



Moderation Effect of Mental Health Resources on Mental Health Literacy and Mental Well-being among Students in Secondary Schools in Homa Bay County, Kenya

Monica Anne Achieng Oyoo, John Odwar Agak & Quinter Migunde
Department of Educational Psychology, Maseno University, Kenya.
Email: linioyoo@gmail.com

Abstract: Studies have shown that availability of mental health resources could moderate the relationship between mental health literacy and mental well-being. Appropriate help-seeking attitudes towards mental health is also a contributing factor to mental well-being. Reports also indicate that the prevalence of depression and anxiety is 28.1% and 38% respectively among students in secondary schools nationally. In Kakamega County, Kisii County and Migori County prevalence rates of depression among students are 44.8%, 23% and 23.6% respectively. In Homa Bay County, the prevalence of depression is 57.5% and that of anxiety is 49.4% among students in secondary schools. Further, MHL has been found to positively correlate with mental well-being and help-seeking behaviour. This study therefore aimed to establish moderation effect of availability of school based mental health resources in the relationship between MHL and mental well-being as well as help seeking behaviour. A correlational and quasi-experimental research design was employed. The study population was 131,749 students from form 1 (F1) to form 4 (F4). Stratified random and purposive sampling were used to select 400 respondents using Yamane's formula. Data was collected using questionnaires and focus group discussions (FGDs). A pilot study was conducted among 30 students based on the rule of thumb. Results showed that the interaction effect of availability of school-based mental health resources was statistically non-significant in the relationship between MHL and mental well-being ($B = -.031$, Standard Error = .115, $t = .177$ and $p = .860$) and attitudes towards help-seeking for mental health ($B = -.146$, Standard Error = .207, $t = -.704$ and $p = .914$).

Keywords: Mental health, Well-being, Depression, Anxiety, Resources, Moderation

How to cite this work (APA):

Oyoo, M. A. A., Agak, J. O. & Migunde, Q. (2025). Moderation Effect of Mental Health Resources on Mental Health Literacy and Mental Well-being among Students in Secondary Schools in Homa Bay County, Kenya. *Journal of Research Innovation and Implications in Education*, 9(2), 1087 – 1095. <https://doi.org/10.59765/jrri.9.2.99>.

1. Introduction

Resources for mental health are those that provide services or give information on mental health. These include mental health policy, plans, legislation, mental health treatment services, infrastructure, community mental health services, human resources and funding (Vartak and Nagarajan, 2016). Studies have been conducted to establish the effect of availability of mental health resources on mental

wellbeing and attitudes that promote appropriate help-seeking behaviour.

Mental health resources are those that provide services or give information on mental health. The services may be provided by people who are trained on matters to do with mental health such as counsellors, psychologists and psychiatrists or by trained primary care providers, community health workers, health care managers and peer

counsellors, Wakida et al. (2018). According to Chittaranjan et al. (2018), mental health resources can be categorized into formal and informal. Formal mental health resources are the trained professionals while informal mental health resources are those that are not particularly trained to provide mental health services such as friends, family members and social media.

Moderation describes a situation in which the relationship between two constructs is not constant but depends on the values of a third variable, referred to as a moderator variable. The moderator variable (or construct) changes the strength, or even the direction of a relationship between two constructs in a model. Moderators can be present in structural models in different forms. They can represent observable traits, such as gender, age, or income. But they can also represent unobservable traits, such as risk attitude or attitude toward a brand and the effect can be measured using multiple regression analysis. (Hair et al., 2021). In the current study, the moderator is availability of school based mental health resources.

Globally, findings of a study by Samuel and Kamenetsky (2022) conducted among undergraduate students at a Canadian university found that availability of on-campus mental health services were significantly associated with positive attitudes toward help-seeking behaviour. Questionnaires were used to collect data. On the other hand, a study conducted among medical students from a university in Paraguay found no relationship between availability of school-based mental health resources and mental well-being. Data were collected via an online survey (Torales et al., 2025). The reviewed studies were conducted among undergraduate students while the current study was conducted among students in secondary schools. The difference in age and exposure could have had an effect on the results.

