

Association of Social Support and Mental Health Literacy with Quality of Life among University Students During the Covid-19 Pandemic

Siti Nur Syuhada Musa, Siti Raba'ah Hamzah, Muhammad Nur Waafi Bin Badrudin, Nurul Afifah Amiludin, Qurratul Ain Zameram, Muhd Jamil Muhshi Kamaruzaman, Nur Najwa Said, Nursyamimi Amirah Ahmad Haniff

Faculty of Educational Studies, Universiti Putra Malaysia

To Link this Article: <http://dx.doi.org/10.6007/IJARBSS/v12-i7/14296> DOI:10.6007/IJARBSS/v12-i7/14296

Published Date: 12 July 2022

Abstract

Social support is one of the main factors that influence the quality of one's life. In this regard, mental health literacy is consistently associated with positive outcomes for students, in terms of their wellbeing and academic achievement. The present study is especially important to young people because understanding their quality of life can facilitate their life as a student and preparing them to their future of work. This study investigated the relationship between social support and mental health literacy in relation to the quality of life among Malaysian university students. A quantitative research paradigm was adopted, with a cross-sectional design using data collected from 140 randomly selected university students. The data was analyzed by SPSS software version 25 using the Pearson correlation and multiple linear regression. The results showed positive relationships between social support and mental health literacy towards quality of life. Thus, hypothesis 1 and hypothesis 2 was accepted. In the multiple linear analysis, nevertheless, mental health literacy was not found to influence the quality of life independently of social support. Appropriate programs should be designed and implemented to enhance the level of mental health literacy and, more importantly, to ensure adequate social support for students in order to promote a high quality of life.

Keywords: Quality of Life, Mental Health Literacy, Social Support, Wellbeing, Academic Achievement, University Students

Introduction

The current Covid-19 pandemic has caused a global crisis in higher education. Fear of being infected with the Covid-19 virus and uncertainty about the future resulting from the socioeconomic downturn and the academic disruption stemming from this global pandemic have had enormous psychological effects on university students (Scott et al., 2021; Farris et al., 2021; Dubey et al., 2020). When the pandemic was initially announced, the Malaysian

government introduced a movement control order (MCO) that closed state borders, brought economic activities to a standstill, and stopped lectures in all academic institutions. Imposition of the MCO stranded several thousands of students who were unable to return home as they could not leave their residential colleges (Cheah et al., 2021). As movement lockdown and social distancing became the new norm in daily life, there was a significant reduction in students' activities, and this invariably impacted their quality of life (QoL) (Szczepanska & Pietrzyka, 2021). Besides various uncertainties, including personal financial situations, students also needed to confront numerous issues associated with academic work, social life, and emotional well-being. Furthermore, being separated from their families generated stress and anxiety among the students (Kamaludin et al., 2020). Amidst such crises, the universities in Malaysia introduced new modes of teaching and learning, essentially shifting to emergency remote teaching (ERT), online teaching, new forms of assessment, and innovative digital communication tools (Kumar et al., 2022; Yusuf & Ahmad, 2020). Such changes exacerbated the stress already faced by students, and as such, their quality of life was further affected (Abdullah et al., 2021). Even though the strict measures were imposed to curb the spread of the Covid virus, they inevitably had a psychological impact on many students, inducing symptoms of stress, anxiety, and depression associated with lower QoL (Marques et al., 2020); similarly, the general population was likewise affected (Cheah et al., 2021; Abdullah et al., 2021). It is important to investigate the factors which impacted students' quality of life so that measures could be taken to mitigate the situation and ensure that students continue to strive for academic excellence.

