

Preliminary development and validation of the positive school transition readiness survey (PSTRS)

Gazal Bharara¹  | Scott Duncan²

¹Human Potential Centre, Auckland University of Technology, Northcote, New Zealand

²School of Sport and Recreation, Auckland University of Technology, Rosedale, New Zealand

Correspondence

Gazal Bharara, Human Potential Centre, Auckland University of Technology, 90 Akoranga Dr, Northcote, Auckland 0627, New Zealand.

Email: gazal.bharara@aut.ac.nz and gazal.bharara@gmail.com

Abstract

The transition to secondary school can be a challenging period for adolescents. Although several questionnaires exist to measure transition-related concerns, there is a need to develop a comprehensive survey for assessing the knowledge and skills that adolescents require to adapt effectively to a new school. Thus, the purpose of this study was to develop and investigate the psychometric properties of a preliminary self-report tool (PSTRS) for identifying the presence or absence of factors that facilitate transition to secondary school and are important for adolescent understanding of well-being. The PSTRS was developed in a series of stages that involved a systematic review of the school transition literature, a review of psychometric scales, empirical data of adolescents' well-being conceptualizations, expert reviews, and a pilot study. Seventy-one items were compiled to collect information on 20 school, social, physical, psychological, and spiritual components. Cronbach's alpha for the survey was 0.943 in a sample of Year 8 NZ intermediate school students ($N = 471$). Test-retest reliability was 0.866 in a subsample of 121 participants. Single-measures ICCs of subscales ranged from 0.501 to 0.943. The PC analysis resulted in a three-component factor structure. The PSTRS and its subscales positively

This is an open access article under the terms of the [Creative Commons Attribution-NonCommercial](https://creativecommons.org/licenses/by-nc/4.0/) License, which permits use, distribution and reproduction in any medium, provided the original work is properly cited and is not used for commercial purposes.

© 2023 The Authors. *Psychology in the Schools* Published by Wiley Periodicals LLC.

correlated with well-being and negatively correlated with anxiety. Overall, PSTRS appears to be a reliable and valid tool for determining adolescent readiness to transition to secondary school. PSTRS data may be useful for researchers, school professionals, psychologists, and policymakers to better understand positive school transitions. Implications for future research and practice are discussed.

KEYWORDS

adolescent, development, intermediate-to-secondary school, positive transition, validation, well-being

Practitioner points

- Data provides preliminary support for the integrity of the new Positive School Transition Readiness Survey, which is a self-report measure that can be useful for researchers and school professionals to determine adolescent readiness to transition to secondary school.
- The preliminary self-report tool (PSTRS) is comprised of several short psychometrically sound subscales that present a quick and convenient way to identify the presence or absence of factors that facilitate transition to secondary school and are important for adolescent understanding of well-being.
- The preliminary validation demonstrated good test-retest reliability and construct validity of the PSTRS.

1 | INTRODUCTION

The transition to secondary school can be challenging for adolescents as this period is accompanied by rapid developmental changes and marked discontinuities in school systems (Akos & Galassi, 2004; Anderson et al., 2000; Loke & Lowe, 2013; van Rens et al., 2017). With simultaneous changes comes a heightened potential for discomfort and drawbacks (Eccles et al., 1993; Simmons et al., 1987). Research demonstrates that the extent to which the school transition phase is daunting for adolescents is linked to adverse consequences (Hanewald, 2013; van Rens et al., 2017; Waters et al., 2012), such as school dropout (McGee et al., 2004), depression (Newman, Newman, Griffen, O'Connor, & Spas, 2007), and anxiety (Benner & Graham, 2009). There are also reports of declines in well-being, achievement, self-esteem, and academic performance during the transition to secondary school (Alspaugh, 1998; Benner, 2011; Cox & Kennedy, 2008; Symonds, 2015).

The intermediate to secondary school transition, in particular, has a negative effect on most adolescents, both in New Zealand (NZ) and overseas (Hawk & Hill, 2004; Newman et al., 2007). In NZ there is a three-tier school system in which adolescents typically attend intermediate schools (Years 7–8) in between contributing (Years 1–6) and secondary schools (Years 9–13). Accordingly, intermediate school adolescents in NZ negotiate two transitions in 2 years (Hawk & Hill, 2004; McGee et al., 2004) and they are more likely to experience disruption in achievement

when compared to those who directly transition from full-primary (Years 1–8) to secondary school (Alspaugh, 1998). Despite these negative outcomes related to school transition, there are gaps in the literature relating to the assessment of adolescent readiness to transition.

Existing self-report measures of school transition collect information on concerns and adversities related to school transition (Akos & Galassi, 2004; Loke & Lowe, 2013; Rice, Frederickson, Seymour, 2011). Assessing transition-related anxiety and concerns is useful in identifying adolescents who are suffering (Loke & Lowe, 2013), and yet there is a need to evaluate transition-related knowledge of well-being to determine adolescent readiness for successful navigation of the transition trajectory. Second, the assessment of positive school transition is limited. A 2020 systematic review concluded that substantial criteria for assessing positive transition are school-related and lack focus on adolescent well-being (Bharara, 2020). For example, the Education Review Office, (2012, 2016) contends that the assessment of transition adaptation in NZ is limited as most of it is targeted toward academic performance, and assessing adolescent well-being is also important for positive transitions. Only over the last decade has school transition been explained from a positive perspective and researchers have investigated components that improve the transition experience and promote well-being (Shoshani & Slone, 2013). Further, although assessment tools exist that can separately evaluate individual components that improve transition and well-being, such as self-efficacy (Madjar & Chohat, 2017; Schwarzer et al., 1997), to date there is no self-report measure that captures a wide range of components that facilitate positive transitions and are useful for adolescent understanding of well-being. Such evaluation may be worthwhile in identifying adolescent readiness to adapt effectively to a new educational setting, and thus, in informing interventions that strengthen transitions and adolescent well-being in schools.

The importance of comprehensive and accurate assessment of transition readiness aligns with a growing international and national emphasis on improving school transitions and adolescent well-being in schools (Department of Education and Training, 2016; Education Review Office, 2012, 2016; Rice, 2001). The transition to secondary school is recognized as a window of opportunity for delivering programs/interventions to bolster adolescent adaptation to the new school in terms of their educational competence and well-being (Rice, Frederickson, Shelton, et al., 2011; Riglin et al., 2013). To prepare and support adolescents for the transition in an optimum manner, schools are therefore required to have a clear and comprehensive understanding of adolescent skills and needs. Adolescents' evaluations of their skills and competencies regarding adaptability to secondary school and their knowledge about well-being is thus recognized to provide significant information for planning, implementation, and review of positive transition interventions as well as policymaking. Schools are suggested to be coherent in their academic and well-being approaches for achieving positive transitions (Education Review Office, 2012). Consequently, a survey that merges the components of academic indicators of positive transition with well-being would be valuable for the holistic evaluation of adolescent positive transition to school.

Several transition researchers have provided compelling evidence that the school transition experience is enhanced by multiple components relevant to adolescents' lives (Ng-Knight, 2015; van Rens et al., 2017), such as perceived family support (Longobardi et al., 2016). Similarly, adolescents' multidimensional conceptualizations of the meaning and sources of well-being are argued to be significant for devising effective assessments and interventions (Ben-Arieh, 2005; Bharara et al., 2019; Casas, 2011). Examination of components that enhance a positive transition to secondary school and comprise adolescents well-being conceptualizations are reported to include several psychological, social, school, physical, spiritual, and demographic factors such as perceived teacher support, self-control, and safety (Bharara, 2020; Bharara et al., 2019). While equivalent instruments can assess such components separately, a broad and consolidated survey to assess positive school transition readiness potentially represents a more comprehensive and time-efficient approach and is in harmony with the research that indicates a "whole-school approach" is beneficial for promoting transitions (Rice, Frederickson, Shelton, et al., 2011). Ziegler et al. (2014) proposed that the evaluation of diverse components in an instrument could be made simpler and more practical with short scales (i.e., composed of fewer than 10 items). Besides being less burdensome for respondents (Gardner et al., 1998; Organization for Economic Co-operation and Development, 2013), brief measures are also useful for researchers and educators who have limited time and resources (Gosling et al., 2003).