Regionally, Kyumana (2021) found a positive relationship between availability of mental health resources and attitudes that promote appropriate help-seeking behaviour among library staff at the Institute of Finance Management in Tanzania. FGDs and interviews were used to collect data. The reviewed study was purely qualitative, and the findings could be inaccurate due to interpreter bias. The data used in the current study was collected using both questionnaire and FGDs. Analysis of quantitative data from the questionnaires employs standard measures thereby reducing bias. There is limited research on this area in Kenya. The most related study was conducted by Mbithi et al. (2023) to assess risks and associated factors of mental health problems among adolescents in the context of COVID-19 pandemic in Kenya. This study recommended that mental health services be availed to the youth in order to improve their mental well-being. The current study sought to determine the moderating effect of availability of mental health resources on the relationship between MHL, mental well-being and attitudes that promote appropriate

help-seeking behaviour which none of the reviewed studies looked at.

Availability of school-based mental health resources may have a moderating effect on the relationship between MHL and mental well-being as well as help-seeking behaviour. However, not much has been done on this area and it is therefore important that research be done to establish this effect.

1.1 Research Question

This study was guided by the following research question:

What is the moderation effect of mental health resources on mental health literacy and mental well-being among students in secondary schools in Homa Bay County?

2. Literature Review

A systematic review study by McPhail et al. (2024) indicated that despite availability of school-based mental health services, there is poor attitude towards help-seeking for mental health among students. This study had a gap as only one quantitative study was included thus the review consisted of predominantly qualitative data which posed hindrance to conducting a narrative synthesis and could also be affected by interpreter bias. The current study addressed this limitation by being majorly quantitative and also using FGDs to collect data which was used to triangulate the information from the questionnaires.

A cross-sectional study was conducted by Torales et al. (2025) among medical students from universities in Paraguay. Data was collected via an online survey. Findings revealed that despite the availability of these services, students had negative attitude towards help-seeking for mental health. The reviewed study used a questionnaire to collect data and the findings may have been affected by self-report bias. In order to address the limitations, the current study used FGDs together with questionnaires to enable the researcher to triangulate information. In addition, while the reviewed study established relationship between school-based mental health resources and attitudes towards help-seeking for mental health, the current study established moderating effect of availability of school-based mental health resources on the relationship between MHL, mental well-being and attitudes towards help-seeking for mental health.

Samuel et al. (2022) explored factors associated with students' attitudes toward seeking mental health services among first-year students at a Canadian university. A total of 167 students completed a survey. Findings suggested that social support including availability of on-campus mental health services were significantly associated with positive attitudes towards seeking mental health services.

This study was conducted among university students while the current study was conducted among students in secondary schools. The difference in age and exposure could affect results thereby creating a gap which necessitated the current study.

In East Africa, Kyumana (2021) conducted a study to investigate help-seeking behaviour towards mental health problems among library staff at the Institute of Finance Management, Tanzania. FGDs and interviews were used to collect data. Lack of professional counsellors at the workplace and lack of management support were found to contribute to poor mental health help-seeking. The reviewed study investigated the relationship between availability of school-based mental health resources and help-seeking behaviour while the current study established moderating effect of availability of school-based mental health resources on the relationship between MHL, mental well-being and attitudes towards help-seeking for mental health.

In Kenya, Mbithi et al. (2023) conducted a cross-sectional survey among adolescents living in Nairobi, and the Coast region of Kenya to assess the risks and associated factors of mental health problems among adolescents in the context of COVID-19 pandemic in Kenya. Questionnaires were used to collect data from 797 participants. Findings of the study implied that availability of mental health support services positively correlated with mental well-being. The reviewed study alluded to the relationship between mental health resources and mental well-being. However, the study did not measure the given attributes. In order to mitigate this gap, the current study measured availability of school-based mental health resources, mental well-being and attitudes towards help-seeking for mental health. The researcher went further to establish the moderating effect of availability of school based mental health resources on the relationship between MHL, mental well-being and attitudes towards help-seeking mental health.

