



The Well-being of Students in a Welsh Secondary School Before and After a COVID-19 Lockdown

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Authors' contributions

This work was carried out as a collaboration between both authors. Author APS designed the study, wrote the protocol and the online survey. He also conducted the statistical analysis and wrote the first draft of the manuscript. Author AJ designed the study, translated the questionnaires and managed the project. Both authors' read and approved the final manuscript.

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ABSTRACT

Background: There has been considerable research on the well-being of secondary school students, most of which focuses on health-related behaviour or mental health issues. The well-being process model provides a framework that examines predictors of positive and negative well-being outcomes. The model has been validated in many studies of workers and university students. The present study examined the model's applicability to secondary school students whose education is conducted through the medium of the Welsh language. COVID-19 has disrupted education and well-being, and the present study presents profiles of well-being before and after the first COVID-19 lockdown in Wales.

Aims: The first aim was to examine the applicability of the well-being process model to secondary school students. A second aim was to study students where teaching was in the Welsh language. Finally, the research examined the impact of the COVID-19 lockdown and identified predictors of current well-being after lockdown and the long term implications of COVID-19.

Methodology: The research was carried out with the informed consent of the volunteers and approved by the School of Psychology, Cardiff University ethics committee. The participants were 214 students (111 males), and they represented each year group. An online survey was carried out, and the pre-COVID-19 associations between the well-being process predictor variables and outcomes were examined using regression analyses. Predictors of current and long-term well-being post-lockdown were also examined.

Results: The data relating to the pre-COVID 19 periods confirmed that positive well-being was predicted by high scores for psychological capital and social support. Daytime sleepiness was negatively associated with positive well-being. Stress at school was predicted by high student stressors, negative coping, social support and low psychological capital scores. Post-lockdown well-being was predicted by psychological capital and negatively associated with academic stress and fear of infection, and the stress of isolation. The longer-term negative impact of COVID-19 was predicted by problem-focused coping, fear of infection, and social isolation.

Conclusion: The results confirmed the applicability of the well-being process model to Welsh secondary school students. Lockdown during COVID-19 affected well-being, with the risk of infection and the stress of isolation and academic stress being the major negative influences.

Keywords: Secondary school students; wellbeing process; COVID-19; welsh secondary school; lockdown.

1. INTRODUCTION

1.1 The Welsh Secondary School Well-being Project

This paper is the second from a research project on the well-being of stakeholders in a Welsh secondary school, where teaching is carried out in the medium of Welsh. It is suggested that research on the well-being in schools should involve all stakeholders, namely staff, students and parents. The first paper from this project [1] reported teachers' well-being levels before and after the first COVID-19 lockdown. The results showed that thirty-six per cent of the sample reported high stress levels, but clinically significant anxiety and depression levels were low (7.2% anxiety; 4.4% depression). Positive well-being was predicted by high scores for psychological capital, social support, positive coping and low scores for negative work characteristics. High negative work characteristics and negative coping, and low psychological capital scores predicted negative well-being. Current and long term COVID-19-related well-being was predicted by fear of infection and the stress of isolation. The results confirmed the applicability of the well-being process model to Welsh secondary school staff. Lockdown during COVID-19 affected well-being, with the risk of infection and the stress of isolation being the major influences.

1.2 The Wellbeing of Secondary School Students

A literature search using the PubMed search engine found over 2,000 articles on the well-being of secondary school children. These papers cover diverse topics, including health promotion and factors related to mental health issues. There are relatively few articles (N = 17) on the subjective well-being of this age group. Again, these papers cover health promotion [2], sleep [3], school culture [4], school satisfaction [5], personality [6] and conceptualization of well-being [7].

The present study aimed to use a more holistic conceptualization of well-being, described in the next section.

