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Helen Askeil-Williams
Flinders University, Australia

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Chapter 16

Exploring Three Measures of Student Wellbeing

Grace Skrzypiec

Flinders University, Australia

Helen Askill-Williams

Flinders University, Australia

Phillip Slee

Flinders University, Australia

ABSTRACT

There has been limited consensus on how young people's wellbeing should be measured (O'Hare & Gutierrez, 2012). One approach, suggested by Lau and Bradshaw (2010), is that people's subjective judgments capture the essence of wellbeing. Following from Lau and Bradshaw's approach, in this chapter the authors report on a study that sought young adolescents' subjective judgments using three different wellbeing instruments. A purposive sample of 1930 South Australian middle-school students aged 11-16 completed three different measures of wellbeing. Analysis of these instruments indicated that they all require some modification to make them better suited as measures of the subjective wellbeing of young people in the middle-school years. Using the three scales together, the study indicated that the majority (55%) of students were flourishing, a large proportion (39%) had moderate mental health, and a small proportion (about 6%) were languishing.

INTRODUCTION

Wellbeing and mental health are of international concern (Beresford, 2012). Authorities interested in improving outcomes for young people are focusing on gathering information about children's wellbeing and mental health, as well as other indicators, such as physical health and develop-

ment. For example, in order to gauge the progress of Australian children, the Australian Institute of Health and Welfare (AIHW, 2012) studied children's health, development and wellbeing using a series of indicators (e.g., infant mortality rates; the rate of children who were the subject of child protection substantiation in a given year; attendance rate of children at primary school,

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etc.) to determine how young people were faring. The use of population-based social indicators or administrative data is an approach typically used for this purpose (e.g., Land, Lamb, Meadows, & Taylor, 2007). Data commonly collected by public institutions, such as those describing the proportion of teenage pregnancies, infant mortality rates, infant immunisation statistics and the percentage of income received by the 40 per cent of households with the lowest income, for example, indicates the wellbeing of a nation's children. While these measures are derived from administrative data, subjective measures of wellbeing are also commonly used in addition to, or instead of, population based indicators.

Lau and Bradshaw (2010) suggested that it is *subjective* wellbeing that marks the essence of wellbeing, and it is to this that other domains, such as health and social/family connections, contribute. Lau and Bradshaw focused on the young person as the unit of analysis, and suggested that young people could be asked to answer questions about a variety of areas in their lives, such as their health, relationships, life satisfaction and education, in order to determine their level of wellbeing. Accordingly, Lau and Bradshaw included self-reported indicators in their scales to measure wellbeing.

However, researchers have been uncertain about the number and types of domains that should be included in measures in order to encapsulate wellbeing. Accordingly, there appears to be limited consensus on how young people's wellbeing should be measured (O'Hare & Gutierrez, 2012). In our study, our purpose was to identify a valid and reliable measure of young people's wellbeing and mental health. Rather than focus on population indicators or clinical screening, we investigated self-report measures of subjective wellbeing and mental health suitable for use with young people in the middle-school years.

BACKGROUND

It has been typical in the past for researchers to equate the health and wellbeing of young people and adults with the absence of difficulty and disturbance, where a person's mental health was considered satisfactory if a mental health disorder was not diagnosed. However, rather than taking a dichotomous approach, mental health can be considered to occur across a spectrum or continuum (Keyes, 2006). On such a continuum, occurrences of mental ill-health, whereby individuals experience unhappiness and difficulties but are not diagnosed with a mental health disorder, are considered, in Keyes's (2002) terms, to be languishing. Languishing is a state of being which occurs at the lower end of the mental health spectrum. Conversely, individuals with the most positive state of mental health are considered to be flourishing and are positioned at the high end of the spectrum. Moderate mental health, which according to Keyes (2006) is experienced by most of the population, is located between languishing and flourishing on this spectrum. Boundaries between these mental health states are blurred and loosely defined. The mental health of an individual is situated at one point along this spectrum at any given point in time, and a person can move along the spectrum at different stages of their lives.

This perspective is in accord with the views of Kazdin (1993) and Roeser, Eccles and Strobel (1998), who have conceptualised mental health as consisting of two dimensions, namely a) the absence of dysfunction (impairment) in psychological, emotional, behavioural and social spheres, and b) the presence of optimal functioning in psychological and social domains. In this regard we consider, as Keyes (2006) has suggested, that mental health viewed in this way is a good indicator of wellbeing. This more positive approach involves an assessment of wellbeing by considering the presence of positive feelings toward one's life and the level of functioning well in life (Keyes, 2006).

The aim of the study reported in this chapter is to identify good quality instruments for measuring wellbeing and mental health. We were mindful of the time and cost of creating new measurement instruments, and also of the availability of many existing instruments for measuring mental health and wellbeing. Therefore, in reviewing the literature we identified three existing instruments that met our criteria of measuring mental health from the perspective of both the absence of dysfunction and the presence of optimal functioning. These instruments were Diener et al.'s (2009) Flourishing Scale, Keyes's (2006) Mental Health Continuum and Liddle and Carter's (2010) Stirling Children's Wellbeing Scale. We selected all three measures, considering them to be complementary as well as supplementary, to determine the wellbeing of middle-school students.