1.1 | The present study

This study developed and investigated the reliability and validity of the preliminary self-report tool (PSTRS) in a sample of intermediate school adolescents. The PSTRS was intended to be a wide-ranging self-report survey composed of several brief subscales to provide preliminary research information and to identify the presence or absence of factors that facilitate a positive transition to secondary school and comprise adolescents' conceptualizations of well-being. It was also hypothesized that the PSTRS would be a quick and non-burdensome way to collect data electronically from intermediate school adolescents that could be administered individually, in a group, or self-administered. The PSTRS was intended to be a general and broad, rather than in-depth, measure of readiness for school transition. Specifically, from a breadth perspective, this study was interested in (a) collating and incorporating components that the literature shows are linked with positive secondary school transition and comprise adolescent conceptualizations of well-being in the survey, (b) developing brief subscales to assess these components, and (c) determining initial psychometric properties of the subscales and the entire survey. The motive behind this broad approach for survey development was to utilize the subscales in the PSTRS for collecting data for our cross-sectional and longitudinal studies. The data from these studies may be useful in further refinement of the survey. Such an instrument may eventually be useful for professionals concerned about adolescent readiness to transition to secondary school.

The first aim of this study was to develop and investigate the psychometric properties of the PSTRS subscales. The secondary aim was to investigate the reliability and validity of the full PSTRS. Internal consistency reliability and test-retest reliability analyses were conducted. To determine the construct validity of the PSTRS, the communalities of the PSTRS components and identified patterns in the components were examined using Principal Component Analysis (PCA). Specifically, the study observed whether a wide number of components in the survey were related to a small number of Principal Components (PCs). Finally, the way the PSTRS subscales and the full PSTRS correlated with theoretically related constructs of well-being and anxiety were investigated. The next sections first discuss the development of the PSTRS and then its psychometric properties.

2 | METHODS

2.1 | Stages of survey development

The survey was developed in five stages, some of which were based on previously published work. The first two stages informed the survey components and item sources. The third stage involved item compilation. The fourth and fifth stages involved gathering expert and adolescent opinions regarding the survey. These stages are summarized below.

2.1.1 | Stage 1: A review of the literature and existing instruments

In the first stage, a systematic review of transition literature was undertaken to determine the aspects that facilitate positive transition to secondary schools (Bharara, 2020). A combination of keywords was used to perform the literature review: "school transition," "well-being," "secondary school," "adolescent," and "factors." If the articles examined components, predictors, factors, or facilitators of positive transition to secondary school, they were included. The records related to unsuccessful school transitions or/and illbeing were excluded. Of the twenty-two studies reviewed, nearly all factors were associated with academic indicators of transition success (Bharara, 2020). From this initial evaluation of the literature, 11 key components (self-efficacy, self-control, perceived teacher support, positive family relationships, positive friendships, strength use and knowledge,

spirituality, mindfulness, purpose, school belonging, and involvement in organized activities) were identified to be incorporated into the survey, and the most psychometrically sound instruments appropriate for use by adolescents were cataloged for these components. To address gaps highlighted in the transition review concerning the facilitators of well-being, a mixed-method study was carried out to collect adolescents' conceptualizations of well-being.

2.1.2 | Stage 2: Adolescents' well-being conceptualizations and the review of corresponding instruments

Using a mixed-method approach of prototype analysis, an empirical study was conducted to gather adolescent conceptions of the meaning and sources of well-being. Adolescents were asked to freely list all aspects they thought fostered their well-being. The responses were coded using a procedure typical to prototype analysis research, and participants' listing percentage was calculated to determine important pathways to well-being. Based on this study, eight more components were identified to be added to the survey profile (Bharara et al., 2019). Some of these components were feeling safe, enjoyment, being kind and helpful, hobbies and leisure activities, and being around positive people (people who are encouraging and respectful). Empirically validated measures were subsequently reviewed for these components. This stage provided an opportunity to develop more precise components of the survey instrument.

2.1.3 | Stage 3: Item construction and survey structuring

The third stage involved item construction and survey structuring. Most items were adapted from empirically validated published instruments (see Table 2) on the basis of high-factor loadings of 0.710 and above (Robinson, 2018; Ziegler et al., 2014). Items that were related in meaning and/or were ambiguous for the concerned age group were dropped. To ensure items were age appropriate, certain items were written/rewritten (e.g., for component connection with nature). Items were written for the components being around positive people and organized activity involvement. The breadth of a component was covered with as few items as possible. Where practical, three items were chosen per component to balance the content. The response format of the items was modified to ensure uniformity in the measurement. Eleven-point numerical scales with absolute verbal labels at anchors (e.g., 0 = very strongly disagree and 10 = very strongly agree with minimum score = 0, and maximum score = 10) were adopted (Organization for Economic Co-operation and Development, 2013), except at places where another format was better suited. For a web survey, 11-point scales and labels at the end points are shown to increase data quality (Revilla & Ochoa, 2015). In the survey, 43 items were added as an outcome of Stage 1, and 28 more items were added as an outcome of Stage 2.

2.1.4 | Stage 4: Experts' opinions and review

After survey compilation, in Stage 4 a panel of three university professors with expertise in questionnaire development reviewed the survey. The panel's feedback was obtained regarding item clarity, relevance, phrasing, and order. Whether the items reflected what they purported to measure was also checked (i.e., face validity). In sum, the first four steps yielded an aggregate of 71 items assessing 20 components with an average of approximately three items per component. Next, a pilot study of the profile was conducted for further refinement of items.

2.1.5 | Stage 5: Pilot study

In Stage 5, the survey was pre-tested with a small Year 8 sample ($N = 11$) to evaluate feasibility. The purpose of the pilot study was to gather adolescent opinions about language, comprehension, duration, readability, and relevance of the instrument. The study was held after gaining approval from the host university's ethics committee. The participants were provided with a sheet informing them about the survey. Participation in the survey was voluntary. Assent was obtained electronically before adolescents participated in the study. Any identifiable details about the participants were kept anonymous.

The participants were asked to complete the survey on their laptop devices at school within school hours. The time participants took to complete the survey was recorded. The participants were requested to pay attention to the wording and style of the survey. Following survey completion, participants were redirected to a form to provide feedback about the survey's understandability and length. A discussion was held with participants to obtain additional feedback.

Nine participants reported that they understood the questions (about 82%) and two participants had difficulty in understanding one question each (about 18%). All participants reported that they did not skip any question (100%). Concerning the survey length, four participants (36.4%) thought the survey was slightly long. Another four participants (36.4%) considered it to be of perfect length. The remaining three participants reported that the survey was long (18.2%) or slightly short (9.10%). The average duration of the survey was 15 min 50 s. In the discussion, participants commented on the relevance of the items for their lives. Based on the written and verbal feedback, a small number of items were amended and explanatory text was included for complicated words. No item was eliminated in this stage. Overall, the PSTRS development process culminated in 71 items for assessing 20 components, which were presented in Likert-type response format.

2.2 | Validation

2.2.1 | Participants

The principals of all the state intermediate schools in NZ (117) were emailed. About 19% of the schools responded within the timeline and eight agreed to participate. Four schools were high-socioeconomic decile¹ (9 and 10), two were the lowest decile (Decile 1), and two were medium socioeconomic deciles (4 and 7). The participating schools had combined enrollments of approximately 2023 students in Year 8 in 2018, of whom about 23.3% chose to participate and obtained parental consent ($N = 471$). From the eight participating schools, only two schools agreed to arrange a retest study, which comprised a sample of 121 Year eight adolescents. Table 1 displays the demographic information of the baseline and test-retest studies (see Table 1). More girls than boys completed the survey in both studies. The participants were of varied ethnic backgrounds and many of them were 12 or 13 years of age. The baseline sample was adequately representative of national intermediate school ethnic distribution.

2.2.2 | Measures

To assess well-being, an online tool, Assessing Well-being in Education, that has been implemented in many schools in NZ, Australia, and various other countries such as Switzerland and the UK, was utilized. Adolescents were asked to complete

¹Socioeconomic decile is a key measure of socioeconomic status in NZ education. There are 10 deciles in state intermediate schools. Decile 10 schools comprise the highest proportion of students from high-socioeconomic communities whereas Decile 1 schools comprise the highest proportion of students from low-socioeconomic communities (Ministry of Education, 2018).

TABLE 1 Participant demographic information.

Demographic components		All participants baseline		Test-retest	
		471		121	
N	Characteristics	No.	%	No.	%
Gender	Female	213	45.2	76	62.8
	Male	184	39.1	45	37.2
	Missing	74	15.7	-	-
Age	11 years	2	0.40	-	-
	12 years	184	39.1	56	46.3
	13 years	209	44.4	65	53.7
	14 years	1	0.21	-	-
	Missing	75	15.9	-	-
Ethnic group	NZ European	206	43.7	44	36.4
	Asian	74	15.7	12	9.90
	Pacific Island	59	12.5	38	31.4
	Māori	28	5.94	11	9.10
	African	13	2.76	1	0.80
	Middle Eastern	7	1.49	1	0.80
	Other	10	2.12	14	11.6
	Missing	74	15.7	-	-
School location	North Auckland	205	43.5	-	-
	West Auckland	141	29.9	71	58.7
	South Auckland	88	18.7	50	41.3
	Central Auckland	18	3.80	-	-
	Nelson	7	1.49	-	-
	Wellington	12	2.50	-	-
School SES (decile)	10 (highest SES)	212	45.0	-	-
	9	12	2.50	-	-
	7	141	29.9	71	58.7
	4	18	3.80	-	-
	1 (lowest SES)	88	18.7	50	41.3

27 11-point numerical items with verbal labels for the anchors. An example item in the global domain was “How happy were you yesterday?” with “0 = did not feel happy at all yesterday” and “10 = felt happy all the time yesterday” (Jarden et al., 2015). The maximum score on each item was 10 and the minimum score was 0; higher scores on the scale indicated higher well-being. In the current study sample, the alpha coefficient of the full scale was 0.927.