1.3 The Well-being Process Model

The well-being process model used here was based on the Demands-Resources-Individual Effects (DRIVE) model [8]. The DRIVE model examined associations between negative outcomes, such as anxiety and depression, job resources, job demands, and coping styles. Research [9,10] showed that demands, resources and individual effects directly affected mental health outcomes but did not interact. Positive outcomes such as happiness, positive affect and job satisfaction were then included in the model [11,12]. Individual differences also included self-efficacy, self-esteem and optimism (Psychological Capital). Health and safety

outcomes (absenteeism, presenteeism and work efficiency) were also added. This research led to the Wellbeing Process Questionnaire [13,14,15], which has been used with nurses [16], university staff [17] and general worker samples [18]. Direct effects of predictor variables have been obtained, with little evidence of moderation.

The well-being process questionnaire has also been extensively used with university students [19–36]. The results have generally confirmed predictions from the model and shown that new variables can be added. These have included daytime sleepiness, internet use, and mental fatigue. Other research has shown that the well-being process applies to samples from Kazakhstan [37], Kuwait [38] and China [39].

1.4 The Present Study: Pre-COVID-19

The Wellbeing Process Questionnaire was used to investigate the well-being of secondary pupils in a Welsh-medium school. The present study is the first to use this approach to investigate secondary school students and use the Welsh version of the student WPQ [40]. The first part of the survey examined well-being before the first COVID-19 lockdown, the aim being to examine the applicability of the Wellbeing Process Model for Welsh secondary school pupils. It was predicted that positive school characteristics, psychological capital and problem-focused coping and seeking support (positive coping) would be correlated with happiness, positive affect, and life satisfaction (positive well-being). Academic stressors and wishful thinking, self-blame, and avoidance (negative coping) were predicted to be associated with academic stress.

The present survey also included additional variables shown in recent research [41,42] to add to the model's predictive power (Daytime sleepiness; Big 5 personality factors; perceiving stress as a challenge; perceiving stress as a threat; flow and work-life balance). Additional outcomes, namely general health, academic efficiency, and the extent to which the person was flourishing, were also included in the survey.

1.5 The Present Study: Post Covid Lockdown

There has been extensive research on Covid-19 and secondary school students, with a Pubmed search revealing nearly a thousand articles. When one focuses on well-being, there are nearly 100 papers on this age group. The

research has been described in several review articles [42-48], and the research can be summarized as follows. The Pandemic led to most schools closing, cancelled lessons, and a move to home-based or online learning. These changes disrupted the students' lives and had the potential to endanger mental health [43]. Well-being was also reduced because of fears of infection and social isolation [44]. Child and adolescent mental health services were generally deficient in preventing and managing mental health issues [45]. The impact of the Pandemic on the economic and social well-being of children cannot be ignored, and in some countries may include food insecurity and care of ill family members [46]. Indeed, it was only after the first wave of the Pandemic that knowledge has been consolidated to address the development and delivery of essential services for the well-being of children [47]. A systematic review of Covid-19 and children's health-related quality of life (HRQoL) identified six relevant studies, including 3177 children or adolescents [48]. The results from the review were varied, although the general trend was for Covid-19 to have a negative impact on HRQoL. The final review [49] examined a more comprehensive range of outcomes. Increased anxiety, depression, sleep disturbance, and loss of appetite were the most common problems and impairments in social interactions.

The present study examined the experience of the secondary students during the lockdown, with interest being focused on changes in well-being. The current state of well-being immediately post-lockdown was examined, as were perceptions of the long-term effects of Covid on well-being. Analyses were also conducted to determine whether their well-being before the lockdown predicted their response to it.

2. METHODOLOGY

The study took place at the end of the first UK lockdown in July 2020. An online survey methodology was used, with the questionnaire being delivered by the Qualtrics platform. The research was carried out with the informed consent of the participants and the approval of the Ethics Committee, School of Psychology, Cardiff University.

