Personifikasi : Jurnal Ilmu Psikologi
ISSN: 2087-7447 (Cetak)
ISSN : 2721-0626 (online)
DOI: 10.21107/personifikasi.v16i2.28891
Website: https://journal.trunojoyo.ac.id/personifikasi

Personifikasi

Vol. 16, No. 02, Bulan November
Hal. 01 – 16

Mental Health Students' Profiling Across Urban and Rural Areas

Getut Pramesti [1], Tien Umiyati[2], Seta Galih Permata [3], Fajar Listiyanto[4]

[1]Mathematics Education Department Universitas Sebelas Maret Surakarta Indonesia
[2]SMAN 2 Karanganyar Indonesia
[3,4] SMAN 8 Surakarta Indonesia

[1]getutpramesti@staff.uns.ac.id

ABSTRACT

Mental health is a condition in which individuals can realize their potential, cope with life's pressures, work productively, and make contributions. Therefore, mental health is very important for humans, especially for students. A mental health profile is one of the efforts in identifying factors that affect students' mental health. This study is a quantitative descriptive, inferential study. In the inferential, 3-way MANOVA analysis is used, and the description is equipped with correspondence visualization. The population in this study was high school students in urban and rural areas in Surakarta, Central Java, Indonesia, totalling 1240 students. The sampling used was cluster random, totaling 134 students. 2 suburban and 2 sub-rural areas were taken to compare their mental health. In addition to demographics, other research variables were also selected in the form of gender, student guardians, number of social media applications, age, distance, and student weight. From the discussion, the results indicate that there is a joint influence between gender, number of social media applications, and demographics on students' mental health. The existence of interaction of influence indicates that synergy between schools and related governments is needed to make the best policies to anticipate the high level of mental health problems of students in urban and rural areas. In contrast, students with low health problems were identified as students whose homes were close to school, users of 1 social media application, and students with ideal body weight.

Keywords: *mental health, profile, interaction*

ARTICLE INFO

Article history
Received 16-01-2025
Revised 04-07-2025
Accepted 14-07-2025

Introduction

Positive mental health enables teenagers to feel happier, more confident in themselves, and to enjoy life more fully. They can look for the positive in every circumstance, value the small aspects of life, and express gratitude for what they possess. Teenagers as learners in good mental health are ready to absorb knowledge. They often possess greater self-esteem and are driven to reach academic objectives. A student experiencing mental health issues or diagnosed with a mental health disorder might find it difficult to focus, recall information, and solve problems. Mental health, pain, and sleep factors are associated with subjective cognitive difficulties in individuals (Clark et al., 2021). Mental health is also important for overseas students (Hishida et al., 2024). Mental health issues can be a factor in encouraging students to study abroad. Students encounter challenges while studying abroad, which impact their mental

© Copyright Authors

well-being. Conquering challenges while studying abroad can boost students' confidence. Mental health literacy can support Palestinian minority students (Abo-Rass et al., 2024).

(Kumar et al.,2024) studied the effectiveness of mental health literacy intervention and contact-based education on knowledge, attitude, and stigma toward mental health among secondary school students. They found that there was a significant improvement in attitude towards mental health, but no significant improvement in knowledge and stigma levels. Mental health challenges are common among students, who often seek help infrequently, particularly those in minority groups.

Mental health is closely tied to various aspects. One of them is gender (Stornæs et al.,2023). Moreover, gender disparities in elements linked to behaviors regarding mental health treatment can help obtain insights into why certain individuals are more inclined to pursue treatment than others (McIntyre, et al., 2023). Feedback from college students involved in an online survey revealed that male and female students exhibit different responses to self-reported mental health symptom assessments. Women reported a wider variety of symptoms that weren't necessarily a sign of a significant mental health issue. Healthcare professionals employing patient-reported symptom assessments should consider gender variances in responses to prevent misdiagnosing conditions. They should apply supplementary diagnostic and evaluative standards alongside patient-reported symptom assessments.

The importance of mental health, especially for children during their growth and development, requires an effort to profile children's mental health. Profiling student mental health is needed to characterize student mental health problems and also assess the efficacy of on-campus student achievement (Broglia et al., 2023). Also, the relationship between mental health and social media has received significant research and policy attention (Cara et al., 2022). Furthermore, a mental health profile of higher education students was developed to develop several recommendations to be discussed with education counseling bodies (Sarmento, 2015). The relationship between mental health and demographic review is also very interesting to study further, such as social exclusion (Li & Rose, 2017; Nasrudin & Resosudarmo, 2023; Tang et al., 2024; Zhang et al., 2019).

From the background above, it is necessary to conduct mental health profiling in children of growth and development age; in this study are high school students in urban and rural areas. The presence or absence of indications of the relationship between factors such as gender, guardians, demographics, number of applications, age, distance from home to school, and weight on student health are also discussed in this study. Identification and profiling of the mental health of senior high school students in urban and rural areas can certainly provide data-based references that can be used to carry out preventive efforts against the emergence of students' mental health problems.

