



# The Microstructure of the Student Wellbeing Process Questionnaire

Andrew P. Smith<sup>1\*</sup> and Kirsty L. Firman<sup>1</sup>

<sup>1</sup>Centre for Occupational and Health Psychology, School of Psychology, Cardiff University, United Kingdom.

## Authors' contributions

This research was collaboration between both authors. Author APS designed the questionnaire, organized the online survey, planned the analysis and drafted the paper. Author KLF put together the database and helped with the analysis and reporting of the study. Both authors contributed to the final manuscript.

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## ABSTRACT

**Background:** The wellbeing process model formed the basis of questionnaires that can demonstrate which factors predict negative and positive wellbeing outcomes. The Student Wellbeing Process Questionnaire (Student WPQ) uses stressor, negative coping, psychological capital and social support scales to predict positive and negative wellbeing outcomes.

**Aims:** The usual method of scoring the WPQ has been to sum relevant questions in each scale. The aim of the present analyses was to investigate the microstructure of the WPQ and examine the profile of individual predictor and outcome items.

**Methodology:** The research was approved by the ethics committee, School of Psychology, Cardiff University, and carried out with the informed consent of the volunteers (1481 psychology undergraduates; 89.4% female; 49.7% year 1; mean age 19.5 years). An online survey was carried out, and a MANOVA was conducted to examine associations between the wellbeing process predictor variables and the wellbeing outcomes.

**Results:** A multivariate analysis of variance showed that the majority of individual predictors had significant overall effects. Some of the predictors (optimism; self-esteem, developmental challenges; time pressure; avoidance coping) had significant effects on all outcomes, which

\*Corresponding author: E-mail: [smithap@cardiff.ac.uk](mailto:smithap@cardiff.ac.uk);

explains the global effects of the positive personality and stressor composite variables. Negative coping variables had significant effects on all negative outcomes. Other variables had selective effects on specific outcome measures.

**Conclusion:** The independent variables from the student wellbeing questionnaire are good predictors of both positive and negative wellbeing outcomes. This is observed when either individual items or composite scores are used in the analysis.

*Keywords: Student wellbeing process questionnaire; student stressors; social support; psychological capital; coping; happiness; life satisfaction; stress; anxiety and depression.*

## 1. INTRODUCTION

### 1.1 The Student Wellbeing Process Questionnaire: The Theoretical Context

Wellbeing is difficult to define and involves many different factors. The “wellbeing process model” was a holistic approach to wellbeing and attempted to provide a theoretical framework that could lead to the development of a measuring instrument that could be useful in practice and policy. The initial approach was based on the Demands-Resources-Individual Effects (DRIVE) model, which was developed to advance research in occupational stress [1]. This model included job characteristics, perceived stress, personal characteristics such as coping styles and negative outcomes (e.g. anxiety and depression). The next version of the model [2,3] included positive factors such as psychological capital (self-esteem, self-efficacy and optimism), and positive appraisals (e.g. job satisfaction) and outcomes (e.g. positive affect and happiness). Positive outcomes form the basis of a wide number of approaches to subjective wellbeing. However, it is important to include both positive and negative aspects of wellbeing as they involve different CNS mechanisms.

The above model led to the development of a questionnaire that included both negative and positive job characteristics (e.g. control, support and demands), appraisals (life satisfaction and perceived stress), individual characteristics (e.g. negative coping and positive personality) and outcomes (happiness, anxiety and depression). The initial problem was that the wellbeing process model required measurement of many variables and that use of long scales led to a questionnaire that was very lengthy and not very acceptable to the respondents. In order to remove this problem, short scales were developed and these were found to be significantly correlated with the longer scales

from which they were derived. The Wellbeing Process Questionnaire (WPQ - [4-9] was developed using this approach. The questionnaires have been modified to use in research with students [10]. The Student WPQ has been shown to have good reliability and validity. It has been widely used in a number of cross-sectional studies, and also in longitudinal research which give a better indication of causal relationships [11].

### 1.2 Analysis of the Student Wellbeing Questionnaire

The usual method of analyzing the WPQ has been to derive scores from several variables to calculate a score that represents a general concept. For example, a student stressor score is derived which represents the sum of the exposure to the following stressors: challenges to development; time pressure; academic dissatisfaction; romantic problems; societal annoyances; social mistreatment; and friendship problems. The aim of the present analyses was to investigate the extent to which individual items predicted wellbeing outcomes. Items which were weak predictors, or outcomes which were not related to predictors, could then be removed in future versions of the questionnaire. The same was done with other established predictors. For example, another strong predictor of negative outcomes is having a negative coping style. The overall negative coping score included the following specific styles: self-blame; wishful thinking; and avoidance. Strong predictors of positive wellbeing are psychological capital (self-esteem, self-efficacy and optimism) and social support (esteem support; tangible support; and belonging support). The aim of the present analyses was to determine which individual components of the overall score predicted outcomes.

