education sciences

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Exploring Children's Values Questionnaire: Measurement, Gender, and Age Issues

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Abstract: Values are conceptualized as the standards individuals use to determine the status of events and actions and are considered to influence individuals' behaviours, reasoning, and perceptions. Based on a synthesis of six school-based student values enhancement programs, this paper reports on the development of the Children's Values Questionnaire (CVQ). This Questionnaire was conceptualized as composing of seven dimensions: Self-Concept; Behaviour; Healthy Life; Social; School Climate; Emotional Intelligence; World View and 26 related sub-dimensions. A total of 848 co-educational students (52% male, 48% female) from Years (Grades) 4 to 7, ages 9 to 13+ years, across 11 Australian schools completed the 95-item CVQ Questionnaire. The Cronbach alpha coefficient of the instrument was 0.94, indicating that the questionnaire had good internal consistency. The inter-correlation between its seven dimensions clustered at Pearson $r = 0.55$. An exploratory factor analysis was supportive of the CVQ's theoretical construct (Norm Fit Index of the data to the theoretical construct, 0.09). Girls rated themselves higher than boys ($p < 0.001$) on items related to Playing by the Rules, Responsibility, Creativity, Empathy, and Communication, and boys rated themselves higher than girls on Physical Activities items ($p < 0.001$). Older students (Years 6 and 7) compared to younger students (Years 4 and 5) demonstrated greater discernment and differentiation of context ($p < 0.05$), the growing influence of peer friendship in their value beliefs and an increase in confidence in social settings ($p < 0.001$). The relationship of the CVQ to Schwartz's Universal Valued Goals is reported in the paper, along with examples of the application of the CVQ in schools.

Keywords: students; values; assessment; gender; development; pedagogy; teaching

Citation: Fyffe, L.R.; Hay, I. Exploring Children's Values Questionnaire: Measurement, Gender, and Age Issues. *Educ. Sci.* **2021**, *11*, 309. https://doi.org/10.3390/educsci11070309

Academic Editor: Garry Hornby

Received: 20 May 2021
Accepted: 17 June 2021
Published: 22 June 2021

1. Introduction

What an individual values continues to be an important research topic in the social sciences [1–3]. Values are conceptualized as the standards an individual uses to determine whether events and actions are considered 'good or bad', and as such values and value judgments originate from within a cultural and social context and are considered central to understanding human behaviour [4]. This aligns with the early writings of Bertrand Russell [5] who argued that a person's values were subjective representations of what the individual considered as important and that values were influenced by the person's socialization over time. The claim is that values influence a person's behaviour and what an individual values is influenced by that person's personal experiences, psychological needs, and societal expectations and these values influence their actions [6–9]. From this perspective, Schwartz [10] has maintained that there are six implicit features of a person's values:

1. Value beliefs are linked inextricably to the affect.
2. Values refer to desirable goals that motivate a person's actions.
3. Values transcend across specific actions and situations.
4. Values serve as standards and criteria that guide the selection and evaluation of actions, policies, people, and events.

5. Values are ordered by an individual in importance relative to one value to another.
6. The relative importance of each value guides a person's action.

A person's values are considered to be multidimensional, that is, a conglomerate of different values [11–13] and these values are conceptualized to be both relatively stable, but malleable over time [14–16]. For Schwartz, people's values and their goals are implicitly linked [10]. Schwartz identified ten Valued Goals which he claimed represented the universal psychological structure of human values, with different individuals having a somewhat different combination of these Valued Goals. Schwartz's ten Valued Goals and their attributes are briefly described in Table 1.

Table 1. Schwartz's ten Valued Goals and related attributes.