Diener et al.'s (2009) Flourishing Scale and Keyes's (2006) Mental Health Continuum enabled us to investigate two separate measures of flourishing, each using different indicators (as explained later in the body of this chapter). Meanwhile Keyes's (2006) Mental Health Continuum and Liddle and Carter's (2010) Stirling Children's Wellbeing Scale enabled us to investigate measures of languishing and poor mental health using different approaches.

The Flourishing Scale (FLoS)

Following a humanistic, positive psychology perspective, Diener et al. (2010) focused on flourishing as an important aspect of wellbeing and they developed a Flourishing Scale (FLoS) "to complement existing measures of subjective wellbeing" (p. 144). A combination of functioning effectively and feeling good about oneself is considered to be flourishing (Diener et al., 2009). The FLoS, according to Diener et al. (2009), "provides a good assessment of overall self-reported psychological wellbeing" (p. 260). The FLoS seeks to assess psychological wellbeing with single items that

tap into relevant dimensions of wellbeing identified as important in the literature by researchers such as Seligman and Csikszentmihalyi (2000).

Diener et al.'s scale was developed by considering human psychological needs associated with wellbeing. These included one's need to feel competent, to have meaningful social relationships, to experience self-acceptance, to help others, be optimistic and to experience purposeful and meaningful activities. This scale was originally titled "psychological wellbeing" because the focus of the scale is on items that reflect a person's self-perception of functioning. The eight item scale measures socio-psychological prosperity (i.e., flourishing). The included items cover meaning and purpose, supportive and rewarding relationships, engagement and interest, contributing to the wellbeing of others, competency, self-acceptance, optimism and being respected. In accordance with a positive psychology approach, all items are positively phrased. In their evaluation of the FLoS, Diener et al. (2010) found that it was strongly associated with mastery and competency. The FLoS has been found to be well correlated with other psychological wellbeing scales, such as the Scale of Positive and Negative Experience (SPANE, Diener et al., 2010). The FLoS has been validated with a Portuguese sample by Silva and Caetano (2013) and found to have good psychometric properties. Researchers (Diener et al., 2009; Huppert, 2009) have suggested that individuals who are flourishing are effective learners, productive workers, are likely to make contributions to their communities, have good social relationships, and better health and life expectancy.

Although the FLoS is useful for measuring psychological flourishing, it does not measure social and psychological wellbeing as separate elements. Diener et al. (2009) suggested that additional scales are needed if more than just an overall psychological wellbeing measure is required.

The Mental Health Continuum (MentHC)

In his consideration of subjective wellbeing, Keyes (2006) surmised that “the study of subjective wellbeing has been divided into two streams of research, one that equates wellbeing with happiness and the other with human potential that, when realized, results in positive functioning in life” (p. 4). The first stream, Keyes suggested, follows the “hedonic tradition” and is related to emotional wellbeing, while the second “is the tradition of eudaimonia” (p. 5) and is associated with social and psychological wellbeing. Whereas in the first approach individuals are concerned with their happiness and general satisfaction with life, in the second approach individuals are more concerned about their abilities and capacities in becoming well-functioning persons and citizens. Rather than mental health being the absence of mental disorders, Keyes (2002) has described a complete model of mental health, where flourishing is the presence of mental health and languishing is the absence of mental health. As such, in Keyes’s view, mental health and mental disorder are separate states of functioning. Just as a mental disorder requires the fulfillment of several criteria, so too, argued Keyes (2006), the presence of mental health must satisfy a set of requirements.

Keyes proposed that young people are flourishing when they show a high level on at least one indicator of hedonia (emotional wellbeing) and just over half of the indicators of eudaimonia (social and psychological wellbeing), languishing when levels of hedonia and eudaimonia are low, and moderately mentally healthy otherwise. This view accords with Liddle & Carter’s (2010) concept of languishing as “a state that lacks positive functioning and has an emphasis on the individual merely existing from day to day” (p.9).

Keyes (2006) developed the MentHC to determine whether an individual is flourishing, languishing or has moderate mental health. The scale comprises three subscales, namely social

wellbeing, psychological wellbeing and emotional wellbeing. Keyes surmised that the emotional wellbeing scale provides a measure of hedonia, while the social and psychological subscales together provide a measure of eudaimonia or positive functioning. To be characterised as flourishing individuals must report at least half of the signs of mental health on a daily or almost daily basis. The same items on the MentHC are used to measure languishing, which comprises two parts: emotional wellbeing and positive functioning. Participants were considered to be languishing if their experiences of at least one of the three symptoms of emotional wellbeing and at least six of the eleven symptoms of positive functioning were not frequent, that is, they were experienced “once or twice” or “never”.

The Stirling Child’s Wellbeing Scale (StirCWB)

The Stirling Children’s Wellbeing Scale (StirCWB) is another measure of wellbeing. Unlike the FLoS and the MentHC, which are adaptations of adult wellbeing instruments, the StirCWB was developed by Liddle and Carter (2010) specifically for young people aged 8-15. Liddle and Carter acknowledged the need to differentiate mental health and mental illness by using a positive measure of healthy functioning to assess wellbeing rather than relying on a deficit-based understanding of mental health. Using an approach based in positive psychology, they developed the StirCWB that contained items that were positively worded and were suitable for children.

