IJHEP | INTERNATIONAL JOURNAL OF HIGHER EDUCATION PEDAGOGIES
ISSN: 2669-2333
VOLUME 3, ISSUE 4

Psychosocial Well-Being among Undergraduate Students in Hong Kong and Kazakhstan

Michelle W.T. Cheng[1], D. Gaipov[2], S. Kadyrov[2], S.K. Lo[1*]

[1] The Education University of Hong Kong, Hong Kong
[2] Suleyman Demirel University, Kazakhstan
lsk@eduhk.hk

ABSTRACT

This paper aims to provide comparative insights into the psychosocial well-being of Hong Kong and Kazakhstan undergraduate students, focusing specifically on the role of ethnicity and gender. The existing body of literature on students' health-promoting lifestyle has shown how age, gender, income level, sociability, and knowledge of health can shape one's perception of physical and mental well-being. Much lesser attention, however, has been paid to the ways in which students from diverse ethnic origins differ from each other in cultivating different dimensions of psychosocial well-being. To address this issue, this study delivered questionnaires to 284 undergraduate students from Hong Kong and 281 undergraduate students from Kazakhstan. Developed from the Health-Promoting Lifestyle Profile II, the questionnaire is designed to measure undergraduate's psychosocial well-being threefold. Using independent sample t-test, this paper shows that Hong Kong undergraduate students have higher levels of psychosocial well-being in terms of "interpersonal relations" and "stress management" whereas Kazakhstan undergraduate students are stronger in another dimension of well-being – "spiritual growth". Results show that the influence of gender on students' psychosocial well-being varies in different contexts. One of the important implications of these findings suggests that school administrators and students from different countries may benefit from cross-cultural exchange, co-promoting all dimensions of psychosocial well-being.

Keywords: psychosocial well-being, mental health status, higher-education, Hong Kong, Kazakhstan

Cite this article as: Cheng, M. W. T., Gaipov, D., Kadyrov, S., & Lo, S.K. (2022). Psychosocial Well-Being among Undergraduate Students in Hong Kong and Kazakhstan. *International Journal of Higher Education Pedagogies*, 3(4), 24-33. https://doi.org/10.33422/ijhep.v3i4.91

1. Introduction: Purpose and Objectives

The Belt and Road Initiative has provided Kazakhstan with increasing opportunities to collaborate with international partners, connecting the country with the east and the west, thus developing herself towards international standards. As announced in the Kazakhstan Strategy 2050, the Kazakhstan government is ambitious to build its country as the new "Hong Kong" to strengthen its regional role in Central Asia (Yau, 2016). While quality higher education would certainly be one of the keys to achieve this long-term strategic plan, this study aims to provide comparative insights into the current undergraduate students in Hong Kong and Kazakhstan.

Several studies had already reviewed the academic performance of students from Hong Kong and Kazakhstan. For instance, Mailybaev et al. (2018) compared the results of the Program for International Student Assessment (PISA) and found that the percentage of participants who completed the tasks of the average 3rd level of complexity in Kazakhstan and Hong Kong were 25.2% and 72.6% respectively. In addition, according to Toybazarova and Nazarova's study (2018), while Hong Kong ranked second in the results of Trends in International Mathematics and Science Study (TIMMS), Kazakhstan ranked 44. Although students from Kazakhstan seems to be more inferior to their peers from Hong Kong in terms of academic performance,

nurturing future leaders in the higher education setting is more than just academic knowledge. Given that student well-being has been largely overlooked, this study would shed light in this aspect.

University is an important rite of passage in which students gradually transition into adulthood. Not only will students encounter advanced intellectual challenges, but they are also more likely to experience various health-related problems in college life mentally and physically, such as mental strain, study pressure and inadequate sleep (Cheng et al., 2021). Enhancing the psychosocial well-being of college students is thus paramount important to build and maintain students' mental strength and physical health such that they can power through the university lives that can be rife with struggles. Scholars have shown that students of different ethnicities report different levels of psychological well-being (Harding et al., 2015). However, this kind of research tends to focus on a bounded national context; the ways in which students from different ethnic contexts perceive their psychosocial well-being are relatively under-examined.