Anxiety was assessed with a single 11-point scale item “How worried or anxious were you yesterday?” with “0 = did not feel worried or anxious at all yesterday” and “10 = felt worried or anxious all of the time yesterday,” as

recommended by Organization for Economic Co-operation and Development (2013) and UK Office for National Statistics (2018). Using a single item for assessing anxiety was considered suitable for early adolescents so that their responses may reflect only those facets that are important and relevant to them individually. Some facets that may be evaluated as not relevant may even be emotionally and cognitively draining for them to answer. Also, the motive was to reduce the burden on participants in completing many questions in a limited amount of time in a school setting. Given that worry is a central component of anxiety (Hirsch et al., 2013), the term worry was also used in the item as early adolescents may be more familiar with this term than anxiety.

2.2.3 | Procedure

Parents and potential participants were provided with an information sheet about the study, and parents provided with their consent for their childrens' participation a week before survey administration. Participant assent was sought electronically on the day of survey administration; participation in the research was voluntary. All procedures and material were approved by the university's ethics committee.

2.3 | Analyses

Missing value pattern analysis was performed on the item-level baseline data. The data were missing for 105 cases, with about 6% of values missing overall and between 8% and 16% of values missing for almost 45 items. The remaining 31 items had between 1% and 3% of data missing. Little's Missing Completely at Random (MCAR) test indicated that data were MCAR ($0.164 > 0.05$). Shapiro–Wilk tests and normality plots revealed that the data distribution was not normal. Responses on the items with 11-point response format were numerical ratings. Negatively worded items were reverse coded. Item scores on each component were summed to compute a total component score. The overall PSTRS score was calculated by adding scores on 20 components comprising 71 items.

Cronbach's alpha was computed for each subscale and the PSTRS. The alpha coefficient of the overall survey was computed to determine the average degree of interrelatedness of the items as a whole, because the survey was implemented as a full measure. Since the listwise deletion in the reliability analyses would have led to considerable data loss, a multiple linear regression imputation method (automatic model) was appropriate for the data set (Graham, 2009; Schafer, 1999). Based on prior evidence, five imputations were performed as the data loss was not unusually high (Schafer, 1999). Specifically, five datasets were generated with different values substituted and alpha on each data set was computed; these statistical results were aggregated to substitute missing item values. There were negligible differences between the original and pooled alpha values. While any alpha value above 0.700 is considered good or excellent, Cronbach's alpha threshold is subject to variation depending on several factors such as the length of the scale (Sandy et al., 2017). Therefore, average inter-item correlations of subscales that resulted in low alpha coefficients were also evaluated. When both alpha and average correlation values were low for a subscale, a closer item-level analysis was performed.

There was no missing data for the retest study. Since item response formats were different, total scores on each subscale and the PSTRS were summed and divided by the number of items to compute mean total scores. Mean total scores were used to calculate the ICCs and their 95% confidence intervals. A two-way mixed-effects model and an absolute agreement were utilized (Koo & Li, 2016). Because the aim was to examine communalities of the components and identify patterns in data on components, PCA was performed on 20 components of the PSTRS with standardized z scores. There were no differences in the PCA output between original raw scores and z scores. Spearman's rank order correlation coefficients were computed to investigate the relationships of the PSTRS components with well-being and anxiety. For factor and correlation analyses, missing values were excluded pairwise.

3 | RESULTS

3.1 | Descriptive analysis

Table 2 shows the descriptive statistics for the PSTRS components and the full PSTRS (see Table 2). As can be seen in the table, Year 8 adolescents had positive perceptions regarding several PSTRS components. For example, they felt safe ($Md = 8.50$), experienced positive family relationships ($Md = 7.50$), consumed a healthy diet ($Md = 8.89$), and typically indicated that they were kind and helpful ($Md = 8.00$). In contrast, adolescents perceived themselves to be less spiritual and rarely experienced the presence of a higher power in life ($Md = 3.33$). A total possible score on the PSTRS is 676. A higher total raw score indicates a higher presence of overall readiness for positive transition. The index of readiness is presented below:

Score	Percentile	Index of readiness
417	25th	Low
467.5	50th	Average
517	75th	High

3.2 | Internal consistency reliability

Cronbach's alpha is sensitive to the number of items and usually underestimates internal consistency reliability for short subscales to 0.500 and lower (Tavakol & Dennick, 2011). As can be seen in Table 3, the coefficient alphas of each subscale ranged from 0.231 to 0.970 ($M = 0.763$). Alpha coefficients for 12 subscales (*feeling safe, strength use, and current knowledge, perceived teacher support, being kind and helpful, school belonging, positive family relationships, positive friendships, nature, spirituality, purpose, and being around positive people*) were excellent (ranging from 0.803 to 0.970), and for two subscales (*self-efficacy, 0.714 and mindfulness, 0.719*) they were good (see Table 3). For the subscales *self-control, enjoyment, and diet*, the alpha value only narrowly missed the value of 0.700, while for only two, *involvement in organized activities* and *frequency of physical activity*, the alpha value was slightly lower than 0.600. Subscales that closely reached the alpha threshold demonstrated optimum average inter-item correlations within the 0.150 to 0.500 range (Clark & Watson, 1995): 0.368, self-control; 0.428, enjoyment; 0.437, diet; 0.237, involvement in organized activities; and 0.408, frequency of physical activity.

The alpha coefficient was inadequate for only one subscale: *hobbies and leisure activities* (0.231). The observation of the corrected item-total correlation showed that low values were due to poor interrelatedness between its items rather than coverage of heterogeneous concepts (Tavakol & Dennick, 2011). Closer examination of the item statistics ascertained that removal of any item in this subscale did not yield any significant increase in alpha value. Considering the low inter-item correlations, items on hobbies and leisure activities were split into two categories to explore the possibility that these activities (hobbies and leisure) are distinct. Reliability analysis was conducted on each of the two-item subscales. The segregation of categories raised the alpha value of two-item leisure activities subscale to 0.525, with 0.356 average inter-item correlation; whereas the estimates for hobbies slightly increased to 0.237 and 0.136, respectively. The alpha value for the overall PSTRS was high, 0.943, which shows excellent internal consistency and inter-relatedness of the items within the survey.

TABLE 2 Descriptive statistics for the PSTRS and item sources.

Subscales	N	Items	Total score	Response format	M ± SD	Md (25th, 75th %ile)	Item sources	Source Google Scholar citations
Feeling safe	420	2	20	0-10	8.13 ± 1.82	8.50 (7.50-9.50)	SRS Safe School Survey, personal safety (Skiba et al., 2006); School safety subscale of Delaware School Climate Survey (Bear et al., 2011).	48; 152
Strength use and current knowledge	471	6	60	0-10	7.48 ± 1.74	7.83 (6.33-8.83)	Strength Use and Current Knowledge Scale (Govindji & Linley, 2007; Wood et al., 2011).	627
Self-control	471	3	30	0-10	4.88 ± 2.13	5.00 (3.33-6.33)	Brief Self-Control Scale (Tangney et al., 2004).	3672
Self-efficacy	463	3	30	0-10	6.84 ± 1.69	7.00 (5.67-8.00)	General Self-Efficacy Scale (Schwarzer et al., 1997).	4956
Enjoyment	418	3	30	0-10	7.32 ± 1.71	7.67 (6.33-8.67)	Quality of Life Enjoyment and Satisfaction Questionnaire (Endicott et al., 1993).	1562
Being kind and helpful	415	6	60	0-10	7.85 ± 1.73	8.00 (6.33-9.33)	Kindness Subscale of The Compassion Scale (Pommier, 2011); Helping Attitudes Scale (Nickell, 1998).	69; 43
*Hobbies and leisure activities	420	4	20	1-5	7.10 ± 1.45	7.50 (6.25-8.13)	Adolescents' participation and interest in leisure activities (Garton & Pratt, 1987); Adolescent Leisure Interest Profile (Fitzgerald, Joseph, Hayes, & O'Regan, 1995).	49; 122
Perceived teacher support	463	3	30	0-10	6.92 ± 2.47	7.33 (5.33-9.00)	The Teacher and Classroom Support Scale (Torsheim et al., 2000).	111
School belonging	463	3	30	0-10	6.47 ± 2.29	6.67 (5.00-8.33)	Psychological sense of school membership (Goodenow, 1993; Ye & Wallace, 2013).	1525
Involvement in organized activities	463	4	40	0-10	6.46 ± 2.38	6.75 (5.00-8.25)	New items; informed by "What do children need to flourish?" (Moore & Lippman, 2005).	
Positive family relationships	460	6	60	0-10	7.11 ± 2.05	7.50 (5.83-8.67)	Multidimensional Scale of Perceived Social Support (Zimet, Dahlem, Zimet, & Farley, 1988); The Brief Family Relationship Scale (Fok et al., 2014).	5877; 12