2.1 Conceptual Framework

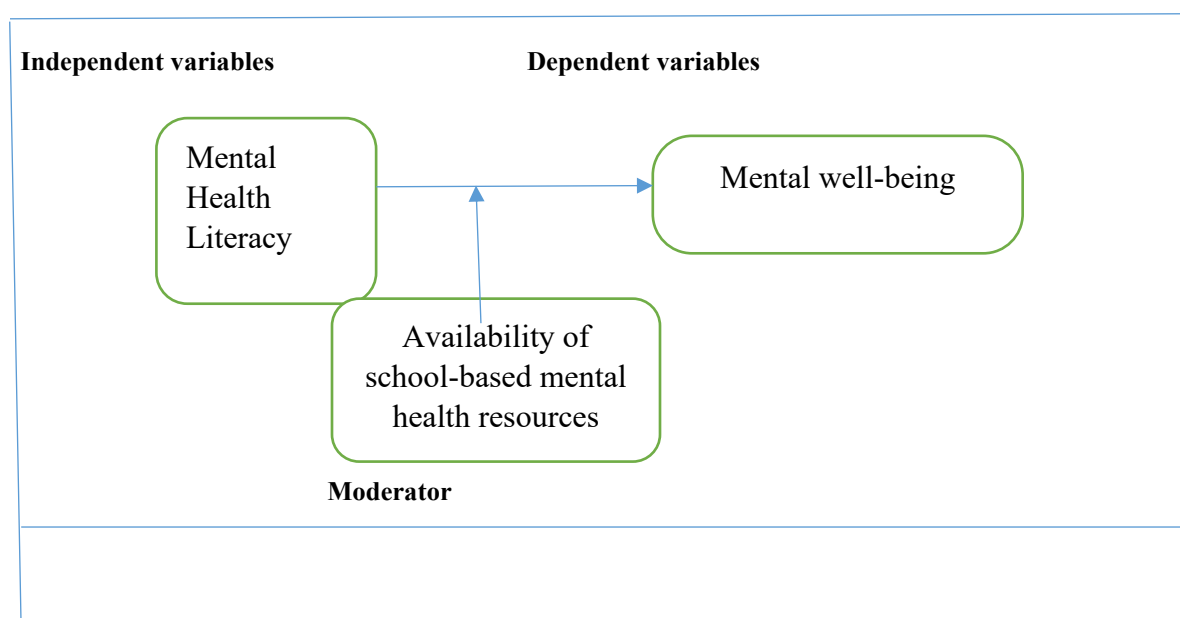


Figure 1: A Conceptual Framework showing the interaction between MHL (independent variable), mental well-being and attitude that promote appropriate help-seeking behaviour (dependent variables).

The conceptual framework above shows the interaction between MHL (independent variable), mental well-being and attitudes that promote appropriate help-seeking behaviour for mental health (dependent variables). The indicators of MHL include students' ability to recognize mental disorders, knowledge of self-treatments and knowledge of professional help available. Levels of MHL was expected to affect mental well-being and attitudes towards help-seeking for mental health among the students. High levels of MHL was expected to lead to better mental

well-being and attitudes that promote appropriate help-seeking behaviour and vice versa.

Availability of mental health resources in schools was expected to be the moderating variable thus, where school based mental health resources are available, positive impact of MHL on students' mental well-being and attitudes that promote appropriate help-seeking behaviour would be greater compared to cases where school based mental health resources are unavailable.

3. Methodology

3.1 Research Design

The study employed correlational and quasi-experimental research designs. Correlational research design measures two or more pertinent variables in the same sample and assesses a relationship between or among them (Lillykutty & Rebecca, 2018). This was appropriate in order to suggest effect of the mental health literacy guide on levels of MHL, mental well-being and attitudes that promote appropriate help-seeking behaviour.