Against this background, this paper seeks to explore how the self-perception of psychological well-being may differ according to the ethnic contexts through a comparative study of Hong Kong and Kazakhstan undergraduate students. We will begin by situating this current study in the extant literature; we then proceed to discuss how the data is collected and analyzed. Finally, the internal and external differences of two groups of university students will be illustrated. This paper will demonstrate how students from two ethnic contexts value various aspects of psychosocial well-being differently, arguing the benefits of global cross-cultural exchange in promoting holistic dimensions of well-being for university students.

2. Literature Review

The concerns about health status and health-promoting lifestyle have been two intertwining topics of medical investigation. Health behavior is distinguished from illness behavior and sick-role behavior in the sense that it refers to "any activity undertaken by a person believing himself to be healthy, for the purpose of preventing disease or detecting it in an asymptomatic stage" (Kasl & Cobb 1966: 246, cited in Walker et al., 1987). Pender (1982) later developed the Health Promotion Model and constructed the Lifestyle and Health Habits Assessment (LHHA), providing a 100-item checklist to measure positive health behavior in 10 categories. Based on the LHHA, Walker and her colleagues (1987; 1995) proposed the Health-Promoting Lifestyle Profile II (HPLP II), which employs a 4-point response format to measure health-promoting behaviors in six domains, namely health responsibility, physical activity, nutrition, spiritual growth, interpersonal relations, and stress management.

A key element of the HPLP II is psychosocial well-being. In psychology, the notion of well-being includes the hedonic and eudaimonic dimensions. While the former refers to individuals' judgment of life satisfaction, the latter measures one's relatedness with others and self-referent attitudes in social settings (Burns, 2017). In the HPLP II, the two dimensions are captured by the dimensions of spiritual growth, interpersonal relations, and stress management. Many recent studies have validated and adopted the HPLP II to track the psychological health status of various social groups, such as Iranian medical students (Azami Gilan et al., 2021) and Chinese retired worker (Zhang et al., 2019). One particular strand of research focuses on adolescents and students, exploring a wide range of factors that affect young people's psychosocial well-being.

Structurally, the income level or socio-economic status determines one's psychosocial well-being. It has generally been recognized that socio-economic development of a nation is a strong predictor of adolescents' health as a wealthier and more equal society is more likely to contribute to better health development in terms of behavioral and mental health, sexual health,

and mortality rate (Viner et al., 2012). The relationship largely stands when the scale is down to household income level. Students with higher socio-economic status or household income level tend to do better in health-promoting lifestyle, especially with regard to the subscales of health responsibility, physical activity, spiritual growth, interpersonal relations (Alzahrani et al., 2019; Azami Gilan et al., 2021; Binay & Yigit, 2016; Peker & Bermek, 2011; Torchyan & Bosma, 2020). In addition to the influence of various socio-economic conditions, particular lifestyles can significantly affect psychosocial well-being (Wang & Geng, 2019). They can either be an independent variable or an intervening variable mediating the aforementioned factors. For instance, non-smokers tend to have a significantly higher score than smokers and ex-smokers in the area of spiritual growth (Alzahrani et al., 2019). Some studies even report that non-smokers have a higher overall HPLP II score (Azami Gilan et al., 2021; Nacar et al., 2014). Furthermore, the combination of risky behaviors such as alcohol, drugs and substances, and sexual behavior among young people can be hazardous to mental well-being (Holt & Powell, 2017). On the other hand, engaging in social activities can significantly improve one's HPLP score (Binay & Yigit, 2016).

