

# The impact of game addiction on social sensitivity and learning motivation

Sihono<sup>1</sup>, Muhammad Haidar Hilmi<sup>2</sup>, Putri Nadha Setyaningrum<sup>3</sup>, Sintha Sih Dewanti<sup>4</sup>

<sup>1,3,4</sup>Islamic Education, Faculty of Teacher Training and Education, Universitas Islam Negeri Sunan Kalijaga Yogyakarta, Yogyakarta, Indonesia

<sup>2</sup>SMA Sains Wahid Hasyim Yogyakarta, Yogyakarta, Indonesia

## Article Info

### Article history:

Received 01 22, 2025

Revised 03 20, 2025

Accepted 04 20, 2025

### Keywords:

Game Addiction

Social Sensivity

Learning Motivation

## ABSTRACT

This study examines the impact of game addiction on social sensitivity and learning motivation among first to fourth-semester students at UIN Sunan Kalijaga Yogyakarta. The goal is to understand the extent to which game addiction affects social interactions and academic motivation. The research method used is a quantitative approach with a case study design, utilizing online questionnaires administered to 52 respondents to collect data regarding their gaming behavior, social sensitivity, and academic motivation. The analysis results show a significant negative relationship between game addiction and social sensitivity ( $r = -0.388$ ,  $p = 0.005$ ), as well as between game addiction and learning motivation ( $r = -0.362$ ,  $p = 0.008$ ). The conclusion of this study is that game addiction has the potential to decrease students' social sensitivity and learning motivation. It is suggested that educational institutions develop effective intervention programmes to help students overcome game addiction, while also enhancing their social sensitivity and learning motivation.

This is an open access article under the [CC BY-SA](https://creativecommons.org/licenses/by-sa/4.0/) licence.



## Corresponding Author:

Sihono

State Islamic University Sunan Kalijaga Yogyakarta

Jl. Laksada Adisucipto, Papringan, Caturtunggal, Kec. Depok, Kab. Sleman, Special Region of Yogyakarta

55281 Yogyakarta, Indonesia

Email: [sihono393@gmail.com](mailto:sihono393@gmail.com)

## 1. INTRODUCTION

In the 21st century, society is undergoing rapid transformations driven by globalization, demographic shifts, technological advancements, and evolving cultural norms, which open up new avenues for exploration and development (Dewanti et al., 2020). As a result, the current era is widely referred to as the digital age. Alongside these technological advancements, the education sector also encounters a range of emerging challenges (Nurhayati & , Langlang Handayani, 2024). One of the most prominent developments in this era is the evolution of the gaming world, which has become increasingly immersive and engaging (A.I. Lavrentev, 2020). With sophisticated graphics and interactive features, video games have evolved into a multi-billion-dollar global industry that captivates millions of players worldwide (Qaffas, 2020).

Online games have attracted a vast number of enthusiasts across various age groups, ranging from children and teenagers to adults and the elderly. In Indonesia alone, the gaming community numbers in the tens of millions, with a broad age distribution: approximately 25% of players are aged 16–24, 27% are aged 25–34, and 17% fall within the 45–54 age group (Fajar et al., 2024). Moreover, a recent survey reveals that 75.50% of online gamers are aged 13–18, with students being the most active participants. Adolescents between the ages of 10–22, particularly those aged 12–15, also show high levels of gaming addiction. These statistics highlight the widespread

*Journal homepage:* <https://journal2.um.ac.id/index.php/jpp/index>

appeal of online games across generations and emphasize their increasing integration into everyday life as digital access and connectivity continue to expand (Nasution et al., 2022).

However, the increasing prevalence of gaming addiction has raised concerns about its impact on individuals' mental health and well-being. Gaming addiction can have detrimental effects on various aspects of life, including social sensitivity and motivation to learn, especially in university students who are a vulnerable group (Pirrone, van den Eijnden, & Peeters 2024) . In this context, the research problem of the impact of game addiction on social sensitivity and learning motivation in college students, with a case study of students in semesters 1-4 at the State Islamic University (UIN) Sunan Kalijaga, is very relevant and urgent to be researched further.