3.2 Area of Study

Homa Bay County is in Western Kenya. It borders Migori County to the South, Kisii County and Nyamira County to the Southeast, Kericho County to the East, Kisumu County to the North and Lake Victoria to the North and North West. Homa Bay County sits on a Latitude of 0°40'60.00"N and Longitude of 34°27'0.00" E. The county's primary school net enrolment rate is high at 98%. Over 58% of children in the official secondary school-age are also enrolled in secondary schools. The county has 1451 Early Childhood Centers, 1089 primary schools and 312 secondary schools out of which 2 are national and 23 extra-county. In addition, it has over 20 tertiary institutions. It also has 164 medical facilities with 4 district Hospitals, 7 sub-district hospitals, 38 health centres, 88 dispensaries, 14 medical clinics. The prevalence rate of depression and anxiety disorders among adolescents in Homa Bay County is 57.5% and 49.4% respectively. This is extremely high compared to the national statistics where prevalence rate of depression and anxiety disorders is 28.1% and 30.4% respectively. The high prevalence could be attributed to the high levels of poverty and child dependency ratio in the county. This is worrying hence the need to establish level of MHL and it relates with mental well-being and help-seeking behaviour and possible interventions.

3.3 Study Population

The target population consisted of 131,749 students in F1-F4 in secondary schools in Homa Bay County which represented all the classes across different ages in secondary schools.

3.4 Sample and Sampling Procedures

The researcher used stratified random sampling to select students from 6 boarding secondary schools (3 girls' and 3 boys') based on 3 categories: national, extra-county and county and 4 sub county secondary schools in Homa Bay County. A sample size of 399 students was selected using

Yamane's formula at a confidence level of 95%. As was the case in the current study, Yamane's sample calculation is the most ideal method to use when the only thing one knows about the underlying population, they are sampling is its size, Yamane (1967). Further, 80 students were selected from the sampled population using purposive sampling technique to take part in the quasi experiment. The participants were selected from one school to ensure homogeneity. The school from which the students were selected was a mixed day school in order to provide for gender differences. Another consideration was that the school has at least two streams so as to enable the researcher to select students of the same class but from two different streams. Students from one stream became the control and those from the other stream was the experimental group. This is because for the success of a quasi-experiment the two groups are supposed to be as homogeneous as possible (Thomas, 2024).

3.5 Instrumentation

The researcher used a questionnaire and FGDs to collect data. A questionnaire is a list of questions that a respondent is required to answer to help in gathering data (Yaddanapudi & Yaddanapudi, 2019). This study used closed ended questionnaires. In closed-ended questionnaire participants choose one or more of the predetermined responses. It was considered appropriate for this study as it is easier and faster to answer and also enabled the researcher get quantitative data.

FGDs involve asking a group of people their perceptions, attitudes, beliefs, opinions and ideas on a specific topic of interest (Nyumba et al., 2018). FGDs sought information on students' attitudes towards help seeking for mental health, availability of school based mental health resources, relationship between MHL and interventions that can help improve MHL among the students. FGDs are appropriate for this study as they allowed the researcher to get in-depth information that may be used to triangulate the data from questionnaires.

3.6 Reliability and Validity

A pilot study was conducted to pre-test the instruments in order to ascertain their reliability and validity. The pilot study was carried out among 30 students and 2 FGDs. The sample size for the pilot study was determined based on the flat rule of thumb by Machin et al. (2018). This rule of thumb states that 30 is a popular single number suggested for pilot sample in every situation. Piloting helps the researcher to identify questions and terminologies that may not be well understood which were then to be corrected. Reliability coefficients of .91 was established using test re-test method.

3.7 Data Analysis

Data collected was sorted, edited, coded, classified and tabulated. Data on help-seeking behaviour and those on interventions to improve MHL were analyzed using means and percentages. Pearson's correlation coefficient was used to determine correlation between availability of school based mental health resources, help-seeking behaviour and MHL. Regression analysis was used to find the effect of mental health guide on MHL, mental well-being and help-seeking behaviour. Pearson's correlation coefficient is useful in determining linear relationship between two variables thereby establishing a monotonic relationship between the variables as such, it was appropriate for this study (Kang et al. 2019). Independent samples t-test helped to determine if exposure to mental health guide contributes to difference in level of MHL among the students. Qualitative data collected from FGDs were transcribed and categorized as per the objectives of the study and presented thematically.

