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Research Article

# The Relationship Between Phubbing Behavior and Student Empathy at Garudaya Bontonompo Vocational School

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**ABSTRACT**
*This study investigates the relationship between phubbing behavior and students' empathy in the context of digital learning at SMKS Garudaya Bontonompo, Indonesia. The research employs a quantitative correlational design with a sample of 135 students selected through simple random sampling. Data were collected using two standardized instruments: the Phubbing Behavior Scale and the Empathy Scale, both of which demonstrated high reliability coefficients. Descriptive and inferential statistical analyses were conducted using SPSS version 23.0. The results indicate a strong and significant negative correlation ($r = -0.806$, $p < 0.05$) between phubbing behavior and empathy, suggesting that increased smartphone-centered activity corresponds with decreased emotional understanding. These findings emphasize the need for balanced digital engagement in educational settings and highlight the psychological impact of smartphone dependency on social-emotional development. The study recommends integrating social-emotional learning (SEL) and digital citizenship education into classroom practices to foster empathy and responsible technology use among students.*

***Keywords:*** *Digital Learning; Educational Psychology; Empathy; Phubbing Behavior; Social-Emotional Learning.*

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## 1. Introduction

In the current digital era, the widespread use of smartphones has transformed how individuals, especially adolescents, communicate, learn, and interact with their surroundings. Digital devices are no longer merely communication tools but have become central to students' academic and social lives, influencing how they think, collaborate, and regulate emotions. When used purposefully, smartphones can enhance learning by providing instant access to information and fostering collaboration (Abbas et al., 2020; García et al., 2020). However, unregulated and excessive use can lead to distraction, social withdrawal, and emotional disengagement from real-life interactions (Ammunje et al., 2022; Rozgonjuk et al., 2018). One behavioral concern that has emerged from this pattern of overuse is known as phubbing, the act of ignoring others in social situations to focus on a mobile device.

Phubbing, a combination of the words *phone* and *snubbing*, refers to the act of ignoring people in one's physical environment while focusing on a smartphone. Although it may appear to be a minor social habit, recent studies show that phubbing has evolved into a behavioral issue that disrupts attention, social connection, and emotional awareness (Duradoni et al., 2023). Among students, this behavior often leads to reduced engagement in face-to-face communication and a decline in empathy and emotional sensitivity. Rahmah and Sanyata (2024) further observed that frequent phubbing

weakens the quality of student interactions, creating emotional distance and reducing their ability to maintain meaningful social relationships. These findings highlight the growing concern about how digital technology reshapes students' emotional and social development.

Empathy is defined as the ability to understand and share the feelings of others. In educational contexts, empathy contributes to the development of prosocial behavior, teamwork, and emotional balance, helping students connect meaningfully with peers and teachers (Wang et al., 2022). From the perspective of educational psychology, empathy fosters positive peer relationships, promotes tolerance, and enhances cooperative learning environments that improve student engagement and well-being (Santana-Monagas et al., 2025). When empathy declines, students may face challenges such as social isolation, misunderstanding, and interpersonal conflict, which can hinder both academic performance and emotional growth. This concern is especially relevant in vocational education, where interpersonal communication and collaboration are vital skills for employability (Cervera-Flores et al., 2020). Given the essential role of empathy in shaping students' social interactions, its decline amid increasing smartphone dependency warrants closer examination.

While empathy remains a key component of students' socio-emotional growth, recent trends in smartphone dependency have intensified this concern. According to Indonesia's Ministry of Communication and Informatics (2024), more than 95 percent of high school students use smartphones for over four hours each day, mostly for social media and entertainment. This high rate of use suggests that many adolescents are continuously exposed to potential distractions that may reduce face-to-face interaction and weaken social awareness. Recent studies in different contexts have reported similar patterns, indicating that prolonged screen time and excessive social networking are associated with lower empathy and emotional understanding among adolescents (Bottaro & Faraci, 2022; Yue et al., 2024).

Previous research has examined the relationship between smartphone use, social behavior, and empathy among students (Fauziyah, 2022; Balqis et al., 2024; Rahmah & Sanyata, 2024). These studies consistently indicate that excessive smartphone use, and phubbing behavior are linked to lower empathy and weaker social connections among adolescents. However, most of the existing research focuses on general student populations, while limited attention has been given to vocational high school students who face unique academic and social environments. Vocational education emphasizes teamwork, collaboration, and communication skills that can be disrupted by habitual smartphone use. Therefore, further investigation is needed to understand how phubbing behavior influences empathy within this educational context.

