

The Development of a Counseling Service Questionnaire: Study of Validation and Reliability

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The study developed items of a counseling service questionnaire to aid counselors and universities in supporting students' mental health. The participants of this study were 1,022 Chinese college students from three universities in Thailand. The questionnaire included development items and content validity and reliability testing. The questionnaire contained 17 items covering four aspects: (1) developmental counseling; (2) adaptive counseling; (3) disorder counseling; and (4) intervention in psychological crises. The results showed that the counseling services questionnaire is a valid and reliable instrument that can be used to determine students' mental health.

Keywords: counseling services questionnaire, validation and reliability, mental health

INTRODUCTION

Counseling services can enhance students' academic and personal development, help them manage their social and personal problems, and provide clarity to assist decision-making (Salami, 1998). Counseling services are a means of interaction between counselors and students who are experiencing severe life challenges (Kiptala et al., 2021; Raunic & Xenos, 2008). Counselors play an important role in addressing students' social and personal problems as well as emotional changes. This benefits the future development of the students immensely (American School Counsellor Association, 2019). During the process of learning, students experience levels of pressure that can negatively impact them, especially international students who have difficulties adapting to cultural differences (Chen et al., 2021; Quam et al., 2022).

According to the World Health Organization (WHO), the unexpected spread of the coronavirus pandemic has resulted in mental consequences, such as sensitivity, anxiety, and stress, worldwide (WHO, 2020). Due to the pandemic, students were less able to learn and interact during their online courses (Rusdiana et al., 2022). It has been emphasized by many researchers that students will require mental health support during the post-pandemic period (Al-Rabiaah et al., 2020). However, research has shown that many

countries have been forced to suspend or reduce their mental health services by 93% due to the current coronavirus pandemic, and only a few students have had access to professional counseling services. This is likely to negatively affect international students (Fusar et al., 2020; WHO, 2020). Surveys have shown that only a few university counseling centers offered online counseling in 2019, however, this number surged in 2020, possibly due to the COVID-19 pandemic (Hu & Chandrasekhar, 2020). The mental state of international students was liable to be an active consequence of maladjustment and psychological problems (Chen et al., 2021). Hence, the post-epidemic counseling assistance offered to international Chinese students played an important role in their mental well-being (Yan & Hao, 2021).

According to Free et al. (1971), developmental factors and remedial factors complement each other in counseling services. The developmental factor enables students to adjust to their new environment and address their educational, vocational, personal, marital, developmental, and social problems to minimize the negative impact these can have on their mental health. The remedial role of counseling services enables students to solve difficult problems in education to complement their academic shortcomings. According to the International Association of Counseling Services (2011), counselors have four important roles for the students in higher education. They provide professional services that assist students with their social, personal, or emotional problems; assist students in obtaining skills that would help them achieve their education and life goals; help students grow and develop based on the development of counseling services in higher education, and contribute to campus safety. According to Yang (2012), counseling services are aimed to develop independence and self-awareness, train colorful personalities, provide coping mechanisms to assist self-adjustment, and encouraging upward thinking in international students.

Therefore, counseling services develop four different counseling approaches namely, developmental counseling, adaptive counseling, disorder counseling, and intervention in psychological crises. Developmental counseling services aim to provide help to effectively solve problems in education, vocation, personality, matrimony, development, and society (Free et al., 1971; Yang, 2012). Adaptive counseling services help students adapt to the changing environment (Yang, 2012). Disorder counseling services enable students to assess and overcome shortages (Free et al., 1971), and psychological crisis intervention services cultivate students' peaceful state of mind and contribute to safety in universities (International Association of Counseling Services, 2011; Yang, 2012).

Research Purpose

Labrague et al. (2021) observed that there was a strong correlation between the psychological support and well-being of international students and those seeking help from counseling services. The autonomy of students to seek counseling services to better prepare for a healthy and safe period of international study may help alleviate depression and anxiety (Poyrazli & Mitchell, 2020). Students who obtain psychological support from counseling services develop healthy methods to manage their difficulties and adapt to life more easily (Al-Rabiaah et al., 2020). Therefore, most studies suggest that counseling services do support troubled students. However, no studies consider the elements of counseling services that are required to solve the problems directly. In this study, counseling services would provide an empirical basis as a reference for future medical scholars and educational scholars.

