

Validation of Self-Esteem Instrument in Drug Use Prevention among Secondary School Students in Malaysia

Ahmad Jazimin Jusoh^{1*}, Suzaily Wahab², Siti Zobidah Omar³, Nazre Abdul Rashid⁴

^{1,4}Universiti Pendidikan Sultan Idris, Malaysia

²Universiti Kebangsaan Malaysia, Malaysia

³UCSI University, Malaysia

*e-mail: jazimin@fpm.upsi.edu.my

Abstract

There is an exact instrument that measures global self-esteem. However, there is no instrument that relates self-esteem with drug abuse tendencies. Therefore, this paper presented the validation of self-esteem in drug use instruments among secondary school students in Malaysia. This research was a survey-design by using quantitative technique for data analysis. The survey questionnaire was distributed to several schools by targeting secondary school students. In the end, 220 students from Johor, Selangor and Kuala Lumpur participated in the research. Factorial analysis, namely exploratory factor analysis (EFA) and Confirmatory factor analysis (CFA) conducted. The analysis was complemented with parallel analysis and Minimum Average Partial (MAP). The original and revised MAP tests confirm three factors for the instrument: peer self-esteem, home self-esteem, and school self-esteem. CFA was used to validate the structure and inspect the construct validity. The result showed that the instrument gains the acceptable value in several goodness indices such as GFI, AGFI, CFI, TLI, NFI, RMSEA, and CMIN.

Keywords: Self-Esteem Instrument, Drug Use Prevention, Secondary School Students

How to cite: Validation of Self-Esteem Instrument in Drug Use Prevention among Secondary School Students in Malaysia. (2026). *International Journal of Pedagogy and Learning Community (IJPLC)*, 3(2). <https://doi.org/10.24036/ijplc.v3i2.42>



Licensees may copy, distribute, display and perform the work and make derivative works and remixes based on it only if they give the author or licensor the credits ([attribution](#)) in the manner specified by these. Licensees may copy, distribute, display, and perform the work and make derivative works and remixes based on it only for [non-commercial](#) purposes.

INTRODUCTION

Drug addiction is still a significant public health issue affecting people worldwide (Koob, 2021), including in south Asian countries, especially Malaysia. The trend of drug addiction in Malaysia is increasing year to year. For example, drug addiction increased from 12.089 in 2017 to 12.520 in 2018 (Sulaiman et al., 2021). Even though the number decreased in 2022 (108.220) compared to 2021 (129.604), this number is still considered high (Department of Statistics Malaysia, 2022). Ahmad et al. (2021) stated that the rising number of drug addicts in Malaysia threatens the country because it infects youth, including students, who are the country's assets. Youth with substance addiction lost their capabilities, potential, and contribution to the nation (Oluwasola et al., 2021). Drug consumption could reduce the cognitive processing of social and emotional behaviour (Yu et al., 2020). That is why drug abusers are more likely to commit a crime. Sulaiman et al. (2021) stated that there is a domino effect between drug addiction to criminal cases; drug addiction was found to correlate with violence and crime. Therefore, the more people become addicted to drugs; the more

criminal cases will probably happen. This condition must be solved since drug addiction has become an acute issue among youth (Tam et al., 2020).

Drug addiction is regarded as a relapsing brain disease because it can alter the structure and function of the brain (Ruisoto & Contador, 2019). Drug addiction also burdens the path of reward experiences and expectations, perception and recognition, and cognitive control (Strathearn et al., 2019). It happens because the drug converges the brain region, which comprises the brain's reward circuitry. The reward circuitry is the one that controls the emotional stimuli as well as the brain's motivational order (Nestler & Lüscher, 2019). Several frightening consequences of the drug were cardiovascular disease, HIV, economic difficulty, and even psychotic symptoms (Chiappini et al., 2020). Drug consumption is also reported as a factor in human morbidity and mortality (De Angelis et al., 2020).

Regarding the terrifying effects of the drug, exploring the elements that could prevent or help drug abuse is essential. One of which was identified in the literature was self-esteem. Olaoye et al. (2020) reported that adolescents with high self-esteem were less likely to consume the drug. It means that high self-esteem is the enabling factor for limiting adolescent drug consumption. Oluwasola et al. (2021) stated in their paper that "self-esteem is the most important concept for understanding drug abuse initiation, continuation, and cessation." It could also explain further why rehabilitation could result in relapse. Self-esteem is associated with the causal psychological factor of substance abuse. Tam et al. (2020) stated that the positive and negative appraisal of self-esteem is the protective factor against substance abuse.