Apart from structural and behavioral factors, demographic factors, such as age, also shape how well-being is created and maintained. It is reported that age is negatively correlated with stress management (Al-Qahtani, 2019; Can et al., 2008; Hui, 2002). These studies argue that as students progress to a higher level of study, stress builds up, and therefore they have a lower score on stress management. Some studies deploying other measurement methods also report that older respondents tend to have more mental or emotional problems (Holt & Powell, 2017). There are however contradictory findings; it is argued that the older a student is, the better s/he is in managing stress (Al-Kandari & Vidal, 2007). The age factor is correlated with other dimensions of psychosocial well-being as well. Whereas some studies report that older respondents tend to have a lower level of spiritual growth (Al-Qahtani, 2019; Hui, 2002), others suggest that age and spiritual growth are positively correlated (Al-Kandari & Vidal, 2007; Sahu et al., 2020). Meanwhile, the effect of age on spiritual growth is found to be mediated by gender (Music et al., 2021). Apart from spiritual growth, older respondents, who might have a wider social network, are more likely to have positive interpersonal relations and support (Alpar et al., 2008; Tol et al., 2013). Age is also related to other factors such as health consciousness and health-promoting lifestyle (Al-Qahtani, 2019; Can et al., 2008; Kim & Kim, 2018; Nacar et al., 2014). The reason is likely to be that the more mature the students are, the more they are aware of the importance of healthy living options. The improvement of health consciousness and health-promoting lifestyle is crucial to promoting both physical and psychosocial well-being.

Another factor pertinent to psychosocial well-being is gender. It is widely reported that male students' HPLP II score is significantly higher than female students. In particular, males tend to have greater participation in physical activities and have a better score in stress management (Ahn et al., 2014; Al-Kandari & Vidal, 2007; Almutairi et al., 2018; Alzahrani et al., 2019; Azami Gilan et al., 2021; Binay & Yigit, 2016; Mehri et al., 2016; Safaie et al., 2020; Sahu et al., 2020). Yet many studies also report contradictory findings, suggesting that gender has no significant effect on HPLP II score and those female respondents actually score higher in some of the sub-scales such as health responsibility, interpersonal relations, and nutrition (Can et al., 2008; Hui, 2002; Lee & Loke, 2005; Nacar et al., 2014; Tol et al., 2013; Wang, 2009; Wei et al., 2012;).

In light of the inconsistent explanation about the relation between gender role and well-being, as well as its potential role in mediating the effect of age on psychosocial well-being, we investigate the mental health status of undergraduate students in Hong Kong and Kazakhstan, interrogating the effect of gender on the psychosocial well-being of these two groups particularly.

3. Methodology

3.1. Participants

Data for the current investigation were obtained from 284 undergraduate students from Hong Kong and 281 undergraduate students from Kazakhstan. The majority of the respondents in Hong Kong were females (79.50%) whose average age was 21.74, with a standard deviation of 4.36. The youngest was 17 years old, while the oldest was 54 years old at the time of survey administration. On the other hand, all 281 respondents from Kazakhstan were undergraduate students. More than half of the respondents in Kazakhstan were males (52.70%) whose average age was 20.06, with a standard deviation of 2.57. The youngest was 17 years old, while the oldest was 36 years old at the time of survey administration.

3.2. Measure

The validated Health-Promoting Lifestyle Profile II (HPLP II; Walker et al., 1995) was used to measure the psychosocial well-being of undergraduate students from Hong Kong and Kazakhstan. Specifically, three subscales from the HLPL II were utilized: interpersonal relations (9 items), stress management (8 items), and spiritual growth (9 items). Sample items include "Maintain meaningful and fulfilling relationships with others" (interpersonal relations), "Practice relaxation or meditation for 15 to 20 minutes daily" (stress management), and "Feel content and at peace with myself" (spiritual growth). For the dimension of interpersonal relations, only 8 items were used among the student respondents in Kazakhstan since the item "Find ways to meet my needs for intimacy" was removed due to socio-cultural differences. Student respondents rated each item using a four-point Liker scale (1 = never; 2 = sometimes; 3 = often; 4 = routinely).

3.3. Data Analysis

The descriptive statistics (i.e., means, standard deviations, skewness, and kurtoses), reliability coefficients, and zero-order correlations among the variables were computed using the 26th version of the Statistical Package for the Social Sciences (SPSS). Separate statistical analyses were conducted using the (1) combined dataset, (2) Hong Kong dataset, and (3) Kazakhstan dataset to determine if there were significant differences in the students' levels of interpersonal relations, stress management, and spiritual growth when grouped according to gender (i.e., male and female). Specifically, independent samples t-tests in SPSS Version 26 were used to examine students' psychosocial well-being.