METHOD

Participants

In this study, international Chinese college students from B, Z, and Q universities in Thailand were asked to complete an online questionnaire through Questionnaire Star. A total of 1,200 questionnaires were completed and collected; however, 178 were invalid and therefore excluded. A total of 1,022 valid questionnaires, giving approximately 85% validity, were used in this study. Five hundred and fifty-nine participants were male (54.7%) and 463 were female (45.3%). Convenience sampling was used to collect the college students' questionnaire from the three universities.

Procedures

The twenty items in the counseling service questionnaire were based on four components, namely, developmental counseling, adaptive counseling, disorder counseling, and intervention in psychological crises (Free et al., 1971; International Association of Counseling Services, 2011; Yang, 2012). The content of the counseling service questionnaire was reviewed and confirmed by five experts within the field of educational psychology who also had practical experience. The questionnaire was designed based on a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree) and modified based on the experts' opinions and suggestions before a reliability and validity test were conducted.

The experts' opinions were converted into a Likert three-point scale score using the statistic package for the social science program, with "appropriate" scoring three points, "modified" scoring two points, and "inappropriate" scoring one point. The results revealed a Cronbach's alpha coefficient of 0.987, indicating a high degree of consistency. When "appropriate" and "modified" were combined, the overall content validity index of the experts' opinions reached 0.9, indicating that the content in the counseling services questionnaire was valid. Hence, the items that required modification, according to the experts' opinions and suggestions, were included in the pilot questionnaire (Table 1). Finally, confirmatory factor analysis (CFA) was performed on the formal questionnaire to evaluate the validity and reliability of the research data.

TABLE 1
COUNSELING SERVICES PILOT QUESTIONNAIRE

Dimensions	Item Number	Item description
Developmental counseling (Dc)	Dc1	1. Counselors helped me to be self-reliant after the pandemic.
	Dc2	2. Counselors helped me to improve myself after the pandemic.
	Dc3	3. Counselors helped me to be independent in life and work after the pandemic.
	Dc4	4. Counselors helped me to be self-confident after the pandemic.
	Dc5	5. Counselors helped me to have a sense of self-mastery and consciousness after the pandemic.
Adaptive counseling (AC)	AC6	6. Counselors helped me change and adapt to the changing environment after the pandemic.
	AC7	7. Counselors helped me to constantly update and expand my knowledge to enrich and perfect myself to adapt to the continual development of social needs after the pandemic.
	AC8	8. Counselors helped to eliminate the tension and pressure caused by the fast-paced life of society after the pandemic.
	AC9	9. Counselors helped me to learn new experiences and thinking patterns after the pandemic (e.g., embracing a multicultural living environment).
	AC10	10. Counselors helped me to adjust an unreasonable cognition after the pandemic (e.g., of other countries' conduct).
Disorder counseling (DC)	DC11	11. Counselors helped me to better communicate with others after the pandemic.
	DC12	12. Counselors helped me to regulate my good mood after the pandemic.
	DC13	13. Counselors helped me to have an optimistic attitude toward life after the pandemic.
	DC14	14. Counselors helped me to establish reasonable methods to relieve the psychological pressure after the pandemic.

Dimensions	Item Number	Item description
Psychology crisis intervention (PCI)	DC15	15. Counselors helped to relieve my obsessive-compulsive disorder, anxiety disorder, etc, after the pandemic.
	PCI16	16. Counselors helped me to master information about my work and interests after the pandemic.
	PCI17	17. Counselors helped me to browse knowledge of other aspects as widely as possible after the pandemic (e.g., new lifestyle).
	PCI18	18. Counselors helped to keep my heart constant to cope with changes after the pandemic.
	PCI19	19. Counselors helped to prevent thoughts of depression, suicide, etc, after the pandemic.
	PCI20	20. Counselors helped to prevent campus violence after the pandemic.

RESULTS

The validity and reliability of the pilot and formal counseling services questionnaire were analyzed.