The outcome scores of the WPQ were also derived from several questions. For example, positive wellbeing included life satisfaction,

positive affect and happiness. The overall negative outcome score was the sum of perceived stress, negative affect and anxiety/depression. Again, the aim of the present analyses was to examine each component separately and assess the similarity or differences between them.

## 2. METHODOLOGY

### 2.1 Participants

One thousand four hundred and eighty one undergraduate psychology students (mean age: 19.5 years 10.6% male) participated in the study. They received course credits for completing the survey.

### 2.2 Measures

Data collection involved an online survey which was presented using Qualtrics software. The survey consisted of the Student WPQ [10], and the independent variables were components of the wellbeing process model:

- Positive personality (self-esteem, self-efficacy and optimism)
- Exposure to stressors
- Negative coping styles
- Social support

The dependent variables were:

- Positive wellbeing outcomes
- Negative wellbeing outcome

The actual questions are shown in Appendix 1, as are the scales. The data from the online survey was transferred to the statistical package for analysis.

## 3. RESULTS

Analysis was carried out using SPSS version 25. The independent variables were dichotomized and a multivariate analysis of variance carried out with the positive and negative wellbeing outcome scores as the dependent variables. The main findings are summarized below.

Only four variables did not have overall significant effects in the analysis: societal stressors; problems with friends; belonging support, and having people to discuss problems with. Examination of the individual variables showed that there were some variables that predicted all the positive and negative outcomes (avoidance coping; developmental challenges; time pressure; and optimism), others which predicted all positive outcomes but not negative (self-esteem and self-efficacy), and a third group that predicted all the negative outcomes but not the positive (wishful thinking; self-blame and social stressors). In addition, there were three variables that had more specific effects, only predicting one or two outcomes (academic challenges; romantic problems; and social support).

Composite variables were then created, excluding the variables which had no significant overall effects in the MANOVA. Regressions were then carried to examine the predictors of the total positive and negative outcomes. The analysis of the total positive outcome score showed that all the predictors were significant except for negative coping. These results are shown in Table 1.

Positive personality was the strongest predictor, with stressors and social support having smaller effects (in the opposite direction).

**Table 1. Regression results showing significant predictors of positive wellbeing**

Model		Unstandardized coefficients		Standardized coefficients	t	Sig.
		B	Std. error			
1	(Constant)	11.084	.490		22.621	.000
	Stressors	-.039	.009	-.078	-4.212	.000
	Social Support	.517	.113	.079	4.588	.000
	Negative Coping	-.026	.015	-.034	-1.818	.069
	Positive Personality	.492	.014	.701	36.340	.000

**Table 2. Regression results showing significant predictors of negative wellbeing**

Model		Unstandardized coefficients		Standardized coefficients	t	Sig.
		B	Std. error	Beta		
1	(Constant)	16.417	.809		20.284	.000
	Stressors	.143	.015	.201	9.391	.000
	Social Support	.097	.186	.010	.521	.602
	Negative Coping	.232	.024	.209	9.663	.000
	Positive Personality	-.460	.022	-.457	-20.587	.000

The analysis of the total negative wellbeing scores revealed that all of the predictors were significant except for social support. These results are shown in Table 2.

Again, positive personality had the greatest effect (a negative association), with stressors and negative coping having smaller positive associations.

#### 4. DISCUSSION

Previous research using the Student Wellbeing Process Questionnaire has based analyses on composite scores of predictors and outcomes. The established predictors have consistently been shown to be stressors, negative coping, positive personality and social support. Use of composite scores has been justified by the associations between the individual variables. In the present study, the analyses were based on individual items, and the results showed that only a few questions had no overall significant effects. Four individual items were significant predictors of all the individual positive and negative outcome variables. These items were largely from the stressors and positive personality categories. Other items from these categories also had significant effects for either all the positive outcomes or negative outcomes. Negative coping styles were also found to have significant effects on the negative outcome variables. This profile of results explains the regressions of composite variables, where positive personality was the strongest predictor of both positive and negative total scores, with stressors also influencing both outcomes but to a lesser extent, and negative coping and social support being significantly associated with one outcome but not the other. Overall, these results show that the majority of the independent variables in the student WPQ are reliable predictors that can be used either individually or as composite scores. The exclusion of individual

items that had little effect on the outcomes did not change the profile of effects obtained in the regressions using composite variables. These results confirm the findings obtained in earlier research using the student WPQ [4-9]. The main limitation of the study is that it only had one time point. Further research with a longitudinal design, and preferably an intervention, is required to establish causal mechanisms.

#### 5. CONCLUSION

A large scale survey using the Student WPQ produced a database that allowed a detailed analysis of the individual items. The analyses showed that the majority of the independent variables were good predictors and that they can be either used individually or as composite scores reflecting positive personality, stressors, negative coping and social support. The positive outcomes (happiness, positive affect and life satisfaction) all showed similar associations for the majority of predictors. The same was found for the negative outcomes (perceived stress, negative affect and anxiety/depression). Overall, this pattern of the results confirms the utility of the Student WPQ and suggests that it can be used in either its full or short form. Similar results have been obtained with other measures of wellbeing based on the wellbeing process model [12-19].