Self-esteem is essential for youth, including students. At their age, youth are in a critical period regarding physiological, cognitive, and psychological changes (Morowatisharifabad et al., 2019). Students become susceptible to low self-esteem because of the various stressful challenges in school, such as heavy examinations, overload tasks, and competition for grades, which cause students to take drugs as stress-coping strategies (Tam et al., 2020). In this context, self-esteem can be a protective factor for drug consumption because it could reduce stress and anxiety (Fuentes et al., 2020; Dale et al., 2019). Salazar et al. (2021) explained that family and scholastic self-esteem were protective effects of drug consumption.

Self-esteem is generally described as a subjective evaluation of individual worth as a person (Jiang, 2020). Veldhuis et al. (2020) define self-esteem by stating that self-esteem concerns how individuals feel about themselves and their attitude to themselves. Jiang and Ngien (2020) explained several indications of low self-esteem. First, individuals with low self-esteem are more likely to have less social interaction by hindering or avoiding supportive relationships, which is important for elevating well-being. Second, individuals with low self-esteem are inclined to extrinsic social approval, for example, perceiving themselves as looked down upon by others, which could result in social anxiety. Third, individuals with low self-esteem tend to self-victimise and blame others for their social failure rather than take responsibility for their own decision. People with low self-esteem struggle for social life and take drugs as an escape solution. Furthermore, positive self-esteem indicated better mental health, proactive coping anxiety and less tendency to externalise problems (Pinquart & Gerke, 2019). This could give them social support, which inhibits them from drug consumption.

In terms of self-esteem measurement, the Rosenberg scale is widely used. This scale gives scores distributed to low, medium and high self-esteem; the score can be used to compare groups (García et al., 2019). Another known instrument was the single-item self-esteem scale (SISE), measuring global self-esteem. Brailovskaia and Margraf (2020) stated that this instrument efficiently measures the "big five" personality traits, life satisfaction, and depression. There is an exact instrument that measures global self-esteem. However, there is no instrument that relates self-esteem with drug abuse tendencies. Therefore, the current research aims to validate self-esteem in drug use instruments among secondary school students in Malaysia. Furthermore, regarding the role of self-esteem in reducing anxiety and elevation of social support, it is adequate to equate self-esteem as the solution to preventing drug addiction. Research tools such as instruments must be conceptualised to enhance the research in this area.

Method

The sample for the current research was secondary school students in Malaysia; the researcher collected data in three regions: Johor, Selangor, and Daerah Persekutuan Kuala Lumpur. Two hundred twenty students become the participants of this research. One hundred and nineteen students came from Johor, 70 from Selangor, and 31 from Wilayah Persekutuan Kuala Lumpur. Eighty-nine of them are male, and 131 are female. A cross-sectional survey was adopted to test the validity and reliability of the instrument. The survey was given to the students and consisted of 30 Likert scale items (1 = strongly disagree, 5 = strongly agree). The instrument was adopted from some previous studies and translated through back translation by three researchers. The instrument was translated from English to Malaysia and then separated for the respondent; the instrument was then translated back to English to report the finding.

Table 1. Characteristic of the Sample

	Sample	N	Percentages
Region			
	Johor	119	54.1%
	Selangor	70	31.8%
	Kuala Lumpur	31	14.7%
Gender			
	Male	89	40.5%
	Female	131	59.5%
Races			
	Malay	109	49.5%
	China	73	33.2%
	India	35	15.9%
	Other	3	1.4%

Analysis

The instrument for the current research consists of 30 items. The validation procedures used were both factorial analyses, namely EFA and CFA. EFA is used to inspect the instrument's underlying dimension, while CFA is used to confirm the theoretical model framed in EFA (Çavaş et al., 2020; Alavi et al., 2020). The data's suitability for factorial analysis was checked using Kaiser-Meyer-Olkin (KMO) and Barlett's test. The acceptable coefficient for KMO was more than .50, while the acceptable coefficient for Barlett's test was <0.05 (Taherdoost et al., 2014; Shrestha, 2021). For those thresholds, the dataset will be considered suitable for factorial analysis.

EFA was used to examine the dimensionality and learn more about the relationships between the variables. Regarding the number of factors retained in the analysis, the researcher used several methods, such as an initial eigenvalue greater than 1, a scree plot, parallel analysis, and Velicer's Minimum Average Partial (MAP). After revealing the factor, principle component analysis is performed with a fixed number of factors. The data was rotated through direct Oblimin to assess the correlation between the factors (Zeynivandnezhad et al., 2019). The correlation between the item and the factor tested through factor loading (Tavakol & Wetzel, 2020). The item correlated to a specific factor manifested through the factor loading. Communality is characterized by the full original variable's share with all other variables (Ogunsanya et al., 2019). Communalities between .20 and .80 are vast, .20 to .80 is low, and .60 to .80 is high (Lorenzo-Seva & Ferrando, 2020).