QoL is a perception consisting of life satisfaction, emotional wellbeing, and individual functional characteristics that collectively influence an individual's perception of the overall satisfaction with his/her life (Cheah, 2021). Accordingly, QoL can plausibly be impacted by many factors (Ribeiro et al., 2018), both internal and external. To the best of our knowledge, data on QoL assessment of university students during the COVID-19 pandemic are lacking, particularly following the end of movement lockdown. The various measures taken by the authorities took a toll on many, creating uncertainty and anxiety among students, thus affecting their mental health (Fegert et al., 2020). With the return to normality following the peak phase of the pandemic, the worries of economic recession and lasting mental health problems are important issues to take cognizance of (Riiser et al., 2020). Given these circumstances, it is important to have a closer monitoring of the factors closely related to QoL. Therefore, this study was conducted to obtain a better understanding of these issues so that institutions of higher education can be provided with accurate information to help formulate effective strategies and approaches to safeguard the well-being of students should there be similar pandemics in future. This study fills the research gap in (1) evaluating the QoL of university students in relation to the Covid-19 pandemic, and (2) assessing the roles of mental health literacy and social support as significant predictors of QoL of university students.

Mental Health Literacy and Quality of Life

The quality of life is reflected in the dimensions of physical and mental health as influenced by various economic, social, mental, and physical factors (Goodyear et al., 2021; Jafari et al., 2021). Observance of mental health literacy (MHL) is one of the most important strategies to reducing mental health disorders (Renwick et al., 2022). MHL refers to "knowledge and beliefs about mental disorders which aid their recognition, management or prevention" (Jorm, 2000). Increasing the level of MHL facilitates prevention, early detection of disease, ability to

intervene, and eventually a decrease mental disorders in the community (Kelly et al., 2007). Given the current situation, Cao et al (2020) note that university students are particularly susceptible to changes in teaching practices; the psychological impact of COVID-19 is manifested by greater levels of anxiety and other mental health issues. In Malaysia, Gan and Yuen Ling (2019) note that students with symptoms of excessive anxiety are more likely to have lower scores in the psychological, social and environmental domains; in other words, the quality of their life is likely to be adversely affected. One way to resolve mental health problems is by promoting mental health literacy (Teixeira et al., 2022; Lee et al., 2020; Bjørnsen et al., 2019) so that steps can be taken by the individuals themselves to overcome depression should the symptoms emerge. According to Lam (2014), individuals with low or deficient levels of MHL tend to have poorer mental health outcomes and an increased risk of developing mental health disorders. Jafari et al (2021) have found that those who are equipped with information about mental illness have a significantly higher quality of life. Similarly, Riiser et al (2020) found that health literacy in the mental, functional and social aspects significantly was positively linked to the quality of life of Norwegian adolescents.

Based on the discussion thus far regarding the important role of mental health literacy in predicting quality of life, the following hypothesis is stated:

H1: Mental health literacy significantly influences quality of life of undergraduate university students.

Social Support and Quality of Life

Social support is a multidimensional construct which is widely studied by researchers on mental and social well-being. Social support is defined as the function and quality of social relationships that one receives from other people, such as help and support (Schwarzer et al., 2004). A lack of social support has a negative impact on the mental health of university students (Bukhari & Afzal, 2017), and will result in a lower quality of life for students (Dafaalla et al., 2016). According to Cleofas (2020), students who are actively involved in social organizations tend to experience lower levels of depression. Similarly, Wittrup and Hurd (2019) state that participation in extra-curricular activities is negatively associated with symptoms of depression. Findings from cross-sectional studies reveal the important role that social support plays in ensuring students' wellbeing so that they can continue to strive academically (Ye et al, 2021; Li et al., 2018). Similarly, Bradley et al (2021) have found that students' academic performance is impacted by the level of social support that they receive. Studies have shown that peer support, which is the interpersonal connections among age-matched individuals established in common activities and mutual cooperation, is an important source of social support for college students (Burns et al., 2020). For instance, social support from family and friends is found to have a substantial positive impact on the emotional and social well-being of students, as well as their academic performance, thus leading to their having higher satisfaction with life (Yang et al., 2020; Mai et al., 2021). Essentially, empirical evidence has confirmed that social support enhances quality of life (Keener et al., 2021; Leung & Fung, 2021). Alsubaie et al (2019) found that QoL was significantly predicted by social support from family and friends. Social support, therefore, represents a valuable resource for maintaining good mental health.

