

THE MICROSTRUCTURE OF A SHORT MEASURE OF STUDENT STRESSORS AND ITS ASSOCIATIONS WITH WELL-BEING

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ABSTRACT

Background: Questionnaires assessing student stressors exist, and the present study examined the microstructure of a seven-item student stressor scale. **Methods:** One thousand two hundred and ninety-three university students completed an online survey and answered questions on well-being and factors related to well-being (psychological capital, negative coping and social support). They also completed a seven-item measure of exposure to stressors. Academic attainment marks were available, and perceived work efficiency and course stress were recorded. **Results:** Factor analysis showed that the seven stressor items loaded on a single factor. Correlations showed that all the stressor items were significantly associated with most well-being outcomes (positively with negative items such as perceived stress; negatively with positive well-being outcomes) and academic attainment. Multivariate analyses, including the other established predictors of well-being, showed that significant associations with stressors were restricted mainly to academic dissatisfaction, time pressure and societal and social mistreatment. **Conclusions:** The seven-item student stressor scale from the Well-being Process Questionnaire consists of a single factor. The individual items were significantly correlated with well-being outcomes and academic attainment.

KEYWORD:- Well-being; Student Stressors; Social support; Negative coping; Psychological capital; Perceived stress; Negative well-being; Positive well-being; Academic attainment.

INTRODUCTION

There has been substantial research on the well-being of university students,^[1] and university students have frequently reported stress, anxiety and depression.^[3] Other research has extended the research to secondary school students.^[3,4] Many concepts used in occupational research, such as demands, resources, personality and coping styles, have also been used in this research with students. Student-related circumstances are frequently investigated in student well-being research, including long study hours, fear of failing,^[1] social demands^[5-8] and lack of social support.^[5] Questionnaires have been developed explicitly for assessing such circumstances, such as the Inventory of College Students' Recent Life Experiences (ICSRLE), which includes factors such as time pressures, challenges to development, and social mistreatment.^[6,7] Research using the ICSRLE has also shown that these variables are essential in the management of stress by businesses whose employees may also be students.^[8]

Exposure to stressors is an essential component of approaches to well-being. One approach to research on well-being has been to consider it a process. The Well-being Process Questionnaire^[9,10] was developed using the

DRIVE (Demands Resources Individual Effects) stress model.^[11,12] The Well-being Process model was initially used with occupational samples^[13-37] and then with university students.^[38-49] The DRIVE model initially examined predictors of mental health, such as demands, support and control, and coping styles. The Well-being Process Questionnaire (WPQ) included more positive outcomes (happiness, life satisfaction and positive affect) and predictor variables (e.g. psychological capital). Recent studies have replicated the effects of the established predictors and added new outcome variables (e.g., flourishing and physical health) and predictors (e.g., daytime sleepiness, workload, flow and work-life balance).

One key approach in developing the WPQ was using short scales or single items to assess the various concepts. This allowed the inclusion of many predictors and outcomes and avoided response fatigue. The shortened form of the ICSRLE used seven questions. Generally, studies have summed these items to give a total stressors score. The main aim of the present study was to examine the microstructure of this scale and the associations of the individual items with well-being outcomes.

Ethical committee approval

The Ethical Committee of the School of Psychology, Cardiff University, approved the current study, and all volunteers consented to participate. After the survey was completed, all participants were debriefed and provided with the details of the researcher and ethics committee should they want further information regarding this study.

Participants

One thousand two hundred and ninety-three undergraduate psychology students (138 male; 1145 female; mean age = 19.5 years, age range 17-48 years; 49.7% year 1, 50.3% year 2) completed the survey.

Materials

Participants completed an online survey containing questions about well-being and student lifestyle.

The circumstances items were developed to relate to students' demands and resources and consisted of single-item measures of the 7 ICSRLE factors. These single-item measures are shown below.

ICSRLE short (demands)

(Please consider the following elements of student life and indicate to what extent they have been a part of your life over the past 6 months).

Challenges to your development (e.g. essential decisions about your education and future career, dissatisfaction with your written or mathematical ability, struggling to meet your or others' academic standards).

Time pressures (e.g., too many things to do simultaneously, schoolwork interruptions, and many responsibilities).