CFA was used to examine the correlation between the construct and the item in the hypothesized model (Knekta et al., 2019). The result of CFA is displayed through several model fit indices. According to Knekta et al. (2019), model fit indices are constructed to help the researcher to examine the model quickly. Several model fit indices considered were GFI and RMSEA, which confirms how well the model fits the data compared to no model, and AGFI, NFI, CFI, and TLI, which show a good comparison between the theoretically fit model and the alternative baseline

model (Alavi et al., 2020; Husain, 2019). The instrument's structure was confirmed through psychometric evaluation of CFA for those thresholds.

FINDINGS

This part displays the validity and reliability of study findings within the dataset obtained from the self-esteem scale of 220 secondary school students.

Exploratory factor analysis

The scale was assessed through EFA. Before conducting EFA, it is essential to check the data's adequacy for factorial analysis. Therefore, Kaiser-Meyer-Olkin (KMO) and Barlett Sphericity tests were employed. The value of KMO ranged from 0 to 1. According to Ergene et al. (2019), KMO 0.5 and above indicated that the data were adequate for factorial analysis. Furthermore, the $<.05$ for Barlett's test was considered significant (Taherdoost et al., 2014). The current research results reveal that the KMO measure of sampling adequacy was .736, with the value of Barlett's significant (.000). Indicating the adequacy and appropriateness of the dataset to perform factorial analysis.

Table 2. The Result of KMO and Barlett`s Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy	Bartlett's Test of Sphericity		
	Approx. Chi-Square	df	Sig.
.736	1606.328	435	.000

The first consideration in EFA for the current research was how many factors to retained. In this case, several techniques were used to determine the number of factors such as kaiser eigenvalue greater than 1, scree plot, parallel analysis and Velicer`s Minimum average result (MAP). As initial analysis, kaiser eigenvalue greater than 1 rotated with principles component analysis and direct Oblimin conducted. The analysis also displayed by the scree plot. Initial eigenvalue indicating 9 components with eigenvalue greater than 1 explaining 59.914% of variances. The result emphasized by scree plot which show 9 plots exceeding eigenvalue 1.

Table 3. Initial Eigenvalue, Parallel Analysis-Generated Eigenvalue at the 95th Percentile.

Components	Initial Eigenvalue		Simulated eigenvalue at 95th percentile	
	Total	% of the variance	Means	percentile
1	5.355	17.849	1.757971	1.844379
2	2.708	9.027	1.647922	1.735552
3	2.337	7.791	1.568013	1.637371
4	1.689	5.631	1.496143	1.552312
5	1.411	4.704	1.435280	1.488008
6	1.230	4.101	1.384156	1.433603
7	1.157	3.855	1.327610	1.369133
8	1.085	3.616	1.281582	1.325092
9	1.002	3.340	1.230503	1.275767
10	.979	3.262	1.181127	1.219713

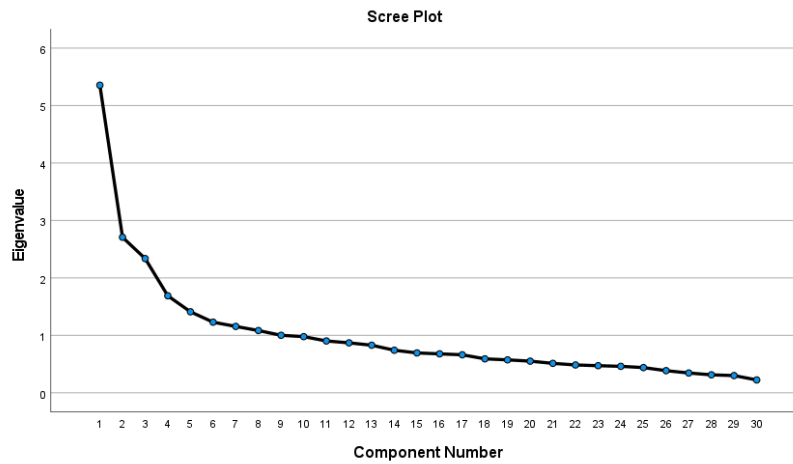


Figure 1. Scree Plot

Parallel analysis and Velicer’s Minimum Average (MAP) were initiated to confirm the number of factors. Parallel analysis means more significant than the initial eigenvalue in column 5, which means there are 4 factors for the current dataset. The analysis of the number of factors to be retained is confirmed through Velicer’s Minimum Average. The result showed that three factors appeared based on the original and revised MAP. All methods give varied interpretations. Initial eigenvalues greater than 1 and the scree plot suggest nine factors, parallel analysis suggests four factors and MAP suggests three factors. In this case, the researcher chooses three factors to retain because, according to Caron (2019), MAP measures the impact when removing the successive eigenvalue, which is why it is an excellent solution to determine the number of factors. Furthermore, the initial eigenvalue greater than 1 is reported to be unreliable and needs support from another method (Schreiber, 2021).