#### CONSENT AND ETHICAL APPROVAL

The research described in this paper was carried out with the informed consent of the participants and the approval of the School of Psychology, Cardiff University, Ethics Committee.

#### COMPETING INTERESTS

Authors have declared that no competing interests exist.

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## APPENDIX 1

### Questions used in the analyses

#### Positive Well-being

Please state how much you agree or disagree with the following statements:

Overall, I feel that I am satisfied with my life (for example: In most ways my life is close to my ideal, so far I have gotten the important things I want in life).

Disagree strongly 1 2 3 4 5 6 7 8 9 10 Agree strongly

On a scale of one to ten, how happy would you say you are in general?

Extremely unhappy 1 2 3 4 5 6 7 8 9 10 Extremely happy

Thinking about myself and how I normally feel, in general, I mostly experience positive feelings (for example: I feel alert, inspired, determined, attentive)

Disagree strongly 1 2 3 4 5 6 7 8 9 10 Agree strongly

#### Negative Well-being (sum of the following questions)

Please state how much you agree or disagree with the following statements:

On a scale of one to ten, how anxious would you say you are in general? (e.g. feeling tense or 'wound up', unable to relax, feelings of worry or panic)?

Not at all anxious 1 2 3 4 5 6 7 8 9 10 Extremely anxious

Overall, how stressful is your life?

Not at all stressful 1 2 3 4 5 6 7 8 9 10 Very Stressful

On a scale of one to ten, how depressed would you say you are in general? (e.g. feeling 'down', no longer looking forward to things or enjoying things that you used to)?

Not at all depressed 1 2 3 4 5 6 7 8 9 10 Extremely depressed

Thinking about myself and how I normally feel, in general, I mostly experience negative feelings (For example: I feel upset, hostile, ashamed, nervous).

Disagree strongly 1 2 3 4 5 6 7 8 9 10 Agree strongly

**Student Stressors (sum of the following questions)**

Please consider the following elements of student life and indicate overall to what extent they have been a part of your life over the past 6 months. Remember to use the examples as guidance rather than trying to consider each of them specifically:

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

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

Time pressures (e.g. too many things to do at once, interruptions of your school work, a lot of responsibilities).

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

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

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

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

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

Societal Annoyances (e.g. getting ripped off or cheated in the purchase of services, disliking fellow students).

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

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

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

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

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

**Social Support (sum of the following questions)**

Please state how much you agree or disagree with the following statements:

I feel that I have the social support I need (for example: There is someone who will listen to me when I need to talk, there is someone who will give me good advice, there is someone who shows me love and affection).

Disagree strongly 1 2 3 4 5 6 7 8 9 10 Agree strongly

There is a person or people in my life who would provide tangible support for me when I need it (for example: could lend me money or other things I need).

Strongly Disagree 1 2 3 4 5 6 7 8 9 10 Strongly Agree

There is a person or people in my life who would provide me with a sense of belonging (for example: I could find someone to go to a movie with me, I often get invited to do things with other people, I regularly hang out with friends).

Strongly Disagree 1 2 3 4 5 6 7 8 9 10 Strongly Agree

There is a person or people in my life with whom I would feel perfectly comfortable discussing any problems I might have (for example: difficulties with my social life, getting along with my parents).

Strongly Disagree 1 2 3 4 5 6 7 8 9 10 Strongly Agree

**Negative Coping (sum of the following questions)**

**Blame Self**

When I find myself in stressful situations, I blame myself (e.g. I criticize or lecture myself, I realise I brought the problem on myself).

Disagree strongly 1 2 3 4 5 6 7 8 9 10 Agree strongly

**Wishful Thinking**

When I find myself in stressful situations, I wish for things to improve (e.g. I hope a miracle will happen, I wish I could change things about myself or circumstances, I daydream about a better situation).

Disagree strongly 1 2 3 4 5 6 7 8 9 10 Agree strongly

**Avoidance**

When I find myself in stressful situations, I try to avoid the problem (e.g. I keep things to myself, I go on as if nothing has happened).

Disagree strongly 1 2 3 4 5 6 7 8 9 10 Agree strongly

**Positive Personality (Psychological Capital - (sum of the following questions)**

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, It's easy for me to relax).

Disagree strongly 1 2 3 4 5 6 7 8 9 10 Agree strongly

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).

Disagree strongly 1 2 3 4 5 6 7 8 9 10 Agree strongly

Overall, I feel that I have positive self-esteem (For example: On the whole I am satisfied with myself, I am able to do things as well as most other people, I feel that I am a person of worth).

Disagree strongly 1 2 3 4 5 6 7 8 9 10 Agree strongly

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