The items in the scale were piloted with children and their feedback was used to refine the questions so that the scale had good theoretical grounding and “was understood... and ... perceived by children to be measuring wellbeing” (Liddle & Carter, 2010, p.7). Comprising 12-items, the StirCWB Scale assesses emotional and psychological wellbeing and the level of a child’s Positive Emotional State as well as Positive Outlook. Testing

by Liddle and Carter found that the scale showed good internal, as well as external, reliability. The scale also includes a social desirability subscale of three items, which can be used to determine socially desirable responding and sets of similar responses, as well as encourage respondents to be actively engaged with responding to questionnaire items.

MEASURING WELLBEING

The purpose of our study was to use the three instruments, Diener et al.'s (2009) *Flourishing Scale* (FloS), Keyes's (2006) *Mental Health Continuum* (MentHC) and Liddle and Carter's (2010) *Stirling Child Wellbeing Scale* (StirCWB), as triangulated measures of mental health and wellbeing to examine how well the scales corroborated student classifications of flourishing, languishing or having moderate mental health.

The FloS is a summary measure of a person's self-perceived success in important areas such as engagement, relationships, optimism, self-esteem, meaning and purpose. The scale provides an indication of whether one is psychologically flourishing (presence of good mental health). Using different aspects of three dimensions of wellbeing (social, emotional and psychological wellbeing) the MentHC provides an indication of whether a person is flourishing, languishing or has moderate mental health. The StirCWB provides an overall measure of positive outlook and a positive emotional state.

Ethics

Ethical approvals to conduct this study were obtained from a number of educational jurisdictions including the Department of Education and Children's Development for permission to conduct the research in South Australian government schools and the South Australian Catholic Education Office to carry out the study in South Australian

Catholic Schools, as well as from Flinders University's Social and Behavioural Research Ethics Committee (SBREC). Since the South Australian independent schools in this study accept ethics approval from SBREC, they did not require a separate ethics application. Following ethics approvals, approval from each School Principal was gained for the study to be conducted in his or her school. Parental consent was required for student participation in this study.

METHOD

Purposive sampling was an objective of our study. This ensured diversity in the types of schools and students represented by the data and accorded with Teddlie and Yu's (2007) approach for achieving representativeness or comparability in non-probabilistic sampling used in mixed method research. The sampling strategy involved the selection of at least one school from each of the educational jurisdictions in South Australia, as well as schools servicing high, medium and low socio-economic families. It was essential to include participants that range in socio-economic status in order to account for confounding socio-economic effects on schooling and wellbeing (Bradley & Corwyn, 2002).

Slightly fewer than 2,000 students (n=1930) from eight metropolitan schools in South Australia participated in this study. Students responded to questions included in:

- **The FloS** using 7-point Likert Scale ranging from "very strongly disagree" to "very strongly agree". This scale provided a single score that was an indication of students' general psychological wellbeing.
- **The MentHC**, where students were asked to respond to questions about how often in the past month they experienced hedonic and eudaimonic feelings using the scale of "never", "once or twice", "about once

Exploring Three Measures of Student Wellbeing

a week”, “2 or 3 times a week”, “almost every day” and “every day”.

- **The StirCWB**, about how students had been thinking and feeling “over the past couple of weeks” with scale items of “never”, “not much of the time”, “some of the time”, “quite a lot of the time”, and “all of the time”.

A small proportion of questionnaires ($n = 53$, 2.7%) were discarded where it was evident that there had been socially desirable responding or they had not been completed appropriately (e.g., circling the same response for all questions) or had more than 50% of missing responses.

There were significantly more males (54%) than females in the sample ($\chi^2(1) = 12.0, p < .001$) and there were more students from junior secondary school (Years 8, 9 & 10) than other Years. Nearly one third (31.2%) of the student sample was in Year 8 and about one quarter (26.3%) was in Year 9. A total of 14.7% of participants were under 13 years of age, while 10.2% were over 15. Three quarters (75.1%) of the sample were aged 13-15 years. The average age of participants was 13.9 years (S.D. = 1.3).

The socio-economic (SES) background of students was determined using the Socio-Economic Indexes for Areas (SEIFA) produced by the Australian Bureau of Statistics (ABS, 2008), which suggests that percentages of the Australian population in three SES categories of low, medium and high are 25%, 65% and 10%, respectively. Our sample, however, did not match this distribution. Students from low SES (8.2%) were underrepresented and students from medium (77.9%) SES backgrounds were over-represented. A slightly larger proportion of students were from high (14%) SES backgrounds.

Statistical Analysis

Our study included an examination of latent variables. Raykov and Marcoulides (2006) have

described latent variables as “hypothetically existing constructs” or factors, with the characteristic “that they cannot be measured directly, because they are not directly observable” (pp. 9-10). Confirmatory Factor Analysis (CFA) procedures were used to test and calibrate the scales used for measuring wellbeing. Latent variable scores were calculated using factor score coefficients derived from the CFA using the method described by Holmes-Smith and Rowe (1994) after model trimming (Kline, 2011). All of the analyses where MPlus was used involved the estimation method referred to as MLR (Robust Maximum Likelihood) where corrections for non-normality are made for parameter and standard error estimates (Muthén & Muthén, 2009). This estimation method employs algorithms that are robust to non-normal data. The “type=complex” option was used in analyses to take account of clustering amongst participants “nested” in SES, schools and year levels. Score reliability was computed for each of the measuring instruments using Hancock and Mueller’s (2001) “Coefficient H”. This coefficient is considered to be a better measure of reliability than Cronbach’s alpha (Brunner & Heinz-Martin, 2005; Holmes-Smith & Rowe, 1994).