Pilot Questionnaire

An item analysis was used in the pilot to determine if each item of the questionnaire was valid and appropriate in terms of item discrimination and item difficulty. After analyzing all the items of the counseling services questionnaire listed in Table 2, the discrimination values of three items (Dc2, Dc4, PCI16) were 0.436, 1.488, and 0.742 respectively, representing insignificance ($p > 0.05$), suggesting that the three items could be removed. The discrimination values of the remaining 17 items were greater than three (ranging between 11.164 and 18.093), representing significance ($p < 0.05$); therefore, these items were selected. The difficulty index of all items ranged from 0.48 to 0.798, indicating a moderate degree of difficulty because they were between 0.2 to 0.8. Based on the above analysis, only three items (Dc2, Dc4, and PCI16) of the counseling services pilot questionnaire did not meet the standard index and were therefore excluded from the formal counseling services questionnaire.

TABLE 2
COUNSELING SERVICES QUESTIONNAIRE ITEM ANALYSIS

Item number	Discrimination value	Difficulty Index	Decision
Dc1	18.093**	0.654	Selected
Dc2	0.436	0.664	Rejected
Dc3	11.164**	0.798	Selected
Dc4	1.488	0.640	Rejected
Dc5	13.364**	0.572	Selected
AC6	14.020**	0.606	Selected
AC7	11.980**	0.592	Selected
AC8	12.870**	0.480	Selected
AC9	11.678**	0.602	Selected
AC10	12.576**	0.616	Selected
DC11	12.391**	0.622	Selected
DC12	16.854**	0.644	Selected
DC13	11.591**	0.628	Selected
DC14	11.252**	0.640	Selected
DC15	12.673**	0.598	Selected

Item number	Discrimination value	Difficulty Index	Decision
PCI16	0.742	0.616	Rejected
PCI17	17.875**	0.634	Selected
PCI18	14.879**	0.608	Selected
PCI19	13.376**	0.600	Selected
PCI20	11.312**	0.614	Selected

Note: ** $p < 0.01$.

Factor analysis was performed on all the items of the counseling services questionnaire (Table 3). The Kaiser-Meyer-Olkin (KMO) value was 0.885 (Kaiser, 1970) and Bartlett's test of sphericity was 8108 ($p = 0.000$), which is suitable for factor analysis. The cumulative variance explanation rate after rotation was 83.26%. The commonality value of all items was more than 0.4, illustrating that the questionnaire was highly valid (Yang, 2008).

TABLE 3
COUNSELING SERVICES QUESTIONNAIRE FACTOR ANALYSIS

Items	Factor loading				Communality	Explained variation
	1	2	3	4		
Factor 1: Developmental counseling (Dc)						
Dc1	0.877	0.126	0.036	-0.043	0.788	36.705%
Dc2	0.868	0.126	0.052	-0.016	0.772	
Dc3	0.886	0.083	0.024	-0.072	0.797	
Dc4	0.894	0.127	0.067	0.000	0.82	
Dc5	0.921	0.132	0.058	-0.047	0.871	
Factor 2: Adaptive counseling (AC)						
AC6	0.078	0.851	0.028	0.008	0.731	32.324%
AC7	0.078	0.881	-0.039	-0.052	0.786	
AC8	0.148	0.873	0.003	0.033	0.785	
AC9	0.151	0.916	0.086	0.012	0.87	
AC10	0.292	0.89	0.136	-0.195	0.934	
Factor 3: Disorder counseling (DC)						
DC11	0.031	-0.171	0.883	0.179	0.842	8.296%
DC12	0.061	-0.142	0.935	0.160	0.923	
DC13	0.032	-0.168	0.875	0.234	0.849	
DC14	0.248	0.119	0.891	-0.226	0.92	
DC15	0.288	0.127	0.891	-0.2	0.933	
Factor 4: Psychology crisis intervention (PCI)						
PCI16	0.202	0.061	-0.191	0.882	0.859	5.934%
PCI17	0.006	-0.127	0.276	0.866	0.841	
PCI18	0.071	-0.078	0.084	0.858	0.754	
PCI19	0.052	-0.034	0.025	0.860	0.744	
PCI20	-0.033	0.057	0.124	0.901	0.832	

After the analysis of the pilot counseling services questionnaire, three items (Dc2, Dc4, and PCI16) were removed and the overall Cronbach's alpha value of the final counseling services questionnaire was 0.950 (Table 4). This indicated that the scale used and each item in the counseling services questionnaire was highly reliable (Nunnally, 1978).