Valued Goal	Related Valued Goal Attributes
Self-Direction	self-control and independent and mastery of thoughts and actions
Stimulation	excitement, novelty, and new challenges in one's life
Hedonism	pleasure, stimulation, sensuous gratification for oneself,
Achievement	personal success through demonstrating competence according to social and professional standards
Power	social status and prestige, control and dominance over other people and resources, self-centered
Security	safety, harmony, and stability of society, need for long term positive relationships
Conformity	restraint of actions so not to violate social expectations and norms, maintaining group membership and acceptance
Tradition	respect, commitment, and acceptance of the customs and ideas that one's society, culture and or religion provides
Benevolence	preserving and enhancing the welfare and care of others, positive citizenship
Universalism	understanding, appreciation, tolerance, and protection for the welfare of all people their culture and for nature the environment and the planet, working to resolve moral and ethical issues

From these ten Valued Goals [17], Schwartz developed two survey instruments to ascertain a person's values profile: the Schwartz Value Survey (SVS) [18] and the Schwartz's Portrait Values Questionnaire (PVQ) [17]. His research has focused more on the formation of adults' values profiles [19,20]; however, this study is focused on the formation of a children's values questionnaire, which is linked to the clarification and formation of values within a school context.

There have been previous attempts to ascertain students' value beliefs. Eid and Diener [21] suggested a multimethod approach involving puppets, interviews, pictures, and drawing with the children describing themselves and their beliefs to an adult interviewer. Bilsky et al. [22] used Schwartz's Portrait Values Questionnaire (PVQ) instrument with children aged 10 to 12 years, but this raised concerns about the development appropriateness and the validity and reliability of using more adult scales to ascertain children's values [22]. In a follow up study by Döring [23], the PVQ was employed with a sample of 8- to 11-year-old children and the finding was that the PVQ imposed high demands on children's language skills, cognitive capacities, and ability for abstract thinking. In terms of evaluating children's self-beliefs, researchers, such as Marsh [24], have identified that children were able to use self-report questionnaire surveys, if those instruments were consistent with the child's language and reasoning proficiencies. In Byrne's [25,26] overviews of the student self-beliefs research, she argued that, too often, researchers did not fully understand the framing context for which a self-belief questionnaire was applied. Her claim is, researchers repeatedly selected self-report instruments that lacked sensitivity and specificity and, therefore, context validity and reliability. That is, the selected self-report instruments frequently lacked bandwidth and did not contain the relevant dimensions and survey items that were logically linked to the intervention or the student attribute being investigated. She argued that researchers needed to better address the issues of bandwidth and framing context when they were designing children's self-report instruments. From this viewpoint, a core purpose of this study is to address these concerns and develop a self-report children's values questionnaire by analysing school based interventions and extension programs framed around children's values.

1.1. Schooling and Values Pedagogy

Education is recognized as a value-laden activity [6,12,27] with schools transmitting accepted society values from one generation to the next [28]. Education is regarded as a significant agent that forms and constructs the values and goals individuals adopt and carry forward into adulthood [17]. In terms of Schwartz's ten Valued Goals, one assertion is that the goals of benevolence and universalism need to be given greater priority in schools because positive citizenship and the care of others and the environment are essential for the wellbeing of all [27,29]. In contrast, others have argued that the Schwartz's Valued Goals of Self-Direction and Achievement are essential student values [3,7,14]. These differences reflect the reality that there is debate about which values are to be taught, how values are taught, and how values can be evaluated and assessed [29–31]. Increasingly, how schools engender value goals within their students is being framed as values pedagogy, the teaching of values to students [2]. Acknowledging that consensus around values pedagogy is unlikely to be ever fully resolved, this research still aims to focus on the measurement of values with primary school students.