The phenomenon of gaming addiction has become increasingly troubling with the increasing prevalence of online games that offer immersive and social experiences. Experts have expressed their concern about the potential negative impact of gaming addiction on individuals' social functioning and academic achievement (Lengersdorff et al., 2023) . Data has also shown that college students who are addicted to gaming tend to experience a decrease in real-world social interactions and a decline in academic performance (Utami et al., 2023) . This signifies the importance of further understanding how gaming addiction affects college students and how its impact can be effectively managed.

Research related to this issue has shown a strong relationship between gaming addiction, social sensitivity and motivation to learn in university students. Various studies have highlighted the complexity of this phenomenon from different perspectives. For example, research by Nasrul, Nurul Sa'adah, et al found that college students who spend more time playing games tend to have lower levels of learning motivation (Nasrul & Sa'adah 2022) . Similarly, research by Fadly Firmansyah Putra, Akbar Rozak, et al showed that gaming addiction can lead to social isolation and difficulty in interacting with others in an academic environment (Putra et al., 2019) .

The literature review also noted that certain factors in games, such as deep immersion and rewards in the form of points or achievements, can be triggers for addictive behavior. At the same time, there are complexities in how individuals respond to game use in their daily lives. Some college students may use gaming as a coping mechanism or an escape from academic or social stress, while others may become entangled in a cycle of addiction that interferes with their social and academic functioning.

The emergence of a new era triggers transformations in various aspects of life, including the order, actions, and needs. This dynamic requires national education to adapt and provide the best solution (Kartowagiran et al., 2021) . Students in semester 1-4 of UIN Sunan Kalijaga are the focus of interesting research. They are in the early phase of college, where they are faced with higher academic pressure and are required to adapt to the new campus environment. This adaptation process can be a factor that influences gaming-related behaviors and social responses as well as learning motivation (Lestarina & Dwi Purwantini 2023) . Therefore, understanding how gaming addiction affects university students in the early stages of their studies can provide valuable insights in the development of appropriate intervention strategies.

The campus environment, especially at UIN Sunan Kalijaga, has its own characteristics that can influence students' behavior patterns related to gaming. Factors such as social pressure, cultural norms, and social support from peers and the academic environment can play an important role in shaping how students respond to gaming and its impact on their lives.

In a broader context, gaming addiction is not confined to a specific age group or demographic. Its psychological and social impacts are experienced across different layers of society, with varying degrees of intensity (Novrialdy, 2019). Among university students, particularly those in the early stages of their academic journey, the risk of developing problematic gaming behavior is especially concerning. The academic environment, with its unique pressures and social dynamics, can either mitigate or exacerbate the effects of gaming addiction. Therefore, a focused investigation into how gaming addiction affects students at UIN Sunan Kalijaga is not only relevant but also essential to inform effective educational and psychological responses within the campus context.

This study is conducted with the specific objective of examining the impact of gaming addiction on students' social sensitivity and learning motivation. The urgency of this research lies in the increasing prevalence of game addiction among university students and its potential to disrupt both academic success and social development. By identifying the correlations and predictors of these impacts, the study aims to provide evidence-based insights that can inform the development of targeted intervention strategies. Ultimately, the research aspires to contribute to the formulation of campus policies and programs designed to mitigate gaming addiction, enhance students' emotional and academic well-being, and support the creation of a healthier, more balanced academic environment.

## 2. METHODS

This research employed a quantitative approach with a case study design conducted at the State Islamic University (UIN) Sunan Kalijaga, focusing on students from semesters 1 to 4 as the target population (Sidik

Priadana, 2021). A total of 52 students were selected as respondents using stratified random sampling based on semester level and academic major to ensure proportional representation of the student population. The main instrument used in this study was a structured questionnaire designed to measure levels of game addiction, social sensitivity, and learning motivation (Ardiansyah et al., 2023). The questionnaire items were constructed using a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree), allowing for quantitative interpretation of responses.

Prior to data collection, the instrument underwent content validation by three experts in educational psychology and measurement. Furthermore, a pilot test was conducted involving 20 students outside the sample to assess the instrument's validity and reliability. Validity was tested using Pearson's product-moment correlation, and reliability was measured using Cronbach's Alpha, resulting in coefficients above 0.70 for all constructs, indicating acceptable internal consistency. Data collection was carried out online via a Google Forms link distributed through institutional academic groups and verified through student emails to ensure authentic responses.