We began our analyses by calculating raw scores as suggested by the authors of the FloS, MentHC and StirCWB instruments. We then used CFA to examine the structure and construct validity of the structural equation models.

RESULTS

Flourishing

FloS Raw Scores

The eight items from the Flourishing Scale were summed (following Diener et al.’s (2009) method) to obtain a total FloS score for each student. FloS scores ranged from 8 to 56. The mean FloS score for all students in the sample was 41.6 (S.D. =

8.1) and the median was 42. While Diener et al. (2009) do not stipulate any cut-off values to indicate “flourishing”, a person that selected “agree” for each item would have a total FloS score of 40. Using this criterion we determined that a score above this cut-off point would be a good indicator of flourishing. Just over half (55.3%) of the participants had a FloS score of 41 or higher.

MentHC – Flourishing

Students were classified as flourishing if they experienced at least one of the three symptoms of emotional wellbeing and at least six of the eleven symptoms of positive functioning “almost every day” or “every day”. Using this “minimum item” approach we found that nearly half (48.5%) of the students in the study were classified as flourishing.

Languishing

MentHC - Languishing

Students were considered to be languishing if they experienced at least one of the three symptoms of emotional wellbeing and at least six of the eleven symptoms of positive functioning “once or twice” or “never”. Using this “minimum item” approach we found a small proportion (8.0%) of students was considered to be languishing.

StirCWB – Poor Mental Health

Students’ responses to items on the StirCWB Scale were used to calculate a total wellbeing score for each respondent, as suggested by Liddle and Carter (2010). Total StirCWB scores ranged from 12 to 60 and the mean was 42.1 (S.D. = 8.6). A small proportion (8.4%) of students had scores less than 30 and 6.8% had scores less than 29. Liddle and Carter (2010) suggested these scores less than 30 are indicative of poor mental health. This proportion accords with the proportion of students considered to be languishing (8.0%)

using the MentHC (raw scores). However, the proportion languishing using a cut-off score of 29 is closer to the number calculated as languishing (6.1%) using the MentHC latent variable measure (reported below).

Confirmatory Factor Analysis (CFA) of the Scales

FloS Model

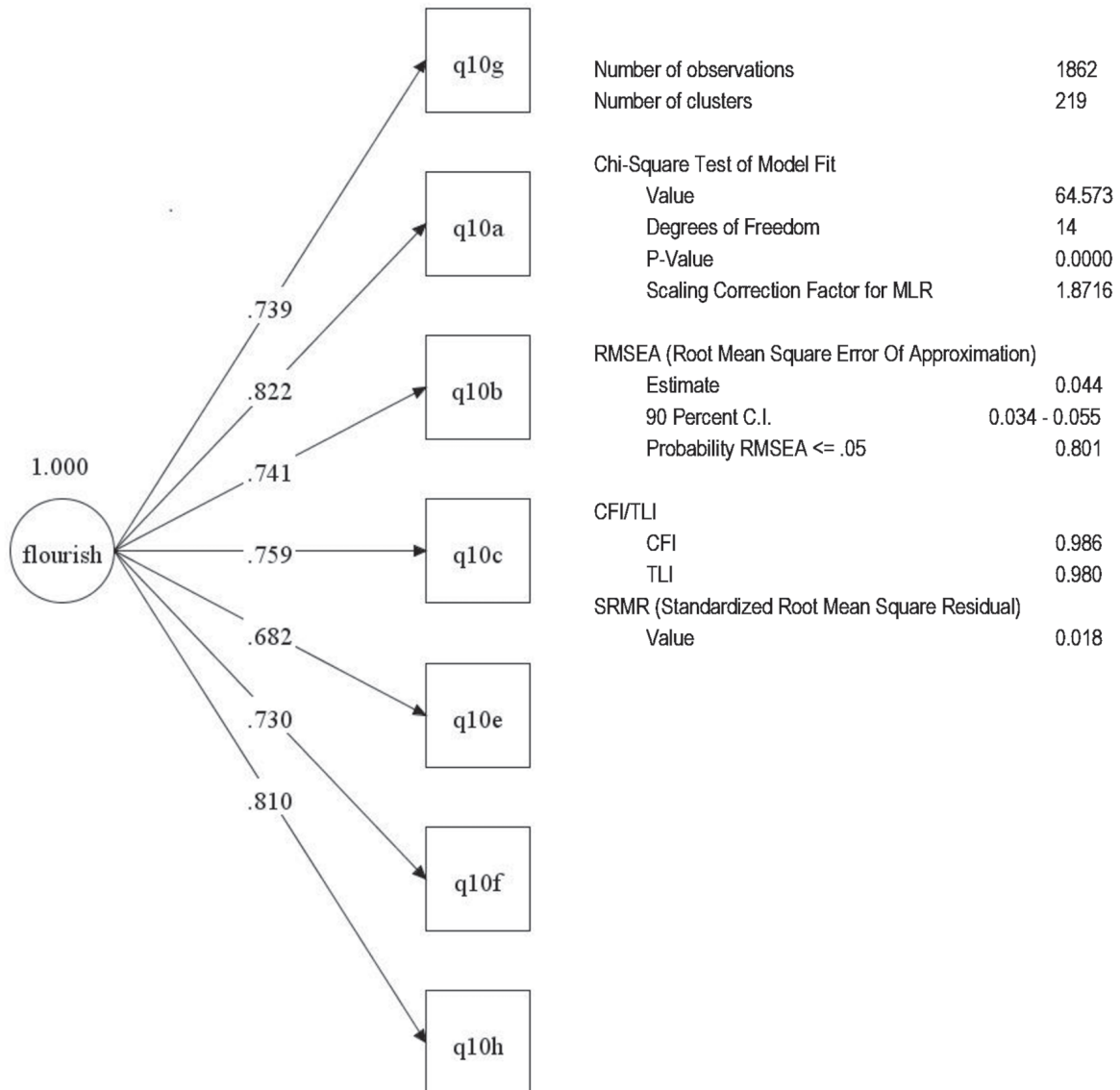
The structure of the FloS was examined in MPlus and a confirmatory factor analysis found that the full 8-item scale showed an acceptable fit with our data ($\chi^2(20) = 134.7$, $P < .000$, RMSEA = .055, 90% C.I. = 0.047-0.065, probability RMSEA $\leq .05 = 14.5\%$, CFI = 0.974, TLI = 0.963, SRMR = 0.024; Coeff. H = 0.92). However, dropping the item “I contribute to the happiness and wellbeing of others”, which was very skewed (only 5% of students disagreed and 79% agreed while 15.9% were not sure) provided a model that fit our data very well (see Figure 1). The new 7-item model was a good fit with the data (see Figure 1) and showed good reliability (Coeff. H = 0.91).