Based on the discussion thus far regarding the important role of social support in preserving quality of life, the following hypothesis is stated:

H2: Social support significantly influences quality of life of undergraduate university students

Conceptual Framework

As mentioned earlier, this study was aimed at investigating the impact of mental health literacy and social support on the quality of life among university students in Malaysia (Figure 1).

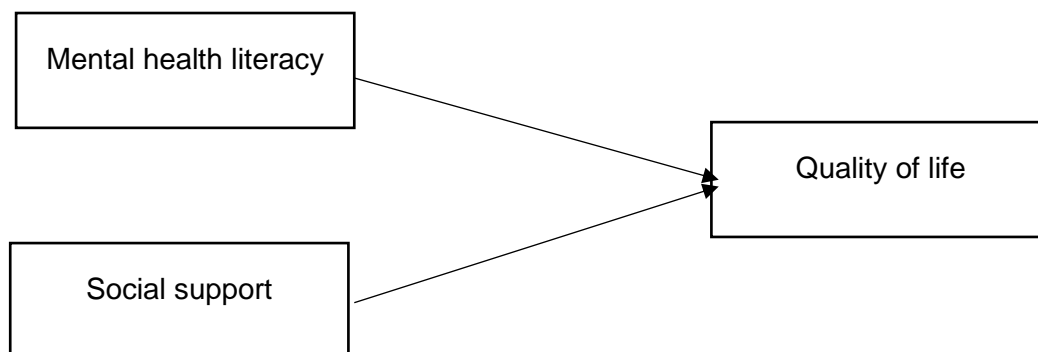


Figure 1: Research Framework

Method

Sampling

The study adopted a cross-sectional design involving 140 Malaysian undergraduate students, aged 18 to 21 years, from Universiti Putra Malaysia. Informed consent was obtained from the participants while approval to conduct the study was granted by the Ethics Committee for Research Involving Human Subjects (JKEUPM-2021-805). Data were collected from questionnaires distributed during a mental health forum held at the university. This study employed a purposive sampling technique in which all participants in the forum were selected as respondents.

Measures

To measure the quality of life, the WHO QOL-BREF was applied (World Health Organization, 1998; Zhang et al., 2012). The scale used a five-point Likert response format ranging from 1 (strongly disagree) to 5 (strongly agree). The Cronbach alpha for quality of life was 0.901. Next, mental health literacy was assessed on a scale by O'Connor and Casey (2015). Each item in this construct was measured using a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree); the Cronbach alpha for this study was 0.700. Social support was measured using the Multidimensional Scale of Perceived Social Support (MSPSS) by Zimet et al. (1988). The scores were rated on a 7-point Likert scale from 1 – (very strongly disagree) to 7 – (very strongly agree). The MSPSS had three sub-scales (viz. significant other, family, and friends) with 4 items for each sub-scale. High internal consistency was found for social support at 0.901 in this study.

Data Analysis

The SPSS® software version 25.0 was used for statistical analysis. Descriptive statistics were employed for the students' characterization. Absolute and relative frequencies were used to describe qualitative variables, and the mean and standard deviation (SD) were used to describe quantitative variables. Pearson's correlation coefficient was employed to determine the correlation between the mental health literacy, social support and QoL. Multiple linear regression analysis was carried out to assess the influence of the independent variables on the dependent variable, QoL.

Demographic Profile

The study sample comprised 140 university students aged 22 to 26 years. The highest proportion of respondents (49.3%) were aged 22 - 23 years. Female students (77.9%) outnumbered male students (22.1%). Most participants were Malay (90%), followed by Indian (5.7%) and Chinese (4.3%). The respondents were from different years of study, with 50.7% in their fourth year, followed by second year students (20%). The demographic profiles of the respondents are shown in Table 1.