Table 4. Velicer Minimum Average result.

Velicer Minimum Average		Results
The smallest average squared partial correlation		,0121
The smallest average 4rth power partial correlation		,0004
The Number of Components According to the Original (1976) MAP Test		3
The Number of Components According to the Revised (2000) MAP Test		3

After confirming the number of factors to be retained, the analysis continued by verifying the items and their structure in the instrument. In this case, commonalities and factor loading were extracted. The extraction column is set to a fixed number of factors, and the coefficient is suppressed to an absolute value below .20. the result can be seen in Table 5.

Table 5. Exploratory Factor Analysis Result

Components	No	Items	Communalities	Components		
				1	2	3
Peer self-esteem	X5.	Other people think I am a lot of fun to be with	.232	.401		
	X7	Other people wish that they were like me to avoid drug	.432	.260		
	X9	If my group of friends decided to vote for leaders of their group, I’d be elected to a high position	.509	.410		
Home self-esteem	X13	My parents feel that I can be depended on myself to avoid drug	.514		.210	

	X14	I often feel that if they could ,my parents would trade me in for another child	.280	.240
	X16	My parents expect too much of me	.451	.535
	X17	I am an important person to my family	.309	.252
	X18	I often feel unwanted at home if I consume drug	.449	.399
	X20	I often wish that I had been placed into a different family	.457	.414
School self-esteem	X29	It seems that no matter how hard I try, I never get the grades I deserve	.419	.376
	X30	All and all, I feel I've been very fortunate to have had the kinds of teachers who guiding me to avoid drug	.324	.387

Based on the finding, several items were deleted because they did not achieve the threshold of commonalities and factor loading. The item with commonalities below .20 and the item with factor loading below .20 were deleted from the analysis. In the end, 11 items remain in the analysis. The commonalities among the 11 items ranged from .232 to .514, and the factor loading ranged from .210 to .535. The items were separated into three items for the first factor, peer self-assessment; six items for the second factor, home self-esteem; and two for the third, school self-esteem. The factor loading in the first factor ranged from .260 to .410, the factor loading in the second factor ranged from .210 to .535, and the factor loading in the third factor ranged from .376 to .387. The finding shows that the scale can be used as it is with a three-factor structure.

Confirmatory Factor Analysis

The structure of the scale framed in the EFA was confirmed through the CFA. A CFA was executed to confirm and verify the scale's factor structure. Several fit indices were considered in this analysis, which can be seen in table 5.

Table 6. CFA Model of Fit Indices

Fit Index	Acceptable Fit Values	Values from CFA
X ² /df	2	
GFI	>.90	.955
AGFI	>85	.903
CFI	>80	.886
TLI	>80	.805
NFI	>.80	.825
RMSEA	<.06 to .08	.077
SRMR	<.05	.0686
CMIN	<5	2.293

In CFA, two items were deleted, and the covariance was drawn between items to attain the threshold of fit indices. The finding showed that several goodnesses of fit indices were acceptable, for example, GFI = .955, AGFI= .903, CFI= .886, TLI= .805, NFI= .825, RMSEA= 0.77, and CMIN = 2.293. The goodness of fit indices in CFA indicated that the observed factorial of the scale was compatible with the expected factorial. The final structure of the instrument based on CFA can be seen in Figure 2.