The Mental Health Continuum (MentHC) Model

The original model proposed by Keyes (2006) was an adequate fit with our data ($\chi^2(74) = 792.1$, $p < .000$; RMSEA = 0.072, 90% C.I.: 0.068 – 0.077, probability RMSEA $\leq .05 = 0\%$; CFI = 0.941; TLI = 0.928; SRMR = 0.035). However, following trimming, the model shown in Figure 2 was a very good fit with our data ($\chi^2(31) = 142.3$, $p < .000$; RMSEA = 0.044, 90% C.I.: 0.037 – 0.051, probability RMSEA $\leq .05 = 90.5\%$; CFI = 0.986; TLI = 0.979; SRMR = 0.018). Trimming involved dropping four items from the scale. These were two items from the psychological wellbeing factor: “That you had something important to contribute to society” and “That you belonged to a community (like a social group, your school,

Exploring Three Measures of Student Wellbeing

Figure 1. The Flourishing latent variable in the FloS model

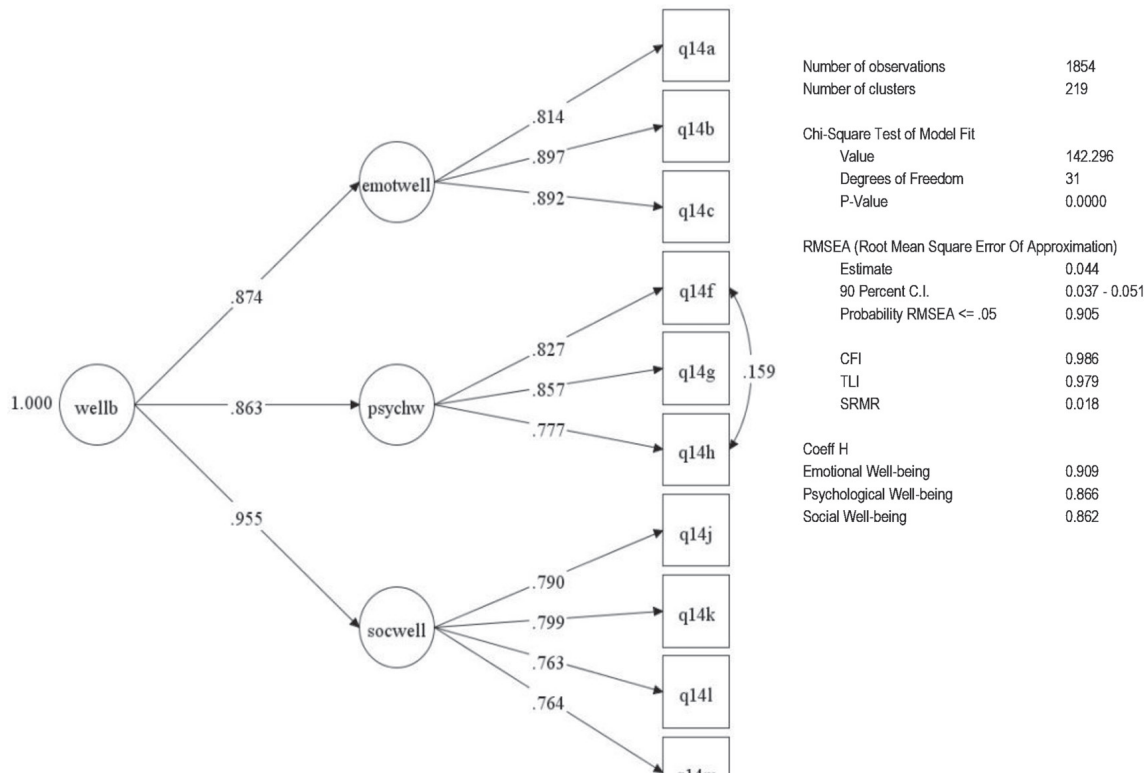


or your neighbourhood)” and two from the social wellbeing factor: “That you liked most parts of your personality” and “That your life has a sense of direction or meaning to it”. It was evident that these were items that students had difficulty in understanding or responding to, thus compromising the ability of the items to usefully contribute to measuring the psychological wellbeing factor.