4. Results and Discussions

The researcher conducted moderation analysis to determine moderation effect of availability of school-based

mental health resources in the relationship between MHL, mental well-being and attitudes towards help-seeking behaviour for mental health. In order to achieve this, the following steps were followed: Firstly, the independent variable (MHL) and moderating variable (availability of school based mental health resources) were categorized into high and low levels and then converted to z-scores for purposes of standardization. Standardization refers to the process of transforming variables into a standard form to make the coefficients of the regression models used in moderation analysis comparable and easier to interpret (Cheung et al., 2022). Secondly, the standardized variables were multiplied in order to get an interaction term. Linear regression analysis was then conducted.

4.1 Moderation effect of availability of school-based mental health resources in the relationship between MHL and mental well-being

Results of moderation analysis on effect of school-based mental health resources in the relationship between MHL and mental well-being are presented in table 1

Table 1: Regression table for availability of school-based mental health resources as a moderator in the relationship between MHL and mental well-being

Regression Model Summary				
Model	B	SE	t	p
Intercept	10.186	1.362	7.478	.000
MHL	.309	.026	12.079	.000
Availability of resources	-.034	.029	-1.141	.254
Interaction (MHL × Availability of resources)	.031	.115	.177	.860

Dependent variable: Mental well-being

Table 1 indicates the results for moderation analysis. To determine the effect of moderation, we use the results for interaction variables. This result shows that $B = -.031$, Standard Error = .115, $t = .177$ and $p = .860$. From the results, availability of school-based mental health resources has a positive weak interaction effect of .031 in the relationship between MHL and mental well-being. However, this interaction effect is non-significant as the p-value .860 is greater than the $\alpha(.05)$. This means that the relationship between MHL and mental well-being is not moderated by availability of school-based mental health resources. The findings point at a gap on the use of school based mental

health resources as it implies that even where resources are available, students do not make use of them. Moreover, the school based mental health resources reported to be the most available was the personnel who raise awareness on drugs and substance abuse. They may therefore not link their discussions to other mental health issues, hence the gap. This further shows the need for improving MHL among students.

Figure 2 shows a two-way linear interaction effect of availability of school-based mental health resources on the relationship between MHL and mental well-being.

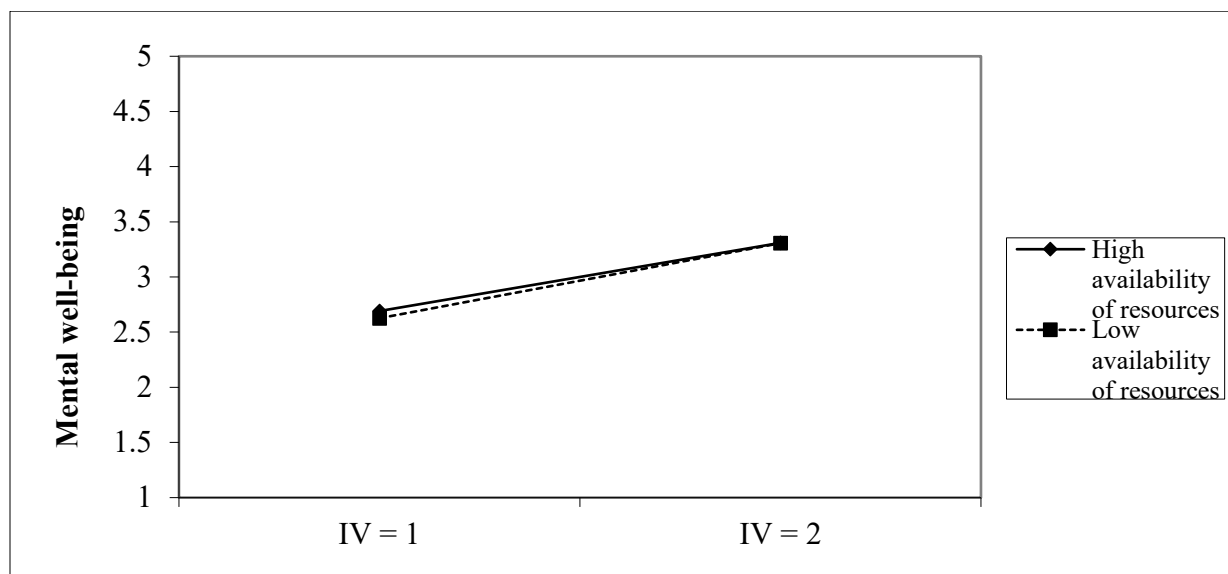


Figure 1: Linear regression slope on interaction effect of availability of school-based mental health resources on the relationship between MHL and Mental Well-being

IV = 1 is low level of MHL
IV = 2 is high level of MHL.