TABLE 2 (Continued)

Subscales	N	Items	Total score	Response format	M ± SD	Md (25th, 75th %ile)	Item sources	Source Google Scholar citations
Positive friendships	453	6	60	0-10	7.12 ± 2.23	7.50 (5.50-9.00)	Bukowski Friendship Qualities Scale (Bukowski et al., 1994); Multidimensional Scale of Perceived Social Support (Zimet et al., 1988).	819; 5877
Around positive people	415	4	40	0-10	7.01 ± 2.03	7.50 (5.75-8.50)	New items; written considering adolescent free responses regarding pathways to well-being.	
*Frequency of physical activity	420	2	20	1-5	6.21 ± 2.62	6.25 (3.75-8.75)	Adolescents' participation and interest in leisure activities (Garton & Pratt, 1987); Adolescent Leisure Interest Profile (Fitzgerald et al., 1995).	49; 122
*Diet	396	3	21	1-7	8.09 ± 2.18	8.89 (6.67-10.00)	Informed by the questionnaire on physical activity and nutrition, Center for Physical Activity and Nutrition, Auckland University of Technology (AUT).	
Nature	430	3	30	0-10	6.49 ± 2.26	6.67 (5.00-8.33)	Nisbet Nature relatedness scale (Nisbet et al., 2008).	703
Spirituality	415	3	30	0-10	4.12 ± 3.91	3.33 (0.00-8.00)	Daily Spiritual Experience Scale (Underwood & Teresi, 2002).	946
Purpose	461	3	30	0-10	6.36 ± 2.08	6.67 (5.00-8.00)	Purpose in Life Test: Short Form (Schulenberg et al., 2011).	92
Mindfulness	463	3	30	0-10	6.28 ± 2.16	6.33 (4.67-8.00)	Mindfulness Attention Awareness Scale for Adolescents (MAAS-A) (Brown et al., 2011).	232
*Socializing activities frequency	420	1	5	1-5	5.86 ± 2.80	5.00 (2.50-7.50)	Adolescents' participation and interest in leisure activities (Garton & Pratt, 1987); Adolescent Leisure Interest Profile (Fitzgerald et al., 1995).	49; 122
Total	471	71	676		462.50 ± 79.11	467.50 (417.00-517.00)		

Note: For interpreting subscales marked with an asterisk *see the following descriptive statistics: *Socializing, Md = 3.00 (2.00-4.00); *Hobbies and leisure activities, Md = 4.00 (3.50-4.25); *Physical activity frequency, Md = 3.50 (2.50-4.50); and *Diet, Md = 6.33 (5.00-7.00).

TABLE 3 Internal consistency estimates, test-retest reliability coefficients, and correlations.

Components	Intraclass correlation				Spearman's rho (2-tailed)		
	Cronbach's α	Single-Measures ICC	95% confidence interval		Average measures ICC	Well-being	Anxiety
			Lower bound	Upper bound			
Feeling safe	0.805	0.782	0.702	0.843	0.878	0.639***	-0.330***
Strength use and current knowledge	0.916	0.822	0.754	0.872	0.902	0.725***	-0.330***
Self-control	0.636	0.774	0.691	0.837	0.873	0.302***	-0.215***
Self-efficacy	0.714	0.726	0.628	0.801	0.841	0.615***	-0.201***
Enjoyment	0.680	0.699	0.596	0.780	0.823	0.664***	-0.280***
Being kind and helpful	0.936	0.821	0.753	0.871	0.902	0.498***	-0.119*
Hobbies and leisure activities	0.231	0.560	0.424	0.671	0.718	0.223***	-0.044
Perceived teacher support	0.878	0.811	0.740	0.864	0.896	0.569***	-0.254***
School belonging	0.831	0.792	0.714	0.850	0.884	0.745***	-0.305***
Involvement in organized activities	0.551	0.501	0.354	0.623	0.667	0.237***	-0.120***
Positive family relationships	0.847	0.846	0.787	0.890	0.917	0.521***	-0.172***
Positive friendships	0.909	0.766	0.681	0.830	0.867	0.504***	-0.197***
Around positive people	0.934	0.719	0.620	0.796	0.837	0.661***	-0.248***
Socializing activities frequency	-	0.554	0.416	0.667	0.713	0.239***	-0.053
Frequency of physical activity	0.578	0.751	0.662	0.820	0.858	0.385***	-0.065
Diet	0.683	0.726	0.629	0.800	0.841	0.242***	-0.029
Nature	0.803	0.801	0.726	0.857	0.890	0.319***	-0.081
Spirituality	0.970	0.943	0.919	0.960	0.971	0.176***	-0.101*
Purpose	0.805	0.710	0.604	0.791	0.831	0.621***	-0.209***
Mindfulness	0.797	0.711	0.610	0.789	0.831	0.381***	-0.166***
Full scale	0.943	0.866	0.636	0.936	0.928	0.816***	-0.283***

* $p < .05$; ** $p < .01$; *** $p < .001$.

3.3 | Test-retest reliability

Any ICC coefficient value between 0.500 and 0.750 is moderate, between 0.750 and 0.900 is good, and above 0.900 is excellent (Koo & Li, 2016). Table 3 displays the single-measures ICC coefficients between 0.501 and 0.943 ($M = 0.741$) and their 95% confidence intervals (see Table 3). Both single and average ICC measures are reported, but the results are discussed utilizing single-measure coefficients, which are lower estimates of reliability than average measures.

The test-retest single-measure ICC estimates were between moderate and excellent for all subscales including hobbies and leisure activities. As per the 95% confidence interval of these estimates, the level of test-retest reliability was “moderate” to “good” for 14 subscales, “good” for two subscales (strength use and current knowledge and being kind and helpful), “excellent” for spirituality subscale, and “poor” to “moderate” for subscales hobbies and leisure activities, socializing activities frequency, and involvement in organized activities. The test-retest reliability of the total PSTRS was good (ICC = 0.866, single measures).

3.4 | PC analysis (PCA)

The Kaiser-Meyer-Olkin value was 0.898, which showed that the sample size was adequate for factor analysis and Bartlett's Test of Sphericity reached statistical significance ($X^2 = 3005.950$; $p < .001$), which supported the suitability of correlation matrix for conducting factor analysis. There were four PCs with eigenvalues exceeding 1, explaining 34.02%, 8.29%, 7.42%, and 6.54% of the variance respectively. An inspection of the Scree Plot revealed a sharp break (Cattel's elbow effect) after the first component and then again after the fourth component. The Monte Carlo PCA for parallel analysis further supported these results, as eigenvalues of four components exceeded the randomly generated matrix of the same size. A decision was made to retain three factors, as the pattern matrix realized a simple structure in this scenario and less than two variables loaded strongly on the fourth factor in the pattern matrix (Watson, 2017).

To examine communalities of the components and construct validity of the PSTRS, a PCA with oblique rotation (Promax) was conducted with a three-factor solution accounting for 49.8% of the variance, with PC 1 contributing 34.0%, PC 2 contributing 8.33%, and PC 3 contributing 7.42%. As shown in Table 4, 12 variables loaded on the first PC with average pattern coefficient of 0.675. The remaining six loaded on the second PC with average pattern coefficient of 0.546, and two components loaded on the third PC (total six items) with average pattern coefficient of 0.702. Coefficients and communalities were above the thresholds of 0.300 and 0.200, respectively (Costello & Osborne, 2005; Samuels, 2017), with average communality of 0.498 (see Table 4). There were no significant cross-loadings in the pattern matrix; that is, differences in loadings of variables on more than one PC were greater than 0.100.