Wellbeing Latent Variable

An overall student wellbeing score (a latent variable comprising a number of MentHC questionnaire items) was calculated using the factor score coefficients derived from the MentHC measurement model (see Figure 2). These scores were then standardised so each student received a (rounded) score that matched the scale of “never”, “once

Figure 2. The Wellbeing latent variable in the MentHC model



or twice”, “about once a week”, “2 or 3 times a week”, “almost every day” or “every day”. This score was then used to determine whether students were flourishing, languishing or had moderate mental health, as shown in Figure 3.

Flourishing

As shown in Figure 3, our analysis suggested that just over half (54.1%) of the students had a sense of wellbeing “almost every day” or “every day” and were therefore flourishing. This proportion accords with the number found to be flourishing using Diener et al.’s FloS, which was 55.3%.

Languishing

Using this latent variable measure, overall 6.1% of students were considered to have been languishing as their experience of wellbeing was “never” or

“once or twice” during the past month, as shown in Figure 3.

Moderate Mental Health

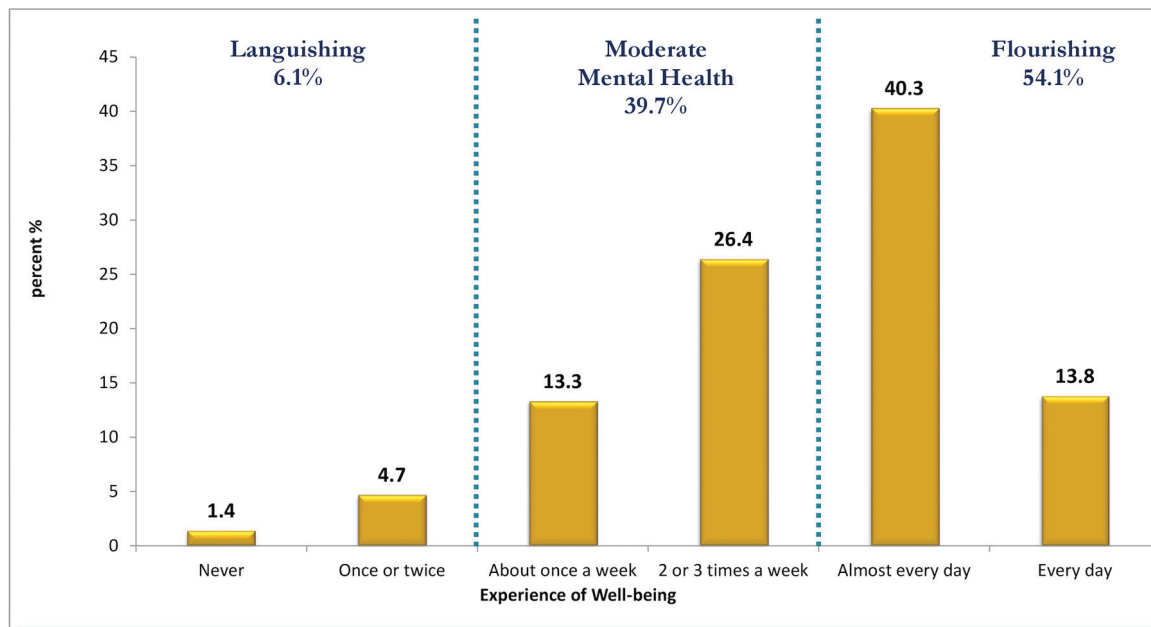
Not having been categorised as languishing or flourishing and reporting that their experience of wellbeing was “about once a week” or “2 or 3 times a week”, nearly two in five (39.7%) students were found to have moderate mental health (see Figure 3).

Stirling Children’s Wellbeing (StirCWB) Model

A Confirmatory Factor Analysis (CFA) of the StirCWB Scale found that it was an adequate fit with our data ($\chi^2(53) = 556.5, p < .000$; RMSEA = 0.071, 90% C.I.: 0.066 – 0.077, probability RMSEA $\leq .05 = 0\%$; CFI = 0.948; TLI = 0.935;

Exploring Three Measures of Student Wellbeing

Figure 3. Wellbeing latent variable measure from the MentHC model



SRMR = 0.040). However, there was a significant improvement in how well the model fitted the data when one item from each of the factors was dropped. This involved dropping two items, which indicated a possible sub-factor, so only one of the items was needed. The dropped items were: “I’ve been feeling calm”, which strongly correlated with the feeling relaxed item, suggesting a sub-factor; and the item “good at some things”, which strongly correlated with “there are many things can be proud of”, and also suggested a sub-factor. (Note that a second order wellbeing latent variable could not be tested as there were only two first order latent variable indicators.)