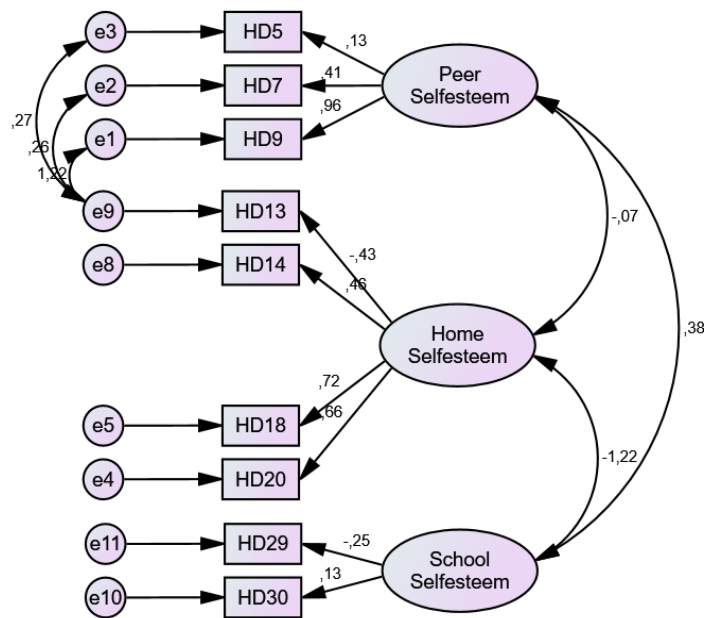


Figure 2. Confirmatory Factor analysis model

DISCUSSION

Drugs have been infecting students, becoming a major risk problem in Malaysia. The Malaysian National Anti-Drug Agency (AADK) reported that 2,188,525 secondary school students in Malaysia were found to be drug risk. It is emphasized that 41% of the students (913,576) confirmed positive in urine testing. Students can be infected because of the condition and attitude of their peers, home, and school. Poor parental and family relationships become the most consistent factors contributing to drug addiction development, such as parental absence, divorce, and family conflict (Nurco et al., 1998). Other than that, the student did not obtain sufficient information about the drug because their parents did not have enough skills to teach them (Ghasemi et al., 2019). The academic institution also considered contributing to the beginning and maintenance consumption of drugs, as one in five university students reported consuming drugs, and 9% to 25% identified consuming drugs after admission (Alves et al., 2021). The habit of drug consumption among students results from the combination of sociocultural factors and the physical environment (Alves et al., 2021). Furthermore, Ren and Xia's (2019) research revealed that peer influences were the most cited cause of drug use in terms of synthetic and heroin drugs. Drug consumption with peer support can inherently affect their psychological health negatively (Khasmohammadi et al., 2020; Matt et al., 2022).

It is essential to identify the student's self-esteem in their home, peer and school by developing instruments. Research without valid instruments results in negative sequels, such as a waste of effort and money and scientific error or mistake (Ergene & Özdemir, 2019; Handrianto & Solfema, 2025). A valid instrument refers to its accuracy in measuring what it intends to measure (Graham et al., 2021; Zainil et al., 2023). A valid instrument in student self-efficacy in drug abuse could evoke information about the cause of the drug abuse. Therefore, instrument development should be carried out carefully. This research intended to validate self-esteem in drug use instruments among secondary school students in Malaysia by attempting factorial analysis. Through parallel analysis and MAP, EFA confirms 3 factors in the student self-esteem in the drug abuse instrument. The 3 factors complemented with 9 items, 2 items in the first factor, 4 factors in the second factor and 2 items in the third factor.

Psychometric evaluation in CFA confirmed the instrument's structure to be used in the context. The result of CFA was confirmed through several goodness fit indices. This research attained the threshold for GFI and RMSEA. It is a part of Absolute fit indices, which confirm how

well the model fits the data compared with no model (Alavi et al., 2020; Nengsih et al., 2022). Furthermore, this research also attained the threshold of AGFI, NFI, CFI and TLI, indicating an excellent comparison between the theoretical fit and alternative baseline models (Husain, 2019; Handrianto, 2025). Based on the finding, CFA confirms the structure of the model by eliminating some items. Bouih et al. (2022) stated that the results of CFA can provide strong evidence of the convergent and discriminant validity of theoretical constructs, making it an essential analytical tool for construct validation. Furthermore, Bae and Han (2019) stated that CFA is used to measure the construct validation and investigate the internal consistency of every factor in the identified model. Based on the discussion, both factorial analyses confirm the instrument's structure.

CONCLUSION

To summarise, factorial analysis was conducted to inspect the underlying factor and the instrument's structure. Through EFA, the researcher evaluates the number of factors and structures the items' correlation in the factor. The CFA then confirms the model by inspecting the model of fit indices. The result revealed various suggestions for the number of factors to retain, but MAP confirmed the number of factors to retain. CFA confirms the instrument model's structure by accepting several model fit indices such as GFI, AGFI, CFI, TLI, NFI, RMSEA, and CMIN. At once, it confirms the validity of the instrument.

ACKNOWLEDGEMENT

This research was funded by the Ministry of Higher Education through Long Term Research Grant Scheme (LRGS/1/2019/UKM/02/2/4), with the project title "Developing and conceptualizing a model of drug-free school environment prevention strategy at selected hot spots" (grant number: 2019025610742). We would like to express our gratitude to the editorial team and reviewers who spent their priceless time reviewing and improving this article.