The present study aims to examine the relationship between phubbing behavior and students' empathy in a vocational high school in Indonesia. By investigating how students' smartphone-centered habits are associated with their level of empathy, this research contributes to the broader discussion on digital learning and student development. The findings are expected to help educators design guidance and counseling programs that promote responsible technology use and strengthen empathy as part of digital citizenship education. This study employs a quantitative correlational design to provide empirical evidence of how smartphone behavior relates to students' empathy within digital learning environments.

## 2. Method

This research adopted a quantitative correlational design aimed at examining the relationship between phubbing behavior and students' empathy. The study was conducted at SMKS Garudaya Bontonompo, a vocational high school located in Gowa Regency, South Sulawesi, Indonesia, from April to June 2025. The setting was selected because of its active use of smartphones in daily learning activities, which provided a relevant context for investigating the effects of digital behavior on social-emotional development.

The population of this study consisted of 204 students enrolled across three grade levels. Using the Slovin formula with a 5% margin of error, a sample of 135 students was determined as representative of the population. The sampling technique applied was simple random sampling, allowing each student an equal opportunity to be included in the study. Participants included both male and female students aged between 15 and 18 years old.

Data were collected using two validated questionnaires. The first was the Phubbing Behavior Scale adapted from Karadag et al. (2016), which comprised 20 valid items measuring two aspects: *Phone Obsession* and *Communication Disturbance*. Each item was rated on a five-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). The instrument demonstrated good reliability with a Cronbach's Alpha value of 0.802. The second instrument was the Empathy Scale, based on Davis's Interpersonal Reactivity Index (IRI), consisting of 23 valid items that assessed four dimensions: *Perspective Taking, Fantasy, Empathic Concern,* and *Personal Distress*. Responses were rated on a similar five-point scale, and the reliability coefficient was 0.850, indicating high internal consistency. Both instruments were reviewed by two experts in educational psychology to ensure validity and cultural appropriateness for Indonesian students.

Before analysis, all responses were screened for completeness and accuracy. Data were then processed using SPSS version 23.0 for Windows. Descriptive statistics were used to summarize mean scores, standard deviations, and categorical distributions. To ensure the assumptions of parametric analysis, normality was tested using the Kolmogorov–Smirnov test ($p = 0.192$), while linearity was confirmed through the linearity test ($p = 0.144$). The main analysis employed the Pearson Product–Moment correlation to determine the strength and direction of the relationship between phubbing behavior and empathy. A correlation coefficient of $r = –0.806$ with $p < 0.05$ was obtained, signifying a strong and significant negative relationship.

Ethical considerations were addressed throughout the study. Permission was obtained from the school principal and the guidance and counseling department prior to data collection. Students participated voluntarily after being informed of the study's objectives, and their responses were kept anonymous and confidential to protect their privacy.

## 3. Result

This section presents the results of statistical analyses conducted to examine the relationship between phubbing behavior and students' empathy at SMKS Garudaya Bontonompo. Data were analyzed using descriptive and inferential statistics with the help of SPSS version 23.0. The analysis includes the distribution of phubbing and empathy levels, followed by the results of correlation testing to determine the strength and direction of the relationship between the two variables.

### 3.1 Descriptive Statistics

Table 1 presents the descriptive results of students' phubbing behavior and empathy levels. The findings show that the mean score for phubbing behavior was 72.40 (SD = 9.85), which falls within the high category, while the mean empathy score was 61.12 (SD = 10.34), categorized as low. This indicates that, on average, students demonstrated frequent smartphone-centered behaviors alongside a low ability to understand others' emotions.

**Table 1.** Descriptive Statistics of Phubbing and Empathy (N = 135)

| Variable | Mean | Std. Deviation | Minimum | Maximum | Category |
|---|---|---|---|---|---|
| Phubbing Behavior | 72.40 | 9.85 | 48 | 90 | High |
| Empathy | 61.12 | 10.34 | 40 | 85 | Low |

Table 2 further describes the categorical distribution of both variables. More than half of the students (57%) exhibited high phubbing behavior, while 50% of the respondents showed low empathy levels. Only a small portion of students (11%) displayed high empathy.

**Table 2.** Distribution of Students by Category

| Variable | Low (%) | Moderate (%) | High (%) | Total (%) |
|---|---|---|---|---|
| Phubbing Behavior | 13 | 30 | 57 | 100 |
| Empathy | 50 | 39 | 11 | 100 |

These results suggest that most students are heavily engaged with their smartphones, often at the expense of interpersonal communication and emotional responsiveness.

