and a decrease in the achievement index cumulative (grade

point average). Moreover, five participants decreased in concentration.

**Conclusion:** Smartphones had an impact on psychosocial changes in students such as changes in emotional intelligence, social behavior, financial problem, intelligence, and physical conditions.

**Keywords:** Phenomenology, psychosocial, smartphones, students.

### RESUMEN

**Objetivo:** El propósito de este estudio fue comprender los cambios psicosociales en los estudiantes debido al uso de teléfonos inteligentes en Kebumen Regency, Java Central, Indonesia en 2021.

**Métodos:** Este estudio fue una investigación cualitativa con un enfoque fenomenológico. La técnica de muestreo fue el muestreo intencional, con un total de 5 participantes que utilizaron teléfonos inteligentes. El análisis de datos se realizó mediante análisis cualitativo. Los datos demográficos se realizaron de forma descriptiva. Los datos cuantitativos se obtuvieron con una entrevista de departamento contra los encuestados.

**Resultados:** Los encuestados tenían diferente autocontrol. Un total de cinco participantes

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experimentaron una disminución en la respuesta al medio ambiente. Hubo cuatro participantes que experimentaron cambios en el comportamiento de consumo. Encontramos que dos participantes tenían problemas físicos y disminución del índice de rendimiento acumulativo (promedio de calificaciones). Además, cinco participantes disminuyeron su concentración.

**Conclusión:** Los teléfonos inteligentes tuvieron un impacto en los cambios psicosociales en los estudiantes, como cambios en la inteligencia emocional, el comportamiento social, los problemas financieros, la inteligencia y las condiciones físicas.

**Palabras clave:** Fenomenología, psicosocial, smartphones, estudiantes.

## INTRODUCTION

Globalization triggers significant changes in people's behavior. It is followed by advanced technology rapidly, such as the use of smartphones. Smartphones play an important role to change people's lives. Smartphones are a major necessity and are used by around 7.2 billion people worldwide. Smartphones are used not only by adults but also by children and teenagers, including students. Among teenagers, smartphones are commonly used for social media purposes, watching videos, and playing games. Excessive use of smartphones has an impact on society, such as people abandoning religious values and traditions (1). Furthermore, smartphones also affect concentration and cognitive function. These Phenomena show that most people addict to smartphones which causes psychosocial changes (2).

According to the Dictionary of psychology (3), psychosocial behavior is a condition related to social relations and psychological factors (4). Psychological factors consist of family factors, peers, and community environmental factors (5). Psychosocial is a study of behavior and life interactions with others in accordance with aspects of human development. Moreover, psychosocial behavior is the behavior and mental activities of individuals and groups that influence their relationships, ability to work together, and attitudes to others (6).

The negative impact of smartphones on psychosocial behavior, such as students cannot

be separated from their smartphones when interacting with friends and do not look at each other because they are focused on their smartphones (7). Moreover, they tend to be lazy to study, less responsible, less concentrated on the environment, and change lifestyles.

This research focuses on the influence of the smartphone against some negative behaviors such as easy-to-get information without knowing the detail, laziness, lack of self-confidence, communication with parents or people, and concentration. Based on these facts, this study aimed to determine the psychosocial changes in students due to the use of smartphones. The research benefits are the development of psyche nursing knowledge that can be applied in seminars and workshops. In addition, students are expected to limit the use of smartphones in their daily lives.

## METHODS

This study was qualitative research with a phenomenological approach to describe the phenomena experienced by participants based on their experience of using smartphones. The study was conducted in (blinded for the review), Indonesia in April 2020. The principle of sampling in qualitative research was data saturation. Samples were selected using the snowball sampling technique. A total of 5 participants was used according to the inclusion criteria. The inclusion criteria were active students who use smartphones for more than 120 minutes per day and are healthy during an interview. The selection of 5 participants was carried out through the data saturation process and the saturation point of sampling. Therefore, the ideal minimum sample was fulfilled in qualitative research.

The study instrument was the researcher. In addition, voice recorders, interview guides, and field notes were used in this study. Data was obtained using depth interviews. Interview trials were conducted before the study with one participant. Each participant was interviewed for 30-45 minutes. All participants were recruited with informed consent and were willing to participate in this study. Data analysis was performed after the interview. After that, researchers searched keywords that matched to participant's statement.