There was a weak positive correlation between the first and third PCs ($r = 0.196$) and a moderate positive correlation between the first and second PCs ($r = 0.432$). The relationships among variables with three PCs were partly consistent with the conceptual framework of the current study. Descriptive labels suggested for the three PCs are positive connections and psychospiritual readiness, lifestyle, and self-control and mindfulness. The first PC, positive connections and psychospiritual readiness, comprises school-psychosocial-spiritual items. It indicates (a) adolescent psychological and spiritual preparedness, and (b) adolescent relationships with significant others and the availability of school and social support. The second PC covers lifestyle items, and represents frequency of physical and socializing activities, diet, involvement in hobbies and extracurricular activities, and connection with nature. The third PC comprises items on self-control and mindfulness, and represents the ability to refrain from undesired impulses and adolescent attentiveness and awareness.

TABLE 4 Pattern coefficients and communalities of the PSTRS.

Components	Pattern coefficients			Communalities
	PC (1)	PC (2)	PC (3)	
Perceived teacher support	0.891			0.659
School belonging	0.866			0.701
Enjoyment	0.777			0.629
Around positive people	0.771			0.613
Feeling safe	0.715			0.519
Positive friendships	0.672			0.467
Being kind and helpful	0.668			0.560
Strength use and current knowledge	0.636			0.599
Positive family relationships	0.597			0.431
Purpose	0.541			0.493
Spirituality	0.520		-0.486	0.390
Self-efficacy	0.442			0.489
Frequency of physical activity		0.725		0.535
Hobbies and leisure activities		0.650		0.386
Socializing activities frequency		0.557	-0.331	0.424
Diet		0.519	0.352	0.399
Involvement in organized activities		0.454		0.210
Nature		0.376		0.311
Mindfulness			0.702	0.587
Self-control			0.702	0.542

Note: Loadings on the three PCs are in bold.

3.5 | Associations of the PSTRS with well-being and anxiety

As can be seen in Table 3, zero-order correlations between PSTRS component scores and well-being scores were positive and significant ($p > .001$) at the same time (see Table 3). Eleven components (55%) returned large correlations, four (20%) returned moderate correlations, and five components returned small correlations (25%). The PSTRS subscales correlated negatively and modestly with anxiety. The correlations show the full PSTRS is positively correlated with well-being ($r = 0.816$, $p < .001$), confirming convergent validity, and negatively correlated with anxiety ($r = -0.283$, $p < .001$), confirming discriminant validity. A key point to which we return later is that the PSTRS is strongly positively correlated with the well-being measure but less strongly correlated with anxiety. Based on the coefficient of determination, the PSTRS helps to explain nearly 67% of the variance in respondents' scores on the measure of well-being, and nearly 8% of the respondents' scores on the measure of anxiety.

4 | DISCUSSION

This study aimed to develop and investigate the psychometric properties of a preliminary self-report survey, the PSTRS, for identifying the presence or absence of factors that facilitate transition to secondary school and are important for adolescent understanding of well-being. The PSTRS presents a convenient and quick method for assessing a wide range of components that adolescents perceive to be important for their well-being and that facilitate transition to secondary school. Such assessment may be useful for determining adolescent general readiness for school transition. Naturally, researchers interested in the in-depth analysis of an individual component would continue to find value in existing longer scales.

The results suggested that the internal consistency reliability of the PSTRS subscales (except Hobbies and Leisure activities) was acceptable and that items in these subscales appeared to be measuring the same concept. Most subscales demonstrated excellent or good internal consistency reliability. Not surprisingly, the alpha coefficients of five subscales were below 0.700 but above 0.550, which is promising, as the average inter-item estimate was adequate. The alpha values can be affected by the length of the scale (Tavakol & Dennick, 2011). Certain subscales (such as spirituality) demonstrated a large alpha value, which possibly signifies that its items were especially intercorrelated and had a narrow focus (Clark & Watson, 1995). The Cronbach alpha of the total PSTRS was excellent (>0.9) showing that every item on the PSTRS shares variance (or correlates well) with at least some other items in the survey. As stated earlier, the obtained alpha value is not only a function of the average variance associated with each item and the total scores but also the number of items in a test. Further, it is essential to consider that this value is uninformative of the dimensionality of the survey. That is, a high alpha value here does not imply that the PSTRS is unidimensional. A high α coefficient may even underscore multidimensionality of the PSTRS, which is discussed later, and that the PSTRS subscales themselves are internally consistent (Taber, 2018). Overall, it could be inferred from the findings that each subscale and the full survey were internally consistent, except hobbies and leisure activities; only this subscale produced inadequate alpha and inter-item correlation values. A potential way of increasing the internal consistency of this subscale would be to split the hobbies and leisure activities items into two categories and to compute distinct scores, as discussed in the results section. An alternative avenue for researchers would be to pool more items related to the concept of hobbies and subsequently evaluate its alpha reliability, but use leisure items in its existing form. As previously noted, test-retest serves as a more useful reliability estimate for short scales than internal consistency (Ziegler et al., 2014). The test-retest reliability of all the subscales (including hobbies and leisure activities) and full PSTRS was moderate or excellent. The current study results regarding the internal consistency and test-retest reliabilities were comparable to other studies (Gosling et al., 2003; Sandy et al., 2017).

One of the novel contributions of this study is the finding that the PSTRS is multidimensional and that the wide number of components in the PSTRS are related to three PCs: positive support/connections and psychospiritual readiness, lifestyle, and self-control and mindfulness. Some of the key questions that may be answered by the PSTRS pertaining to the evaluation of adolescent readiness to transition positively from intermediate to secondary school could be as follows: Are the adolescents mentally prepared to transition from the intermediate school environment to the secondary school setting? Do they have enough positive support, knowledge, and skills to help them wade through the critical period of transition? Are the adolescents sufficiently mindful and self-controlled to cope with the school change? To what extent are their lifestyles appropriate to help them to adapt to a new situation? The communalities were above 0.20, which demonstrated that the PCs adequately represented the components in the PSTRS, which is evidence of construct validity.

The PSTRS and its subscales also correlated positively with the measure of well-being and negatively with anxiety. This finding was in line with previous studies indicating relationships of some of the components in PSTRS, such as self-efficacy and self-control, with either well-being or mental ill-being (Madjar & Chohat, 2017; Muris, 2002; Ronen et al., 2016). In addition to moderate to strong reliabilities, 15 subscales had moderate to large correlations with well-being and noticeably smaller correlations with anxiety, demonstrating sufficient levels of

convergent and discriminant validity. Despite higher test-retest reliabilities, the correlations of five subscales—diet, spirituality, involvement in organized activities, hobbies and leisure activities, and socializing activities—with both well-being and anxiety were small in magnitude. One possibility is that three of these subscales (diet, hobbies and leisure activities, and socializing activities frequency) had different response formats than the remaining PSTRS, and variation in response format can affect data quality (Organization for Economic Co-operation and Development, 2013). While the components were based on prior empirical research (Bharara et al., 2019; Bharara, 2020), a second tentative explanation of these results could be that the impact of these components on well-being and anxiety is not clear and this needs to be verified and tested in future cross-sectional and longitudinal investigations. As PCA results showed, the ratio of each component's unique variance to shared variance was acceptable therefore these five components were retained in the survey. It is noteworthy that items were created for the subscale "being around positive people," which showed excellent internal consistency, with moderate to good test-retest reliability and validity. This subscale of being around positive people is a new addition to the evaluation literature.

There was a positive strong correlation between the PSTRS and well-being, which is evidence of the convergent validity of the PSTRS. The correlation coefficients between PSTRS and anxiety were relatively modest and noticeably smaller in magnitude than convergent validity coefficients, which is evidence of discriminant validity. Given that there is no instrument on school transition readiness, it is helpful to draw on the existing evaluation research on positive mental health and mental illness to explain similar results (Keyes et al., 2008; Luijten et al., 2019; Singh et al., 2015). The mostly weak correlations of the PSTRS with anxiety may indicate that the absence of anxiety does not necessarily imply readiness for transition and emphasizes the importance of a positive psychological approach in the assessment of transition readiness. Conversely, the implication is that the presence of transition readiness does not entail an absence of anxiety during school transition. When PSTRS scores increase, the score on anxiety item decrease in a significant but weak manner. In other words, the more ready adolescents feel they are for the transition, the less anxiety they experience, although only to a small extent, and some level of anxiety may still be present during the school transition. While the present study results concerning the correlations between PSTRS and anxiety also concur with a recent study examining the correlation between anxiety and adaptability (Putwain et al., 2023), these results are different than existing research on academic buoyancy (a salient negative predictor of anxiety) which shows high negative correlations with anxiety (Martin, 2013; Martin & Marsh, 2008). Thus, further research is warranted to understand this relationship. While it may be speculated that the single-item anxiety measure might have affected the results, recent research has shown that single-item anxiety assessments are equally effective as their corresponding multiple-item scales (Gogol et al., 2014; Núñez-Peña et al., 2014; Turon et al., 2019; Verster et al., 2021). Notably, the PSTRS and well-being share a respectable amount of variance, showing a strong linear relationship between these measures. Overall, it was concluded that the PSTRS is a reliable and valid measure.