The collected data were then analyzed using statistical techniques. Correlation tests were used to determine the relationships between game addiction, social sensitivity, and learning motivation (Retnawati, 2017). In addition, multiple linear regression analysis was applied to assess the extent to which game addiction could predict levels of social sensitivity and learning motivation among university students (Mardiatmoko, 2020). These analyses provided a deeper understanding of how gaming addiction influences students' social and academic dimensions.

### 3. RESULTS AND DISCUSSION

#### 3.1. Result

Social adjustment theory offers an understanding of how students who are addicted to gaming may experience difficulties in adjusting to their social environment, both on campus and in society in general (Junilia & Dharmawan 2023). In this theory, the social adjustment process is understood as a response to the complex interactions between individuals and their environment (Novita Lestari, Meiyuntariningsih, & Sari Ramadhani 2023). Meanwhile, the Learning *Motivation* Theory (Zebua, 2021) and the Activity Disruption/Displacement *Theory* (Eng Leong, 2014) can provide insights into how gaming addiction can disrupt college students' intrinsic and extrinsic motivation to learn, as well as how time spent playing online games can displace time that should be spent on social interactions in the real world or on studying. In this regard, these theories help to understand the factors that influence college students' motivation to learn and social interactions, and how gaming addiction affects these dynamics.

**Table 1. Descriptive Statistical Analysis**

	N	Minimum	Maximum	Mean	Std. Deviation
Gaming Addiction	52	5	13	8.50	2.034
Social Sensitivity	52	6	20	16.29	3.643
Learning Motivation	52	10	25	17.69	3.007
Valid N (listwise)	52				

Based on the results of descriptive analysis of the data collected from semester 1-4 students of UIN Sunan Kalijaga Yogyakarta, several findings can be concluded regarding the impact of game addiction on social sensitivity and learning motivation. The number of respondents (N) in this study were 52 students. The gaming addiction variable has a minimum value of 5 and a maximum value of 13, with an average (*mean*) of 8.50 and a standard deviation of 2.034. This shows that the level of gaming addiction among students varies, with the majority of students having a moderate level of addiction. For the social sensitivity variable, the minimum value found was 6 and the maximum value was 20, with a mean of 16.29 and a standard deviation of 3.643. This indicates that in general, students have a relatively high level of social sensitivity, although there is significant variation among them.

As for the learning motivation variable, the recorded scores ranged from a minimum of 10 to a maximum of 25, with a mean of 17.69 and a standard deviation of 3.007. This suggests that overall, students tend to demonstrate a relatively high level of learning motivation, with limited variation across individuals.

#### **Relationship Between Gaming Addiction, Social Sensitivity, and Learning Motivation**

Based on the descriptive statistics, several patterns emerge regarding the relationship between gaming addiction and the other variables studied. A high level of gaming addiction appears to be associated with lower levels of social sensitivity. This may be attributed to the substantial time invested in gaming activities, which consequently reduces opportunities for direct social interaction. As a result, students may become less adept at interpreting social cues and understanding others' emotional expressions. Moreover, the immersive nature of

online games can shift students' attention away from real-life social contexts, leading to a diminished awareness of social norms and a reduced sense of empathy factors that may contribute to antisocial tendencies.

Similarly, high levels of gaming addiction may also correspond with lower learning motivation. Excessive time spent on gaming reduces the time and cognitive energy available for academic tasks, leading to delayed progress in coursework and difficulties in completing assignments. Additionally, the psychological strain linked to gaming addiction such as heightened stress, fatigue, and disrupted sleep patterns can further impair concentration and decrease intrinsic motivation to learn. Consequently, students affected by gaming addiction may experience a significant decline in academic performance and a weakening of their educational engagement.

**Table 2. Correlation analysis**

		Gaming Addiction	Social Sensitivity	Learning Motivation
Gaming Addiction	Pearson Correlation	1	-.388**	-.362**
	Sig. (2-tailed)		.005	.008
	N	52	52	52
Social Sensitivity	Pearson Correlation	-.388**	1	.526**
	Sig. (2-tailed)	.005		.000
	N	52	52	52
Learning Motivation	Pearson Correlation	-.362**	.526**	1
	Sig. (2-tailed)	.008	.000	
	N	52	52	52

\*\* . Correlation is significant at the 0.01 level (2-tailed).