Figure 2 demonstrates that moderation effect of availability of school-based mental health resources on the relationship between MHL and mental well-being is non-significant. This is not surprising as the resource that was reported to be the most available was experts who sensitize on drugs and substance abuse who hardly talk about other mental health issues. They only sensitize students on matters related to drugs and substance abuse. This may not have much impact on general mental well-being.

Not much has been done on moderation effect of availability of school based mental health resources on the relationship between MHL and mental well-being. A related study conducted by Mbithi et al. (2023) indicated that availability of school based mental health resources positively correlated with mental well-being.

4.2 Moderation effect of availability of school-based mental health resources in the relationship between MHL and attitudes towards help-seeking for mental health

Results of moderation analysis on effect of school based mental health resources in the relationship between MHL and attitudes towards help-seeking for mental health are presented in table 2.

Table 2. Regression table for availability of school-based mental health resources as a moderator in the relationship between MHL and attitudes towards help-seeking for mental health.

Regression Model Summary				
Model	B	SE	t	P
Intercept	17.123	1.628	10.516	.000
MHL	.045	.031	1.478	.140
Availability of resources	.136	.035	3.868	.000
Interaction(MHL × Availability of resources)	-.146	.207	-.704	.914

Dependent variable: Attitudes towards help-seeking or mental health

Table 2 indicates the results for moderation analysis. To determine the effect of moderation, we use the results for interaction variable (MHL × availability of resources). This result shows that B=-.146, Standard Error= .207, t= -.704 and p= .914. From the results, availability of school-based

mental health resources has a negative weak interaction effect of -.146 on the relationship between MHL and attitudes towards help-seeking for mental health. However, this interaction effect is non-significant as the p-value .914 is greater than the $\alpha(.05)$. This means that availability of

school based mental health resources is not a moderating factor in the relationship between MHL and attitudes towards help-seeking for mental health.

Figure 2 shows a two way linear interaction effect of availability of school-based mental health resources on the relationship between MHL and attitudes towards help-seeking.