4. Results

4.1. Comparison of Means (Combined Dataset)

As mentioned, separate analyses were conducted for the (1) combined dataset, (2) Hong Kong dataset, and (3) Kazakhstan dataset. We first present the results of the comparison of means using the combined dataset. Independent samples T-test was conducted to determine if there is a significant difference in interpersonal relations among Hong Kong undergraduate students (UGs) and Kazakhstan undergraduate students (UGs). Table 1 presents the descriptive statistics for interpersonal relations based on the educational classification of all student respondents. Based on the mean, Hong Kong undergraduate students appear to score higher than Kazakhstan undergraduate students in terms of interpersonal relations ($p<0.05$).

Table 1.
Descriptive statistics for interpersonal relations (combined dataset)

	N	Mean	SD	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
HK UGs	284	2.66	0.55	0.03	2.59	2.72	1.00	4.00
KZ UGs	281	2.57	0.51	0.03	2.51	2.63	1.00	4.00

Note: HK = Hong Kong; KZ = Kazakhstan

Since the assumption of homogeneity of variances was not satisfied, the robust tests of equality of means (i.e., Welch and Brown-Forsythe) were conducted to determine if there is a significant difference in stress management between Hong Kong and Kazakhstan undergraduate students. Table 2 presents the descriptive statistics for stress management based on the educational classification of all student respondents. Based on the mean, Hong Kong undergraduate students appear to have higher levels of stress management than Kazakhstan undergraduate students ($p<0.05$).

Table 2.
Descriptive statistics for stress management (combined dataset)

	N	Mean	SD	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
HK UGs	284	2.38	0.54	0.03	2.32	2.44	1.00	4.00
KZ UGs	281	2.28	0.49	0.03	2.23	2.34	1.00	4.00

Note: HK = Hong Kong; KZ = Kazakhstan

Another independent samples t-test was conducted to determine if there is a significant difference in spiritual growth among Hong Kong UGs and Kazakhstan UGs. Table 3 presents the descriptive statistics for spiritual growth based on the educational classification of all student respondents. Based on the mean, Kazakhstan UGs appear to have higher levels of spiritual growth than Hong Kong's UGs ($p<0.05$).

Table 3.
Descriptive statistics for spiritual growth (combined dataset)

	N	Mean	SD	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
HK UGs	284	2.56	0.64	0.04	2.48	2.63	1.00	4.00
KZ UGs	281	2.72	0.60	0.04	2.65	2.79	1.00	4.00

Note: HK = Hong Kong; KZ = Kazakhstan

Further, we also compared these dimensions of psychosocial well-being based on their country of origin (i.e., Hong Kong and Kazakhstan) and gender (i.e., male and female). Specifically, independent samples t-tests were conducted to examine these differences. Table 4 presents the descriptive statistics of the dimensions of psychosocial well-being according to respondents' country of origin. Results of the independent samples t-tests show that there are significant differences in interpersonal relations (t [641.182] = 5.169, $p < .001$; .208, *95% CI* [.129, .288]) and stress management (t [667.978] = 6.169, $p < .001$; .246, *95% CI* [.168, .325]) between Hong Kong and Kazakhstan students. In general, students from Hong Kong have higher interpersonal relations and better stress management than students from Kazakhstan. No significant difference, however, was found for spiritual growth (t [721] = -.215, $p = .830$; .048, *95% CI* [-.104, .083]) between Hong Kong and Kazakhstan students.

Table 4.
Descriptive statistics of psychosocial well-being dimensions (combined dataset)

	Country of Origin	N	Mean	SD	Std. Error Mean
Interpersonal Relations	Hong Kong	284	2.66	.55	.03
	Kazakhstan	281	2.57	.50610	.03019
Stress Management	Hong Kong	284	2.38	.54	.03
	Kazakhstan	281	2.28	.48533	.02895
Spiritual Growth	Hong Kong	284	2.56	.64	.04
	Kazakhstan	281	2.72	.59813	.03568

4.2. Separate Comparison of Means (Hong Kong Dataset)

For Hong Kong student, independent samples t-test were performed to determine if there are significant differences in the dimensions of well-being when grouped according to gender. Table 5 presents the descriptive statistics of the dimensions of psychosocial well-being according to Hong Kong respondents' gender. Results show no significant differences between gender in interpersonal relations (t (286)=-1.683, p =.094); stress management (t (286)=.725, p =.469) and spiritual growth (t (286) = .898, p < .37).