REFERENCES

- Ahmad, J., Taib, F. B., & Jan, A. (2021). Exploring CSR Initiatives to Cultivate and Nurture Values in Facing Issues Related to Drugs Abuse Among the Youth in Malaysia: Using Three Core Components of Triple Bottom Line (TBL). *Business Management and Strategy*, 12(2), 133. <https://doi.org/10.5296/bms.v12i2.18912>
- Alavi, M., Watson, R., Thapa, D. K., Hunt, G. E., Watson, R., & Cleary, M. (2020). Chi-square for model fit in confirmatory factor analysis. *Journal of Advanced Nursing*, 76(9), 2209–2211. <https://doi.org/10.1111/jan.14399>
- Alves, R. F., Precioso, J., & Becoña, E. (2021). Illicit Drug Use among College Students: The Importance of Knowledge about Drugs, Live at Home and Peer Influence. *Journal of Psychoactive Drugs*, 53(4), 329–338. <https://doi.org/10.1080/02791072.2020.1865592>
- Bae, Y., & Han, S. (2019). Academic Engagement and Learning Outcomes of the Student Experience in the Research University: Construct Validation of the Instrument. *Kuram Ve Uygulamada Egitim Bilimleri*. <https://doi.org/10.12738/estp.2019.3.004>
- Bouih, A., Benattabou, D., Nadif, B., Benhima, M., & Benfilali, I. (2022). The Rosenberg self-esteem scale: A confirmatory factor analysis study. *European Journal of Psychology and Educational Research*, 5(2), 143-160. <https://doi.org/10.12973/ejper.5.2.143>
- Brailovskaia, J., & Margraf, J. (2020). How to measure self-esteem with one item? validation of the German single-item self-esteem scale (G-SISE). *Current Psychology*, 39(6), 2192–2202. <https://doi.org/10.1007/s12144-018-9911-x>
- Caron, P. (2019). Minimum average partial correlation and parallel analysis: The influence of oblique structures. *Communications in Statistics - Simulation and Computation*, 48(7), 2110–2117. <https://doi.org/10.1080/03610918.2018.1433843>
- Çavaş, P., Arslan-Cansever, B., & Ünver, G. (2020). Developing the Perceived Self-Regulation Skills Scale for Fourth Grade Students. *Croatian Journal of Education-Hrvatski Casopis Za Odgoj I Obrazovanje*, 22(3). <https://doi.org/10.15516/cje.v22i3.3623>