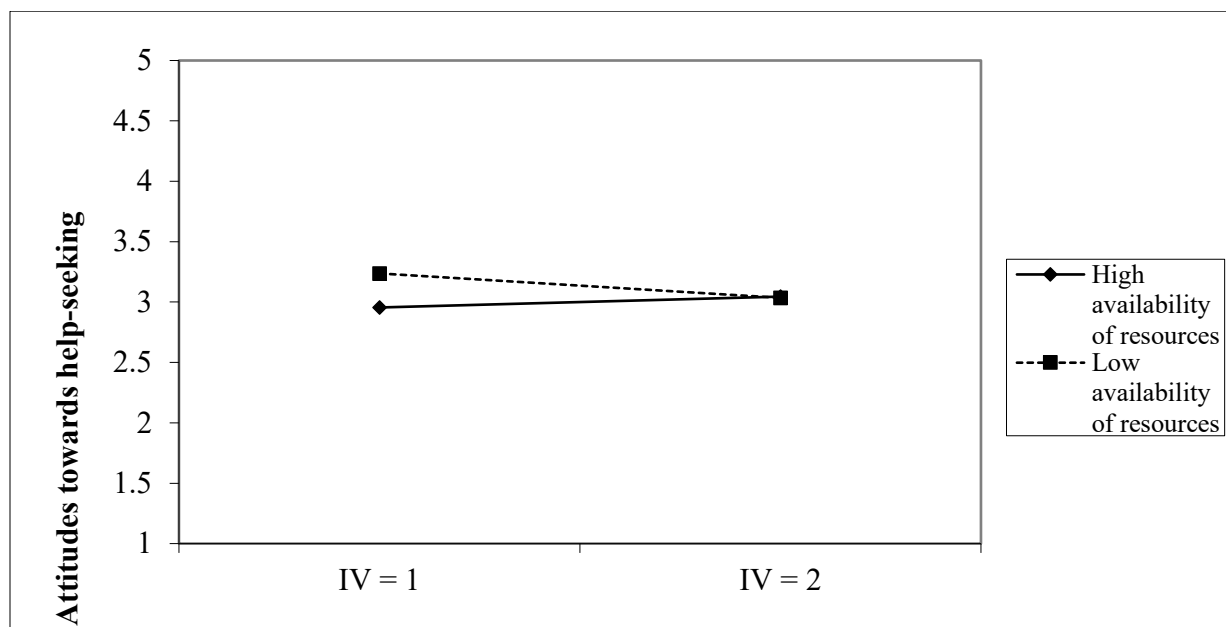


Figure 2: Linear regression slope on interaction effect of availability of school-based mental health resources on the relationship between MHL and Attitudes towards help-seeking

IV = 1 is low level of MHL
IV = 2 IS high level of MHL

It Figure 2 demonstrates that moderation effect of availability of school-based mental health resources on the relationship between MHL and attitudes towards help-seeking is non-significant as in the case of moderation effect of availability of school based mental health resources on the relationship between MHL and mental well-being, not much has been done on moderation effect of availability of school based mental health resources on the relationship between MHL and attitudes towards help-seeking. The resource that was most available was experts who talk to students on matters related to drugs and substance abuse. These resource persons focus on issues on drugs and substance abuse and rarely touch on other mental health matters. It is therefore likely that they may not influence students' help-seeking behaviour on mental health. Related studies by McPhail et al. (2024) and Torales et al. (2025) indicate that despite the availability of school-based mental health services, there is poor attitude towards help-seeking for mental health among students which resonate with the findings of the current study. However, the findings differ from those by Samuel et al. (2022) and Kyumana (2021) that availability of on-campus mental health services were significantly associated with positive attitudes towards seeking mental health services. These findings points at the need for improved MHL which will

encourage the students to make use of available mental health resources.

5. Conclusion and Recommendations

5.1 Conclusion

This objective sought to establish moderation effect of availability of school-based mental health resources in the relationship between MHL, mental well-being and attitudes towards help-seeking for mental health among students in secondary schools in Homa Bay County. Results revealed that on average 63.74% of students agreed that mental health resources were available in their schools and the resource that was considered the most available was personnel that teach on prevention of alcohol and substance abuse, 320(83.7%) while the least available resource was guidance and counselling programmes, 193(50.5%). However, the interaction effect of availability of school-based mental health resources was statistically non-significant in the relationship between MHL and mental well-being $B = -.031$, Standard Error = .115, $t = .177$ and $p = .860$. as well as attitudes towards help-seeking for mental health $B = -.146$, Standard Error = .207, $t = -.704$ and

p- .914. It was concluded that the effect of availability of school-based mental health resources is non-significant both in the relationship between MHL and mental well-being ($B = -.031$, Standard Error = .115, $t = .177$ and $p = .860$) and in the relationship between MHL and attitudes towards help-seeking for mental health ($B = -.146$, Standard Error = .207, $t = -.704$ and $p = .914$).

5.2 Recommendations

Based on the findings, it was recommended that mental health resources should be made available and accessible in secondary schools in order to improve mental well-being as well as help-seeking behaviour for mental health. Future studies should look at moderation effect of accessibility of mental health resources in the relationship between MHL and mental well-being.