2.1 Participants

The participants were students at a Welsh-medium secondary school in South Wales. A

convenience sample was recruited during IT classes. All recruited students participated in the survey. Previous research has shown that a sample size of 100 is required to demonstrate the effects of the established predictors. Two hundred and fourteen students (111males) completed the survey. The aim was to have groups from different age ranges, and the frequencies in each age category were:

1. 11-12 years: 24.7%
2. 13-14 years: 26.3%
3. 15-16 years: 25.1%
4. 17-18 years: 23.9%

2.2 Measures

The survey included a Welsh translation of parts of the Wellbeing Process Questionnaire, and the first group of independent variables were the critical components of the well-being process model:

- Psychological capital (self-esteem, self-efficacy, and optimism)
- Student stressors (e.g. time pressure)
- Negative coping styles (Wishful thinking; Self-Blame; Avoidance)
- Positive coping styles (Problem-focused coping; seeking support)
- Social support

The other independent variables were the new variables included in the model:

- Daytime sleepiness
- Big 5 Personality Factors
- Perceiving stress as a challenge
- Perceiving stress as a threat
- Flow
- Work-life balance

The dependent variables were:

- Positive well-being outcomes (e.g. happiness, job satisfaction, positive affect)
- Flourishing
- Perceived stress at school
- General physical health
- Academic efficiency

The survey also included the Smith COVID-19 Questionnaire [50], which collected information on health status, perceived risk of infection, hygiene, communication about COVID-19, and

current and potential long-term stress and well-being. Again, this was translated into Welsh.

The Welsh versions were translated by the second author (first language Welsh) and checked by the Welsh Language Unit of the school.

The data from the online survey was transferred to the statistical package (IBM SPSS version 25) for analysis.

3. RESULTS

Sections 3.1 and 3.2 of the results cover the pre-COVID period. Regressions were carried out using the ENTER method in SPSS to determine significant predictors of the outcomes.

3.1 Pre-COVID 19: Well-being

Positive well-being was predicted by psychological capital, social support and negatively by sleepiness. These effects confirm previous findings and are shown in Table 1. Flourishing, another aspect of well-being, was positively associated with psychological capital, extraversion, a stable personality, and student stressors. These results are shown in Table 2.

3.2 Pre-COVID 19: Stress at School

Stress at school was predicted by negative coping, social support and negatively by psychological capital. These results are shown in Table 3. The unusual finding was that social support was positively correlated with stress, whereas previous research has usually found a negative association between these variables. One possible interpretation of this result is that the school students conceptualized social support in terms of help when there are problems. This view would mean that those with more significant problems at school may get greater assistance.

3.3 Pre-COVID 19: Physical Health

Good physical health was associated with psychological capital and extraversion (see Table 4).

3.4 Pre-COVID 19: Efficiency

The efficiency of academic work was positively associated with flow and negatively with student stressors and life outside of school interfering with work (see Table 5).

Overall, these results show that the well-being process model is applicable for Welsh secondary school students but that the new variables often added relatively little to the established predictors and outcomes.

3.5 Post COVID-19 Lockdown

73.5% of the sample were uninfected, with 9.9% having a current illness, 10.5% recovering from the illness, and 6.2% recovering from an illness. 9.1% had a member of their immediate family who had been ill with COVID-19, 4.2% had friends who had been ill, and 24.4% knew of others (e.g. neighbours) who had been ill.

Factor analysis was carried out on the questions dealing with the risk of infection, stress due to risk of infection and social isolation, compliance with hygiene and social distancing, and communication about COVID-19. A varimax rotation was used, and a three-factor solution

was obtained, accounting for 77.9% of the variance. The first factor was the risk of infection and stress due to social isolation and risk of infection (Cronbach alpha: 0.73). Compliance with hygiene (e.g. hand washing) and social isolation (Cronbach alpha: 0.70) formed a second factor. The last factor covered perceptions of the clarity and extent of communication about COVID-19 (Cronbach alpha: 0.70).

Post-lockdown well-being was positively associated with psychological capital and negatively associated with academic stress and stress from the risk of infection and social isolation (see Table 6).

The long-term negative impact of COVID 19 was predicted by problem-focused coping and stress from the risk of infection and social isolation (see Table 7).