Table 1
Demographic profile of the respondents (n=140)

Variable	Frequency (n)	Percentage (%)
Gender		
Male	31	22.1
Female	109	77.9
Age (years)		
20 - 21	28	20.0
22 - 23	69	49.3
24 - 25	37	26.4
26 and above	6	4.3
Race		
Malay	126	90.0
Chinese	2	1.4
Indian	8	5.7
Others	4	2.9
Year of Study		
First Year	23	16.4
Second Year	28	20.0
Third Year	18	12.9
Fourth Year	71	50.7

Results

Bivariate Correlation

The relationships between mental health literacy and social support with quality of life were analyzed using the Pearson product-moment correlation. Bivariate correlation coefficients for each variable pair are shown in Table 2.

Table 2

Bivariate correlations among mental health literacy and social support on quality of life

Variable	Quality of Life	Mental Health Literacy	Social Support
Quality of Life	1	0.335**	0.638**
Mental Health Literacy	0.335**	1	0.425**
Social Support	0.638**	0.425**	1

** Significant at $p < 0.001$ level

The Pearson product-moment correlation analysis results (Table 2) depicted a positive correlation of mental health literacy and social support with quality of life. The higher relationship value was between social support and quality of life ($r=0.638$, $p < 0.001$). Mental health literacy also revealed a positive relationship with quality of life ($r = 0.335$, $p < 0.001$).

Regression Analysis on mental health literacy and social support with quality of life among university students

Table 3 shows the results of the regression analysis conducted to test the hypotheses pertaining to the main effects of mental health literacy and social support with respect to the quality of life among university students. In determining the extent to which the research data fitted the multiple linear regression model, it was found that social support explained a significant amount of the variance that accounted for the quality of life among the university students ($F= 126.687$, $p < 0.05$; $\beta = 0.242$, $p= 0.000$). Hence, social support made the stronger unique contribution in explaining the variation in quality of life, whereas the effect of mental health literacy was no longer significant ($p= 0.301$). The coefficient of determination, $R^2 = 0.707$ indicated that about 70% of the variance in quality of life among university students was explained, mainly by social support.

Table 3

Multiple regression analysis of mental health literacy and social support with the quality of life

Variable	Unstandardized Coefficient		Standardized Coefficient	t	Sig. (p)
	B	Std. Error	Beta		
Constant	0.973	0.328		2.967	0.004
MHL	-0.102	0.098	-0.054	-1.038	0.301
Social support	0.130	0.032	0.242	4.040	0.000

$R = 0.841$, $R^2 = 0.707$, $F = 109.534$, $p = 0.000$.

Discussion

This study was aimed at determining the impact of mental health literacy and social support on the QoL (quality of life) of university students. Like members of the public, university students experienced substantial changes in their daily routine during the COVID-19 pandemic, with each responding differently to new challenges. It is important to ensure that students' QoL would not be too greatly compromised. Hence, there is a need to identify the factors that were predictors of the QoL of students who had to cope with life under lockdown during the Covid-19 pandemic. In this regard, the present study found that social support played a significant role in the students' QoL. The results of this study could help university educators plan strategies for maintaining or improving students' sense of well-being. When students receive help and feel appreciated and connected with various social networks, they will experience a better quality of life. The findings are consistent with various studies that highlight the important role of social support in enhancing the quality of life of university students (Jafry et al., 2021; Alsubaie et al., 2019; Dafaalla et al., 2016). Having a network of friends, family, and others with whom a meaningful and fulfilling relationship can be built contributes positively to the quality of one's life. Our findings offer useful pointers with regard to the importance of social support in enhancing QoL of students.

Next, the present research study results show that mental health literacy has an affirmative and positive influence on the QoL of university students. It is likely that students who are equipped with information about mental health, and who seek help regarding mental health have a significantly higher quality of life. This conclusion is consistent with a study of Jafari et al (2021), who found that mental health literacy enhances QoL. Similarly, Ran et al (2018) found a significant relationship between health literacy and quality of life. Indeed, health literacy is one of the important factors in predicting the quality of life in society (Xia et al., 2019; Zarezadeh et al., 2020; Barati et al., 2019). The results of Sayah et al (2016) further showed that poor health literacy could lead to a decline in mental health, and this would adversely impact QoL.