### 4.2 Correlation Analysis

Before testing the hypothesis, the data were verified through normality and linearity tests. The Kolmogorov–Smirnov test ($p = 0.192$) confirmed that the data were normally distributed, and the linearity test ($p = 0.144$) showed that the relationship between the two variables was linear. The Pearson Product–Moment correlation test was then used to determine the strength and direction of the relationship.

**Table 3. Correlation Between Phubbing Behavior and Empathy**

| Variable | r | Sig. (2-tailed) | Interpretation |
|---|---|---|---|
| Phubbing – Empathy | –0.806 | 0.000 | Strong negative correlation |

As shown in Table 3, the correlation coefficient ($r = –0.806$, $p < 0.05$) indicates a strong and significant negative relationship between phubbing behavior and empathy. This means that the more students engage in smartphone-centered activities during social interactions, the less capable they are of showing emotional understanding and concern for others.

### 4.3 Visualization of the Relationship

Figure 1 provides a graphical comparison between the levels of phubbing and empathy among students. The pattern clearly shows an inverse trend between the two variables: 57% of students reported a high level of phubbing, while 50% demonstrated low empathy. Meanwhile, only a small proportion of students showed both low phubbing (13%) and high empathy (39%). This visual pattern reinforces the statistical finding that phubbing behavior negatively correlates with empathy. The dominance of high-phubbing and low-empathy categories suggests that excessive smartphone engagement may reduce students' emotional responsiveness and social awareness, a pattern consistent with previous findings by Fauziyah (2022) and Duradoni et al. (2023).

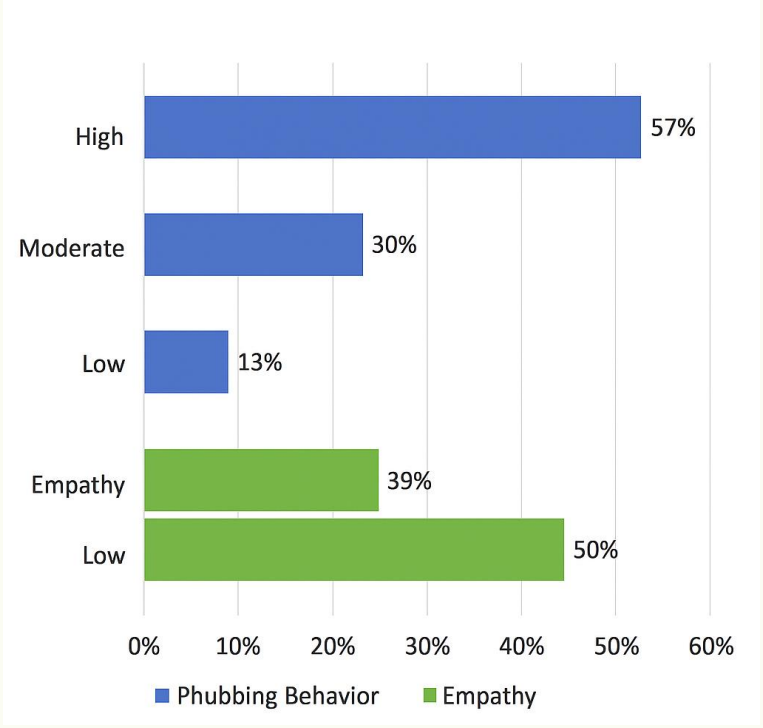


**Figure 1.** Comparison of Students' Phubbing and Enathy Levels

# 4. Discussion

## 4.1 Interpretation of Findings

The results of this study revealed a strong and significant negative correlation between phubbing behavior and students' empathy ($r = –0.806$, $p < 0.05$). This finding indicates that students who frequently engage with their smartphones during social interactions tend to show lower emotional sensitivity and a weaker ability to understand others' feelings. From the perspective of educational psychology, this pattern suggests that excessive digital engagement interferes with students' social-emotional development. When attention is divided between online activities and real-world interactions, the capacity for perspective-taking and emotional understanding becomes reduced.

The result aligns with Davis's (1983) *Interpersonal Reactivity Model*, which conceptualizes empathy as both cognitive and affective responsiveness. Empathy requires emotional presence, sustained attention, and social feedback, all of which are disrupted when students prioritize smartphone interactions over face-to-face communication. This finding is consistent with the study of Fauziyah (2022), which found a significant negative relationship between empathy and phubbing among adolescents. Similarly, Rahmah and Sanyata (2024) reported that frequent phubbing weakens students' communication quality and emotional connection with peers, while Duradoni et al. (2023) explained that excessive mobile engagement promotes behavioral patterns of social disengagement and reduced emotional awareness. These consistencies reinforce the idea that smartphone dependency and phubbing represent behavioral manifestations of digital distraction that influence key social competencies within learning environments.