Table 1. Significant predictors of positive well-being

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error			
1 (Constant)	34.243	4.715		7.262	.000
Social support	.493	.108	.275	4.551	.000
Psychological capital	1.190	.160	.468	7.445	.000
Sleepiness	-1.276	.307	-.226	-4.152	.000

Table 2. Predictors of flourishing

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error			
1 (Constant)	2.497	.690		3.621	.000
Psychological Capital	.186	.024	.529	7.712	.000
Extraversion	.135	.048	.172	2.808	.006
Stable Personality	.120	.054	.139	2.215	.028
Stressors	-.036	.013	-.169	-2.857	.005

Table 3. Predictors of stress at school

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error			
1 (Constant)	2.612	.930		2.810	.006
Psychological Capital	-.100	.033	-.241	-3.066	.003
Negative Coping	.210	.029	.497	7.183	.000
Social support	.063	.022	.220	2.836	.005

Table 4. Predictors of general health

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.530	1.226		2.063	.041
	Extraversion	.395	.143	.216	2.757	.007
	Psychological Capital	.169	.065	.204	2.615	.010

Table 5. Predictors of academic efficiency

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.070	1.323		2.321	.022
	Stressors	-.043	.021	-.196	-2.025	.045
	Flow	.267	.102	.229	2.611	.010
	Life interferes with school	-.178	.081	-.212	-2.192	.030

Table 6. Predictors of post-lockdown well-being

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.208	1.572		.768	.444
	Psychological Capital	.132	.048	.327	2.751	.007
	Risk of infection and stress of isolation	-.625	.206	-.276	-3.041	.003
	Academic Stress	-.223	.103	-.220	-2.171	.032

Table 7. Predictors of the long-term negative impact of COVID-19

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.946	2.031		1.450	.150
	Problem focused coping	.162	.070	.259	2.303	.023
	Risk of infection and stress of isolation	.633	.265	.242	2.392	.018

4. DISCUSSION

There has been considerable research on health-related behaviours and mental health problems of secondary students. However, few studies have examined subjective well-being, and the prior research has not measured established predictors of negative and positive well-being outcomes. The well-being process model has been validated in several occupations and university student samples. The results from the present study demonstrated the applicability of

the approach to secondary school students. Previous research that has used the well-being process model has examined English speakers. Recent research shows that similar results are found when the questionnaire is translated into other languages. This finding was confirmed in the present, which is the first research to use the Welsh version of the student WPQ.

The research reported here also considered some new predictors and outcomes which have been shown to add to the well-being process

model in recent research. Daytime sleepiness was shown to reduce positive well-being. Flourishing, the extent to which they felt they were successful, feeling that life is going well, and having a sense of belonging, was associated with the established predictors of positive well-being (psychological capital and few student stressors) and also with the personality dimensions of extraversion and stable personality. The established factors predicted stress at school and showed an unusual result, namely a positive association with social support. This finding may reflect students considering support as something that is given in problematic situations. Physical health was a new outcome considered in the context of the well-being process model. This outcome was predicted by psychological capital and extraversion. Finally, few stressors predicted academic efficiency, life not interfering with school, and by flow, the extent to which they felt immersed in their academic work and have total involvement and engagement in their studies.

The present research also addressed the effects of the first UK lockdown. The COVID-19 questionnaire examined experiences during the lockdown and was shown to have three factors reflecting (1) risk of infection and isolation; (2) hygiene and social distancing; and (3) communication about COVID-19. The outcomes were the present state of well-being after lockdown and their perception of the long-term impact of COVID-19. Post-lockdown well-being was predicted by psychological capital, academic stress and the risk of infection and stress of isolation. The negative long-term impact of COVID-19 was predicted by problem-focused coping, the perceived risk of infection, and the adverse effects of isolation. These predictors are different from those reported by the teachers, where predictors of well-being before lockdown had little effect on post-lockdown outcomes.

There were some limitations with the study. First, the sample size was relatively small, and further research should examine whether the results generalize to other schools. While the WPQ is now well established, the COVID-19 questionnaire is new and should be modified to cover other COVID-19 related issues. Education during COVID-19 involved more distance learning, and the impact on well-being should be evaluated [51]. Problematic internet use and loneliness have also been significant problems during lockdown [52] and should be investigated further. There has also been economic

uncertainty during lockdown, and the impact of this and homeschooling on parents should be investigated.

