ejpmr, 2025, 12(2), 91-95

SJIF Impact Factor 7.065

EUROPEAN JOURNAL OF PHARMACEUTICAL AND MEDICAL RESEARCH

www.ejpmr.com

Research Article

ISSN 2394-3211

EJPMR

THE MICROSTRUCTURE OF A SHORT MEASURE OF PSYCHOLOGICAL CAPITAL AND ITS ASSOCIATIONS WITH STUDENT WELL-BEING AND ACADEMIC OUTCOMES

Andrew P. Smith*

Centre for Occupational and Health Psychology, School of Psychology, Cardiff University, 70 Park Place, Cardiff CF10 3AT, UK.

***Corresponding Author: Dr. Andrew P. Smith**

Centre for Occupational and Health Psychology, School of Psychology, Cardiff University, 70 Park Place, Cardiff CF10 3AT, UK.

Article Received on 16/12/2024 **Article Revised on 06/01/2025** **Article Published on 27/01/2025**

ABSTRACT

Background: Psychological capital consists of optimism, self-esteem and self-efficacy. It is a significant component of well-being**.** The present study examined the microstructure of a three-item psychological capital scale. **Methods:** An online survey was carried out, including questions on well-being and factors related to well-being (social support, negative coping and stressors). The survey also included three items measuring psychological capital (self-esteem, optimism and self-efficacy). The survey was completed by one thousand two hundred and Ninety-three university students. Examination and coursework marks were available for the students, and their ratings of perceived work efficiency and course stress were recorded. **Results**: Factor analysis showed that the psychological capital items loaded on a single factor. Correlations showed that all the psychological capital items were significantly associated with well-being outcomes, course stress, and perceived work efficiency. Multivariate analyses, including the other established predictors of well-being, showed that significant associations with psychological capital were restricted to positive and negative well-being and course stress. **Conclusions:** The individual items from the psychological capital scale of the WPQ were correlated with well-being outcomes, course stress and perceived work efficiency. The three-item psychological capital scale from the Well-being Process Questionnaire consists of a single factor. When other established predictors of well-being and attainment were covaried, psychological capital was significantly positively associated with well-being and course stress.

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

INTRODUCTION

Psychological capital consists of features such as self-esteem, optimism and self-efficacy and is an essential component of approaches to well-being.[1] Well-being can be considered a process, and the Well-being Process Questionnaire [2, 3] was based on the Demands Resources Individual Effects (DRIVE) stress model.[4,5] The Well-being Process model was initially used with working samples[6-23] and then with students at university.[24-47] The DRIVE model included demands, support, control, and coping styles and aimed to predict mental health. The Well-Being Process Questionnaire (WPQ) also included psychological capital as a predictor and happiness, life satisfaction, and positive affect as outcomes. Recent research has replicated the effects of these established predictors and added new outcome variables, such as flourishing and physical health, and additional predictors, such as daytime sleepiness, workload, work-life balance and flow.

Optimism has been associated with life satisfaction and happiness.[48-50] Bandura[51] suggests that perceived self-inefficacy is a cause of avoidant behaviour and a significant source of anxiety. Self-esteem is an essential variable in depression, negative affect, and stress.[52] Optimism and self-esteem have also been suggested as potential buffers against negative well-being outcomes[52-55] and have been implicated in research on the well-being of teachers[56] and nurses.[53] Reviews of well-being measures have also supported optimism, self-efficacy, and self-esteem.[54] In their review of personality variables and their associations with well-being, Deneve and Cooper[57] conclude that the most crucial personality variables appear to be those related to healthy attributions. Although not explicitly mentioned in their review, self-esteem, optimism, and self-efficacy can theoretically represent positive attributions related to one's self, future, and abilities. Optimism, self-esteem, and self-efficacy measures were therefore also included in the WPQ.

The present study's first aim was to examine whether these psychological capital questions were independent or loaded on a single factor. A second aim was to investigate associations between these questions and well-being and attainment items. Finally, the analyses examined which associations between psychological capital and the outcomes remained significant when established predictors (social support, stressors, negative coping, and conscientiousness) were covaried.

Ethical committee approval
The Ethics Committee, School of Psychology, Cardiff University, approved the study, which was conducted with the participants' informed consent.

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) participated in the study.

Materials
The online survey contained questions about well-being and academic attainment. The psychological capital questions are shown below.

Psychological Capital
The original Student WPQ psychological capital measures covered optimism, self-esteem and self-efficacy.