Preliminary results from the present study indicate that the PSTRS is a promising new measure that professionals in intermediate and secondary schools may potentially be able to use to identify transition readiness in adolescents. PSTRS data have significant implications for theory, research, interventions, policy, and individuals. First, a comprehensive evaluation can aid in expounding the complex nature of positive school transition. Second, identification of the presence or absence of the components in the PSTRS may provide useful information to school professionals involved in aiding transition (Rice, Frederickson, Seymour, 2011). A collective assessment could identify vulnerable adolescents, as well as their strengths and potential areas for improvement (Education Review Office, 2012), and this knowledge, could inform interventions and policymaking. Third, the assessment is beneficial for correlational, longitudinal, and internet studies (Sandy et al., 2017) within adolescent samples. Finally, students may engage in introspection regarding their own strengths and create awareness of areas for improvement. In sum, the PSTRS is a useful tool for school professionals, practitioners, researchers, and adolescents concerned with the transition to secondary school.

There are some limitations to the current study. Owing to the emphasis on broad coverage of components, it was not possible to have a uniform response scale for items. Despite some variations, best efforts were made to

balance the survey for ease of performance. Second, the PSTRS subscale hobbies and leisure activities suffered from low internal consistency, although the test–retest reliability was adequate. In addition to hobbies and leisure activities, the correlations of the subscales diet, socializing activities frequency, involvement in organized activities, and spirituality were low with well-being and anxiety both, although all these components showed moderate to high test–retest reliabilities and adequately represented the PCs in the survey. While there are numerous advantages of online assessment, such as convenience and efficiency, a third limitation is that server interruptions caused difficulties for participants filling in the survey, which affected the range and quality of data. In other words, some valuable participants and data were lost. Fourth, the present study utilized a single item to assess anxiety which may not adequately capture the complexity of this construct. While multi-item scales can provide more information about the aspects related to a construct, and therefore allow more fine-grained distinctions between respondents, to achieve this with a single item a longer response scale was provided. Finally, the evidence that this survey measures readiness to transition to secondary school is indirect. An additional study is needed to examine predictive validity of the survey in which adolescents, who completed PSTRS before the transition, are followed into secondary school and are evaluated concerning their adaptation to the new environment.

Recommendations for future research include examining psychometric properties of the PSTRS based on the findings of cross-sectional and longitudinal studies and subsequently refining PSTRS based on its findings. For instance, the components that show no cross-sectional and longitudinal relationships with well-being over time could potentially be omitted from the survey. Specifically, implementing a two-wave longitudinal design for investigating longitudinal factorial validity, predictive validity, and criterion validity of the PSTRS through its relationship with well-being over time can be a fruitful avenue for future inquiries. This investigation can further demonstrate pre-post transition changes and correlations in the PSTRS scores to determine how well adolescents adapted to the new school. Future investigations should also involve confirmatory and Rasch analysis on the PSTRS and accrue more evidence regarding its psychometric properties in other countries. Given the impact of everyday and chronic adversities on school transitions, it would be valuable for researchers to take into account the importance of implementing measures of academic resilience and academic buoyancy together with the PSTRS. The findings from these studies can contribute to the further refinement of the PSTRS.

5 | CONCLUSION

This study developed the PSTRS and investigated the initial psychometric properties of its subscales and the entire survey in a sample of intermediate school adolescents. Cronbach's alpha and the test–retest reliability outcomes of the survey were very satisfactory and above 0.800. Single-measures ICCs of subscales were moderate to excellent. The PCA resulted in a three-factor structure and the following descriptive labels were proposed: positive connections and psychospiritual readiness, lifestyle, and self-control and mindfulness. The PSTRS and its subscales correlated positively with well-being and negatively with anxiety. This study demonstrated that PSTRS and its subscales are reliable and valid. The survey profile represents a time-efficient method for schools to determine adolescents' readiness to transition to secondary school. Future work should consider refining and validating the PSTRS in other populations and age groups.

ACKNOWLEDGMENTS

We are thankful to Professor Chris Krägeloh (School of Public Health and Psychosocial Studies, AUT) and Associate Professor Aaron Jarden (Center for Positive Psychology, University of Melbourne) for their intellectual contributions. We are also grateful to the school principals and teachers for their wholehearted cooperation with the researcher. Thanks also goes to the Director of Assessing Well-being in Education Pty Ltd., Michael Parker, for allowing free usage of the well-being instrument. Funding was received from the PhD account of the university for research only.

CONFLICT OF INTEREST STATEMENT

The authors declare no conflict of interest.

DATA AVAILABILITY STATEMENT

Data available on request due to privacy/ethical considerations.

ORCID

Gazal Bharara  <http://orcid.org/0000-0003-1280-982X>

REFERENCES

- Akos, P., & Galassi, J. P. (2004). Middle and high school transitions as viewed by students, parents, and teachers. *Professional School Counseling*, 7(4), 212–221.
- Alspaugh, J. W. (1998). Achievement loss associated with the transition to middle school and high school. *The Journal of Educational Research*, 92, 20–25. <https://doi.org/10.1080/00220679809597572>
- Anderson, L. W., Jacobs, J., Schramm, S., & Splittgerber, F. (2000). School transitions: Beginning of the end or a new beginning. *International Journal of Educational Research*, 33, 325–339. [https://doi.org/10.1016/S0883-0355\(00\)00020-3](https://doi.org/10.1016/S0883-0355(00)00020-3)
- Bear, G. G., Gaskins, C., Blank, J., & Chen, F. F. (2011). Delaware school climate survey—Student: Its factor structure, concurrent validity, and reliability. *Journal of School Psychology*, 49(2), 157–174. <https://doi.org/10.1016/j.jsp.2011.01.001>
- Ben-Arieh, A. (2005). Where are the children? Children's role in measuring and monitoring their well-being. *Social Indicators Research*, 74, 573–596. <https://doi.org/10.1007/s11205-004-4645-6>
- Benner, A. D. (2011). The transition to high school: Current knowledge, future directions. *Educational Psychology Review*, 23, 299–328. <https://doi.org/10.1007/s10648-011-9152-0>
- Benner, A. D., & Graham, S. (2009). The transition to high school as a developmental process among multiethnic urban youth. *Child Development*, 80, 356–376. <https://doi.org/10.1111/j.1467-8624.2009.01265.x>
- Bharara, G. (2020). Factors facilitating a positive transition to secondary school: A systematic literature review. *International Journal of School & Educational Psychology*, 8(sup1), 104–123. <https://doi.org/10.1080/21683603.2019.1572552>
- Bharara, G., Duncan, S., Jarden, A., & Hinckson, E. (2019). A prototype analysis of New Zealand adolescents' conceptualizations of wellbeing. *International Journal of Wellbeing*, 9(4), 1–25. <https://doi.org/10.5502/ijw.v9i4.975>
- Brown, K. W., West, A. M., Loverich, T. M., & Biegel, G. M. (2011). Assessing adolescent mindfulness: Validation of an adapted mindful attention awareness scale in adolescent normative and psychiatric populations. *Psychological Assessment*, 23(4), 1023–1033. <https://doi.org/10.1037/a0021338>
- Bukowski, W. M., Hoza, B., & Boivin, M. (1994). Measuring friendship quality during pre- and early adolescence: The development and psychometric properties of the Friendship Qualities Scale. *Journal of Social and Personal Relationships*, 11(3), 471–484. <https://doi.org/10.1177/0265407594113011>
- Casas, F. (2011). Subjective social indicators and child and adolescent well-being. *Child Indicators Research*, 4(4), 555–575. <https://doi.org/10.1007/s12187-010-9093-z>
- Clark, L. A., & Watson, D. (1995). Constructing validity: Basic issues in objective scale development. *Psychological Assessment*, 7, 309–319. <https://doi.org/10.1037/1040-3590.7.3.309>
- Costello, A. B., & Osborne, J. (2005). Best practices in exploratory factor analysis: Four recommendations for getting the most from your analysis. *Practical Assessment, Research & Evaluation*, 10, 1–9.
- Cox, S., & Kennedy, S. (2008). *Students' achievement as they transition from primary to secondary schooling*. Ministry of Education.
- Department of Education and Training. (2016). *Student transition and resilience training*. Victoria State Government.
- Eccles, J. S., Midgley, C., Wigfield, A., Buchanan, C. M., Reuman, D., Flanagan, C., & Mac Iver, D. (1993). Development during adolescence. The impact of stage-environment fit on young adolescents' experiences in schools and in families. *American Psychologist*, 48, 90–101.
- Education Review Office. (2012). *Evaluation at a glance: Transitions from primary school to secondary school*. Education Review Office.
- Education Review Office. (2016). *Wellbeing for success: A resource for schools*. Education Review Office. <http://www.ero.govt.nz/assets/Uploads/Wellbeing-resource-WEB.pdf>
- Endicott, J., Nee, J., Harrison, W., & Blumenthal, R. (1993). Quality of life enjoyment and satisfaction questionnaire: A new measure. *Psychopharmacology Bulletin*, 29, 321–326.