- Chiappini, S., Guirguis, A., John, A., Corkery, J., & Schifano, F. (2020). COVID-19: The Hidden Impact on Mental Health and Drug Addiction. *Frontiers in Psychiatry, 11*.
<https://doi.org/10.3389/fpsy.2020.00767>
- Dale, L. P., Vanderloo, L. M., Moore, S. J., & Faulkner, G. (2019). Physical activity and depression, anxiety, and self-esteem in children and youth: An umbrella systematic review. *Mental Health and Physical Activity, 16*, 66–79. <https://doi.org/10.1016/j.mhpa.2018.12.001>
- De Angelis, C., Nardone, A., Garifalos, F., Pivonello, C., Sansone, A., Alviggi, C., Di Dato, C., Sirico, F., Alviggi, C., Isidori, A. M., Colao, A., & Pivonello, R. (2020). Smoke, alcohol and drug addiction and female fertility. *Reproductive Biology and Endocrinology, 18*(1).
<https://doi.org/10.1186/s12958-020-0567-7>
- Department of Statistics Malaysia Official Portal. (2022). <https://www.dosm.gov.my/v1/>
- Ergene, Ö., & Özdemir, A. Ş. (2019). Development of the Perception Scale for the Concept of Integral / Razvoj percepcijskih ljestvica za pojam integrala. *Croatian Journal of Education-Hrvatski Casopis Za Odgoj I Obrazovanje, 21*(4), 1181–1211.
<https://doi.org/10.15516/cje.v21i4.3278>
- Fuentes, M. J. G., Garcia, O. B., & Garcia, F. (2020). Protective and Risk Factors for Adolescent Substance Use in Spain: Self-Esteem and Other Indicators of Personal Well-Being and Ill-Being. *Sustainability, 12*(15), 5962. <https://doi.org/10.3390/su12155962>
- García, J. A., Olmos, F. C. Y., Matheu, M. L., & Carreño, T. P. (2019). Self esteem levels vs global scores on the Rosenberg self-esteem scale. *Heliyon, 5*(3), e01378.
<https://doi.org/10.1016/j.heliyon.2019.e01378>
- Ghasemi, V., Simbar, M., Fakari, F. R., Naz, M. S. G., & Kiani, Z. (2019). The Effect of Peer Education on Health Promotion of Iranian Adolescents: A Systematic Review. DOAJ (DOAJ: Directory of Open Access Journals). <https://doi.org/10.22038/ijp.2018.36143.3153>
- Graham, L. A., Sahay, K., Rizo, C. F., Messing, J. T., & Macy, R. J. (2021). The Validity and Reliability of Available Intimate Partner Homicide and Reassault Risk Assessment Tools: A Systematic Review. *Trauma, Violence, & Abuse, 22*(1), 18–40.
<https://doi.org/10.1177/1524838018821952>
- Handrianto, C. & Solfema, S. (2025). *Psikologi sosial dalam dinamika pendidikan non formal*. PT Mafy Media Literasi Indonesia.
- Handrianto, C. (2025). *Teknik menulis dan publikasi karya ilmiah: Panduan praktis untuk mahasiswa dan peneliti muda*. PT Mafy Media Literasi Indonesia.
- Husain, T. (2019). An Analysis of Modeling Audit Quality Measurement Based on Decision Support Systems (DSS). *European Journal of Scientific Exploration, 2*(6).
- Jiang, S. (2020). Psychological well-being and distress in adolescents: An investigation into associations with poverty, peer victimization, and self-esteem. *Children and Youth Services Review, 111*, 104824. <https://doi.org/10.1016/j.childyouth.2020.104824>
- Jiang, S., & Ngien, A. (2020). The Effects of Instagram Use, Social Comparison, and Self-Esteem on Social Anxiety: A Survey Study in Singapore. *Social Media and Society, 6*(2), 205630512091248. <https://doi.org/10.1177/2056305120912488>
- Khasmohammadi, M., Ehsaei, S. G., Vanderplasschen, W., Dortaj, F., Farahbakhsh, K., Afshar, H., Jahanbakhshi, Z., Mohsenzadeh, F., Noah, S. M., Sulaiman, T., Brady, C. L., & Hormozi, A. K. (2020). The Impact of Addictive Behaviors on Adolescents Psychological Well-Being: The Mediating Effect of Perceived Peer Support. *Journal of Genetic Psychology, 181*(2–3), 39–53. <https://doi.org/10.1080/00221325.2019.1700896>
- Koob, G. F. (2021). Drug Addiction: Hyperkatifeia/Negative Reinforcement as a Framework for Medications Development. *Pharmacological Reviews, 73*(1), 163–201.
<https://doi.org/10.1124/pharmrev.120.000083>
- Lorenzo-Seva, U., & Ferrando, P. J. (2020). Unrestricted factor analysis of multidimensional test items based on an objectively refined target matrix. *Behavior Research Methods*.
<https://doi.org/10.3758/s13428-019-01209-1>