Method

Mental health is a state of mind that is always in a calm and safe situation and protected from various mental health problems, such as low self-esteem, anxiety, uncertainty, anxiety, and other emotional tensions (Clark et al., 2021; Sembiring et al., 2023). This study is quantitative to determine students' mental health profiles in urban and rural areas. The Mental Health Measurement Instrument (Sembiring et al., 2023) is applied in the form of a Likert scale with a total of 47 questions and has 5 answer options: Very Often, Quite Often, Sometimes, Rarely, and Never. The statement items are presented in favorable and unfavorable statements. The population of this study was high school students in urban and rural Surakarta, Central Java, Indonesia. Urban is divided into two categories, namely urban-1 and urban-2, while Rural also consists of two places, namely rural-1 and rural-2. This division is adjusted to the student's home address. In addition to demographics, other

variables will also be studied, such as age, weight, student guardians, and distance from home to school. The population is all students, totalling 1240 people. Sampling was done using cluster random sampling. The data analysis technique uses descriptive statistical analysis with visualization of the center's size and mental health distribution in the review of research variables. Inferential data analysis is carried out on mental health variables with a review of gender, demographics, and number of applications, using a 3-way MANOVA. Further profiling on several of these variables uses visualization of dimension reduction correspondence analysis. The variables and their categorization are defined as follows:

1. The response variable is Mental Health (MH) with an ordinal scale. The data was taken using a questionnaire. The first part of the data analysis technique, analyzing mental health as a response variable using a 3-way manova. Ordinal scale data can be treated as interval data (Vogt, 2005). Further analysis is categorized into three groups in the correspondence analysis. The higher the questionnaire score indicates the higher the mental health problems. Mental health can be assessed by categorizing the score of the questionnaire (Góngora & Solano, 2017). Grouping of mental health using categories such as Table 1 can then be used in correspondence analysis visualization.

Table 1
Mental health categorization

Score	Category
0-128	Low
129-161	Moderate
162-188	Severe

2. Independent variables
   2.1 Gender: boy and girl; nominal scale
   2.2 Guardian: parents and non-parents; nominal scale
   2.3 Demographic: urban-1, urban-2, rural-1, rural-2; nominal scale
   2.4 Application: applications on digital media can be in the form of short video-sharing platforms, Q&A, social media, e-commerce, short tweets, instant media applications, online games, music streaming, and videos. Measurement of this variable by calculating the number of applications frequently used by students, with categories of use of 1, 2, 3, and 4 or more applications; ratio scale
   2.5 Age: 15y, 16y, 17y; ratio scale
   2.6 Distance of student's house to school, ratio scale. Distance categories as Table 2.

Table 2
Distance categorization

Distance	Category
0-8.99 km	Near
9-10.99 km	Medium
>11 km	Far

   2.7 Weight: ratio scale. Weight categorization can be seen in Table 3.

Table 3
Weight Categorization

Weight	Category
0-46.99 kg	Less
47-62.99 kg	Ideal
>63 kg	Obesity

All independent variables above were taken using questionnaires from students. The number of samples of students with MH in the review is shown in Table 4. Descriptive analysis was conducted to determine the description of students' mental health, reviewed with independent variables, while inferential analysis used a 3-way multivariate analysis of variance

(manova). The results of this 3-way manova, in addition to being visualized with estimated marginal means between variables, were also visualized with reduced dimension correspondence between related variables. All data analysis in this study was conducted using IBM SPSS Statistics 26 software.

Results

The discussion in this study contains descriptive and inferential statistical analysis of the research variables, equipped with assumption tests needed for parametric analysis. The discussion continues with a discussion between variables in the context of mental health, reviewed from several variables such as gender, mentoring, demographics, the number of social media applications used by students, age, distance from the student's home to school, and student weight. will start from descriptive statistical analysis, and then continue with inferential statistical analysis. Descriptive statistical analysis is needed to provide an overview of the size of the center and the dispersion of the research variables being measured. Table 4 contains descriptive statistics on mental health

Table 4
Descriptive statistics, tests of assumptions of normality, and homogeneity of research variables

Variable	Number	Mean	Stdev	Normality		Homogeneity	
	N			Sig.KS	Results	Sig. Levene	Results
Gender						0.540	√
Boy	38	140.050	2.820	0.200	√		
Girl	96	147.510	1.580	0.200	√		
Guardian						0.109	√
Parents	132	145.424	1.433	0.200	√		
No-Parents	2	143.500	3.500	-	-		
Demographic						0.277	√
Urban-1	33	141.546	2.483	.200*	√		
Urban-2	35	148.600	2.662	.200*	√		
Rural 1	32	141.594	3.473	.200*	√		
Rural 2	34	149.412	2.460	.200*	√		
Application						0.395	√
1	22	142.364	4.152	.065	√		
2	37	143.432	2.780	.200*	√		
3	48	148.500	2.315	.200*	√		
>4	27	145.037	2.506	.200*	√		
Age						0.789	√
15y	40	146.625	2.730	.200*	√		
16y	79	143.924	1.797	.200*	√		
17y	15	149.867	4.082	.200*	√		
Distance						0.463	√
Near	124	145.468	1.464	.200*	√		
Medium	2	129.500	4.500	.			
Far	8	148.250	6.338	.200*	√		
Weight						0.772	√
Less	51	144.804	2.283	.200*	√		
Ideal	61	145.639	2.105	.167	√		
Obesity	22	146.091	3.610	.200*	√		

√ indicates that the assumptions of normality and homogeneity are satisfied.

From Table 4, using the Kolmogorov Smirnov (KS) test for the assumption of normality, and the Levene test for the assumption of homogeneity of variance, all significance values (Sig.) are greater than the 5% significance level, this indicates that the assumption of normality

and homogeneity of variance of all variables is not violated. In other words, parametric statistical analysis can be used for all variables in this study. Furthermore, using Table 1, here is a descriptive statistical analysis of students' mental health scores from the perspective of several variables, with the measure of data center as the mean and the measure of variability as the standard deviation.