Subsequently, categorizing was performed based on keywords that become a sub-theme of using smartphones for psychosocial changes. Furthermore, researchers arranged themes based on sub-themes. Data was analyzed by collecting all the interview data, direct observations, and field notes for quantitative data. Meanwhile, the quantitative data on the participant's demographic was analyzed descriptively and using the frequency distribution.

**RESULTS**

There were a variety of demographic data based on the frequency distribution analysis. 8 total of five active students were used in this study. The characteristics of the participants are presented in Table 1.

We found five themes related to psychosocial changes in students due to the use of smartphones, including changes in emotional intelligence, social

behavior, financial, and physical conditions, and intelligence. Table 2 shows the variety of themes based on interview analysis and observation of participation.

**Emotional Intelligence**

There were two sub-themes including self-control efforts and psychological changes based on the interview results of students. Participant expressions were related to the sub-themes as follows:

*“Leading to the negative, I already transferred it like that ... just as an entertainer for me ... (P1).*

*Sometimes I limit it, what is the use of smartphones? (P4).*

*The feeling triggers me to slam things (P5).*

Table 1. Characteristics of Participants

Participant	Age	Gender	Religion	Study program	Period of smartphone use	Reasons for using a smartphone
P1	21	Female	Islam	Bachelor of Nursing	10 years	To contact family and friends
P2	19	Male	Islam	Diploma 3 of Nursing	7 years	For short message service (SMS) and telephone
P3	20	Female	Islam	Bachelor of Nursing	15 years	For SMS, telephone, and radio
P4	20	Female	Islam	Bachelor of Nursing	7 years	For chatting with friends and family
P5	22	Male	Islam	Bachelor of Nursing	9 years	For SMS and telephone

Table 2. Five themes related to psychosocial changes in students due to the use of smartphones

Component	Interpretation	Meaning
Distraction Limit yourself Information media	Self-control efforts	Emotional intelligence
Interested in negative things Response instability emotional	Psychological changes	
Decreased response to the environment Changes in behavior	Changes in social behavior	Changes in social behavior
Consumptive behavior Having physical problems	The economy Physical problems	Financial changes Impact on physical conditions
Decreased concentration Decreased learning interest	Memory drop	Changes in Intelligence

### Changes in Social Behavior

Based on the interview results, it was found that participants experienced changes in social behavior such as a decreased response to the environment and changes in behavior. The following expressions of the participants as follow:

*“Choose at home to play cellphone instead of gathering with friends, like that” (P1).*

*In my opinion, it changes behaviors and negative thinking (P3).*

### Financial Changes

We found that financial changes by participants were consumptive behavior such as wasteful quotas and online shopping. The following expressions of the participants as follow:

*“For example, financial matters are more wasteful ... then yes, it may be wasteful of quotas ... (P2).*

*“There are many brands in the online shop such as Instagram, then I want to buy... (P5).*

### Impact on Physical Conditions

The excessive use of smartphones had an impact on physical problems such as eye pain, fatigue, and dizziness. The following expressions of the participants as follow:

*“The impact is sometimes the eyes hurt” (P2).*

*“Sometimes I get dizzy when using smartphones for a long time” (P4).*

### Changes in Intelligence

Participants decreased in concentration and two participants decreased in the value of the achievement index cumulative (grade point average: GPA). The following expressions of the participants as follow:

*The concentrations are disturbed when I opened my cellphone, it broke up, like that (P1).*

*There is ... a decrease ... umm maybe because of the learning interest is decreasing, like that (P4)*

## DISCUSSION

### Emotional Intelligence

Emotional intelligence had an impact on self-control efforts and psychological changes. Self-control efforts in participants consist of distraction and limiting the use of smartphones as information media and psychological changes. These findings show that the emotional intelligence experienced by participants is not consistent with their control due to the stimuli from the smartphones, such as interesting features or applications. If this cannot be controlled properly, it impacts the level of addiction to use smartphones. Low self-control, high expectation, low self-esteem, high media exposure, and social interaction are the effect of smartphone addiction (8). The higher of smartphone addiction, the lower level of emotional intelligence (9). Conversely, the lower level of smartphone addiction, the higher level of emotional intelligence. Therefore, good emotional control is needed.

There are five emotional and social effectiveness skills including respect for own self, respect for others, responsive awareness, courage, and authentic success. Therefore, emotional intelligence can be either positive or negative according to the conditions of each individual. Positive emotional intelligence can be the use of gadgets as information media, whereas negative emotional intelligence can be gadget dependency and affects the psychological changes of an individual (9).