A study during the COVID 19 pandemic showed that health literacy, including aspects that characterized the pandemic environment, had a significant association with the quality of life of adolescents in terms of health-related issues (Riiser et al., 2020). In the present study, university students who sought information on mental health and were literate in mental health issues were more likely to have maintained their quality of life even though they had to cope with new challenges during the COVID-19 pandemic. Nonetheless, the variables of mental health literacy and social support were themselves correlated (Table 2). Consequently, the relationship of QoL with mental health literacy did not appear to be maintained independently of social support which was the more prominent variable determining the students' QoL.

Limitations, Implications and Future Recommendations

In this study, as information was collected via a self-administered questionnaire, there might have been recall bias and reporting bias by participants. This study was cross-sectional and, therefore, it was not possible to examine the causality between the variables. The sample in this study comprised university students in their early twenties; in future research, the study population could consist of respondents from different age groups across different social cohorts. In this study, the data collected were mainly from female respondents. It is suggested that future studies have a fairer representation from both genders.

The results from this study could help organizations understand the predictors of quality of life of youth, especially university students. This study adds to the literature on social support and mental health literacy in relation to the quality of life of university students during the Covid-19 pandemic in Malaysia.

Conflict of Interest

The authors declare that they have no competing interest in conducting this study.

Acknowledgments

The authors gratefully acknowledge the funding support provided by the Ministry of Higher Education Malaysia FRGS/1/2019/SS06/UPM/02/10, (05-01-19-2115FR) and Universiti Putra Malaysia (5540240).

References

- Abdullah, M. F. I. L. B., Mansor, N. S., Mohamad, M. A., & Teoh, S. H. (2021). Quality of life and associated factors among university students during the COVID-19 pandemic: a cross-sectional study. *BMJ open*, *11*(10), e048446.
<http://dx.doi.org/10.1136/bmjopen-2020-048446>
- Alsubaie, M. M., Stain, H. J., Webster, L. A. D., & Wadman, R. (2019). The role of sources of social support on depression and quality of life for university students. *International Journal of Adolescence and Youth*, *24*(4), 484-496.
<https://doi.org/10.1080/02673843.2019.1568887>
- Barati, M., Bijari, S., Taherpour, M., & Afshari, M. (2019). Investigating the relationship between staff health literacy and quality of life in Famennian County: a cross-sectional study. *Journal of Health Literacy*, *4*(3), 46-55.
<http://doi.org/10.22038/jhl.2019.42769.1078>