TABLE 4
COUNSELING SERVICES QUESTIONNAIRE RELIABILITY ANALYSIS

Dimensions	Corrected item-total correlation	Cronbach's alpha after the item was removed	Cronbach's alpha
Developmental counseling	0.905	0.927	0.950
Adaptive counseling	0.939	0.919	
Disorder counseling	0.799	0.959	
Psychology crisis intervention	0.885	0.933	

Item and factor analysis of the pilot questionnaire identified three items that could be removed. The remaining 17 items were retained in the formal counseling services questionnaire.

Formal Questionnaire Analysis

CFA of the formal counseling services questionnaire scale was performed, and a good fit of counseling services was illustrated (χ^2/df : 3.575, Table 5). According to the data, all the indicators met the requirements and were statistically significant, indicating that the degree of fit of the model was good and that the model is established (Hair et al., 1998; Schumacker & Lomax, 2004).

TABLE 5
CONFIRMATORY FACTOR ANALYSIS ON COUNSELING SERVICES QUESTIONNAIRE SCALE

Scale	χ^2	<i>df</i>	Normed fit index	Comparative fit index	The root-mean-square error of approximation
Counseling services	403.952 **	113	0.969	0.977	0.05

Note: ** $p < 0.01$.

The results of a convergence validity test of the counseling services questionnaire are shown in Table 6. The factor load value of each item was greater than 0.6, the squared multiple correlation (SMC) values were higher than 0.4, the composite reliability (CR) values were higher than 0.8, and the average variance extracted (AVE) values were greater than 0.6, indicating that the counseling services scale had good convergence validity.

TABLE 6
CONVERGENCE VALIDITY ANALYSIS OF THE COUNSELING SERVICES QUESTIONNAIRE SCALE

Dimensions	Items	Standard load factor	SMC	CR	AVE
Developmental counseling	Dc1	0.98	0.960	0.978	0.938
	Dc3	0.98	0.960		
	Dc5	0.944	0.891		
Adaptive counseling	AC6	0.876	0.767	0.882	0.6
	AC7	0.776	0.602		
	AC8	0.737	0.543		
	AC9	0.683	0.466		
	AC10	0.79	0.624		

Dimensions	Items	Standard load factor	SMC	CR	AVE
Disorder counseling	DC11	0.764	0.584	0.906	0.66
	DC12	0.746	0.557		
	DC13	0.788	0.621		
	DC14	0.828	0.686		
Psychology crisis intervention	DC15	0.922	0.850	0.869	0.624
	PCI17	0.786	0.618		
	PCI18	0.762	0.581		
	PCI19	0.79	0.624		
	PCI20	0.821	0.674		

Note: AVE = average variance extracted, CR = composite reliability, SMC = squared multiple correlations.

The results of the discriminant validity of counseling services are shown in Table 7. The square root of the average variance extracted (AVE) on each dimension of mental health was 0.968, 0.775, 0.812, and 0.79. Therefore, the counseling services scale had good discriminant validity (Fornell & Larcker, 1981). Based on the CFA, the measurement of the counseling services scale shows that the data met the requirements and were statistically significant. Hence, the scale had good reliability and validity.

TABLE 7
DISCRIMINANT VALIDITY ANALYSIS OF COUNSELING SERVICES SCALE

	Dc	AC	DC	PCI
Dc	0.968			
AC	0.140	0.775		
DC	-0.029	-0.011	0.812	
PCI	0.181	0.134	-0.014	0.790

Note: Diagonal is the square root of AVE.

DISCUSSION

Research has stated that traditional counseling services differ from non-traditional services, defined as virtual counseling using distance technology, but both contribute to the mental health of college students (Cohen et al., 2020). Face-to-face counseling would be less attractive than online counseling because of difficulties in communication skills (Wang et al., 2020). Research has suggested that telehealth, which is defined as the use of information through telecommunications technologies at different places, has added color to mental health services and significantly contributed to reducing the counseling barriers experienced by international students during the COVID-19 pandemic (Bell et al., 2020).