1. Mental health viewed on students' gender

   The average mental health score of female students is higher than male students (average 147.510). However, there is a tendency for differences in the mental health conditions of female students to be more uniform (stdev 1.580) compared to male students. Visualization of this descriptive measure can be seen in Figure 1. There is one student with a mental health score far below her friends, namely, a student with ID 32. The student was identified as a 15-year-old female student with a mental health score of 95 (low), use of 1 application, distance from home to school in the near category, rural demographic, and ideal weight category. Student identification provides an illustration that the student has low mental health problems.

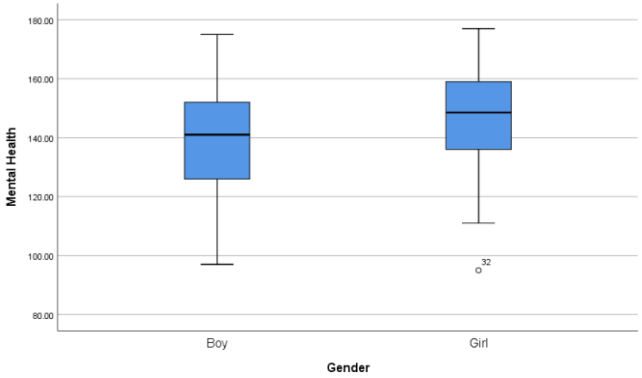


Figure 1. Mental Health based on gender

2. Mental health viewed by the guardian

   There are two students with non-parental guardians. It appears that the mental health scores of students with non-parental guardians are highly differentiated compared to students with parental assistance (stdev 3.500; 1.433). From the visualization of Figure 2, it appears that there are students with parental guardians, namely ID 31 and ID 32, with very low mental health scores. ID 31 is identified as a male student with a mental health score of 97 (low), aged 16 years, with the use of 2 applications, a medium distance from home to school, a rural demographic, and an ideal weight category. This indicates that these students tend to have problems with low mental health compared to their friends.

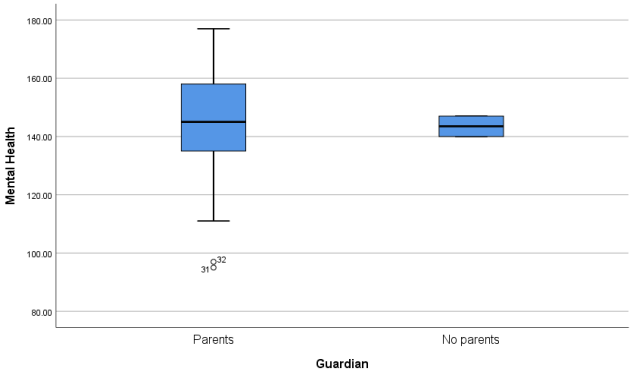


Figure 2. Mental Health based on guardian

3. Mental health viewed by demographic.

From the visualization of Figure 3, it appears that the highest average mental health score of students is in rural-2 students, followed by urban-2. The demographic significance of students' mental health will be described statistically inferentially in the following discussion.

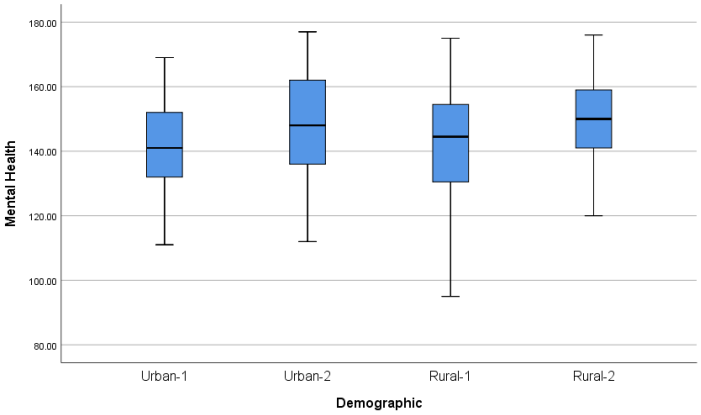


Figure 3. Mental Health based on demographics

4. Mental health viewed by the number of media applications

The highest mental health score was in students with 3 applications. It is interesting to further investigate why this score is lower than students who use 4 applications. It was identified that 65.3% of students had 3 media applications with the same platform, namely a photo and video sharing platform, a creative video sharing application, and an instant messaging application used to send text, voice, photos, and videos. Judging from the number of applications used, ID 31 was again identified as a student who used 2 applications with the fewest mental health problems compared to his friends.

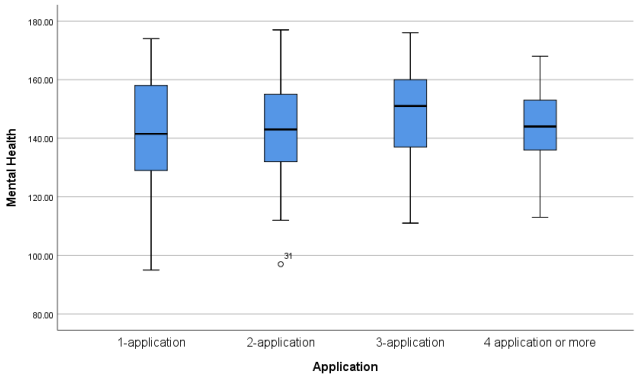


Figure 4. Mental Health based on application

5. Mental health viewed by students' age

From the boxplot of Figure 5, it appears that the highest average mental health is in the oldest students in the 17th category and the most diverse (mean 149.867 with stdev 4.082). This indicates that the most diverse differences in mental health conditions are in the 17th age category. The lowest average mental health score is in the 16th category. There is unusual data compared to other data, namely ID 32 in the 15th category and ID 31 in the 16th category; these identified children have the lowest indication of students with mental health problems in their category.