- Bjørnsen, H. N., Espnes, G. A., Eilertsen, M. E. B., Ringdal, R., & Moksnes, U. K. (2019). The relationship between positive mental health literacy and mental well-being among adolescents: implications for school health services. *The Journal of School Nursing, 35*(2), 107-116. <https://doi.org/10.1177/1059840517732125>
- Bradley, G. L., Ferguson, S., & Zimmer-Gembeck, M. J. (2021). *Parental support, peer support and school connectedness as foundations for student engagement and academic achievement in Australian youth*. In *Handbook of Positive Youth Development* (pp. 219-236). Springer, Cham. https://doi.org/10.1007/978-3-030-70262-5_15
- Bukhari, S. R., & Afzal, F. (2017). Perceived social support predicts psychological problems among university students. *The International Journal of Indian Psychology, 4*(2), 2349–3429.
- Burns, D., Dagnall, N., & Holt, M. (2020, October). Assessing the impact of the COVID-19 pandemic on student wellbeing at universities in the United Kingdom: A conceptual analysis. In *Frontiers in Education, 5*:582882 <https://doi.org/10.3389/feduc.2020.582882>
- Cao, W., Fang, Z., Hou, G., Han, M., Xu, X., Dong, J., & Zheng, J. (2020). The psychological impact of the COVID-19 epidemic on college students in China. *Psychiatry research, 287*, 112934. <https://doi.org/10.1016/j.psychres.2020.112934>
- Cheah, W. L., Law, L. S., Teh, K. H., Kam, S. L., Voon, G. E. H., Lim, H. Y., & Shashi Kumar, N. S. (2021). Quality of life among undergraduate university students during COVID-19 movement control order in Sarawak. *Health Science Reports, 4*(3), e362.
- Cleofas, J. V. (2020). Student involvement, mental health and quality of life of college students in a selected university in Manila, Philippines. *International Journal of Adolescence and Youth, 25*(1), 435-447. <https://doi.org/10.1080/02673843.2019.1670683>
- Dafaalla, M., Farah, A., Bashir, S., Khalil, A., Abdulhamid, R., Mokhtar, M., Abdalrahman, I. (2016). Depression, anxiety, and stress in sudanese medical students: A cross sectional study on role of quality of life and social support. *American Journal of Educational Research, 4*(13). 937-942. <http://pubs.sciepub.com/education/4/13/4>
- Dubey, S., Biswas, P., Ghosh, R., Chatterjee, S., Dubey, M. J., Chatterjee, S., ... & Lavie, C. J. (2020). Psychosocial impact of COVID-19. *Diabetes & Metabolic Syndrome: clinical research & reviews, 14*(5), 779-788. <https://doi.org/10.1016/j.dsx.2020.05.035>
- Farris, S. G., Kibbey, M. M., Fedorenko, E. J., & DiBello, A. M. (2021). A qualitative study of COVID-19 distress in university students. *Emerging Adulthood, 9*(5), 462-478. <https://doi.org/10.1177/21676968211025128>
- Fegert, J. M., Vitiello, B., Plener, P. L., & Clemens, V. (2020). Challenges and burden of the Coronavirus 2019 (COVID-19) pandemic for child and adolescent mental health: a narrative review to highlight clinical and research needs in the acute phase and the long return to normality. *Child and adolescent psychiatry and mental health, 14*(1), 1-11. <https://doi.org/10.1186/s13034-020-00329-3>
- Gan, G. G., & Yuen Ling, H. (2019). Anxiety, depression and quality of life of medical students in Malaysia. *Med J Malaysia, 74*(1), 57-61.
- Goodyear, V. A., Boardley, I., Chiou, S. Y., Fenton, S. A., Makopoulou, K., Stathi, A., ... & Thompson, J. L. (2021). Social media use informing behaviours related to physical activity, diet and quality of life during COVID-19: a mixed methods study. *BMC public health, 21*(1), 1-14. <https://doi.org/10.1186/s12889-021-11398-0>