- Fitzgerald, M., Joseph, A. P., Hayes, M., & O'Regan, M. (1995). Leisure activities of adolescent schoolchildren. *Journal of Adolescence*, 18(3), 349–358. <https://doi.org/10.1006/jado.1995.1024>
- Fok, C. C. T., Allen, J., & Henry, D., People Awakening Team. (2014). The brief family relationship scale: A brief measure of the relationship dimension in family functioning. *Assessment*, 21(1), 67–72. <https://doi.org/10.1177/1073191111425856>
- Gardner, D. G., Cummings, L. L., Dunham, R. B., & Pierce, J. L. (1998). Single-item versus multiple-item measurement scales: An empirical comparison. *Educational and Psychological Measurement*, 58, 898–915. <https://doi.org/10.1177/0013164498058006003>
- Garton, A. F., & Pratt, C. (1987). Participation and interest in leisure activities by adolescent school children. *Journal of Adolescence*, 10(4), 341–351.
- Gogol, K., Brunner, M., Goetz, T., Martin, R., Ugen, S., Keller, U., Fischbach, A., & Preckel, F. (2014). My Questionnaire is Too Long! The assessments of motivational-affective constructs with three-item and single-item measures. *Contemporary Educational Psychology*, 39(3), 188–205. <https://doi.org/10.1016/j.cedpsych.2014.04.002>
- Goodenow, C. (1993). The psychological sense of school membership among adolescents: Scale development and educational correlates. *Psychology in the Schools*, 30(1), 79–90. [https://doi.org/10.1002/1520-6807\(199301\)30:1](https://doi.org/10.1002/1520-6807(199301)30:1)
- Gosling, S. D., Rentfrow, P. J., & Swann, W. B. (2003). A very brief measure of the big-five personality domains. *Journal of Research in Personality*, 37, 504–528. [https://doi.org/10.1016/S0092-6566\(03\)00046-1](https://doi.org/10.1016/S0092-6566(03)00046-1)
- Govindji, R., & Linley, P. A. (2007). Strengths use, self-concordance and well-being: Implications for strengths coaching and coaching psychologists. *International Coaching Psychology Review*, 2(2), 143–153.
- Graham, J. W. (2009). Missing data analysis: Making it work in the real world. *Annual Review of Psychology*, 60, 549–576. <https://doi.org/10.1146/annurev.psych.58.110405.085530>
- Hanewald, R. (2013). Transition between primary and secondary school: Why it is important and How it can be supported. *Australian Journal of Teacher Education*, 38(1), 62–74. <https://doi.org/10.14221/ajte.2013v38n1.7>
- Hawk, K., & Hill, J. (2004). *Transition traumas, traps, turning points and triumphs: Putting student needs first*. Paper presented at the PPTA Conference.
- Hirsch, C. R., Mathews, A., Lequertier, B., Perman, G., & Hayes, S. (2013). Characteristics of worry in generalized anxiety disorder. *Journal of Behavior Therapy and Experimental Psychiatry*, 44(4), 388–395. <https://doi.org/10.1016/j.jbtep.2013.03.004>
- Jarden, A., Walker, S., & Quinlan, D. (2015). *Assessing wellbeing in education: Assessment manual*. Assessing Wellbeing in Education Pty Ltd (AWE). <https://www.awesomeschools.com/>
- Keyes, C. L., Wissing, M., Potgieter, J. P., Temane, M., Kruger, A., & van Rooy, S. (2008). Evaluation of the mental health continuum-short form (MHC-SF) in setswana-speaking South Africans. *Clinical psychology & psychotherapy*, 15(3), 181–192. <https://doi.org/10.1002/cpp.572>
- Koo, T. K., & Li, M. Y. (2016). A guideline of selecting and reporting intraclass correlation coefficients for reliability research. *Journal of Chiropractic Medicine*, 15, 155–163. <https://doi.org/10.1016/j.jcm.2016.02.012>
- Loke, S. W., & Lowe, P. A. (2013). Examination of the psychometric properties of the environmental School Transition Anxiety Scale. *Journal of Psychoeducational Assessment*, 31(5), 459–468. <https://doi.org/10.1177/0734282912472860>
- Lombardi, C., Prino, L. E., Marengo, D., & Settanni, M. (2016). Student-teacher relationships as a protective factor for school adjustment during the transition from middle to high school. *Frontiers in Psychology*, 7, 1–9. <https://doi.org/10.3389/fpsyg.2016.01988>
- Luijten, C. C., Kuppens, S., van de Bongardt, D., & Nieboer, A. P. (2019). Evaluating the psychometric properties of the mental health continuum-short form (MHC-SF) in Dutch adolescents. *Health and Quality of Life Outcomes*, 17(1), 157. <https://doi.org/10.1186/s12955-019-1221-y>
- Madjar, N., & Chohat, R. (2017). Will I succeed in middle school? A longitudinal analysis of self-efficacy in school transitions in relation to goal structures and engagement. *Educational Psychology*, 37, 680–694. <https://doi.org/10.1080/01443410.2016.1179265>
- Martin, A. J. (2013). Academic buoyancy and academic resilience: Exploring 'everyday' and 'classic' resilience in the face of academic adversity. *School Psychology International*, 34(5), 488–500. <https://doi.org/10.1177/0143034312472759>
- Martin, A. J., & Marsh, H. W. (2008). Academic buoyancy: Towards an understanding of students' everyday academic resilience. *Journal of School Psychology*, 46(1), 53–83. <https://doi.org/10.1016/j.jsp.2007.01.002>
- McGee, C., Ward, R., Gibbons, J., & Harlow, A. (2004). *Transition to secondary school: A literature review*. Ministry of Education.
- Ministry of Education. (2018). *School deciles*. Retrieved 15 February, 2018, from <https://www.education.govt.nz/school/running-a-school/resourcing/operational-funding/school-decile-ratings/>
- Moore, K. A., & Lippman, L. H. (2005). *What do children need to flourish?: Conceptualizing and measuring indicators of positive development* (Vol. 3, 5th ed). Springer. <https://doi.org/10.1007/b100487>