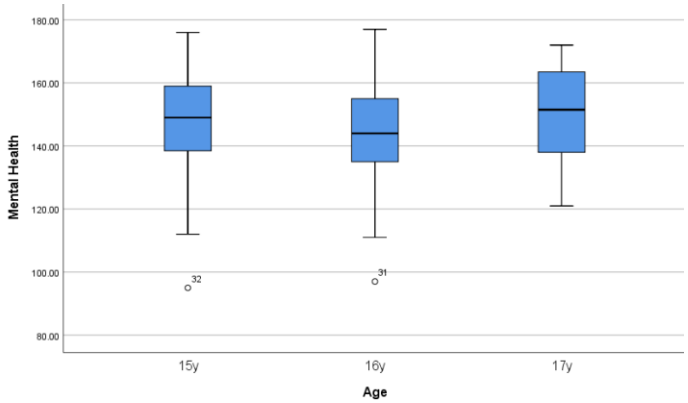


Figure 5. Mental Health based on ages

6. Mental Health viewed by students' house distance to the school

From the boxplot of Figure 6, it appears that the highest average mental health (severe) is in students with the furthest distance from home to school (mean 148.250, stdev 6.338). It also appears that the highest dispersion is in students in this category. Students with medium-distance homes have the lowest mental health scores. The lowest dispersion is in students with close distances from home to school, indicating that the mental health conditions of students with near distances from home have relatively uniform characteristics.

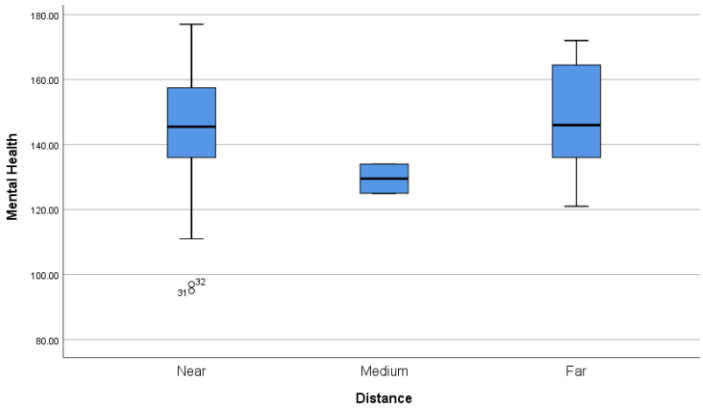


Figure 6. Mental Health based on distance

7. Mental health viewed by students' weight

The highest average mental health score of students is in the obesity category, followed by ideal, and finally in students with less weight (mean 146,091; 145,639; 144,804). The largest dispersion of mental health of students with the obesity category (stdev 3.610) indicates that the mental condition of students in the obesity weight category has the greatest diversity compared to students with ideal and less weight. Another interesting finding is that students with ideal weight tend to have low mental health scores, which indicates that the level of stress/depression of students is low in the ideal weight category. And, it turns out that students with ID 31 and ID 32 who are identified as having low mental health problems in the category of receiving parental guardian assistance and close distance from home to school are students with ideal weight.

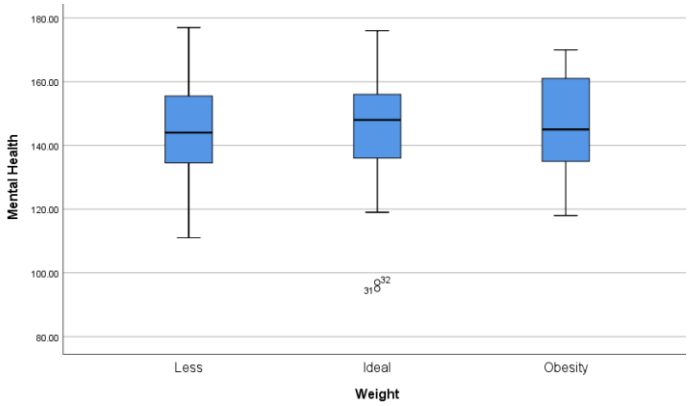


Figure 7. Mental Health based on weight

After the descriptive analysis is done, then to test the significance between research variables, an inferential statistical analysis is needed below. The significance of mental health in the review of gender, demographics, and applications, and the possible relationship between them will be discussed using a 3-way MANOVA at a significance level of 5%, as in Table 5

Table 5
Significance of gender, demographic, application, and their interaction with students' mental health using 3-way Manova

Variables	Sig.	Effects
Gender	0.112	X
Demographic	0.194	X
Application	0.009	√
Gender*Demographic	0.014	√
Gender*Application	0.160	X
Demographic*Application	0.001	√
Gender*Demographic*Application	0.004	√

√ is indicated the variable has a significant effect on mental health, and vice versa with X

From Table 5, it appears that there is no significant influence of the research variables in the form of gender, demographics, and applications on mental health. However, what is interesting is the significance of the interaction effect. The interaction effect is a joint relationship that can be shown by the difference between the average responses of the first two factor levels is the same for all second factors (Kutner et al., 2005). For that, by using Table 5, the analysis of interactions between research variables is discussed next.

1. Mental health on age and demographics

Based on Table 5, because Gender*Demographic-Sig.=0.014 < 0.05, then there is an interaction effect between gender and demographics on mental health. Strengthened by Table 6 and visualization of Figure 8, it appears that the indication of interaction occurs between male students in urban and rural demographics, excluding rural-1. In general, it can be said that the mental health conditions of male and female students are different in urban and rural areas.