DISCUSSION

Our findings suggest that the MentHC latent variable was the most accurate measure of wellbeing. This is because the measures of wellbeing using items from the MentHC were derived from a model that fitted the data very well (see Figure

2). Based on these results however, modifications to the MentHC to suit a young adolescent audience may be required. The model showed the best fit with the data when four items from this scale were omitted. These included dropping the item “That you had something important to contribute to society”. For young people in the middle years of school (aged 11-16), it would be difficult to determine the veracity of such a statement in terms of their developing dispositions. Similarly, the item “That you belonged to a community (like a social group, your school, or your neighbourhood)”, which was also excluded from the psychological wellbeing factor, may have been confusing for students to comprehend using terminology such as “community”. Perhaps rewording this item by asking young people about their sense of belonging to teams, clubs or school groups would better suit this age group. This would require testing in future studies using the MentHC with young people. Omitting two items from the social wellbeing factor also resulted in a model that better fitted the data. These items:

Figure 4. StirCWB model

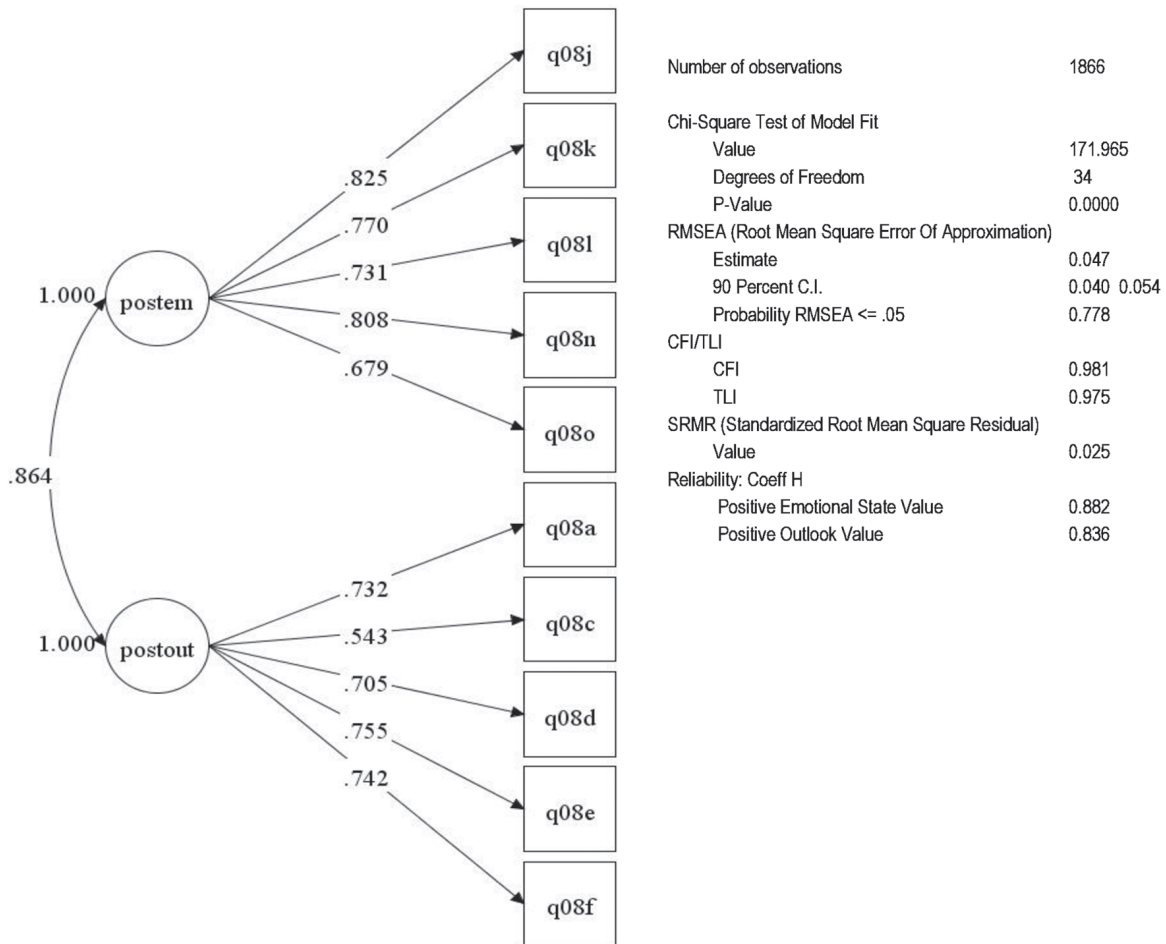


Table 1. Summary of Wellbeing measures

	Flourishing	Moderate Mental Health	Languishing
FloS (raw scores)	55.3%		
MentHC (raw scores)	48.5%	43.5%	8.0%
MentHC (latent variable)	54.1%	39.7%	6.1%
StirCWB (total score < 30)			8.4%
StirCWB (total score < 29)			6.8%

“That you liked most parts of your personality” and “That your life has a sense of direction or meaning to it”, might be difficult for some people to evaluate given that they are still in the process

of developing their own identity and in attending school daily, may be giving little if any thought to their direction or meaning in life. Our findings suggest that these items are quite adult-centric and

Exploring Three Measures of Student Wellbeing

should be dropped permanently from the MentHC as a measure of wellbeing for young people in the middle years of school.