Table 5.
Descriptive statistics of psychosocial well-being dimensions based on Hong Kong respondents

	Gender	N	Mean	Std. Deviation	Std.Error Mean
Interpersonal Relations	Male	59	2.55	.57249	.07453
	Female	229	2.68	.54679	.03613
Stress Management	Male	59	2.42	.54140	.07048
	Female	229	2.37	.53714	.03549
Spiritual Growth	Male	59	2.63	.66622	.08673
	Female	229	2.54	.63479	.04195

4.3. Separate Comparison of Means (Kazakhstan Dataset)

For Kazakhstan student respondents, independent samples t-test were performed to determine if there are significant differences in the dimensions of well-being when grouped according to gender (i.e., male and female). Table 6 presents the descriptive statistics of the dimensions of psychosocial well-being according to Kazakhstan respondents' gender. Results of the independent samples t-tests show that there are significant differences in interpersonal relations (t [276.061] = -3.198, $p < .01$; *95% CI* [-.304, -.072]) and spiritual growth (t [279] = -2.112, $p < .05$; *95% CI* [-.290, -.010]) between male and female students in Kazakhstan. In general, female students have higher interpersonal relations and greater spiritual growth than male students in Kazakhstan. No significant difference, however, was found for stress management (t [279] = -.230, p = .818; *95% CI* [-.128, .101]) between male and female students in Kazakhstan.

Table 6.
Descriptive statistics of psychosocial well-being dimensions based on Kazakhstan respondents' gender

	Gender	N	Mean	Std. Deviation	Std. Error Mean
Interpersonal Relations	Male	148	2.48	.54458	.04476
	Female	133	2.67	.44075	.03822
Stress Management	Male	148	2.28	.51581	.04240
	Female	133	2.29	.45084	.03909
Spiritual Growth	Male	148	2.65	.64542	.05305
	Female	133	2.80	.53202	.04613

5. Conclusion and Recommendations

To conclude, this paper shows that Hong Kong undergraduate students have better interpersonal relations and stress management, whereas Kazakhstan undergraduate students have higher levels of spiritual growth. According to Walker and Hill-Polerecky (1996), interpersonal relations is the ability to utilize communication to achieve a sense of intimacy and closeness with others. This implied that Hong Kong undergraduate students are better in sharing of thoughts and feelings to form meaningful relationships with others. It is recommended that course instructors in Kazakhstan universities to adopt individual presentations and group projects as a form of course assessments to improve students' effective communication skill, thus, provide them more opportunities to express themselves to others.

Stress management means the identification and mobilization of psychological and physical resources to effectively control or reduce tension (Walker & Hill-Polerecky, 1996). In our study, Hong Kong undergraduates have better stress management, which is indicating higher resilience and good emotion regulation skills. Chow et al.'s study (2020) found that Hong Kong undergraduates practicing mindfulness have enhanced resilience through their study. It is suggested that Kazakhstan universities can provide resilience-building training and promote mindfulness to their undergraduates to further improve their stress management skills.

Spiritual growth refers to the development of inner resources and can be achieved through searching for meaning and finding a sense of purpose and goals in life (Walker & Hill-Polerecky, 1996). Students in Kazakhstan are better at finding inner peace and searching meaning in life than those in Hong Kong. To improve the spiritual growth of Hong Kong undergraduates, it is recommended to emphasize the meaning of life through life education. A recent study found that implementing life education sessions in higher education setting is one of the effective ways to improve students' life satisfaction and presence of meaning (Yang et al., 2022).

In all, school administrators and students from both contexts may share their best practices and experiences with each other in promoting other dimensions of psychosocial well-being. In terms of the gender differences in psychosocial well-being, no significant differences across all subscales of psychosocial well-being can be found in the Hong Kong dataset. However, male students in Kazakhstan display lower levels of interpersonal relations and spiritual growth than female students. Given the significant gender differences in psychosocial well-being in Kazakhstan, it is suggested that educators can devise specific programs and policies that promote male students' well-being status.