- Muris, P. (2002). Relationships between self-efficacy and symptoms of anxiety disorders and depression in a normal adolescent sample. *Personality and Individual Differences*, 32, 337–348. [https://doi.org/10.1016/S0191-8869\(01\)00027-7](https://doi.org/10.1016/S0191-8869(01)00027-7)
- Newman, B. M., Newman, P. R., Griffen, S., O'connor, K., & Spas, J. (2007). The relationship of social support to depressive symptoms during the transition to high school. *Adolescence*, 42, 441–459.
- Ng-Knight, T. (2015). *A prospective longitudinal study of the transition to secondary school: Exploring risk and protective factors*. (Doctoral thesis, University College London, London, United Kingdom). <https://pdfs.semanticscholar.org/8cad/b3f5473a4f59c180def734bb4dcd00813d27.pdf>
- Nickell, G. S. (1998). *The Helping Attitude Scale: A new measure of prosocial tendencies*. Paper presented at the 106th Annual Convention of the American Psychological Association.
- Nisbet, E. K., Zelenski, J. M., & Murphy, S. A. (2008). The nature relatedness scale: Linking individuals' connection with nature to environmental concern and behavior. *Environment and Behavior*, 41(5), 715–740. <https://doi.org/10.1177/0013916508318748>
- Núñez-Peña, M. I., Guilera, G., & Suárez-Pellicioni, M. (2014). The single-item math anxiety scale (sima): An alternative way of measuring mathematical anxiety. *Personality and Individual Differences*, 60, S75–S76. <https://doi.org/10.1016/j.paid.2013.07.339>
- Office for National Statistics. (2018). *Surveys using our four personal well-being questions: A guide to what surveys include the four ONS personal well-being questions*. Office for National Statistics. <https://www.ons.gov.uk/peoplepopulationandcommunity/wellbeing/methodologies/surveysusingthe4officeforationalstatisticspersonalwellbeingquestions/pdf>
- Organization for Economic Co-operation and Development. (2013). *OECD guidelines on measuring subjective well-being*. Organization for Economic Co-operation and Development. <https://doi.org/10.1787/9789264191655-en>
- Pommier, E. A. (2011). *The compassion scale*. (Doctoral thesis, The University of Texas, Austin, Texas). <http://hdl.handle.net/2152/ETD-UT-2010-12-2213s>
- Putwain, D. W., Beaumont, J., & Gallard, D. (2023). Adaptability vs. Buoyancy: Which offers the greater protection against test anxiety and could relations be reciprocal? *Learning and Individual Differences*, 101, 102247. <https://doi.org/10.1016/j.lindif.2022.102247>
- van Rens, M., Haelermans, C., Groot, W., & Maassen van den Brink, H. (2017). Facilitating a successful transition to secondary school: (How) does it work? A systematic literature review. *Adolescent Research Review*, 3, 43–56. <https://doi.org/10.1007/s40894-017-0063-2>
- Revilla, M., & Ochoa, C. (2015). Quality of different scales in an online survey in Mexico and Colombia. *Journal of Politics in Latin America*, 7(3), 157–177. <https://doi.org/10.1177/1866802X1500700305>
- Rice, F., Frederickson, N., & Seymour, J. (2011). Assessing pupil concerns about transition to secondary school. *British Journal of Educational Psychology*, 81, 244–263. <https://doi.org/10.1348/000709910X519333>
- Rice, F., Frederickson, N., Shelton, K., McManus, C., Riglin, L., & Ng-Knight, T. (2011). *Identifying factors that predict successful and difficult transitions to secondary school*. University College London and Cardiff University.
- Rice, J. K. (2001). Explaining the negative impact of the transition from middle to high school on student performance in Mathematics and science. *Educational Administration Quarterly*, 37(3), 372–400. <https://doi.org/10.1177/00131610121969352>
- Riglin, L., Frederickson, N., Shelton, K. H., & Rice, F. (2013). A longitudinal study of psychological functioning and academic attainment at the transition to secondary school. *Journal of Adolescence*, 36, 507–517. <https://doi.org/10.1016/j.adolescence.2013.03.002>
- Robinson, M. A. (2018). Using multi-item psychometric scales for research and practice in human resource management. *Human Resource Management*, 57, 739–750. <https://doi.org/10.1002/hrm.21852>
- Ronen, T., Hamama, L., Rosenbaum, M., & Mishely-Yarlap, A. (2016). Subjective well-being in adolescence: The role of self-control, social support, age, gender, and familial crisis. *Journal of Happiness Studies*, 17(1), 81–104. <https://doi.org/10.1007/s10902-014-9585-5>
- Samuels, P. (2017). *Advice on exploratory factor analysis*. Centre for Academic Success, Birmingham City University.
- Sandy, C. J., Gosling, S. D., Schwartz, S. H., & Koelkebeck, T. (2017). The development and validation of brief and ultrabrief measures of values. *Journal of Personality Assessment*, 99, 545–555. <https://doi.org/10.1080/00223891.2016.1231115>
- Schafer, J. L. (1999). Multiple imputation: A primer. *Statistical Methods in Medical Research*, 8(1), 3–15. <https://doi.org/10.1177/096228029900800102>
- Schulenberg, S. E., Schnitzer, L. W., & Buchanan, E. M. (2011). The purpose in life Test-Short form: Development and psychometric support. *Journal of Happiness Studies*, 12(5), 861–876. <https://doi.org/10.1007/s10902-010-9231-9>
- Schwarzer, R., Bäßler, J., Kwiatek, P., Schröder, K., & Zhang, J. X. (1997). The assessment of optimistic self-beliefs: Comparison of the German, Spanish, and Chinese versions of the general self-efficacy scale. *Applied Psychology*, 46(1), 69–88. <https://doi.org/10.1111/j.1464-0597.1997.tb01096.x>

- Shoshani, A., & Slone, M. (2013). Middle school transition from the strengths perspective: Young adolescents' character strengths, subjective well-being, and school adjustment. *Journal of Happiness Studies*, 14, 1163–1181. <https://doi.org/10.1007/s10902-012-9374-y>
- Simmons, R. G., Burgeson, R., Carlton-Ford, S., & Blyth, D. A. (1987). The impact of cumulative change in early adolescence. *Child Development*, 58, 1220–1234. <https://doi.org/10.2307/1130616>
- Singh, K., Bassi, M., Junnarkar, M., & Negri, L. (2015). Mental health and psychosocial functioning in adolescence: An investigation among Indian students from Delhi. *Journal of Adolescence*, 39, 59–69. <https://doi.org/10.1016/j.adolescence.2014.12.008>
- Skiba, R., Simmons, A. B., Peterson, R., & Forde, S. (2006). The SRS Safe Schools Survey: A broader perspective on school violence prevention. In S. R. Jimerson, & M. Furlong (Eds.), *Handbook of school violence and school safety: From research to practice* (pp. 157–170). Lawrence Erlbaum.
- Symonds, J. (2015). *Understanding school transition: What happens to children and how to help them*. Routledge.
- Taber, K. S. (2018). The use of cronbach's alpha when developing and reporting research instruments in science education. *Research in Science Education*, 48(6), 1273–1296. <https://doi.org/10.1007/s11165-016-9602-2>
- Tangney, J. P., Baumeister, R. F., & Boone, A. L. (2004). High self-control predicts good adjustment, better grades, and interpersonal success. *Journal of Personality*, 72(2), 271–324. <https://doi.org/10.1111/j.0022-3506.2004.00263.x>
- Tavakol, M., & Dennick, R. (2011). Making sense of cronbach's alpha. *International Journal of Medical Education*, 2, 53–55. <https://doi.org/10.5116/ijme.4dfb.8dfd>
- Torsheim, T., Wold, B., & Samdal, O. (2000). The teacher and classmate support scale: Factor structure, test-retest reliability and validity in samples of 13- and 15-year-old adolescents. *School Psychology International*, 21(2), 195–212. <https://doi.org/10.1177/0143034300212006>
- Turon, H., Carey, M., Boyes, A., Hobden, B., Dilworth, S., & Sanson-Fisher, R. (2019). Agreement between a single-item measure of anxiety and depression and the hospital anxiety and depression scale: A cross-sectional study. *PLoS One*, 14(1), e0210111. <https://doi.org/10.1371/journal.pone.0210111>
- Underwood, L. G., & Teresi, J. A. (2002). The daily spiritual experience scale: Development, theoretical description, reliability, exploratory factor analysis, and preliminary construct validity using health-related data. *Annals of Behavioral Medicine*, 24(1), 22–33. https://doi.org/10.1207/S15324796ABM2401_04
- Verster, J. C., Sandalova, E., Garssen, J., & Bruce, G. (2021). The use of single-item ratings versus traditional multiple-item questionnaires to assess mood and health. *European Journal of Investigation in Health, Psychology and Education*, 11(1), 183–198. <https://doi.org/10.3390/ejihpe11010015>
- Waters, S. K., Lester, L., Wenden, E., & Cross, D. (2012). A theoretically grounded exploration of the social and emotional outcomes of transition to secondary school. *Australian Journal of Guidance and Counselling*, 22, 190–205. <https://doi.org/10.1017/jgc.2012.26>
- Watson, J. C. (2017). Establishing evidence for internal structure using exploratory factor analysis. *Measurement and Evaluation in Counseling and Development*, 50(4), 232–238. <https://doi.org/10.1080/07481756.2017.1336931>
- Wood, A. M., Linley, P. A., Maltby, J., Kashdan, T. B., & Hurling, R. (2011). Using personal and psychological strengths leads to increases in well-being over time: A longitudinal study and the development of the strengths use questionnaire. *Personality and Individual Differences*, 50(1), 15–19. <https://doi.org/10.1016/j.paid.2010.08.004>
- Ye, F., & Wallace, T. L. (2013). Psychological sense of school membership scale: Method effects associated with negatively worded items. *Journal of Psychoeducational Assessment*, 32(3), 202–215. <https://doi.org/10.1177/0734282913504816>
- Ziegler, M., Kemper, C. J., & Kruey, P. (2014). Short scales: Five misunderstandings and ways to overcome them. *Journal of Individual Differences*, 35, 185–189. <https://doi.org/10.1027/1614-0001/a000148>
- Zimet, G. D., Dahlem, N. W., Zimet, S. G., & Farley, G. K. (1988). The multidimensional scale of perceived social support. *Journal of Personality Assessment*, 52(1), 30–41. https://doi.org/10.1207/s15327752jpa5201_2

SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

How to cite this article: Bharara, G., & Duncan, S. (2024). Preliminary development and validation of the positive school transition readiness survey (PSTRS). *Psychology in the Schools*, 61, 1217–1237. <https://doi.org/10.1002/pits.23108>