## 4.2 Implications for Educational Psychology and Digital Learning

In the context of educational psychology, empathy is an essential element of emotional intelligence that promotes cooperation, motivation, and academic engagement. The negative association found in this study provides empirical evidence that technological behavior can shape emotional development in both constructive and detrimental ways. While digital learning platforms improve access to information, unregulated smartphone use can lead to behaviors that reduce emotional connection and attention to others. This finding is consistent with the concept of *empathy decline* among students in the digital era discussed by Claudia (2022), who emphasized that prolonged reliance on technology-based communication can weaken authentic emotional awareness and interpersonal sensitivity.

From a digital learning perspective, the findings emphasize the need to balance technological integration with socio-emotional learning (Osher et al., 2016). Students who constantly interact with their devices often experience what Silber-Varod, Eshet-Alkalai, and Geri (2019) describe as cognitive strain within digital environments, a condition that disrupts empathy, reflection, and interpersonal focus. In vocational education, where collaboration and interpersonal skills are highly valued, habitual phubbing can hinder teamwork, weaken communication, and reduce students' readiness for professional environments (Talavera et al., 2017). Teachers and counselors must therefore design learning experiences that encourage digital mindfulness, promote empathy-based collaboration, and help students understand the emotional impact of their digital habits (Ruhalahti et al., 2023).

These insights contribute to the broader field of educational psychology and student development by demonstrating that empathy should be treated as a dynamic skill that requires continuous practice and reflection. Integrating empathy-centered reflection activities, group discussions, and peer feedback into digital learning environments can help students sustain interpersonal connections while engaging with technology for academic purposes.

### 4.3 Educational and Practical Recommendations

Based on the findings, several recommendations can be made for educators, counselors, and policymakers. Schools are encouraged to implement digital citizenship education that emphasizes responsible smartphone use and empathy in online and offline interactions (Ruhalahti et al., 2023). Teachers can incorporate social-emotional learning (SEL) components into classroom practices, such as reflective journals, empathy exercises, and collaborative problem-solving, to strengthen students' interpersonal awareness (Osher et al., 2016). These activities can enhance students' emotional awareness and reduce the tendency toward phubbing. Guidance counselors can also organize sessions that focus on self-regulation, digital ethics, and interpersonal communication to help students maintain a balance between digital engagement and human interaction.

At the policy level, educational institutions should establish clear guidelines for smartphone use during class to encourage focus and respect during communication. Furthermore, schools can hold awareness campaigns about the psychological impact of phubbing and promote strategies for managing digital distractions. By addressing these issues, schools can create learning environments that support both academic achievement and emotional well-being.

Theoretically, this study adds to the discussion in educational psychology by linking behavioral aspects of smartphone use with emotional competence. It highlights the importance of approaching digital literacy as not only a technical ability but also a moral and emotional responsibility. Future research could expand this study by exploring intervention programs that integrate empathy development with digital learning

strategies or by examining longitudinal effects of phubbing on students' social and psychological health.

## 5. Conclusion

The findings of this study demonstrated a strong and significant negative relationship between phubbing behavior and empathy among vocational high school students. Students who frequently engage in smartphone-centered activities tend to exhibit lower levels of emotional understanding and interpersonal awareness. This result reflects a broader challenge in the digital era, where constant connectivity and excessive smartphone use can reduce the quality of direct social interactions and hinder the development of empathy as an essential component of emotional intelligence.

The results contribute to the field of educational psychology and digital learning by showing that technology use influences not only academic engagement but also social and emotional development. Empathy should be viewed as a skill that can be intentionally cultivated through reflective and collaborative learning experiences. Schools and teachers are encouraged to integrate social-emotional learning (SEL) principles and digital citizenship education into classroom practices. Activities such as group reflection, empathy training, and discussions on responsible smartphone use can help students balance digital engagement with real human connection.

Although this research provides valuable insights, it is limited to one institution and relies on self-reported data. Future studies could adopt mixed or longitudinal methods to explore how digital behavior affects empathy over time and across different educational settings. Despite these limitations, the study contributes important evidence that fostering empathy within digital learning environments is vital for shaping students who are not only technologically capable but also emotionally intelligent and socially responsible.