A major limitation is that this study is based merely on 560 samples from both Hong Kong and Kazakhstan. The authors are aware that the sample size may not make a strong case for quantitative analysis. Yet, this comparative study does provide some insights regarding the wellbeing of undergraduates in these two places. Methodologically, since the present investigation only measured positive mental health outcomes, it would be advisable to examine student respondents' negative mental health outcomes (e.g., school-related burnout) in the future. Such endeavor may provide a more comprehensive understanding of students' mental health status.

Funding

The first author is the recipient of the Research Grants Council Postdoctoral Fellowship Scheme (PDFS2021-8H01) funded by the Hong Kong University Grants Committee.

References

Ahn, Y. C., Park, H. S., & Ra, G. W. (2014). Perceived health status and health promoting behaviors among university students. *The Journal of Korean Medicine*, *35*(4), 52-64. https://doi.org/10.13048/jkm.14043

Al-Kandari, F., & Vidal, V. L. (2007). Correlation of the health-promoting lifestyle, enrollment level, and academic performance of College of Nursing students in Kuwait. *Nursing & Health Sciences*, *9*(2), 112-119. https://doi.org/10.1111/j.1442-2018.2007.00311.x

Almutairi, K. M., Alonazi, W. B., Vinluan, J. M., Almigbal, T. H., Batais, M. A., Alodhayani, A. A., ... & Alhoqail, R. I. (2018). Health promoting lifestyle of university students in Saudi Arabia: A cross-sectional assessment. *BMC public health*, *18*(1), 1-10. https://doi.org/10.1186/s12889-018-5999-z

Alpar, Ş. E., Şenturan, L., Karabacak, Ü., & Sabuncu, N. (2008). Change in the health promoting lifestyle behaviour of Turkish University nursing students from beginning to end of nurse training. *Nurse Education in Practice*, *8*(6), 382-388. https://doi.org/10.1016/j.nepr.2008.03.010

Al-Qahtani, M. F. (2019). Comparison of health-promoting lifestyle behaviours between female students majoring in healthcare and non-healthcare fields in KSA. *Journal of Taibah University Medical Sciences*, *14*(6), 508-514. https://doi.org/10.1016/j.jtumed.2019.10.004

Alzahrani, S. H., Malik, A. A., Bashawri, J., Shaheen, S. A., Shaheen, M. M., Alsaib, A. A., ... & Abdulwassi, H. K. (2019). Health-promoting lifestyle profile and associated factors among medical students in a Saudi university. *SAGE open medicine*, *7*. https://doi.org/10.1177/2050312119838426

Azami Gilan, B., Janatolmakan, M., Ashtarian, H., Rezaei, M., & Khatony, A. (2021). Health-promoting lifestyle and associated factors among medical sciences students in Kermanshah, Iran: A cross-sectional study. *Journal of Environmental and Public Health*, *2021*. https://doi.org/10.1155/2021/6691593

Binay, Ş., & Yiğit, R. (2016). Relationship between adolescents' health promoting lifestyle behaviors and self-efficacy. *Journal of Pediatric Research*, *3*(4), 180-186. https://doi.org/10.4274/jpr.18894

Burns, R. (2017). Psychosocial well-being. In N. A. Pachana (Ed.), *Encyclopedia of Geropsychology* (pp. 1977–1984). Springer. https://doi.org/10.1007/978-981-287-082-7_251

Can, G., Ozdilli, K., Erol, O., Unsar, S., Tulek, Z., Savaser, S., Ozcan, S., & Durna, Z. (2008). Comparison of the health-promoting lifestyles of nursing and non-nursing students in Istanbul, Turkey. *Nursing & Health Sciences*, *10*(4), 273–280. https://doi.org/10.1111/j.1442-2018.2008.00405.x

Cheng, M. W., Leung, M. L., Yu, C. W., Yue, K. K., Liu, E. S., & Chu, S. K. (2021). Sustaining healthy staying communities in university residential halls amid unprecedented pandemic. *Sustainability*, *13*(11), 6176. https://doi.org/10.3390/su13116176