Academic Dissatisfaction (e.g. disliking your studies, finding courses uninteresting, dissatisfaction with school).

Romantic Problems (e.g. decisions about intimate relationships, conflicts with boyfriends'/girlfriends' family, disputes with boyfriend/girlfriend).

Societal Annoyances (e.g. getting ripped off or cheated in purchasing services, social conflicts, disliking fellow students).

Social Mistreatment (e.g. social rejection, loneliness, being taken advantage of).

Friendship problems (e.g. conflicts with friends, being let down or disappointed by friends, having your trust betrayed).

These questions were responded to using the following rating scale:

Not at all part of my life 1 2 3 4 5 6 7 8 9 10 Very much part of my life

Well-being questions

The Student Well-Being Process Questionnaire (WPQ)^[38] was used. It comprised questions about well-being predictors and measures of well-being outcomes.

Academic performance

The grade point average (GPA) mark (average of coursework and examinations) was available, and perceived work efficiency and course stress were measured.

Analysis strategy

A factor analysis was conducted to determine whether the student stressors loaded on a single factor.

Initial correlational analyses examined associations between the individual student stressor scores and the well-being and attainment outcomes. Finally, a MANOVA, including the other established predictors of well-being, was carried out to determine which outcome variables were significantly associated with the student stressor variables.

RESULTS

Factor analysis revealed a single-factor solution accounting for 37.5% of the variance. The scale had a Cronbach alpha value of 0.7.

Table 1 shows the correlations between the individual stressor scores and the well-being and attainment outcomes. All of the items were significantly associated with most of the outcomes.

Table 1: Correlations (Pearson r) between the student stressor Scores and Well-being and performance outcomes.

	Positive well-being	Negative well-being	Work efficiency	Course stress	GPA
Developmental issues	-0.19	0.28	-0.10	0.27	-0.09
Time pressure	-0.14	0.31	-0.07	0.48	-0.02
Academic Dissatisfaction	-0.23	0.27	-0.17	0.27	-0.16
Romantic problems	-0.12	0.16	-0.11	0.07	-0.08
Societal annoyance	-0.22	0.30	-0.05	0.11	-0.04
Social mistreatment	-0.45	0.47	-0.14	0.13	-0.08
Friendship problems	-0.33	0.36	-0.08	0.11	-0.08

A MANOVA was then carried out, including all the well-being outcomes, the student stressor variables, and the established predictors of well-being. This analysis

aimed to identify which associations with the student stressor variables remained significant when the established predictors were covaried. All established

predictors (conscientiousness, psychological capital, social support, and negative coping) showed significant associations with the outcomes.

All the stressor variables were significant overall predictors except romantic and friendship problems. Table 2 shows the significant associations between the individual stressor variables and outcomes.

Table 2: Significant associations between the individual stressor Variables and Outcomes.

	Outcomes
Developmental Issues	GPA
Time Pressure	Negative well-being, course stress
Academic Dissatisfaction	Positive well-being, work efficiency, course stress, GPA
Romantic Problems	Work efficiency
Societal Annoyance	Negative well-being, work efficiency, GPA
Social Mistreatment	Negative well-being, positive well-being, work efficiency
Friendship Problems	-

DISCUSSION

Several different student stressors have been identified. The present study showed that questions from a seven-item stressor scale were loaded on a single factor with a Cronbach alpha of 0.7. The individual stressor items were significantly correlated with most of the well-being and attainment variables. A MANOVA was conducted, and this covaried established predictors of well-being. All established predictors (Conscientiousness, psychological capital, social support, and negative coping) were significantly associated with the well-being and attainment outcomes. All the stressor variables were significant overall predictors except for romantic and friendship problems. Academic dissatisfaction, societal annoyance, and social mistreatment had the most extensive associations with the outcomes. Overall, the results of the present study suggest that it should be possible to use even shorter measures of exposure to student stressors, which has been confirmed in a recent survey.^[50]