FloS scores suggested that just over half (55.3%) of the students in the sample had good psychological resources and strengths, and therefore were flourishing. This proportion was supported by the MentHC latent variable measure of 54.1%. This suggests that Diener's Flourishing Scale is a satisfactory measure of flourishing. However, the best fitting model of FloS for our data was when one item concerning a contribution to the happiness and wellbeing of others was dropped. While this item represents an important aspect of wellbeing, it is noteworthy that most students responded positively to this item. Liddle and Carter (2010) suggested that older students are more likely to understand questions of this kind and respond more appropriately. It may not be clear for a teenager to know if he or she is contributing to the happiness and wellbeing of others during the developmental stages inherent in the middle years of school, where there is a focus on developing one's identity and autonomy, where friendships are paramount and where arguments with family members are not uncommon (Newman & Newman, 2012). Further research would be required to investigate how young people generally interpret this item and whether it would need to be changed or dropped (as our research suggests) when using the FloS with young people in the middle years of school (ages 11-16).

The MentHC latent variable measure of wellbeing suggested that the proportion of young people considered to be languishing was 6.1%. This value would be closely collaborated using StirCWB scores with a slightly lower cut-off than that suggested by Liddle and Carter (2010); that is, a StirCWB score that is less than 29 instead of 30.

The findings from the CFA of the StirCWB suggested that this questionnaire could be made more parsimonious by dropping one item from each of the factor scales. Analyses suggested that items about feeling calm and feeling relaxed

were strongly correlated, indicating a sub-factor, and suggesting that one of these items could be excluded from the scale. A strong correlation between the item "good at some things" and "there are many things I can be proud of", suggested that these items could be similarly treated by excluding one of them.

Overall, our findings indicated that the majority (55%) of students in our sample in the middle-school years were flourishing, a small proportion (about 6%) were languishing, while the remainder (39%) had moderate mental health. Another study of South Australian students by Venning et al. (2012), which used a variety of scales to determine the wellbeing of 13-17 year old adolescents, found that 42% of the 3,913 adolescents sampled in 2007 were flourishing in life. While this proportion is lower than that determined from our study (55.3%), Venning et al. also found that "the prevalence of flourishing was lower in older adolescents" (p. 303). Given that Venning et al.'s sample included 17-year-old participants (9.8%), and no 11 and 12-year-old participants, a lower level of flourishing would be expected in their study compared to our 11-16 years age group. Therefore, a comparison between the proportion of students in our study who were flourishing with the proportion of SA students identified by Venning et al. as flourishing would not be well-founded.

These study findings should be generalised with caution. Our sample of Australian students was not representative of students from low SES backgrounds, so our findings are more likely to reflect the social circumstances of students from middle and upper SES groups. The data for this study were generated from self-reports. Muijs (2006) pointed out some limitations of using self-report measures, as respondents may have blind spots, and might try to provide responses that are perceived to satisfy the researcher. However, self-reports also have advantages. For example, Ziedner (1998) argued that self-reports are required to gain access to people's thinking and feeling, while

Baumeister, Vohs and Funder (2007) argued that self-reports are the only tool that the researcher has to enable access to a participant's mind. Both Desimone (2009) and Ziedner (2007) argued that self-reports can demonstrate good psychometric properties. While some self-report questionnaires have been found to be reliable and valid (e.g., Goodman's, 2001, Strengths and Difficulties Questionnaire, SDQ), and it can be predicted that students would be good informants about their own feelings and subjective wellbeing, future research could triangulate assessments from other informants such as teachers and parents/guardians.

FUTURE RESEARCH DIRECTIONS

This study utilised three different instruments to measure the wellbeing of students in the middle-school years by considering the mental health continuum and whether they were flourishing, languishing or had moderate mental health. Using a triangulation of measures in this manner raised several questions for future research. These include a consideration of modifying items included in all three scales, as discussed above. This would involve administering these questionnaires to another group of students in the middle years of school. Furthermore, analyses could be undertaken to bring the three scales together into a single second-order wellbeing measure with a view to developing a new scale that would be better suited for students in the middle years of school.

CONCLUSION

Our study suggests that Keyes's (2006) MentHC is a suitable instrument for measuring subjective wellbeing, that Diener et al.'s (2009) FloS scale provides a good measure of flourishing, and Liddle and Carter's (2010) StirCWB scale offers a mea-

sure of languishing. However, all three instruments require some modification to make them better suited as measures of the subjective wellbeing of young people in the middle years of school.

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KEY TERMS AND DEFINITIONS

Confirmatory Factor Analysis: (CFA) in SEM utilises an algorithm that allows a comparison between a matrix of covariances expected from the model in question, with that generated by the actual data collected from the sample. If the discrepancy between the two is minimal, then the model may be considered to be a good representation of what occurs in the population.

Latent Variables: Are “hypothetically existing constructs” or factors, with the characteristic “that they cannot be measured directly, because they are

not directly observable” (Raykov & Marcoulides, 2006 pp. 9-10). Only proxies for them are possible using specific instruments that are indicators of the construct.

Mental Health: Is defined as a state of wellbeing in which every individual realises his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to her or his community. See World Health Organisation | Mental health: a state of wellbeing at www.who.int/features/factfiles/mental_health/en/.