Chow, K. M., Tang, F. W., Tang, W. P., & Leung, A. W. (2020). Resilience-building module for undergraduate nursing students: A mixed-methods evaluation. *Nurse Education in Practice*, *49*, 102912. https://doi.org/10.1016/j.nepr.2020.102912

Harding, S., Read, U. M., Molaodi, O. R., Cassidy, A., Maynard, M. J., Lenguerrand, E., ... & Enayat, Z. E. (2015). The Determinants of young Adult Social well-being and Health

(DASH) study: Diversity, psychosocial determinants and health. *Social Psychiatry and Psychiatric Epidemiology*, *50*(8), 1173-1188. https://doi.org/10.1007/s00127-015-1047-9

Holt, M., & Powell, S. (2017). Healthy Universities: A guiding framework for universities to examine the distinctive health needs of its own student population. *Perspectives in Public Health*, *137*(1), 53-58. https://doi.org/10.1177/1757913916659095

Hwang, Y., & Oh, J. (2020). Factors affecting health-promoting behaviors among nursing students. *International Journal of Environmental Research and Public Health*, *17*(17), 6291. https://doi.org/10.3390/ijerph17176291

Hui, W. H. C. (2002). The health-promoting lifestyles of undergraduate nurses in Hong Kong. *Journal of Professional Nursing*, *18*(2), 101-111. https://doi.org/10.1053/jpnu.2002.32346

Kasl, S. V., & Cobb, S. (1966). Health behavior, illness behavior and sick role behavior. *Archives of Environmental Health: An International Journal*, *12*(2), 246-266. https://doi.org/10.1080/00039896.1966.10664365

Kim, M. Y., & Kim, Y. J. (2018). What causes health promotion behaviors in college students?. *The Open Nursing Journal*, *12*, 106. https://doi.org/10.2174/1874434601812–010106

Lee, R. L., & Loke, A. J. Y. (2005). Health-promoting behaviors and psychosocial well-being of university students in Hong Kong. *Public Health Nursing*, *22*(3), 209-220. https://doi.org/10.1111/j.0737-1209.2005.220304.x

Mailybaev, G. S., Zhexembayeva, Z. R., Nurgaliyeva, S. A., Zholumbayeva, R. M., & Utegulov, D. E. (2018). The efficiency of the education system in Kazakhstan: Programme for International Student Assessment (PISA). *Opción*, *34*(85-2), 600-626.

Mehri, A., Solhi, M., Garmaroudi, G., Nadrian, H., & Sighaldeh, S. S. (2016). Health promoting lifestyle and its determinants among university students in Sabzevar, Iran. *International journal of preventive medicine*, *7*(65). https://doi.org/10.4103/2008-7802.180411

Musić, L., Mašina, T., Puhar, I., Plančak, L., Kostrić, V., Kobale, M., & Badovinac, A. (2021). Assessment of health-promoting lifestyle among dental students in Zagreb, Croatia. *Dentistry Journal*, *9*(3), 28. https://doi.org/10.3390/dj9030028

Nacar, M., Baykan, Z., Cetinkaya, F., Arslantas, D., Ozer, A., Coskun, O., ... & Yilmaze, G. (2014). Health promoting lifestyle behaviour in medical students: A multicentre study from Turkey. *Asian Pacific Journal of Cancer Prevention*, *15*(20), 8969-8974. https://doi.org/10.7314/APJCP.2014.15.20.8969

Pender, N. (1982). *Health promotion in nursing practice.* Pearson Education.

Peker, K., & Bermek, G. (2011). Predictors of health-promoting behaviors among freshman dental students at Istanbul University. *Journal of Dental Education*, *75*(3), 413-420. https://doi.org/10.1002/j.0022-0337.2011.75.3.tb05054.x

R Core Team (2019). *R: A language and environment for statistical computing*. R Foundation for statistical Computing, Vienna, Austria.