## References

Abbas, N., Ashiq, U., Hassan, S., & Alam, M. (2020). An empirical approach to study smartphones' usage in academic performance of university students. *Review of Applied Management and Social Sciences, 3*(2), 279–286. https://doi.org/10.47067/ramss.v3i2.61

Ammunje, R., H., M., & Barkur, G. (2022). Smartphones and academic performance: Evidence from India. *Interactive Technology and Smart Education, 20*(2), 161–176. https://doi.org/10.1108/itse-11-2021-0204

García, M., Soto-Varela, R., Marchena, J., & del-Pino-Espejo, M. (2020). Using mobile devices for educational purposes in compulsory secondary education to improve students' learning achievements. *Sustainability, 12*(9), 3724. https://doi.org/10.3390/su12093724

Rozgonjuk, D., Levine, J. C., Hall, B. J., & Elhai, J. D. (2018). The association between problematic smartphone use, depression, anxiety, and personality: A systematic review and meta-analysis. *Journal of Affective Disorders, 244*, 91–98. https://doi.org/10.1016/j.jad.2018.09.056

Duradoni, M., Raimondi, T., Buttà, F., & Guazzini, A. (2023). Moving beyond an addiction framework for phubbing: Unraveling the influence of intrinsic motivation, boredom, and online vigilance. *Human Behavior and Emerging Technologies, 2023*, 1–13. https://doi.org/10.1155/2023/6653652

Rahmah, M., & Sanyata, S. (2024). Phubbing and its impact on student communication and relationship: A qualitative study on coping strategies and social implications. *Al-Ishlah: Jurnal Pendidikan, 16*(4), 4876–4889. https://doi.org/10.35445/alishlah.v16i4.5801

Balqis, H., Ali, A., Marisa, S., & Gunawan, G. (2024). Dampak penggunaan smartphone terhadap perilaku sosial siswa. *Atthiflah: Journal of Early Childhood Islamic Education, 11*(1), 207–216. https://doi.org/10.54069/atthiflah.v11i1.722

Fauziyah, S. (2022). *Hubungan antara empati dengan perilaku phubbing pada remaja awal di Desa Ngepung Kecamatan Patianrowo Kabupaten Nganjuk* (Doctoral dissertation, IAIN Kediri).

Bottaro, R., & Faraci, P. (2022). The use of social networking sites and its impact on adolescents' emotional well-being: A scoping review. *Current Addiction Reports, 9*(4), 518–539. https://doi.org/10.1007/s40429-022-00445-4

Yue, H., Gao, S., Feng, F., Wu, F., Bao, H., & Zhang, X. (2024). Linking adolescents' phubbing to depression: The serial mediating effects of peer relationship quality and psychological need frustration. *Frontiers in Public Health, 12*. https://doi.org/10.3389/fpubh.2024.1420151

Cervera-Flores, W., Choque-Garibay, Y., Gonzalez-Cordero, N., Meneses-Claudio, B., Solis-Matta, H., & Matta-Zamudio, L. (2020). Level of empathy in nursing students attending clinical practices of the Universidad de Ciencias y Humanidades. *Advances in Science, Technology and Engineering Systems Journal, 6*(1), 178–183. https://doi.org/10.25046/aj060120

Santana-Monagas, E., Alonso, J., & León, J. (2025). Teacher empathy messages: The role of teacher enthusiasm and student outcomes. *British Journal of Educational Psychology, 95*(S1). https://doi.org/10.1111/bjep.12766

Wang, S., Li, X., Lu, J., & Yu, M. (2022). Perceived teacher empathy and teenagers' positive academic emotions: The mediating effect of interpersonal emotion regulation. *School Psychology International, 43*(5), 443–459. https://doi.org/10.1177/01430343221113004

Osher, D., Kidron, Y., Brackett, M., Dymnicki, A., Jones, S., & Weissberg, R. (2016). Advancing the science and practice of social and emotional learning. *Review of Research in Education, 40*(1), 644–681. https://doi.org/10.3102/0091732x16673595

Ruhalahti, S., Cuenca, R., & Rieble-Aubourg, S. (2023). Acquiring socio-emotional skills through digital badge-driven learning: A case study of teachers' experiences in Barbados and Trinidad and Tobago. *Inter-American Development Bank Report*. https://doi.org/10.18235/0004858

Talavera, E., Garrido, M., Sánchez, M., & Uribarri, M. (2017). Orientación de las competencias socioemocionales de los alumnos de educación secundaria en contextos multiculturales. *Electronic Journal of Research in Educational Psychology, 5*(11). https://doi.org/10.25115/ejrep.v5i11.1232

Claudia, C. (2022). Socio-emotional development of students in the context of the COVID-19 pandemic. *European Proceedings of Educational Sciences*, 701–708. https://doi.org/10.15405/epes.22032.69

Silber-Varod, V., Eshet-Alkalai, Y., & Geri, N. (2019). Tracing research trends of 21st-century learning skills. *British Journal of Educational Technology, 50*(6), 3099–3118. https://doi.org/10.1111/bjet.12753