Table 6
Estimated marginal means of interaction between gender and demographic effects

Gender	Demographic	Mean	Std. Error
Boy	Urban-1	142.333	7.290
	Urban-2	138.642	4.282

	Rural-1	135.667	4.611
	Rural-2	141.700	3.858
Girl	Urban-1	141.335	3.168
	Urban-2	154.890	3.095
	Rural-1	135.007	5.119

There is a dependency on the influence of male students' mental health on demographics. It appears that the lowest mental health scores are in female students in rural-1, while female students in urban-2 have a health level that is vulnerable to depression and stress. Female students in urban-2 and rural-2 have scores above the grand mean. Indications of gender and demographic dependency are in male students in urban-1 and rural-2, as well as female students in rural-2 and urban-2.

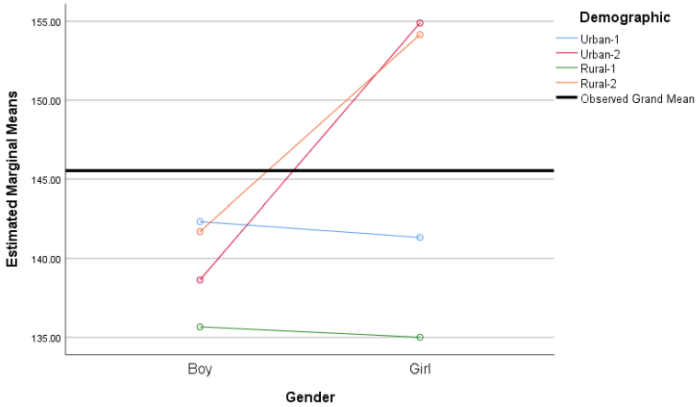


Figure 8. Mental Health based on gender and demographic

2. Mental health on demographic dan application

From Table 5, because Demographic*Application-Sig.=0.001<0.05 then the demographic and applications have significant effects on students' health. In other words, there is an interaction influence between demographics and applications on students' mental health conditions.

Table 7
Estimated marginal means of interaction between demographic and application

Demographic	Application	Mean	Std. Error
Urban-1	1	130.250	8.471
	2	148.563	5.468
	3	147.929	7.159
	4 or more	138.857	5.228
Urban-2	1	153.417	6.314
	2	146.313	5.468
	3	143.833	4.773
	4 or more	143.500	4.374
Rural-1	1	114.500	7.986
	2	124.650	4.553
	3	157.364	4.505
	4 or more	154.000	13.833
Rural-2	1	143.167	4.464
	2	155.750	6.916
	3	149.717	4.188
	4 or more	150.100	4.640

From Table 7 and the visualization of Figure 9, it appears that the estimated marginal means of mental health in the demographic and application reviews are different and there is a line intersection in Figure 9. The mental health score of students using 1 application in rural-1 is the lowest. On the other hand, the highest mental health score is in students in rural-1 who

use 3 or 4 more applications. Indications of interaction occur in students using 2 applications in urban 1 and 2.

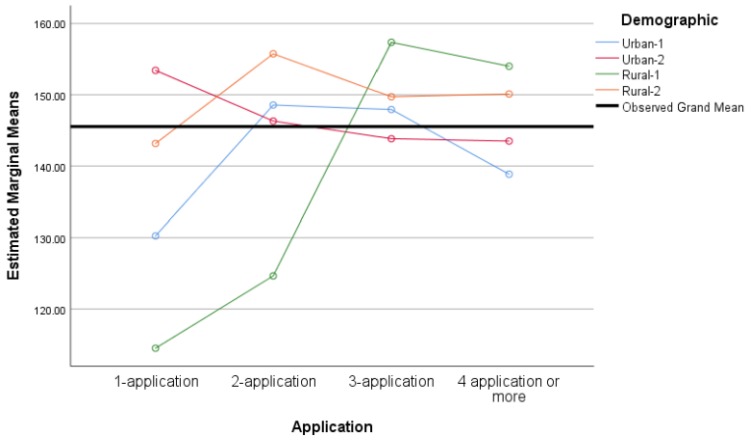


Figure 9. Mental Health based on application and demographic

3. Mental health on demographic dan application

Because Gender*Demographic*Application-Sig.=0.004 < 0.05 then it can be said that there is a dependency of collective influence between gender, demographics, and applications on students' mental health.

Table 8

Estimated marginal means of interaction between gender, demographic, and application

Gender	Demographic	Application	Mean	Std. Error
Boy	Urban-1	1	119.000	13.833
		2	156.000	9.781
		3	152.000	13.833
		4 or more	138.500	9.781
	Urban-2	1	138.000	9.781
		2	135.667	7.986
		3	142.400	6.186
		4 or more	134.000	7.986
	Rural-1	1	109.000	7.986
		2	164.000	7.986
		3	133.500	6.916
		4 or more	145.600	6.186
	Rural-2	1	146.000	6.916
		2	141.500	9.781
		3	141.125	4.891
		4 or more	143.857	3.697
Girl	Urban-1	1	138.857	5.228
		2	168.333	7.986
		3	154.625	4.891
		4 or more	152.625	5.228
	Urban-2	1	152.000	6.186
		2	95.000	13.833
		3	140.300	4.374
		4 or more	150.727	4.171
	Rural-1	1	154.000	13.833
		2	152.833	5.647
		3	155.750	6.916
		4 or more	153.833	5.647
	Rural-2	1	154.200	6.186
		2	119.000	13.833
		3	156.000	9.781
		4 or more	152.000	13.833

From Table 8 and the visualization of Figures 10 and 11, it is indicated that the collective influence occurs in male students who use 1 and 3 applications in the rural-1 and urban-1. Moreover, based on Figure 10, the interaction can be visualized in Figure 10. Excluding boys students with 1 application, the mental health over the grand mean for students in urban-1 and rural areas. This fact indicates mental problems came out from these demographic areas for 2-3 application users.