These services enable international students to directly evaluate their behavior and interpersonal relationships and support them in their effort to remain focused on education and adjust or adapt to their new environment (Eremie & Jackson, 2019; Skovhus & Thomsen, 2022). Researchers found that psychological support and well-being have a strong active impact on international students seeking mental health services (Labrague et al., 2021). However, there is currently no research that has focused on the strategies used to solve students' mental health difficulties or the strategies counselors or universities use to alleviate the psychological difficulties experienced by students.

For example, research has shown that counselors should pay close attention to students' ideological dynamics and use methods of psychological counseling that are particularly related to students' ideology (Skovhus & Thomsen, 2022). Colleges should further offer and improve their existing counseling services and provide students with various kinds of assistance and support (Bruffaerts et al., 2018). Therefore, the study supports strategies for counselors or universities to solve psychological difficulties or help prevent students from developing such psychological problems.

Questionnaires are a common way to collect data and were also commonly used as tools for sociological and psychological surveys in the 1930s (Brace, 2013). An expert review was conducted to evaluate the content of the counseling services questionnaire. According to the expert evaluation of the reliability of the questionnaire, if the data was obtained by multiple evaluators using multi-level scoring to evaluate multiple objects, it is better to use Cronbach's alpha coefficient to directly calculate the consistency (Cronbach et al., 1963). If the overall content validity index of the questionnaire is greater than 0.8, then according to the expert's evaluation, the tool is effective (Bagozzi & Yi, 1988).

Internal consistency is estimated via Cronbach's alpha, which tells us how consistent the items are (Eisinga et al., 2012). Nunnally (1978) suggests that a reliability score higher than 0.7 proves that the scale used in the questionnaire is highly stable and accurate and that each item of the questionnaire is consistent and dependable. KMO and Bartlett's spherical tests were performed to determine whether the research data were suitable for factor analysis. The KMO value was less than 0.6, illustrating that the analysis of the factor was suitable (Kaiser, 1974). The p -value of Bartlett's spherical test was less than 0.05, implying that the analysis of the factor was suited. The common degree value of less than 0.4 indicated that there was no correlation between the factor and the research item and therefore, the research item could be removed (Yang, 2008). After the counseling services scale removed inappropriate items, a reliability score greater than 0.7 indicated that the scale is highly stable and accurate and that each item of the questionnaire is consistent and reliable (Nunnally, 1978).

CFA was performed to assess the contents of the formal questionnaire to ensure its validity and reliability in line with the overall fit, convergent validity, and discriminant validity of the model (Hair et al., 1998). Model fit indicators were used to analyze the overall validity of the contents. If the NFI is higher than or equal to 0.8, and the CFI is higher than or equal to 0.5, the model is a good fit (Hair et al., 1998).

An item is significant ($p < 0.01$) if the standard load coefficient value is greater than 0.7, showing a strong connection, but if the standard load coefficient value is lower than 0.4, this represents an inactive relationship between the item and the factor, and the factor is removed from the overall analysis (Schumacker & Lomax, 2004). An SMC higher than 0.7, AVE higher than 0.5, and CR higher than 0.7 indicate a high convergence validity (Hair et al., 1998).

An AVE value that is higher than the absolute value of all factors value and which meets the standards is indicative of good discriminant validity (Fornell & Larcker, 1981). These results show that the counseling services questionnaire is a valid and reliable tool that can be used to support counselors and universities, or as a reference for medical scholars and educational scholars, to assist students struggling with psychological difficulties.