1.2. Theoretical Development of the Children's Values Questionnaire

As an individual's values are considered phenomenological [32], inferred rather than seen, the main methods of identification and assessment have typically relied on self-report surveys, interviews, and observations. Such data collection methods have their advantages and disadvantages [27]. Self-report student questionnaires have at least three methodological advantages: (1) the instrument can be designed and constructed to reflect a specific theoretical perspective and purpose; (2) because of its standardization, it is relatively expeditious in terms of time and resources when data collecting, particularly when group data are required; (3) there are well established statistical procedures to analyse and interpret the quantitative data generated from the self-report questionnaires, as well as statistical procedures to monitor the reliability and validity [14,33,34]. Even so, values are a complex multidimensional construct, and such constructs are often difficult to synthesize into a single self-report questionnaire [35–37]. The challenge then is to identify the specific theoretical perspective and framework that would inform the development of the self-report questionnaire. Given the multidimensionality [34,38] of student values, the core task is to identify possible dimensions.

This task of clarifying the main dimensions associated with values pedagogy involved a research of the literature to clarify what were the dimensions previous researchers had focused on when conducting values pedagogy programs in schools. After a review of the literature, six programs and seven values dimensions were considered relevant in informing the framing and the theoretical construction of the Children's Values Questionnaire (CVQ). This is not to say that there were not other values programs in schools, but the ones discussed below had sound theoretical frameworks and had been operationalized in school settings. It needs to be recognized that there are elements of grounded theory in the formation of the CVQ, as the researchers were looking for the targeted values and attributes associated with each of the six framing documents selected. Thus, some level of interpretation and ongoing hypothesis construction was required [39]. The six framing programs are briefly reviewed below.

1.3. The Six Values Framing Programs

The first framing program was Jerome Bruner's program, Man: A Course of Study (MACOS) [31,40]. The values explored in this program focused on environmental humanity and sustainability values, such as human rights, social justice, biodiversity, rights of indigenous peoples, sharing of resources and renewable energy. Bruner was influential in shifting values pedagogy from an instructional emphasis based on rules of correct moral behaviours, to more of a reflective thinking emphasis, encouraging students to have a social awareness about their world and its problems [36,37]. This program focused

on empathy and tolerance for others in the world (world view) and social (interaction) values dimensions.

The second framing program was the West Kidlington (UK) Values Program [41,42]. The program involved the purposeful introduction of twenty-two value concept words. These words were: humility, courage, unity, peace, freedom, love, hope, cooperation, honesty, responsibility, appreciation, patience, tolerance, friendship, quality, happiness, caring, simplicity, trust, understanding, thoughtfulness, and respect. A new concept word was selected each month and introduced to the students through classroom discussions, literature sources (fiction and non-fiction), music and drama. In addition, the concept word was reinforced and practiced daily in the classroom and playground settings [42]. This program focused on the dimensions of behaviour, and school climate. School climate refers to the social characteristics of a school, in terms of relationships between and among students and staff/teachers and is at times described as the atmosphere of a school, including its norms, values, and expectations [43].

The third framing program was broadly identified as Character Education and an example of this approach was developed in the USA by Bulach and Butlek [44,45]. Their program was based on a list of 28 character values, allied to developing students' citizenships, moral character, and understanding of right and wrong behaviours. It used a range of resources including text-based stories and situational analysis, along with a survey instrument to assess the students' level of change after the character education intervention. This program focused on behaviours, healthy life, self-concept, and social values.

The fourth framing program was not a single program, but rather an approach identified as Experiential Service Learning [46]. Service learning is considered a form of student learning through engaging in real life experiences, typically away from the school setting. It has been described as learning by reflecting on doing [1,46]. A service learning student experience combines learning and community service in a single and articulated community setting project [47]. Its purpose is to enhance the participating students' personal, moral, self-concept, self-efficacy, social, and civic development [46,48]. Emotional intelligence is a person's capacity to be aware of, to control, and express one's emotions, and to handle interpersonal relationships judiciously and empathetically [2]. It is considered a core goal of service learning [46,49]. The specific skills that are considered to be enhanced with participating students include: emotional intelligence; empathy and tolerance for others in the world; teamwork; management skills; analytical skills; problem-solving; critical thinking; decision making; social; abilities for leadership; autonomy; interpersonal relations; ethical commitment; adjustment to new situations [1,2,47,48]. Service learning has a strong focus on enhancing students' levels of emotional intelligence, world view, and social values and it has used interviews and student surveys to evaluate its effectiveness [47,48].