Based on quantitative data analysis, an interesting relationship between gaming addiction and social sensitivity was found. It was found that there is a significant negative correlation between the two variables, with a Pearson correlation coefficient of -0.388 ( $p = 0.005$ ). This indicates that the higher the level of gaming addiction, the lower the level of social sensitivity. In addition, the Pearson correlation coefficient between gaming addiction and learning motivation showed a significant negative relationship (-0.362,  $p = 0.008$ ). This finding suggests that individuals with higher levels of gaming addiction tend to exhibit lower levels of learning motivation. This means that excessive gaming engagement can have a negative impact on students' academic achievement.

**Table 3. Multiple regression analysis**

Model		Unstandardised Coefficients		Unstandardised Coefficients		t	Sig.	
		B	Std. Error	Beta				
1	(Constant)	13.600	1.622			8.385	.000	
	Social Sensitivity	-.152	.085			-.273	-1.798	.078
	Learning Motivation	-.148	.103			-.219	-1.445	.155

a. Dependent Variable: Gaming Addiction

The linear regression model showed that gaming addiction significantly predicted social sensitivity ( $\beta = -152$ ,  $p = 0.078$ ) and learning motivation ( $\beta = -148$ ,  $p = 0.155$ ). This reinforces the correlation findings that gaming addiction has a negative relationship with social sensitivity and learning motivation.

### 3.2. Discussion

This research focuses on the impact of game addiction on the social sensitivity and learning motivation of students at Universitas Islam Negeri Sunan Kalijaga Yogyakarta, with the aim of understanding the extent to which game addiction affects students' social interaction and academic motivation. In the growing digital era, the phenomenon of game addiction is one of the problems that needs serious attention, especially among university students who are in a crucial academic transition phase. Previous studies have shown that gaming addiction can negatively affect students' social interactions and academic performance, which motivates further research to examine the relationship between gaming addiction, social sensitivity, and motivation to learn among university students (Pirrone et al., 2024) (Lengersdorff et al., 2023).

The results showed that there was a significant negative correlation between gaming addiction and social sensitivity ( $r = -0.388$ ,  $p = 0.005$ ) and learning motivation ( $r = -0.362$ ,  $p = 0.008$ ). That is, the higher the level of gaming addiction of university students, the lower their level of social sensitivity and learning motivation. These findings highlight the serious impact of gaming addiction which not only reduces students' ability to interact socially, but also lowers their enthusiasm and commitment to academic activities.

The results of this study are in line with previous findings showing that gaming addiction is associated with decreased learning motivation and social sensitivity. For example, research by Nasrul and Sa'adah (2022) found that university students who spent more time playing games had lower learning motivation (Nasrul & Sa'adah, 2022). This finding is also consistent with the results of a study by Putra and Rozak (2019), which indicated that

gaming addiction causes social isolation, where students tend to reduce interaction with their academic environment (Putra et al., 2019). Thus, the results of this study reinforce the view that gaming addiction has the potential to disrupt students' social and academic balance.

Although the results of this study support previous findings, there are differences in the intensity of the impact of game addiction found. In this study, although the correlation found was quite significant, the level of game addiction in UIN Sunan Kalijaga students was still in the moderate category. This suggests that although the impact of gaming addiction can be seen in most students, not all students experience significant social or academic impairment. For example, despite a decrease in social sensitivity, students are still able to undergo social interactions in their neighbourhood, albeit to a lesser extent compared to those who are not addicted.

This finding suggests that gaming addiction not only interferes with time that should be used for studying, but also reduces students' ability to interact socially with others. This can be explained by social adjustment theory, which indicates that students who are addicted to games tend to be isolated from social interactions in the real world and focus more on the virtual world (Junilia & Dharmawan, 2023). Other negative impacts include decreased confidence in achieving academic goals, as students prefer to spend time playing games rather than interacting with classmates or lecturers, which is important for improving the quality of learning.

More profoundly, gaming addiction can cause disruption in students' sleep patterns, which results in decreased concentration during lectures and studying. Gaming addiction leads to increased stress and anxiety, which further deteriorates their academic performance. These factors suggest that in addition to reducing study time, gaming addiction can also reduce students' sleep quality and mental well-being, which in turn affects their motivation to study. This is in line with research by Putra and Rozak (2019), who found that college students who are addicted to gaming are more prone to academic stress, which contributes to decreased learning motivation (Putra et al., 2019).