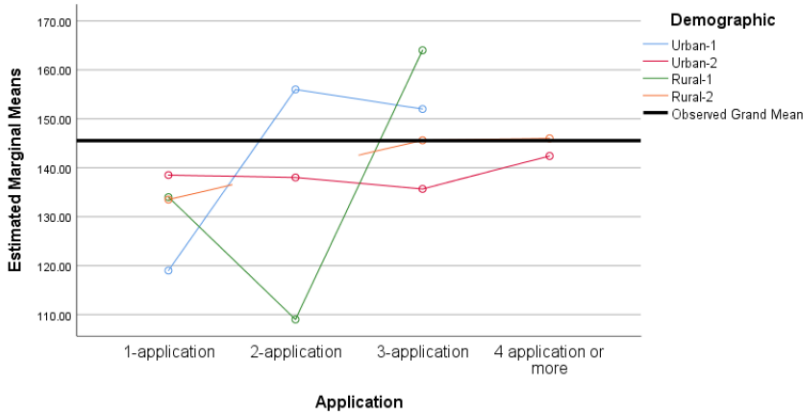


Figure 10. Mental Health Based on application and demographic at Boy

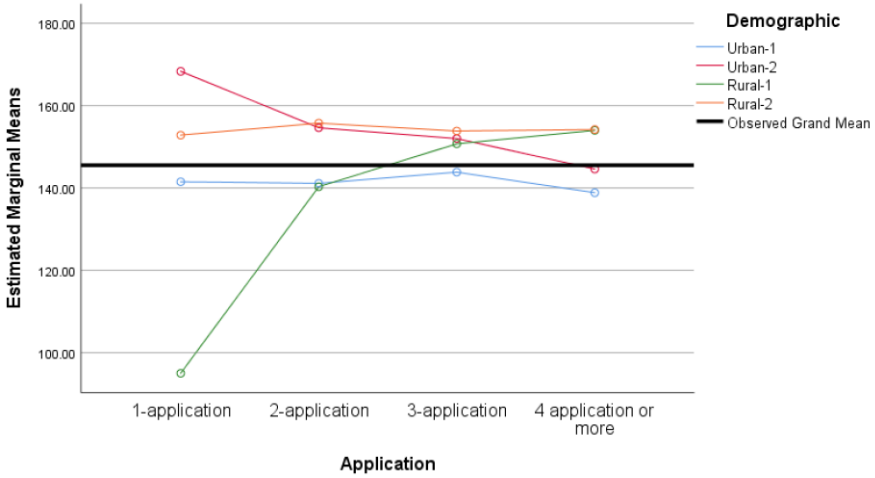


Figure 11. Mental Health Based on Application and Demographics at Girl

As shown in Figure 11, the mental health of female students using 2, 3, and 4 applications in urban and rural areas has different effects on students' mental health. Female students with 1-4 or more applications have mental health problems in urban-1 and rural-2, and vice versa with girl students in urban-1. Whereas, in rural 1, the number of applications became a mental health problem for female students.

4. Mental health on applications

Using Table 5, because Application-Sig.=0.009 < 0.05 Social media applications used by students affect students' mental health. From Figure 12, students with 3 and 4 or more apps have average mental health above the grand mean, indicating that students with 3 and 4 or more apps need to be careful with their mental health conditions.

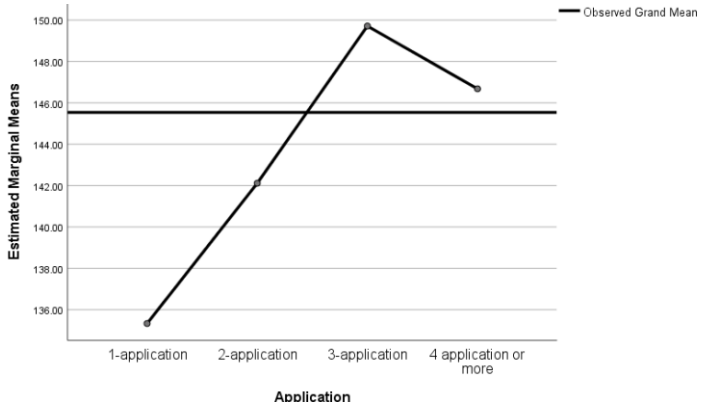


Figure 12. Mental Health based on application

Furthermore, additional visualization uses the reduction dimension of correspondence between mental health and the app; mental health, and demographics (Pramesti, 2011).

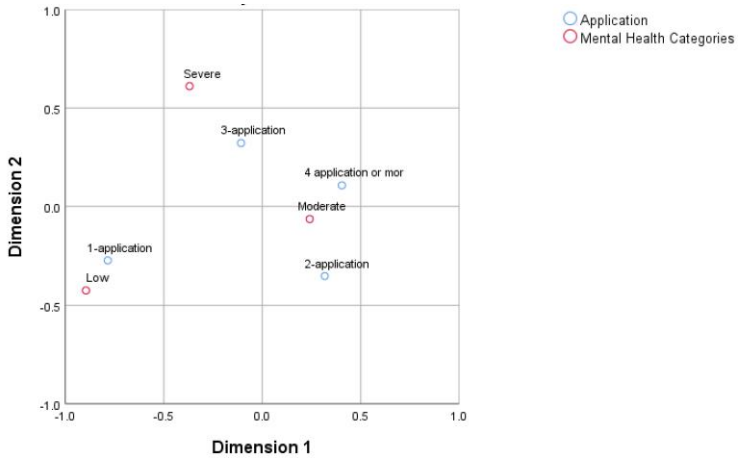


Figure 13. Biplot of mental health on application

From Biplot 13, it appears that users of 3 applications tend to be close to severe mental health, 2 and 4 or more applications are relatively close to moderate mental health, while students with 1-application users experience low mental health. Dimension 1 in Figure 13 explains 78.4%, and the rest is explained by dimension 2.