CONCLUSION

The present study examined the microstructure of a seven-item scale measuring exposure to student stressors (Developmental issues, time pressure, academic dissatisfaction, romantic problems, societal annoyance, social mistreatment, and friendship problems). One thousand two hundred and ninety-three university students doing psychology degrees completed an online survey consisting of questions on well-being outcomes and predictors of well-being (Social support, psychological capital and negative coping). They also completed the seven-item measure of exposure to stressors. Factor analysis revealed that the stressor items loaded on a single factor. Correlations showed that all the stressor items were significantly associated with most well-being outcomes (Positively with negative items, negatively with positive well-being outcomes) and academic attainment, efficiency and course stress. Multivariate analyses, including the established predictors of well-being, showed that significant associations with stressors were restricted mainly to academic dissatisfaction, time pressure and societal and social mistreatment. The seven-item student stressor scale from the Well-being Process Questionnaire consists

of a single factor. The individual items were significantly correlated with well-being outcomes and academic attainment. Future research could use an even shorter version of this scale.

REFERENCES

1. Bayram N, Bilgel N. The prevalence and socio-demographic correlations of depression, anxiety and stress among a group of university students. *Social Psychiatry and Psychiatric Epidemiology*, 2008; 43(8): 667-672.
2. Dahlin M, Joneborg N, Runeson B. Stress and depression among medical students: A cross-sectional study. *Medical Education*, 2005; 39(6): 594-604.
3. Smith AP, Garcha J, James, A. The associations between autistic and ADHD traits and well-being of secondary school students in South Wales. *Journal of Education, Society and Behavioural Science*, 2023; 36(7): 55-69 doi: 10.9734/JESBS/2023/v36/71236
4. Smith AP, James A. Diet and other health-related behaviours: Associations with the well-being of Secondary School Students. *World Journal of Pharmaceutical and Medical Research*, 2023; 9(6): 220-228. https://www.wjpmr.com/home/article_abstract/4899 ISSN 2455-3301
5. Tully A. Stress, sources of stress and ways of coping among psychiatric nursing students. *Journal of Psychiatric and Mental Health Nursing*, 2004; 11(1): 43-47.
6. Swickert RJ, Rosentreter CJ, Hittner JB, Mushrush JE. Extraversion, social support processes, and stress. *Personality and Individual Differences*, 2002; 32(5): 877-891.
7. Kohn PM, Lafreniere K, Gurevich, M. The inventory of college students' recent life experiences: A decontaminated hassles scale for a special population. *Journal of Behavioral Medicine*, 1990; 13(6): 619-630.
8. Fogaratnam GBP. Balancing the demands of school and work: stress and employed hospitality students. *International journal of contemporary hospitality management*, 2004; 16: 237-245.