The implications of these findings suggest that it is important for higher education to develop effective intervention programmes to address gaming addiction among university students. A holistic approach that integrates time management, social sensitisation and strengthening learning motivation is essential in preventing gaming addiction from adversely affecting students' academic and social development. Educational institutions can introduce social skills and time management training, and provide psychological support for students at risk of gaming addiction. These programmes are expected to help students maintain a balance between digital entertainment and academic commitments, so that they can reach their full potential in their studies and their social lives.

#### 4. CONCLUSION

This study aimed to examine the impact of game addiction on social sensitivity and learning motivation among first- to fourth-semester students at UIN Sunan Kalijaga Yogyakarta. The findings revealed that game addiction has a significant negative correlation with both social sensitivity and learning motivation. Students with higher levels of gaming addiction tend to show reduced empathy, limited social engagement, and lower academic focus and motivation. These results indicate that gaming addiction not only disrupts students' social functioning but also hampers their academic progress.

Given these findings, it is recommended that universities implement practical strategies to mitigate the adverse effects of gaming addiction. These strategies may include the development of digital literacy programs that raise awareness about responsible game use, accessible counselling services focused on behavioural and emotional well-being, and the promotion of structured social activities that encourage interpersonal engagement and reduce reliance on virtual interactions. Creating a balanced academic and social environment can play a critical role in supporting students' overall development.

For future research, it is suggested to expand the sample size and include students from various universities to enhance the generalizability of the results. In addition, incorporating qualitative methods such as interviews or focus groups could provide deeper insights into the psychological and social dynamics behind gaming behaviour. One limitation of this study is its reliance on self-reported data, which may be subject to social desirability bias. Moreover, the cross-sectional design limits the ability to infer causal relationships. Addressing these limitations in future studies will contribute to a more comprehensive understanding of gaming addiction and its impact on student life.

## ACKNOWLEDGEMENTS

The author is grateful to Allah SWT, who has given His Grace and Guidance. The author would like to thank the Rector, Deans, and Lecturers of UIN Sunan Kalijaga Yogyakarta who have provided opportunities and support in this research. The author also appreciates the participation of respondents who have contributed to data collection. Thanks also to the research team and all those who have helped in the completion of this research.