5. CONCLUSION

The study reported here showed that the well-being process model applies to secondary school students taught using the medium of Welsh. The addition of new variables to the model showed some novel results. Well-being following COVID-19 lockdown was related to the perceived risk of infection and stress during the lockdown, academic stress and psychological capital. These results need to be extended in further research incorporating significant factors identified in other research on the effects of the COVID-19 Pandemic.

CONSENT

The informed consent of the participants. Anonymous data were collected at the end of the first UK lockdown in July 2020 using the Qualtrics platform for online surveys.

ETHICAL APPROVAL

The research described here was carried out with the approval of the School of Psychology, Cardiff University, Ethics Committee.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. Smith AP, James A. 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. DOI: 10.9734/JESBS/2021/v34i430319
2. Schmidt SK, Reinboth MS, Resaland GK, Bratland-Sanda S. Changes in physical activity, physical fitness and well-being following a school-based health promotion program in a Norwegian region with a poor public health profile: A non-randomized controlled study in early adolescents. *International Journal of Environmental Research and Public Health*. 2020;17(3). DOI: 10.3390/ijerph17030896
3. Lyall LM, Sangha N, Wyse C, Hindle E, Haughton D, Campbell K, Brown J, Moore

- L, Simpson SA, Inchley JC, Smith DJ. Accelerometry-assessed sleep duration and timing in late childhood and adolescence in Scottish schoolchildren: A feasibility study. *PLoS One*. 2020;15(12):e0242080. DOI: 10.1371/journal.pone.0242080.
4. Moore GF, Littlecott HJ, Evans R, Murphy S, Hewitt G, Fletcher A. School composition, school culture and socioeconomic inequalities in young people's health: Multi-level analysis of the Health Behaviour in School-aged Children (HSC) survey in Wales. *Br Educ Res J*. 2017;43(2):310-329. DOI:10.1002/berj.3265
5. Katja R, Päivi AK, Marja-Terttu T, Pekka L. Relationships among adolescent subjective well-being, health behavior, and school satisfaction. *J Sch Health*. 2002;72(6):243-9. DOI: 10.1111/j.1746-1561.2002.tb07337.x.
6. Prado Gascó V, Villanueva Badenes L, Górriz Plumed A. Trait emotional intelligence and subjective well-being in adolescents: The moderating role of feelings. *Psicothema*. 2018;;30(3):310-315. DOI: 10.7334/psicothema2017.232.
7. Konu A, Rimpelä M. Well-being in schools: A conceptual model. *Health Promot Int*. 2002;17(1):79-87. DOI: 10.1093/heapro/17.1.79.
8. Mark GM, Smith AP. Stress models: A review and suggested new direction. In J. Houdmont & S. Leka (Eds.), *Occupational health psychology: European perspectives on research, education and practice* Nottingham: Nottingham University Press. 2008;111-144.
9. Mark G, Smith, A.P. Effects of occupational stress, job characteristics, coping and attributional style on the mental health and job satisfaction of university employees. *Anxiety, Stress and Coping*. 2011;25:63-78. DOI: 10.1080/10615806.2010.548088
10. Mark G, Smith AP. Occupational stress, job characteristics, coping and mental health of nurses. *British Journal of Health Psychology*. 2012;17:505-521. DOI: 10.1111/j.2044-8287.2011.02051.x
11. Smith AP, Wadsworth EJK, Chaplin K, Allen PH, Mark G. The relationship between work/well-being and improved health and well-being. Leicester: IOSH; 2011.
12. Wadsworth EJK, Chaplin K, Allen PH, Smith AP. What is a good job? Current Perspectives on Work and Improved Health and Well-being. *The Open Health & Safety Journal*. 2010;2:9-15. DOI: org/10.2174/187621660100201000
13. Williams GM, Smith AP. 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: org/10.4236/psych.2016.76078
14. Williams GM, Smith AP. A holistic approach to stress and well-being. Part 6: The Wellbeing Process Questionnaire (WPQ Short Form). *Occupational Health (At Work)*. 2012;9(1):29-31.
15. Williams GM, Smith AP. Diagnostic validity of the anxiety and depression questions from the Well-Being Process Questionnaire. *Journal of Clinical and Translational Research*. 2018b;10. DOI: org/10.18053/jctres.04.201802.001
16. Williams G, Pendlebury H, Smith AP. Stress and well-being of nurses: An Investigation using the Demands-Resources- Individual Effects (DRIVE) model and Well-being Process Questionnaire (WPQ). *Jacobs Journal of Depression and Anxiety*. 2017;1: 1-8. Available: <https://orca.cardiff.ac.uk/107636>
17. 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. DOI: org/10.4236/psych.2017.812124
18. Omosehin O, Smith AP. Nationality, ethnicity and well-being. *Open Journal of Social Sciences*. 2019;7:133-142. Available: www.scirp.org/journal/jss ISSN Online: 2327-5960 ISSN Print: 2327-5952 Available: <https://DOI.org/10.4236/jss.2019.75011>
19. Williams G, Pendlebury H, Thomas K, Smith AP. The student well-being process questionnaire (Student WPQ). *Psychology*. 2017;8:1748-1761. DOI: org/10.4236/psych.2017.811115
20. Smith AP. Perceptions of noise exposure, well-being and academic attainment of university students. *ICBEN*; 2017.