### Changes in Social Behavior

In a present study, we found that the changes in social behavior by participants decrease in response to the environment. The excessive use of smartphones and the presence of interesting

applications in smartphones such as social media decreases focus. It is in accordance with the research conducted by Hakim and Raj, who explains that teenagers ignore friends and focus on the internet (10). Moreover, a teenager tends to access the internet and delay other activities related to direct social interaction. The excessive use of smartphones impacts behavior such as a lack of confidence and an inferiority complex especially if you do not have a smartphone, you feel lonely. This statement was supported by Bian and Leung, who stated that people with high experiences of loneliness and shame have a higher addiction to smartphones (11). The use of smartphones causes different symptoms of addiction such as anxiety and loss. Therefore, students need to limit their use of smartphones because it affects their social life and behavior.

#### Financial Changes

In the present study, there were financial changes such as consumptive behavior (wasteful quotas and online shopping). A variety of online applications makes them more wasteful of the quota due to frequent use of social media. It impacts consumptive behavior such as online shopping. There is an influence of Instagram as social media, peers, and parents' socioeconomic status on the consumptive behavior of class XI students in the State senior high school 1 Semarang simultaneously or partially (12).

Shopaholic women who have actively used Instagram become increasingly consumptive to do online shopping to fulfill their needs based on their appearance as a form of self-identity (13). Therefore, excessive consumptive behavior has a negative impact. Participants spend their money to obtain the desired item, without prioritizing their basic needs. Therefore, they need to control or limit the use of gadgets, especially those related to the internet or social media.

#### Impact on Physical Conditions

This study demonstrated that there was an impact on participants' physical problems due to the prolonged use of smartphones such as eye pain, fatigue, and dizziness. This condition occurs

because participants always use smartphones for long durations. Therefore, it affects the health condition of the body. In addition, smartphones are known to produce radiation that is dangerous for the eyes. Smartphones work by emitting electromagnetic radiation to capture radio frequency waves. The maximum energy expenditure of electromagnetic radiation from smartphones ranges from 0.6 to 1 watt (14).

The factors related to eye fatigue include refractive abnormalities and lighting levels. This condition triggers stinging eyes (15). Other symptoms such as headache (dizziness), which can be caused by eye disorders, eye fatigue, the need to wear glasses, and eye strain due to excessive use of the eyes (16).

#### Changes in Intelligence

Changes in intelligence decrease concentration and interest in learning (GPA). This shows that they use smartphones during the learning process. Therefore, they are not focused on the lecturer. In addition, the attraction toward the features of smartphones results in less time for learning. Smartphone addiction affects the academic aspects of teenagers and decreases academic achievement (17).

Social media (e.g., Facebook) has a partial impact on student motivation as well as the impact caused by the use of smartphones. Student learning achievement can be balanced with good learning motivation. If motivation decreases, it affects learning achievement (18).

In this study, three participants did not experience a cumulative GPA reduction. This means that the scores obtained were stable. Smartphones do not always have a negative effect on student achievement. It indicates by some students who have increased performance. Therefore, the use of smartphones can be wisely limited through the existence of rules and prohibitions from lecturers during the learning process (19,20).

**Limitations.** This study has limitations in the process of data retrieval that only focuses on data

collection using in-depth interview techniques and is not accompanied by observation or using group discussion techniques.

## CONCLUSIONS

Psychosocial changes occurred in participants due to the use of smartphones as follows: 1) emotional intelligence consists of self-control efforts and psychological changes, 2) changes in social behavior such as a decreased response to the environment and behavioral changes, 3) financial changes occurred due to consumptive behavior such as wasteful quotas and online shopping, 4) impact on physical conditions such as eye pain, fatigue, and dizziness, 5) changes in intelligence in the form of decreased concentration and GPA. Students or teenagers are expected to limit the use of smartphones in daily life through activities such as sports, joining organizations, focusing on academic achievements, and developing innovations such as making leaflets about the correct way to use smartphones.

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## Authors' Contributions

All contributors contributed significantly to this study and all authors agree with the content of the manuscript.

## Conflict of Interests

The authors do not have any conflicts of interest to report.

## Availability of Data and Materials

All data generated or analyzed during this study are included in this published article.

## Ethical Approval

This work was approved by the Ethical Review Committee Faculty of (blinded for the review) (No. 333.6/IV.3.AU/F/ETIK/III/2021) From Ethic Commission Universitas Muhammadiyah Gombong.

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