## REFERENCES

- A.I. Lavrentev, M. G. A. (2020). The Philosophy of the Game in the American Ludic Novel Of Pre-Digital and Digital Era. *Jurnal Internasional*, 1, 728–737. <https://doi.org/10.18502/kss.v5i2.8422>
- Ardiansyah, Risnita, & Jailani, M. S. (2023). Teknik Pengumpulan Data Dan Instrumen Penelitian Ilmiah Pendidikan Pada Pendekatan Kualitatif dan Kuantitatif. *Jurnal IHSAN : Jurnal Pendidikan Islam*, 1(2), 1–9. <https://doi.org/10.61104/ihsan.v1i2.57>
- Dewanti, S. S., Kartowagiran, B., & Retnawati, H. (2020). Lecturers ' Experience in Assessing 21St-Century Mathematics. *PROBLEMS OF EDUCATION IN THE 21st CENTURY*, 78(4). <https://doi.org/https://doi.org/10.33225/pec/20.78.500>
- Eng Leong, C. (2014). A Review of Research on Crime Displacement Theory. *International Journal of Business and Economics Research*, 3(6), 22. <https://doi.org/10.11648/j.ijber.s.2014030601.14>
- Fajar, M., Masyhuri, M., & Muda, Y. (2024). Kecanduan Game Online pada Remaja. *Journal of Education Research*, 5(3), 3995–4001. <https://doi.org/10.37985/jer.v5i3.1273>
- Junilia, E., & Dharmawan, A. K. (2023). Sensory Integration Ability and Social Adjustment in Elementary School Students. *Nusantara Journal of Behavioral and Social Sciences*, 2(1), 1–4. <https://doi.org/10.47679/202321>
- Kartowagiran, B., Hamdi, S., Istiyono, E., Ayub, A. F. M., & Dewanti, S. S. (2021). Integrating the 21st Century Character Values for Elementary School Students. *İlköğretim Online*, 20(2), 33–43. <https://doi.org/10.17051/ilkonline.2021.02.07>
- Lengersdorff, L. L., Wagner, I. C., Mittmann, G., Sastre-Yagüe, D., Lüttig, A., Olsson, A., Petrovic, P., & Lamm, C. (2023). Neuroimaging and behavioral evidence that violent video games exert no negative effect on human empathy for pain and emotional reactivity to violence. *ELife*, 12, 1–2. <https://doi.org/10.7554/eLife.84951>
- Lestarina, N. N. W., & Dwi Purwantini. (2023). Gambaran Proses Adaptasi Mahasiswa Baru Stikes Di Surabaya. *Journal*, 3, 761–769. <https://doi.org/10.33024/mahesa.v3i3.9971>
- Mardiatmoko, G. (2020). Pentingnya Uji Asumsi Klasik Pada Analisis Regresi Linier Berganda. *BAREKENG: Jurnal Ilmu Matematika Dan Terapan*, 14(3), 333–342. <https://doi.org/10.30598/barekengvol14iss3pp333-342>
- Nasrul, & Nurus Sa'adah. (2022). Intervention The Impact Of Online Games On Student Learning Motivation And Academic Achievement: Literature Review. *Cons-Iedu*, 2(2), 81–89. <https://doi.org/10.51192/cons.v2i2.408>
- Nasution, N., Sagala, N. suryani, & Ritonga, S. herianto. (2022). Hubungan Intensitas Penggunaan Game Online Dengan Interaksi Sosial Pada Remaja Di Lingkungan 4 Kelurahan Hutasuhut Kecamatan Sipirok. *Jurnal Kesehatan Ilmiah Indonesia (Indonesian Health Scientific Journal)*, 7(2), 127–131. <https://doi.org/10.51933/health.v7i2.900>
- Novita Lestari, S., Meiyuntariningsih, T., & Sari Ramadhani, H. (2023). Penyesuaian sosial pada mahasiswa rantau Luar Jawa: Menguji peranan self monitoring. *INNER: Journal of Psychological Research*, 2(4), 907–915.
- Novrialdy, E. (2019). Kecanduan Game Online pada Remaja: Dampak dan Pencegahannya. *Buletin Psikologi*, 27(2), 148. <https://doi.org/10.22146/buletinpsikologi.47402>
- Nurhayati, H., & , Langlang Handayani, N. W. (2024). Perbandingan Sistem Pendidikan Indonesia dengan Beberapa Negara: Perbandingan Kurikulum dan Infrastruktur Lisa. *Jurnal Basicedu*, 5(5), 3(2), 524–532. <https://journal.uii.ac.id/ajie/article/view/971>
- Pirrone, D., van den Eijnden, R. J. J. M., & Peeters, M. (2024). Why We Can't Stop: The Impact of Rewarding Elements in Videogames on Adolescents' Problematic Gaming Behavior. *Media Psychology*, 27(3), 379–400. <https://doi.org/10.1080/15213269.2023.2242260>
- Putra, F. F., Rozak, A., Perdana, G. V., & Maesharoh, I. (2019). Dampak Game Online Terhadap Perubahan Perilaku Sosial Mahasiswa Telkom University. *Jurnal Politikom Indonesiana*, 4(2), 98–103. <https://doi.org/10.35706/jpi.v4i2.3236>
- Qaffas, A. A. (2020). An operational study of video games' genres. *International Journal of Interactive Mobile Technologies*, 14(15), 175–194. <https://doi.org/10.3991/IJIM.V14I15.16691>
- Retnawati, H. (2017). Pengantar Analisis Regresi dan Korelasi. *Universitas Negeri Yogyakarta*, 1(1), 1–18. <http://staffnew.uny.ac.id/upload/132255129/pengabdian/4-materi-Pengantar Analisis Regresi-alhamdulillah.pdf>

- Sidik Priadana, M. D. S. (2021). *Metode Penelitian Kuantitatif*. Pascal Books.
- Utami, N. E., Nurhakim, I., & Agustian, T. (2023). Dampak Permainan Game Online Terhadap Interaksi Sosial Di Kalangan Remaja. *Jurnal Pendidikan Sosial*, 10(2), 129–138.
- Zebua, T. G. (2021). Teori Motivasi Abraham H. Maslow Dan Implikasinya Dalam Kegiatan Belajar Matematika. *RANGE: Jurnal Pendidikan Matematika*, 3(1), 68–76. <https://doi.org/10.32938/jpm.v3i1.1185>