References

- Cheung, S. F., Cheung, S.-H., Lau, E. Y. Y., Hui, C. H., & Vong, W. N. (2022). Improving the Old Way to Measure Moderation Effect in Standardized Units. *Health Psychology, 41*(7), 502-505.
- Chittaranjan, S., Srinivasan, P. and Bhanumati, M. (2018). Mental Health Literacy among University Students. *American Journal of Educational Research, 64*(4), 365-369.
- Dhira, T. A., Rahman, M. A., Sarker, A. R., Mehareen, J. (2021). Validity and Reliability of the Generalized Anxiety Disorder-7 (GAD-7) among University Students of Bangladesh. *Journal Pone, 6*(12), 16:e0261590.
- El-Den, S., Chen, T. F., Gan, Y. L., Wong, E., O'Reilly, C. L. (2018). The Psychometric Properties of Depression Screening Tools in Primary Healthcare Settings: A Systematic Review. *J Affect Disord. 19*(225), 503-522.
- Hair, J. F., Hult, G. T. M., Ringle, C. M., Sarstedt, M., Danks, N. P., Ray, S. (2021). Moderation Analysis in Partial Least Squares Structural Equation Modeling (PLS-SEM) Using R. Classroom Companion. Business. Springer.
- Kang, J. S., Shin, D. H., Baek, J. W & Chung, K. (2019). Activity Recommendation Model Using Rank Correlation for Chronic Stress Management. *Applied Sciences. 9*(20), 4284.
- Kroenke, K. (2021), PHQ-9: Global Uptake of A Depression Scale. *World Psychiatry, 20*: 135-136.
- Kyumana, V. (2021). Awareness of Mental Health Challenges and its Implications for Job Performance among Library Staff at the Workplace: A Qualitative Study. *University of Dares Salaam Library Journal, 16*(2), 89-104.
- Lillykuty, M. J. & Rebecca, S. (2018). Selection of a quantitative research design. A Delicate Task. *International Journal of Development Research, 8*(05), 20573-20575.
- Machin, D., Campbell, M. J., Tan, S. B., Tan, S. H. (2018). Sample Sizes for Clinical Laboratory and Epidemiology Studies. 4TH Edition. John Wiley and Sons. Hoboken.
- Mbithi, G., Mabrouk, A., Sarki, A. Odhiambo, R., Namuguzi, M., Dzombo, J., Atukwatse, J., Kabue, M., Mwangi, P. & Abubakar, A. (2023). Mental health and psychological well-being of Kenyan adolescents from Nairobi and the Coast regions in the context of COVID-19. *Child Adolesc Psychiatry Ment Health 17*, 63.
- McPhail, L., Thornicroft, G. and Gronholm, P.C. (2024). Help-seeking Processes related to Targeted School-based Mental Health Services: Systematic Review. *BMC Public Health 24*, 1217.
- Nyumba, T. O., Wilson, K., Derrick, C. J. & Mukherjee, N. (2018). The Use of Focus Group Discussion Methodology: Insights from two Decades of Application in Conservation. *Methods in Ecology and Evolution, 9*(1), 20-32.
- Samuel, R. and Kamenetsky, S. B. (2022). Help-Seeking Preferences and Factors Associated With Attitudes toward Seeking Mental Health Services among First-Year Undergraduates. *Canadian Journal of Higher Education; 52*:(1), 29-52.
- Spitzer, R. L., Kroenke, K., Williams, J. B. W., & Löwe, B. (2006). Generalized Anxiety Disorder 7 (GAD-7) [Database record]. APA PsycTests. <https://doi.org/10.1037/t02591-000>.
- Thomas, L. (2024). Quasi-Experimental Design | Definition, Types & Examples. Scribbr.
- Torales, J., Torres, A., Sánchez, M., O'Higgins, M., Amarilla, D., Molodynski, A., Caycho Rodríguez, T., Ventriglio, A., Castaldelli-Maia, J. M., Barrios, I. and Neurociencias, R. D. E. I. E. A (2025). National Epidemiologic Mixed-methods Study on Depression, Anxiety, Substance Use, Treatment Needs and Barriers and Facilitators to

Treatment among Medical Students. *Indian J Psychol Med*: 20:1–10.

Vartak, A. and Nagarajan, R. (2016). Resources for Mental Health: A Review. *Social Science Spectrum*. Vol. 2(1) 20-37.

Wakida, E. K., Obua, C., Rukundo, G. Z., Maling, S., Talib, Z. M. and Okello, E. S. (2018). Barriers and Facilitators to the Intergration of Mental Health Services in Primary Health Care Providers using the COM-B Framework. *BMC Health Serv Res* 18(7)1-12.

Yaddanapudi, S. & Yaddanapudi, L. N. (2019). How to Design a Questionnaire. *Indian Journal Anaesth*, 63(5), 335-337.