Safaie, N., Ketabi, S., Kia, N., Mirmohammadkhani, M., Moonesan, M. R., & Paknazar, F. (2020). Exploration of mental health problems in association with health-promoting lifestyle profile in Iranian medical students: A cross-sectional study. *Journal of Education and Health Promotion*, *9*. https://doi.org/10.4103/jehp.jehp_582_19

Sahu, M., Gandhi, S., Sharma, M. K., & Marimuthu, P. (2020). Social media use and health promoting lifestyle: An exploration among Indian nursing students. *Investigacion y educacion en enfermeria*, *38*(2). https://doi.org/10.17533/udea.iee.v38n2e12

Tol, A., Tavassoli, E., Shariferad, G. R., & Shojaeezadeh, D. (2013). Health-promoting lifestyle and quality of life among undergraduate students at school of health, Isfahan university of medical sciences. *Journal of Education and Health Promotion*, *2*. https://doi.org/10.4103/2277-9531.108006

Torchyan, A. A., & Bosma, H. (2020). Socioeconomic inequalities in health among Armenian adolescents. *International Journal of Environmental Research and Public Health*, *17*(11), 4055. https://doi.org/10.3390/ijerph17114055

Toybazarova, N. A., & Nazarova, G. (2018). The modernization of education in Kazakhstan: trends, perspective and problems. *Bulletin of National academy of sciences of the Republic of Kazakhstan*, *6*(376), 104-114. https://doi.org/10.32014/2018.2518-1467.33

Viner, R. M., Ozer, E. M., Denny, S., Marmot, M., Resnick, M., Fatusi, A., & Currie, C. (2012). Adolescence and the social determinants of health. *The Lancet*, *379*(9826), 1641-1652. https://doi.org/10.1016/S0140-6736(12)60149-4

Walker, S.N., & Hill-Polerecky, D.M. (1996). Psychometric evaluation of the Health-Promoting Lifestyle Profile II. Unpublished manuscript, University of Nebraska Medical Center.

Walker, S. N., Sechrist, K. R., & Pender, N. J. (1987). The health-promoting lifestyle profile: Development and psychometric characteristics. *Nursing Research*, *36*(2), 76–81. https://doi.org/10.1097/00006199-198703000-00002

Walker, S., Sechrist, K., & Pender, N. (1995). *Health promotion model - Instruments to measure health promoting lifestyle: Health-promoting lifestyle profile [HPLP II] (Adult Version)*. Available: https://deepblue.lib.umich.edu/bitstream/handle/2027.42/85349/HPLP_II-Background_and_Permission.pdf

Wang, D., Ou, C. Q., Chen, M. Y., & Duan, N. (2009). Health-promoting lifestyles of university students in Mainland China. *BMC Public health*, *9*(1), 1-9. https://doi.org/10.1186/1471-2458-9-379

Wang, J., & Geng, L. (2019). Effects of socioeconomic status on physical and psychological health: Lifestyle as a mediator. *International Journal of Environmental Research and Public Health*, *16*(2), 281. https://doi.org/10.3390/ijerph16020281

Wei, C. N., Harada, K., Ueda, K., Fukumoto, K., Minamoto, K., & Ueda, A. (2012). Assessment of health-promoting lifestyle profile in Japanese university students. *Environmental Health and Preventive Medicine*, *17*(3), 222-227. https://doi.org/10.1007/s12199-011-0244-8

Yang, C., Pi, Z., Liu, R., Li, X., & Wang, W. (2022). The class group counseling on life education improves meaning in life for undergraduate students. *Current Psychology*, 1-8. https://doi.org/10.1007/s12144-022-03623-9

Yau, P. (2016). *Kazakhstan Welcomes China's Belt and Road Initiative*. Hong Kong Trade Development Council. https://research.hktdc.com/en/article/MzE4MTIzNjY2

Zhang, S. C., Yu, L. J., Wang, J., Ueda, A., Wei, C. N., & Fang, J. (2019, January). Interactive effect of lifestyle, sleep quality and depressive symptoms: a questionnaire study of retired workers in a medium-sized city of northeastern China. In *2nd International Conference on Social Science, Public Health and Education (SSPHE 2018)* (pp. 182-186). Atlantis Press.