- Matt, D. G. F., Banseng, S., & Gerry, D. (2022). Effect of wordwall in teaching malay literature component amongst form one students. *International Journal of Education, Technology and Science*, 2(3), 279-287.
- Morowatisharifabad, M. A., Hesary, F. B., Sharifzadeh, G., Miri, M., & Dastjerdi, R. (2019). Investigating the Life Skills and Self-Esteem in Teenage Girls in Birjand, Iran. *International Journal of Pediatrics*, 7(6), 9623–9630. <https://doi.org/10.22038/ijp.2019.37425.3259>
- Nengsih, Y. K., Nurrizalia, M., Waty, E. R. K., & Shomedran, S. (2022). Media and resources development of android based interactive digital textbook in nonformal education. *Journal of Nonformal Education*, 8(2), 185-191. <https://doi.org/10.15294/jne.v8i2.34914>
- Nestler, E. J., & Lüscher, C. (2019). The Molecular Basis of Drug Addiction: Linking Epigenetic to Synaptic and Circuit Mechanisms. *Neuron*, 102(1), 48–59. <https://doi.org/10.1016/j.neuron.2019.01.016>
- Nurco, D. N., Kinlock, T. W., O’Grady, K. E., & Hanlon, T. E. (1998). Differential contributions of family and peer factors to the etiology of narcotic addiction. *Drug and Alcohol Dependence*, 51(3), 229–237. [https://doi.org/10.1016/s0376-8716\(98\)00041-6](https://doi.org/10.1016/s0376-8716(98)00041-6)
- Ogunsanya, O. A., Aigbavboa, C., Thwala, D., & Edwards, D. (2019). Barriers to sustainable procurement in the Nigerian construction industry: an exploratory factor analysis. *The International Journal of Construction Management*, 22(5), 861–872. <https://doi.org/10.1080/15623599.2019.1658697>
- Olaoye, O., Onabanjo, T., Jejelaye, A. O., Adejumobi, A., & Olagunju, K. (2020). Substance Abuse, Self-Esteem and Self-Rated Academic Performance among Undergraduates in a Nigerian Private and Public University: A Comparative Study. *Nigerian Journal of Health Sciences*, 20(1), 28. https://doi.org/10.4103/njhs.njhs_21_20
- Oluwasola, O., Layefa, G., & Babaleye, S. O. T. (2021). Substance Abuse and Addiction among Undergraduates in Nigerian Private Universities; Communicating Behavioural Change for Sustainable Human Development. *Asian Research Journal of Arts & Social Sciences*, 11–26. <https://doi.org/10.9734/arjass/2021/v13i130203>
- Pinquart, M., & Gerke, D. (2019). Associations of Parenting Styles with Self-Esteem in Children and Adolescents: A Meta-Analysis. *Journal of Child and Family Studies*, 28(8), 2017–2035. <https://doi.org/10.1007/s10826-019-01417-5>
- Ren, G., & Xia, G. (2019). Causes and Consequences of Drug Abuse: A Comparison Between Synthetic Drug and Heroin Users in Urban China. *Aids Education and Prevention*. <https://doi.org/10.1521/aeap.2019.31.1.1>
- Rohe, K., & Zeng, M. (2020). Vintage Factor Analysis with Varimax Performs Statistical Inference. ArXiv (Cornell University). <http://export.arxiv.org/pdf/2004.05387>
- Ruisoto, P., & Contador, I. (2019). The role of stress in drug addiction. *An integrative review. Physiology & Behavior*, 202, 62–68. <https://doi.org/10.1016/j.physbeh.2019.01.022>
- Salazar, J. L. R., Page, B., & Ripoll, C. (2021). Features, State and Context of Narcissism in Drug Misuse. *Substance Use & Misuse*, 56(1), 11–24. <https://doi.org/10.1080/10826084.2020.1833923>
- Schreiber, J. B. (2021). Issues and recommendations for exploratory factor analysis and principal component analysis. *Research in Social & Administrative Pharmacy*, 17(5), 1004–1011. <https://doi.org/10.1016/j.sapharm.2020.07.027>
- Strathearn, L., Mertens, C. E., Mayes, L. C., Rutherford, H. J. V., Rajhans, P., Xu, G., Potenza, M. N., & Kim, S. (2019). Pathways Relating the Neurobiology of Attachment to Drug Addiction. *Frontiers in Psychiatry*, 10. <https://doi.org/10.3389/fpsy.2019.00737>
- Sulaiman, W. S. W., Kamaluddin, M. R., Zakaria, E., Ibrahim, F., Hassan, N., Manap, J., Nen, S., Zamani, Z. A., & Yusoff, F. (2021). Exploring gender differences in the vulnerability towards drug abuse among adolescents in Malaysia. *Psikohumaniora*. <https://doi.org/10.21580/pjpp.v6i1.6679>

- Tam, C. M., Benotsch, E. G., & Li, X. (2020). Self-Esteem and Non-Medical Use of Prescription Drugs among College Students: Coping as a Mediator. *Substance Use & Misuse*, 55(8), 1309–1319. <https://doi.org/10.1080/10826084.2020.1735441>
- Tavakol, M., & Wetzal, A. P. (2020). Factor Analysis: a means for theory and instrument development in support of construct validity. *International Journal of Medical Education*, 11, 245–247. <https://doi.org/10.5116/ijme.5f96.0f4a>
- Veldhuis, J., Flint, S. W., De Vaate, A. J. D. B., Keijer, M., & Konijn, E. A. (2020). Me, my selfie, and I: The relations between selfie behaviors, body image, self-objectification, and self-esteem in young women. *Psychology of Popular Media*, 9(1), 3–13. <https://doi.org/10.1037/ppm0000206>
- Yu, B., Chen, X., Chen, X., & Yan, H. (2020). Marijuana legalization and historical trends in marijuana use among US residents aged 12–25: results from the 1979–2016 National Survey on drug use and health. *BMC Public Health*, 20(1). <https://doi.org/10.1186/s12889-020-8253-4>
- Zainil, M., Kenedi, A. K., Rahmatina, R., & Indrawati, T. (2023). The influence of a STEM-based digital classroom learning model and high-order thinking skills on the 21st century skills of elementary school students in Indonesia. *Journal of Education and e-Learning Research*, 10(1), 29-35. <https://doi.org/10.20448/jeelr.v10i1.4336>
- Zeynivandnezhad, F., Rashed, F., & Kanooni, A. (2019). Exploratory Factor Analysis for TPACK among Mathematics Teachers: Why, What and How. *Anatolian Journal of Education*, 4(1). <https://doi.org/10.29333/aje.2019.416a>