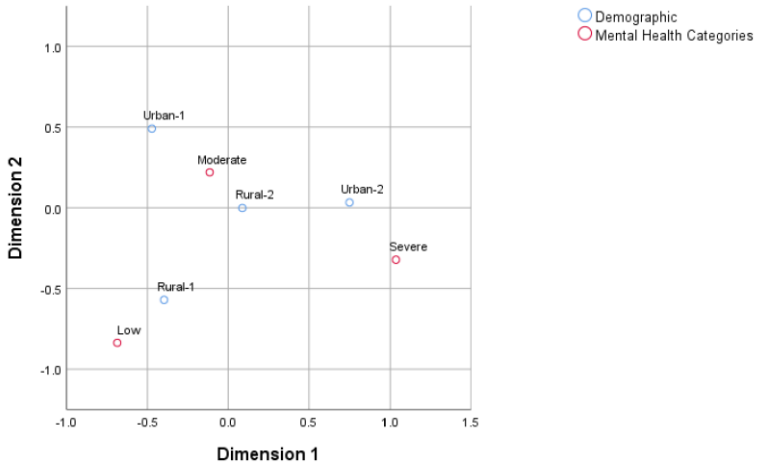


Figure 14. Biplot of mental health on demographics

From Figure 14, it appears that urban-1 and rural-2 areas are relatively close to moderate mental health, while urban-2 is close to severe mental health. Meanwhile, students in rural-1 are close to students with low mental health problems. Of course, this is an interesting finding because both are in urban areas, but students experience different mental health problems. Dimension 1 explains 75.2%, and the rest is explained by dimension 2. From Figures 13 and 14, the correspondence between mental health and the number of applications and demographics can be identified in Table 9.

Table 9

Correspondence of mental health with demographic

Mental Health	Application				Demographic			
	1	2	3	>4	Urban-1	Urban-2	Rural-1	Rural-2
Severe			√			√		
Moderate		√		√	√			√
Low	√						√	

√ show the correspondence between the variable

From the correspondence of Table 9, it appears that students who use 2-4 applications have the potential to experience moderate to severe mental health problems. Meanwhile, students who use 1 application have no mental health problems. This finding is consistent with the descriptive analysis of Table 4 and is supported by Figure 5. Meanwhile, urban students have the potential to experience moderate to severe mental health problems, while students in rural areas experience mental health problems, with the highest scale being moderate. Analysis other than the four above does not appear significant. The analysis of this insignificant influence will be discussed one by one below. If only in terms of gender, the mental health of students is relatively the same. Look at Figure 13. The average mental health of female students is higher and above the observed grand mean, also higher than male students. Although the scores of both are different and not significant at the 5% significance level, this fact indicates that female students tend to be more susceptible to mental illness than male students.



Figure 13. Estimated marginal means of mental health on gender

Demographics also does not significantly affect students' mental health. In Figure 14, except for rural-1, students' mental health scores are above the grand mean. The highest score is in rural-2. Although each urban and rural area has different characteristics, the demographic differences do not significantly affect students' mental health.

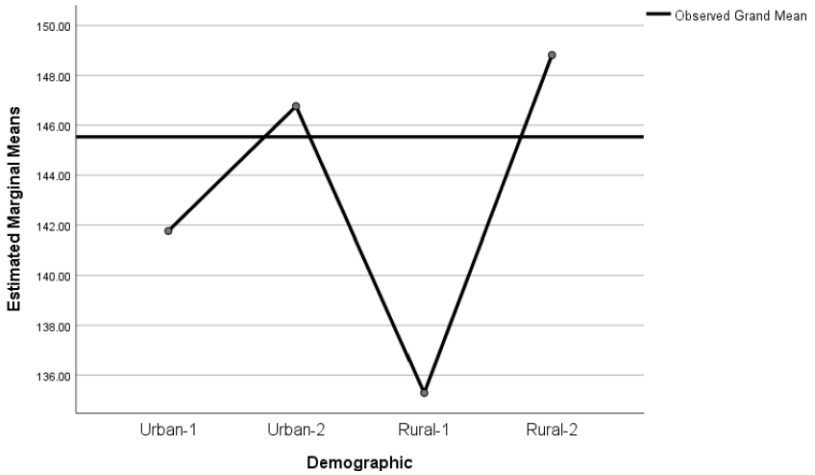


Figure 14. Estimated marginal means of mental health on demographic

The last is that there is no interaction influence between gender and applications on students' mental health. This indicates that regardless of the gender of students using the application, students' mental health is relatively the same. Likewise, regardless of the number of applications used by male and female students, it will have no different impact on students' mental health.

Conclusion

From the analysis in the results section, several interesting findings were obtained about the mental health of senior high school students. First, there are students with no mental health problems, namely students with parental guidance, the distance from home to school is close (0-8.99km), and ideal body weight (47-62.99 kg). In addition to the number of applications, the second finding is the absence of a single influence of gender and demographics on students' mental health. The influence appears together (interaction) between gender, applications, and demographics. This indicates that the joint influences of gender, the number of applications used, and demographics on students' mental health. These results are in line with the previous research that provides a guide to tackling the social factors that lead to mental health issues (Kirkbride et al., 2024).