- Jafari, A., Nejatian, M., Momeniyan, V., Barsalani, F. R., & Tehrani, H. (2021). Mental health literacy and quality of life in Iran: a cross-sectional study. *BMC psychiatry*, *21*(1), 1-11. <https://doi.org/10.1186/s12888-021-03507-5>
- Jafry, M. Z., Martinez, J., Chen, T. A., Businelle, M. S., Kendzor, D. E., & Reitzel, L. R. (2021). Perceived Social Support Attenuates the Association between Stress and Health-Related Quality of Life among Adults Experiencing Homelessness. *International Journal of Environmental Research and Public Health*, *18*(20), 10713. <https://doi.org/10.3390/ijerph182010713>
- Jorm, A. F., & Oh, E. (2009). Desire for social distance from people with mental disorders. *Australian & New Zealand Journal of Psychiatry*, *43*(3), 183-200. <https://doi.org/10.1080/00048670802653349>
- Kamaludin, K., Chinna, K., Sundarasan, S., Khoshaim, H. B., Nurunnabi, M., Baloch, G. M., ... & Hossain, S. F. A. (2020). Coping with COVID-19 and movement control order (MCO): experiences of university students in Malaysia. *Heliyon*, *6*(11), e05339. <https://doi.org/10.1016/j.heliyon.2020.e05339>
- Keener, T. A., Hall, K., Wang, K., Hulse, T., & Piamjariyakul, U. (2021). Quality of life, resilience, and related factors of nursing students during the COVID-19 pandemic. *Nurse Educator*, *46*(3), 143-148. <https://doi.org/10.1097/NNE.0000000000000969>
- Kelly, C. M., Jorm, A. F., & Wright, A. (2007). Improving mental health literacy as a strategy to facilitate early intervention for mental disorders. *Medical Journal of Australia*, *187*(S7), S26-S30. <https://doi.org/10.5694/j.1326-5377.2007.tb01332.x>
- Kumar, J. A., Richard, R. J., Osman, S., & Lawrence, K. (2022). Micro-credentials in leveraging emergency remote teaching: the relationship between novice users' insights and identity in Malaysia. *International Journal of Educational Technology in Higher Education*, *19*(1), 1-23. <https://doi.org/10.1186/s41239-022-00323-z>
- Lam, L. T. (2014). Mental health literacy and mental health status in adolescents: a population-based survey. *Child and Adolescent Psychiatry and Mental Health*, *8*(1), 1-8. <https://doi.org/10.1186/1753-2000-8-26>
- Lee, H. Y., Hwang, J., Ball, J. G., Lee, J., Yu, Y., & Albright, D. L. (2020). Mental health literacy affects mental health attitude: is there a gender difference?. *American journal of health behavior*, *44*(3), 282-291. <https://doi.org/10.5993/AJHB.44.3.1>
- Leung, J. T., & Fung, A. L. (2021). Special issue on quality of life among children and adolescents in Chinese societies. *Applied Research in Quality of Life*, *16*(6), 2287-2290. <https://doi.org/10.1007/s11482-021-09915-9>
- Li, J., Han, X., Wang, W., Sun, G., & Cheng, Z. (2018). How social support influences university students' academic achievement and emotional exhaustion: The mediating role of self-esteem. *Learning and individual differences*, *61*, 120-126. <https://doi.org/10.1016/j.lindif.2017.11.016>
- Mai, Y., Wu, Y. J., & Huang, Y. (2021). What type of social support is important for student resilience during COVID-19? A latent profile analysis. *Frontiers in Psychology*, *12*, 2463. <https://doi.org/10.3389/fpsyg.2021.646145>
- Marques, L., Bartuska, A. D., Cohen, J. N., & Youn, S. J. (2020). Three steps to flatten the mental health need curve amid the COVID-19 pandemic. *Depression and anxiety*, *37*(5), 405-406. <https://doi.org/10.1002/da.23031>