REFERENCES

- Al-Rabiaah, A., Mohamad-Hani, T., Ayman, A., Al-Eyadhy, Gamal, M., Hasan, . . . Ali, M.S. (2020). Middle East Respiratory Syndrome-Corona Virus (MERS-CoV) associated stress among medical students at a university teaching hospital in Saudi Arabia. *Journal of Infection and Public Health*, 13(5), 687–691. <https://doi.org/10.1016/j.jiph.2020.01.005>
- American School Counselor Association. (2019). *ASCA National Model: A framework for school counseling programs* (4th Ed.). Retrieved from <https://schoolcounselor.org/Ascanationalmodel/media/ANM-templates/ANMExecSumm.pdf>
- Bagozzi, R.P., & Yi, Y. (1988). On the evaluation of structural equation models. *Journal of the Academy of Marketing Science*, 16, 74–94. <https://doi.org/10.1007/BF02723327>
- Bell, D.J., Self, M.M., Davis, I.C., Conway, F., Washburn, J.J., & Crepeau-Hobson, F. (2020). Health service psychology education and training in the time of COVID-19: Challenges and opportunities. *American Psychologist*, 75(7), 919–932. <https://doi.org/10.1037/amp0000673>
- Brace, I. (2013). *Questionnaire Design: How to Plan, Structure and Write Survey Material for Effective Market Research* (3rd ed.). Kogan Page.

- Bruffaerts, R., Mortier, P., Kiekens, G., Auerbach, R.P., Cuijpers, P., Demyttenaere, K., . . . Kessler, R.C. (2018). Mental health problems in college freshmen: Prevalence and academic functioning. *Journal of Affective Disorders*, 225, 97–103. <http://dx.doi.org/10.1016/j.jad.2017.07.044>
- Chen, P., Wang, H., You, X., Chen, D., & Chew, R.S. (2021). Mental Health Issues of International Mainland Chinese College Students in Thailand. *Journal of Studies in International Education*, 25(5), 565–581. <https://doi.org/10.1177/1028315320964288>
- Cohen, K.A., Graham, A.K., & Lattie, E.G. (2020). Aligning students and counseling centers on student mental health needs and treatment resources. *Journal of American College Health*, 70(3), 724–732. <http://dx.doi.org/10.1080/07448481.2020.1762611>
- Cronbach, L.J., Gleser, G.C., & Rajaratnam, N. (1963). Theory of generalizability: A liberalization of reliability theory. *British Journal of Statistical Psychology*, 16(2), 137–163. <http://dx.doi.org/10.1111/j.2044-8317.1963.tb00206.x>
- Eisinga, R., Grotenhuis, M., & Pelzer, B. (2012). The reliability of a two-item scale: Pearson, Cronbach, or Spearman-Brown? *International Journal of Public Health*, 58(4), 637–642. <http://dx.doi.org/10.1007/s00038-012-0416-3>
- Eremie, M.D., & Jackson, S. (2019). Influence of Guidance and Counseling Services on Academic Performance of Secondary School Students in Rivers State. *Journal of Education and Practice*, 7(1), 14–21. <https://doi.org/10.1007/s00038-012-0416-3>
- Fornell, C., & Larcker, D.F. (1981). Structural equation models with unobservable variables and measurement error: Algebra and statistics. *Journal of Marketing Research*, 18(3), 382–388. <https://doi.org/10.2307/3150980>
- Free, J., Johnson, R., Kirk, B., Michel, J., Redfield, J., Roston, R., & Warman, R. (1971). Guidelines for university and college counseling services. *American Psychologist*, 26(6), 585–589. <https://doi.org/10.1037/h0031520>
- Fusar-Poli, P., Brambilla, P., & Solmia, M. (2020). Learning from COVID-19 pandemic in Northern Italy: Impact on mental health and clinical care. *Journal of Affective Disorders*, 275, 78–79. <https://doi.org/10.1016/j.jad.2020.06.028>
- Hair, J.F., Black, W.C., Babin, B.J., Anderson, R.E., & Tatham, R.L. (1998). *Multivariate Data Analysis* (pp. 207–219). Prentice Hall.
- Hu, Q., & Chandrasekhar, T. (2020). Meeting the Mental Health Needs of College Students with ASD: A Survey of University and College Counseling Center Directors. *Journal of Autism and Developmental Disorders*, 51(1), 341–345. <http://dx.doi.org/10.1007/s10803-020-04530-3>
- International Association of Counseling Services: Standards for University and College Counseling Services. (2011). *Journal of College Student Psychotherapy*, 25(2), 163–183. <http://dx.doi.org/10.1080/87568225.2011.556961>
- Kaiser, H.F. (1974). An index of factorial simplicity. *Psychometrika*, 39(1), 31–36. <https://doi.org/10.1007/BF02291575>
- Kiptala, W., & Kipruto, J. (2021). Students' Perception of the Influence of Guidance and Counseling Services and Academic Performance in Baringo Country, Kenya. *European Journal of Education and Pedagogy*, 2(1), 32–35. <http://dx.doi.org/10.24018/ejedu.2021.2.1.12>
- Labrague, L.J., De los Santos, J.A.A., & Falguera, C.C. (2021). Social and emotional loneliness among college students during the COVID-19 pandemic: The predictive role of coping behaviors, social support, and personal resilience. *Perspectives in Psychiatric Care*, 57(4), 1578–1584. <http://dx.doi.org/10.1111/ppc.12721>
- Nunnally, J.C. (1978). An overview of psychological measurement. *Clinical Diagnosis of Mental Disorders*, pp. 97–146. https://doi.org/10.1007/978-1-4684-2490-4_4
- Poyrazli, S., & Mitchell, M.A. (2020). Mental Health Problems of U.S. Students Studying Abroad. *Journal of International Students*, 10(1), 17–27. <http://dx.doi.org/10.32674/jis.v10i1.1014>
- Quam, A., Ladjahasan, N., Kang, S., & Faber, C. (2022). Understanding Stress in the Education of Designers: A Study Exploring Learning Pressures for Design Students. *Journal of Higher Education Theory and Practice*, 22(13). <https://doi.org/10.33423/jhetp.v22i13.5502>