9. Williams G. Researching and developing mental health and well-being assessment tools for supporting employers and employees in Wales. Doctoral dissertation, 2014, Cardiff University.
10. Williams GM, Smith AP. A holistic approach to stress and well-being. Part 6: The Well-being Process Questionnaire (WPQ Short Form). Occupational Health (At Work), 2012; 9, 1: 29-31. ISSN 1744-2265.
11. Mark GM, Smith AP. Stress models: A review and suggested new direction. In: Occupational Health Psychology: European Perspectives on Research, Education and Practice, 2008; 3: 111-144. EA-OHP series. Edited by J.Houdmont & S. Leka. Nottingham University Press.
12. Margrove G, Smith AP. The Demands-Resources-Individual Effects (DRIVE) Model: Past, Present and Future Research Trends. Chapter 2, in "Complexities and Strategies of Occupational Stress in the Dynamic Business World". Edited by Dr Adnam ul Haque. IGI Global, 2022; doi: 10.4018/978-1-6684-3937-1
13. Williams GM, Smith, A.P. Using single-item measures to examine the relationships between work, personality, and well-being in the workplace. Psychology: Special Edition on Positive Psychology, 2016; 7: 753-767. doi: 10.4236/psych.2016.76078 http://file.scirp.org/pdf/PSYCH_2016060115074176.pdf
14. Williams G, Thomas K, Smith AP. Stress and Well-being of University Staff: an Investigation using the Demands-Resources- Individual Effects (DRIVE) model and Well-being Process Questionnaire (WPQ). Psychology, 2017; 8: 1919-1940. <https://doi.org/10.4236/psych.2017.812124>
15. Williams G, Pendlebury H, Smith AP. Stress and the Well-being of Nurses: an Investigation using the Demands-Resources- Individual Effects (DRIVE) model and the Well-being Process Questionnaire (WPQ). Advances in Social Science Research Journal, 2021; 8(8): 575-586. doi:10.14738/assrj.88.10782
16. Omosehin O, Smith AP. Adding new variables to the Well-being Process Questionnaire (WPQ) – Further studies of Workers and Students. Journal of Education, Society and Behavioral Science, 2019; 28(3): 1-19, Article no.JESBS.45535 ISSN: 2456-981X. doi: 10.9734/JESBS/2018/45535
17. Bowen L, Smith AP. Drive better, feel better: predicting well-being and driving behaviour in undergraduate psychology students. Advances in Social Science Research Journal, 2019; 6(2): 302-318. doi:10.14738/assrj.62.6221.).
18. Smith AP, Smith HN. Wellbeing at work and the lie scale. Journal of Health and Medical Sciences. 2019; 2(1): 40-51. doi: 10.31014/aor.1994.02.01.18
19. Omosehin O, Smith AP. Nationality, Ethnicity and Well-being. Open Journal of Social Sciences, 2019; 7: 133-142, <http://www.scirp.org/journal/jss> ISSN Online: 2327-5960 ISSN Print: 2327-5952 <https://doi.org/10.4236/jss.2019.75011>
20. Smith AP. Stress and wellbeing of Nurses: An Update. International Journal of Arts, Humanities and Social Science, 2019; 4(6): 1-6. www.ijahss.com. <http://www.ijahss.com/Paper/04062019/1179495063.pdf>
21. Smith AP, James A. 2021. The Well-being of Staff in a Welsh Secondary School before and after a COVID-19 lockdown. Journal of Education, Society and Behavioral Sciences, 2021; 34(4): 1-9. Article number: JESB 69238. doi:10.9734/JESBS/2021/v34i430319
22. Williams G, Pendlebury H, Smith, A.P. Stress and the Well-being of Nurses: an Investigation using the Demands-Resources- Individual Effects (DRIVE) model and the Well-being Process Questionnaire (WPQ). Advances in Social Science Research Journal, 2021; 8(8): 575-586. doi:10.14738/assrj.88.10782
23. Smith AP, James A. The well-being of working mothers before and after a COVID-19 lockdown. Journal of Education, Society and Behavioural Science, 2021; 34(11): 133-140, 2021; Article no.JESBS.76070 ISSN: 2456-981X doi: 10.9734/JESBS/2021/v34i1130373.
24. Smith AP. A holistic approach to the wellbeing of nurses: A combined effects approach. Advances in Social Science Research Journal, 2023; 9(1): 475-484. doi: 10.14738/assrj.91.11650
25. Smith AP. The well-being and health of university staff. World Journal of Pharmaceutical and Medical Research, 2023; 9(9): 7-12.
26. Smith AP. Diet, other health-related behaviours and the well-being of nurses. European Journal of Pharmaceutical and Medical Research, 2023; 10(9): 53-59.
27. Smith AP. The well-being and health of nurses. British Journal of Medical and Health Sciences, 2023; 5(8): 1435-1440.
28. Smith AP. Well-being and cognitive failures: A survey of university staff. European Journal of Pharmaceutical and Medical Research, 2023; 10(10): 119-123.
29. Smith AP. Well-being and cognitive failures: A survey of nurses. World Journal of Pharmaceutical and Medical Research, 2023; 9(11): 20-24.
30. Nelson K, Smith AP. Psychosocial work conditions as determinants of well-being in Jamaican police officers: the mediating role of perceived job stress and job satisfaction. Behavioral Sciences, 2024; 14: 1. doi: 10.3390/bs14010001
31. Williams G, Pendlebury H, Thomas K, Smith A. The Student Well-being Process Questionnaire (Student WPQ). Psychology, 2017; 8: 1748-1761. doi: 10.4236/psych.2017.811115.
32. Williams GM, Smith AP. A longitudinal study of the well-being of students using the student well-being questionnaire (WPQ). Journal of Education, Society