- O'Connor, M., & Casey, L. (2015). The Mental Health Literacy Scale (MHLS): A new scale-based measure of mental health literacy. *Psychiatry research*, 229(1-2), 511-516. <https://doi.org/10.1016/j.psychres.2015.05.064>
- Ran, M., Peng, L., Liu, Q., Pender, M., He, F., & Wang, H. (2018). The association between quality of life (QOL) and health literacy among junior middle school students: a cross-sectional study. *BMC public health*, 18(1), 1-10. <https://doi.org/10.1186/s12889-018-6082-5>
- Renwick, L., Pedley, R., Johnson, I., Bell, V., Lovell, K., Bee, P., & Brooks, H. (2022). Mental health literacy in children and adolescents in low-and middle-income countries: a mixed studies systematic review and narrative synthesis. *European Child & Adolescent Psychiatry*, 1-25. <https://doi.org/10.1007/s00787-022-01997-6>
- Ribeiro, Í. J., Pereira, R., Freire, I. V., de Oliveira, B. G., Casotti, C. A., & Boery, E. N. (2018). Stress and quality of life among university students: A systematic literature review. *Health Professions Education*, 4(2), 70-77. <https://doi.org/10.1016/j.hpe.2017.03.002>
- Riiser, K., Helseth, S., Haraldstad, K., Torbjørnsen, A., & Richardsen, K. R. (2020). Adolescents' health literacy, health protective measures, and health-related quality of life during the Covid-19 pandemic. *PloS one*, 15(8), e0238161. <https://doi.org/10.1371/journal.pone.0238161>
- Riiser, K., Helseth, S., Haraldstad, K., Torbjørnsen, A., & Richardsen, K. R. (2020). Adolescents' health literacy, health protective measures, and health-related quality of life during the Covid-19 pandemic. *PloS one*, 15(8), e0238161. <https://doi.org/10.1371/journal.pone.0238161>
- Sayah, F. A., Qiu, W., Johnson, J. A. (2016). Health literacy and health-related quality of life in adults with type 2 diabetes: a longitudinal study. *Qual Life Res*, 25(6), 1487-94. <https://doi.org/10.1007/s11136-015-1184-3>.
- Schwarzer, R., Knoll, N., & Rieckmann, N. (2004). Social support. *Health psychology*, 158, 181.
- Scott, S. R., Rivera, K. M., Rushing, E., Manczak, E. M., Rozek, C. S., & Doom, J. R. (2021). "I Hate This": A Qualitative Analysis of Adolescents' Self-Reported Challenges During the COVID-19 Pandemic. *Journal of Adolescent Health*, 68(2), 262-269. <https://doi.org/10.1016/j.jadohealth.2020.11.010>
- Szczepanska, A., & Pietrzyka, K. (2021). The COVID-19 epidemic in Poland and its influence on the quality of life of university students (young adults) in the context of restricted access to public spaces. *Journal of Public Health*, 1-11. <https://doi.org/10.1007/s10389-020-01456-z>
- Teixeira, S., Ferré-Grau, C., Canut, T. L., Pires, R., Carvalho, J. C., Ribeiro, I., ... & Sequeira, C. A. (2022). Positive mental health in university students and its relations with psychological vulnerability, mental health literacy, and sociodemographic characteristics: a descriptive correlational study. *International journal of environmental research and public health*, 19(6), 3185. <https://doi.org/10.3390/ijerph19063185>
- Wittrup, A., & Hurd, N. (2021). Extracurricular involvement, homesickness, and depressive symptoms among underrepresented college students. *Emerging Adulthood*, 9(2), 158-169. <https://doi.org/10.1177/2167696819847333>
- World Health Organisation. (1998). Development of the world health organisation WHOQOL-BREF quality of life assessment. *Psychological Medicine*, 28, 551-558. <https://doi.org/10.1017/S0033291798006667>

- Xia, J., Wu, P., Deng, Q., Yan, R., Yang, R., Lv, B., & Yu, J. (2019). Relationship between health literacy and quality of life among cancer survivors in China: a cross-sectional study. *BMJ open*, 9(12), e028458. <http://dx.doi.org/10.1136/bmjopen-2018-028458>
- Yang, C., Xia, M., & Zhou, Y. (2020). How is perceived social support linked to life satisfaction for individuals with substance-use disorders? The mediating role of resilience and positive affect. *Current Psychology*, 41, 2719–2732. <https://doi.org/10.1007/s12144-020-00783-4>
- Ye, Y., Huang, X., & Liu, Y. (2021). Social support and academic burnout among university students: a moderated mediation model. *Psychology research and behavior management*, 14, 335-344. <https://doi.org/10.2147/PRBM.S300797>
- Yusuf, B. N., & Ahmad, J. (2020). Are we prepared enough? A case study of challenges in online learning in a private higher learning institution during the Covid-19 outbreaks. *Advances in Social Sciences Research Journal*, 7(5), 205-212. <https://doi.org/10.14738/assrj.75.8211>
- Zarezadeh, Y., Eskandari, N., Moradi, M., & Abdi, N. (2020). The relationship between health literacy and quality of life of employees in campus of Kurdistan University of Medical Sciences. *Journal of Health Literacy*, 4(4), 38-45. <http://doi.org/10.22038/jhl.2020.44567.1088>
- Zhang, Y., Qu, B., Lun, S., Wang, D., Guo, Y., & Liu, J. (2012). Quality of life of medical students in China: a study using the WHOQOL-BREF. *PloS one*, 7(11), e49714. <https://doi.org/10.1371/journal.pone.0049714>
- Zimet, G. D., Dahlem, N. W., Zimet, S. G., & Farley, G. K. (1988). The multidimensional scale of perceived social support. *Journal of Personality Assessment*, 52(1), 30–41. https://doi.org/10.1207/s15327752jpa5201_2