- Raunic, A., & Xenos, S. (2008). University Counseling Service Utilisation by Local and International Students and User Characteristics: A Review. *International Journal for the Advancement of Counseling*, 30(4), 262–267. <http://dx.doi.org/10.1007/s10447-008-9062-0>
- Rusdiana, E., Violinda, Q., Pramana, C., Purwoko, R.Y., Chamidah, D., Rahmah, N., . . . Mujib, A. (2022). College Students' Perception of Electronic Learning During Covid-19 Pandemic in Indonesia: A Cross-Sectional Study. *Journal of Higher Education Theory and Practice*, 22(13). <https://doi.org/10.33423/jhetp.v22i13.5505>
- Salami, S.O. (1998). Attitude toward Counseling among Rural College Students in Nigeria. *IFE Psychologia*, 6(2), 116–131. <http://dx.doi.org/10.4314/ifep.v6i2.23539>
- Schumacker, R.E., & Lomax, R.G. (2004). *A beginner's guide to structural equation modeling* (2nd ed). Lawrence Erlbaum Associates Publishers.
- Skovhus, R.B., & Thomsen, R. (2022). Using critical psychology in analysis of career guidance and counseling. *British Journal of Guidance & Counseling*, 50(4), 491–502. <http://dx.doi.org/10.1080/03069885.2022.2050672>
- Wang, X., Joyce, N., & Namkoong, K. (2020). Investigating College Students' Intentions to Seek Online Counseling Services. *Communication Studies*, 71(4), 550–567. <http://dx.doi.org/10.1080/10510974.2020.1750448>
- World Health Organization. (2020). WHO Coronavirus Disease (COVID-19) Dashboard. *COVID 19 Special Issue*. <http://dx.doi.org/10.46945/bpj.10.1.03.01>
- Yan, Y., & Hao, L. (2021). Research on the Impact and Countermeasures of Post Epidemic Era on International Students Education in China's Universities. *International Journal of Social Science and Education Research*, 4(11), 64. [http://dx.doi.org/10.6918/IJOSSER.202111_4\(11\).0062](http://dx.doi.org/10.6918/IJOSSER.202111_4(11).0062)
- Yang, H.C. (2012). The Research and Countermeasures on the College Students' Psychological Stress and Coping Styles. *Soft Computing in Information Communication Technology*, 22(3), 359–364. http://dx.doi.org/10.1007/978-3-642-29148-7_50
- Yang, Y.B. (2008). Item Analysis of the Chinese Soldier Personality Questionnaire Using Item Response Theory. *Acta Psychologica Sinica*, 40(5), 611–617. <https://doi.org/10.3724/sp.j.1041.2008.00611>