Moreover, the conclusion of the research can be seen as a reference that serves as a guide to enhance recovery for individuals with mental health problems. A collaborative effort is needed from urban and rural schools to further identify findings on the number of applications used by students to anticipate mental health problems. Also, school counseling guidance can be interactive and regularly provide mental health advice to students, one of which is by wisely using social media. It can also be done by conducting random checks on mobile phones brought by students to school as a school control on the quality of mobile phones used.

Acknowledgment

My gratitude to everyone who has supported the implementation of this research. Further, Thanks to LPPM UNS for the research scheme PKGR-UNS A Grant Number 371/UN27.22/PT.01.03/2025

References

Abo-Rass, F., Khatib, A., Abu-Kaf, S., Nakash, O. (2024). Association between mental health literacy and formal help-seeking behaviors among students from the Palestinian-Arab minority in Israel. *Archives of Psychiatric Nursing*, *53*, 158–164.

Broglia, E., Ryan, G., Williams, C., Fudge, M., Knowles, L., Turner, A., Dufour, G., Percy, A., Barkham, M., & on behalf of the S. C. (2023). Profiling student mental health and

counseling effectiveness: lessons from four UK services using complete data and different outcome measures. *British Journal of Guidance & Counselling*, *51*(2).

Cara, N., H., Winstone, L., Sloan, L., Davis, O., S., P., Claire M. A. Haworth, C., M., A. (2022). The mental health and well-being profile of young adults using social media. *Mental Health Research*, *1*(11). https://doi.org/https://doi.org/10.1038/s44184-022-00011-

Clark, J. M. R., Twamley, E. W., & Krause, J. S. (2021). Mental health, pain, and sleep factors associated with subjective cognitive difficulties in individuals with spinal cord injury. *Rehabilitation Psychology*, *66*(3), 248–256. https://doi.org/https://doi.org/10.1037/rep0000384

Góngora, V., C, Solano, A., C. (2017). Assessment of the mental health continuum in a sample of Argentinean adults. *Psychology*, *8*, 303–318.

Hishida, K., Yanase, M., Sakagami, Y. (2024). Why do students who have mental health issues decide to study abroad? Qualitative research on mental health issues as a push factor for international students in Japan. *International Journal of Intercultural Relations*, *103*(1022069).

Kirkbride, J., B., Anglin, D., M., Colman, I., Dykxhoorn, J., Jones, P., B., Patalay, P., Pitman, A., Soneson, E., Steare, T., Wright., T., Griffiths, S., L. (2024). The social determinants of mental health and disorder: evidence, prevention, and recommendations. *World Psychiatry*, *23*(1), 58–90. https://doi.org/https://doi: 10.1002/wps.21160

Kumar, S., Arulvendan, H., Sanjana, H., Priyadharshni, B., Arumugam, C., Durairaj, J., Azariah, F., Sinha, M., Raghavan, V., Thara, R. (2024). Effectiveness of mental health literacy intervention and contact-based education on knowledge, attitude, and stigma towards mental health among secondary school students in Chennai, South India: A cluster randomized controlled trial. *Asian Journal of Psychiatry*, *102*(104248).

Kutner, M., H., Nachtsheim, C., J., Netter, J., Li, W. (2005). *Applied linear statistical models* (5th ed.). McGraw-Hill Irwin.

Li, J., Rose, N. (2017). Urban social exclusion and mental health of China's rural-urban migrants – A review and call for research. *Health & Place*, *48*, 20–30. https://doi.org/https://doi.org/10.1016/j.healthplace.2017.08.009

McIntyre, D., Rowland, M., Choi, K., Sarkin, A. (2023). Gender differences in the relationships between mental health symptoms, impairment, and treatment-related behaviors among college students. *Mental Health & Prevention*, *2*(3–4), 80–85.

Nasrudin, R., Resosudarmo, B., P. (2023). Mental health assimilation of rural–urban migrants in developing countries: Evidence from Indonesia's four cities. *Papers in Regional Science*, *104*(4), 761–791. https://doi.org/https://doi.org/10.1111/pirs.12751

Pramesti, G. (2011). *Aplikasi SPSS dalam penelitian*. Elex Media Komputindo.

Sarmento, M. (2015). A Mental Health Profile of Higher Education Students. *Procedia - Social and Behavioral Sciences*, *191*, 12–20.

Sembiring, E., R., Br., Dantes, N., Suranata, K. (2023). Pengembangan instrumen pengukuran kesehatan mental (mental health inventory) setelah pandemi Covid-19 pada siswa SMP. *Jurnal EDUCATIO (Jurnal Pendidikan Indonesia)*, *9*(1), 116–125. https://doi.org/https://doi.org/10.29210/ 1202322661

Stornæs, A., V., Sundgot-Borgen, J., Pettersen, G., Rosenvinge, J., H., Nordin-Bates, S., M. (2023). Mental health profiles among 13-16-year-old Norwegian talent and mainstream students - A prospective person-centered analytical approach. *Psychology of Sport and Exercise*, *68*(102474).

Tang, Y., Li, Q., Wu, Y. (2024). The impact of the digital divide on rural older People's mental quality of life: A conditional process analysis. *Heliyon*, *10*(17). https://doi.org/https://doi.org/10.1016/j.heliyon.2024.e37109

Vogt, W., P. (2005). *Dictionary of Statistics & Methodology: A Nontechnical Guide for the*

Social Sciences (4th ed.). SAGE.

Zhang, J., Yan, L., Yuan, Y. (2019). Rural-urban migration and mental health of Chinese migrant children: Systematic review and meta-analysis. *Journal of Affective Disorders, 257*, 684–690. https://doi.org/https://doi.org/10.1016/j.jad.2019.07.069