- and Behavioral Science, 2018; 24(4): 1-6. doi: 10.9734/JESBS/2018/40105
33. Williams GM, Smith AP. Diagnostic validity of the anxiety and depression questions from the Well-being Process Questionnaire. *Journal of Clinical and Translational Research*, 2018; 4(2): 101-104. doi: 10.18053/jctres.04.201802.001
 34. Smith AP, Smith HN, Jelley T. Studying Away Strategies: Well-being and Quality of University Life of International Students in the UK *Journal of Education, Society and Behavioural Science*, 2018; 26(4): 1-14. doi: 10.9734/JESBS/2018/43377
 35. Omosehin O, Smith AP. Adding new variables to the Well-being Process Questionnaire (WPQ) – Further studies of Workers and Students. *Journal of Education, Society and Behavioral Science*, 2019; 28(3): 1-19. doi: 10.9734/JESBS/2018/45535
 36. Bowen L, Smith AP. Drive better, feel better: predicting well-being and driving behaviour in undergraduate psychology students. *Advances in Social Science Research Journal*, 2019; 6(2): 302-318. doi:10.14738/assrj.62.6221.
 37. Omosehin O, Smith AP. Nationality, Ethnicity and Well-being. *Open Journal of Social Sciences*, 2019; 7: 133-142. doi.org/10.4236/jss.2019.75011
 38. Williams G, Pendlebury H, Thomas K, Smith A. The Student Well-being Process Questionnaire (Student WPQ). *Psychology*, 2017; 8: 1748-1761. doi: 10.4236/psych.2017.811115.
 39. Williams GM, Smith AP. A longitudinal study of the well-being of students using the student well-being questionnaire (WPQ). *Journal of Education, Society and Behavioral Science*, 2018; 24(4): 1-6. doi: 10.9734/JESBS/2018/40105
 40. Williams GM, Smith AP. Diagnostic validity of the anxiety and depression questions from the Well-being Process Questionnaire. *Journal of Clinical and Translational Research*, 2018; 4(2): 101-104. doi: 10.18053/jctres.04.201802.001
 41. Smith AP, Smith HN, Jelley T. Studying Away Strategies: Well-being and Quality of University Life of International Students in the UK *Journal of Education, Society and Behavioural Science*, 2018; 26(4): 1-14. doi: 10.9734/JESBS/2018/43377
 42. Omosehin O, Smith AP. Adding new variables to the Well-being Process Questionnaire (WPQ) – Further studies of Workers and Students. *Journal of Education, Society and Behavioral Science*, 2019; 28(3): 1-19. doi: 10.9734/JESBS/2018/45535
 43. Bowen L, Smith AP. Drive better, feel better: predicting well-being and driving behaviour in undergraduate psychology students. *Advances in Social Science Research Journal*, 2019; 6(2): 302-318. doi:10.14738/assrj.62.6221.
 44. Alharbi E, Smith AP. Studying-away strategies: A three-wave longitudinal study of the well-being of international students in the United Kingdom. *The European Educational Researcher*, 2019; 2(1): 59-77. doi:10.31757/euer.215
 45. Nor NIZ, Smith AP. Psychosocial Characteristics, Training Attitudes and Well-being of Students: A Longitudinal Study. *Journal of Education, Society and Behavioral Science*, 2019; 29(1): 1-26. doi: 10.9734/JESBS/2019/v29i130100
 46. Omosehin O, Smith AP. Nationality, Ethnicity and Well-being. *Open Journal of Social Sciences*, 2019; 7: 133-142. doi.org/10.4236/jss.2019.75011
 47. Howells K, Smith AP. Daytime sleepiness and the well-being and academic attainment of university students. *OBM Neurobiology*, 2019; 3(3): 1-18. doi:10.21926/obm.Neurobiol.1903032
 48. Smith AP, Firman KL. The microstructure of the student Well-being Process Questionnaire. *Journal of Education, Society and Behavioural Science*, 2020; 33(1): 76-83. /doi.org/10.9734/jesbs/2020/v33i130196
 49. Alheneidi H, Smith AP. Effects of internet use on Well-being and academic attainment of students starting university. *International Journal of Humanities Social Sciences and Education (IJHSSE)*, 2020; 7(5): 20-34 doi.org/10.20431/2349-0381.0705003
 50. Smith AP. A single-item measure of student stressors and its association with well-being. *World Journal of Pharmaceutical and Medical Research*, 2024.