- Available:www.icben.org/2017/ICBEN%202017%20Papers/SubjectArea04_Smith_P30_2489.pdf
21. Smith AP, Firman KL. Associations between the well-being process and academic outcomes. *Journal of Education, Society and Behavioural Science*. 2019;32(4):1-10. DOI:10.9734/JESBS/2019/v32i430185
 22. Smith AP, Firman, K.L. 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](https://doi.org/10.9734/jesbs/2020/v33i130196)
 23. Galvin J, Richards G, Smith AP. A longitudinal cohort study investigating inadequate preparation and death and dying in nursing students: Implications for the aftermath of the COVID-19 Pandemic: A longitudinal cohort study. *Front. Psychol*. 2020;11:2206. DOI: 10.3389/fpsyg.2020.02206
 24. Galvin J, Smith AP. Stress in trainee mental health professionals: A multi-dimensional comparison study. *British Journal of Education, Society & Behavioural Science*. 2015;9:161-175. Available:<http://www.sciencedomain.org/issue.php?iid=1174&id=2>
 25. Smith AP. Cognitive fatigue and the well-being and academic attainment of university students. *Journal of Education, Society and Behavioral Science*. 2018;24(2):1-12. DOI: 10.9734/JESBS/2018/39529
 26. Smith AP. Smoking, well-being and academic attainment. *Journal of Health and Medical Sciences* 2019;2(3):279-284. DOI: 10.31014/aior.1994.02.03.48
 27. Smith AP. Smoking, alcohol, well-being and academic attainment. *Journal of Health and Medical Sciences*. 2019;2(3):337-343. DOI: 10.31014/aior.1994.02.03.55
 28. Smith AP, Izadvar S. Effects of the internet, other media and study time on well-being and academic attainment of university students. *International Journal of Education Humanities and Social Science*. 2020;3(2):1-13. Available:<http://ijehss.com/view2.php?issue=2>
 29. 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. Available:[http://dx.Doi.org/10.20431/2349-0381.0705003](http://dx.doi.org/10.20431/2349-0381.0705003) www.arcjournals.org
 30. Alheneidi H, Smith AP. Problematic internet use and well-being: A study of Kuwait and UK students. *International Journal of Humanities Social Sciences and Education (IJHSSE)*. 2020;3(4):1-14. Available:<http://ijehss.com/link2.php?id=134>
 31. 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
 32. 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
 33. 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.
 34. 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
 35. Smith AP. Student workload, wellbeing and academic attainment. In L. Longo and M.C. Leva (eds) *H-WORKLOAD. Communications in Computer and Information Science* 1107. Springer Nature Switzerland AG; 2019. Available:[https://DOI.org/10.1007/978-3-030-32423-0_3](https://doi.org/10.1007/978-3-030-32423-0_3)
 36. Alharbi E, Smith AP. Studying away and well-being: A comparison study between international and home students in the UK. *International Education Studies*. 2019;12(6):1-16. DOI:10.5539/ies.v12n6p1
 37. Umurkulova MM, Sabirova RS, Slanbekova GK, Kabakova MP, Kalymbetova EK, Adaptation of the student well-being process questionnaire for russian-speaking students of Kazakhstan. *Int. J. School Educ. Psychol*. 2021; 1–12. DOI: 10.1080/21683603.2020.1859420.
 38. Alheneidi H. The influence of information overload and problematic internet use on