The actual questions were
Optimism
In general, I feel optimistic about the future (for example, I usually expect the best, I expect more good things to happen to me than bad, and it's easy for me to relax)
Strongly Disagree 1 2 3 4 5 6 7 8 9 10 Strongly Agree

Self-esteem
Overall, I feel that I have positive self-esteem (for example, on the whole, I am satisfied with myself, I can do things as well as most other people, and I feel that I am a person of worth)
Strongly Disagree 1 2 3 4 5 6 7 8 9 10 Strongly Agree

Self-efficacy
I am confident in my ability to solve problems that I might face in life (for example, I can usually handle whatever comes my way, if I try hard enough, I can overcome difficult problems, I can stick to my aims and accomplish my goals)
Strongly Disagree 1 2 3 4 5 6 7 8 9 10 Strongly Agree

Well-being questions
The Student Well-Being Process Questionnaire (WPQ)[26] consisted of questions about the well-being predictors and well-being outcomes.

Academic Performance
The average coursework and examination marks and the Grade Point Average (GPA) were available, and ratings of perceived work efficiency and course stress were recorded.

Analysis strategy
A factor analysis was conducted to determine whether the three psychological capital questions were loaded on the same factor. Correlations were computed to examine the associations between the individual psychological capital questions and the well-being and attainment scores. A MANOVA was then conducted to investigate which outcome variables were significantly associated with psychological capital when the other established predictors of well-being were covaried.

RESULTS
Factor analysis revealed a single-factor solution accounting for 76.9% of the variance. The scale had a Cronbach alpha value of 0.85.

Table 1 shows the correlations between the psychological capital scores and the well-being and attainment measures. All the psychological capital questions were significantly associated with the outcomes ($p < 0.01$), except the correlations between the psychological capital measures and GPA.

Table 1: Correlations (Pearson r) between the psychological capital scores and well-being and attainment outcomes.

	Positive well-being	Negative well-being	Work efficiency	Course stress	GPA
Optimism	0.73	-0.63	0.21	-0.20	0.04
Self-esteem	0.71	-0.65	0.18	-0.20	0.05
Self-efficacy	0.58	-0.53	0.17	-0.19	0.00

A MANOVA was then carried out, including the total psychological capital variable and the established predictors of well-being, with the attainment and well-being variables as dependent variables. This analysis showed which associations with psychological capital remained significant when the other established predictors were covaried. The overall effect of psychological capital was significant (Wilks Lambda = 0.69 $p < 0.001$); all the established predictors (conscientiousness, stressors, social support, and negative coping) showed significant associations with the outcomes. Psychological capital was significantly associated with positive and negative well-being (both p's < 0.001) and course stress ($p < 0.005$) but not work

efficiency or GPA.

DISCUSSION

The Well-being process approach was developed from the DRIVE stress model. It included positive predictors, such as psychological capital, and positive outcomes, such as happiness, life satisfaction, and positive affect. Psychological capital has several components, such as optimism, self-esteem and self-efficacy. Previous studies have assumed that these variables can be summed to give a total psychological capital score, a significant predictor of well-being outcomes. The analyses reported here confirmed that the individual psychological capital items load on a single factor. In addition, these items were all significantly correlated with well-being outcomes, perceived course stress and work efficiency. They were not, however, associated with academic attainment (GPA). When other established predictors were included in the analyses, the results showed that psychological capital was significantly related to positive and negative well-being and course stress but not work efficiency or GPA. These results suggest that a single question could represent psychological capital, and a recent study confirms this.[58] This approach has also been applied to exposure to psychological stressors[46,59] and social support.[47,60]

CONCLUSION

Psychological capital covers concepts such as optimism, self-esteem and self-efficacy, which are essential components of well-being. The present study examined the microstructure of the three-item psychological capital scale from the well-being Process Questionnaire (WPQ). An online survey included questions on well-being and factors related to well-being (stressors, social support and negative coping). The survey also included three items measuring psychological capital (optimism, self-esteem, and self-efficacy). One thousand two hundred fifty-three university students completed the study. Examination and coursework marks were available for the students, and their ratings of perceived work efficiency and course stress were also recorded. Factor analysis showed that the psychological capital items loaded onto a single factor. Correlations showed that all the psychological capital items were significantly associated with the well-being outcomes, perceived work efficiency and course stress. Multivariate analyses, including other established predictors of well-being, showed that significant associations with psychological capital were restricted to positive and negative well-being and course stress. In summary, the individual psychological capital items from the WPQ were correlated with well-being outcomes, course stress and perceived work efficiency. The three-item psychological capital scale from the Well-being Process Questionnaire consisted of a single factor. When other established predictors of well-being and attainment were covaried, the total psychological capital score was significantly positively associated with well-being and course stress. Further studies can now use a single question covering the different components of psychological capital.[58]

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