- adults wellbeing. PhD. Thesis, Cardiff University, Cardiff, UK, Unpublished; 2019. Available:<http://orca.cf.ac.uk/121873/1/2019alheneidiphd.pdf> (accessed on 05/08/21).
39. Fan J, Smith AP. Information overload, well-being and COVID-19: A survey in China. *Behav. Sci.* 2021;11:62. <https://DOI.org/10.3390/bs11050062>
40. The Welsh version of student WPQ. Available:https://www.researchgate.net/publication/353121303_Welsh_version_of_the_Wellbeing_Process_Questionnaire_for_Secondary_School_Students DOI: 10.13140/RG.2.2.21773.87524
41. Zhang J, Smith AP. (submitted). A new perspective on the effects of different types of job demands on the well-being of a sample of Chinese workers.
42. Smith AP. (submitted). A combined effects approach to the demands-resources-individual effects (DRIVE) model of well-being.
43. Shah K, Mann S, Singh R, Bangar R, Kulkarni R. impact of COVID-19 on the mental health of children and adolescents. *Cureus.* 2020;12(8):e10051. DOI: 10.7759/cureus.10051.
44. Imran N, Zeshan M, Pervaiz Z. Mental health considerations for children & adolescents in COVID-19 Pandemic. *Pak J Med Sci.* 2020;36(COVID19-S4):S67-S72. DOI: 10.12669/pjms.36.COVID19-S4.2759.
45. Franic T, Dodig-Curkovic K. Covid-19, child and adolescent mental health - Croatian (in)experience. *Ir J Psychol Med.* 2020;37(3):214-217. DOI: 10.1017/ipm.2020.55.
46. Hendricks CL, Green RJ. COVID-19 in children: Should we be worried? *S Afr Med J.* 2020;110(9): 864-868. DOI: 10.7196/SAMJ.2020.v110i9.15023.
47. Bogiatzopoulou A, Mayberry H, Hawcutt DB, Whittaker E, Munro A, Roland D, Simba J, Gale C, Felsenstein S, Abrams E, Jones CB, Lewins I, Rodriguez-Martinez CR, Fernandes RM, Stilwell PA, Swann O, Bhopal S, Sinha I, Harwood R. COVID-19 in children: what did we learn from the first wave? *Paediatr Child Health (Oxford).* 2020;30(12):438-443. DOI: 10.1016/j.paed.2020.09.005.
48. Nobari H, Fashi M, Eskandari A, Villafaina S, Murillo-Garcia Á, Pérez-Gómez J. Effect of COVID-19 on health-related quality of life in adolescents and children: A systematic review. *Int J Environ Res Public Health.* 2021; 18(9):4563. DOI: 10.3390/ijerph18094563.
49. Meherali S, Punjani N, Louie-Poon S, Abdul Rahim K, Das JK, Salam RA, Lassi ZS. Mental health of children and adolescents amidst COVID-19 and past pandemics: A rapid systematic review. *Int J Environ Res Public Health.* 2021; 18(7):3432. DOI: 10.3390/ijerph18073432.
50. Smith AP. The Smith COVID-19 Questionnaire. Research Gate; 2020. DOI: 10.13140/RG.2.2.16949.29925
51. AlSumait L, AlHeneidi H, Smith AP. Exploring the effects of loneliness, internet addiction on adults' well-being during Covid-19 quarantine. In *Proceedings of 2021 Int. Conference on Bioengineering and Biomedical Signal and Image Processing. Workshop COVID-19.*
52. Alheneidi H, AlSumait L, AlSumait D, Smith AP. Loneliness and problematic internet use during COVID-19 lock-down. *Behav. Sci.* 2021;11:5. Available:<https://DOI.org/10.3390/bs11010005>

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