The fifth framing program was also an experiential education program, the Outward-Bound Adventure program. The claim is adventure programs enhance a diverse array of students' outcomes related to values pedagogy, such as self-concept, locus of control, emotional intelligence, positive behaviour, leadership, and personnel development [50]. These adventure programs have often targeted early adolescents who are beginning to show some level of anti-social values formation. The indications are that student values related to conflict management, self-management, self-efficacy, problem-solving and confidence are enhanced by adventure based programs [51]. These outdoor programs focused on behaviour, self-concept, emotional intelligence, social skills, and healthy life values dimensions [50,51].

The sixth framing program was, the Living Values Education Program (LVEP), an international values education program which in somewhat different forms operates in over 80 countries, many of which are non-Western countries [52]. In Australia, it has mainly been investigated by Lovat and Schofield [53–55] under the general heading of 'the values we teach'. The values identified from the Australian LVEP program were grouped under three categories, those relating to education, to self and others, and to civic responsibilities. Under these categories were listed 14 specific behavioural goals, such as accepting own

worth as an individual [53,54]. This program focused on school climate, behaviours, self, and social values dimensions.

1.4. The Construct of the Children's Values Questionnaire (CVQ)

Based predominantly on the research identified from the above mentioned six values framing programs, seven value dimensions were identified as the higher order structure of the CVQ. From these seven, a second order subdivision was identified that involved 26 value elements. The third order subdivision involved the generation of 95 specific survey items, that represented the CVQ. The generation of the 95 items involved the researchers again reviewing the relevant literature, and over time 'brainstorming' item selection. The researchers then completed a trial of the CVQ with 72 students (Years 4 to 7) from one of the participating schools. The trial indicated that the instrument was accessible to the target age group and the data generated was reliable. The seven dimensions and their related 26 sub-dimensions of the CVQ are listed in Table 2 (the 95 CVQ items are listed in the Appendix A to this paper).

Table 2. List of the 7 CVQ dimensions and their related 26 sub-dimensions.

Dimensions	Sub-Dimensions
Self-Concept	Physical Ability, Appearance, Reading, Mathematics, Spelling, School, Self-Esteem, Parent Relations, Peers Relations
Behaviour	Bullying, Playing by the Rules, Self-Regulation, Self-Efficacy
Healthy Life	Creativity, Health
Social	Tolerance, Encouragement, Communication, Problem-Solving
School Climate	Safety, Civic Behaviour, Peace, Connectedness, Caring, Feeling Valued
Emotional Intelligence	Self-Awareness, Self-Management, Motivation, Emotions, Social Competence
World View	Empathy, Justice

1.5. Related Research Questions

In addition to constructing the CVQ, there is evidence that gender and age influence how students construct their sense of self and so their values [9,11,25,49,52]. If so, would gender and age differences be identified within the CVQ response data?

2. Materials and Methods

2.1. Instrument: Children's Values Questionnaire (CVQ)

For each of the 26 sub-dimensions (Table 2) a bank of item statements was generated. After initial trialling with teachers and children from one school the 95-item CVQ was developed. The students in the 11 participating schools were asked to respond to their level of agreement to a positively worded statement using a five-point (1–5) Likert scale. The self-rating scale was: false (1); mostly false (2); sometimes (3); mostly true (4), true (5).

2.2. Procedure

Ethical clearances were gained through the University's Ethics Committee and the relevant school authority. Individual permission forms were collected from the principals and teachers within the participating schools and from the parents of participating students, with the confidentiality of the participants guaranteed. The class teachers administered the CVQ in class groups with the administration time varying from 8 to 15 min. In this study, the tests were mailed to the schools and administered in paper and pencil format, and then returned by post to the researchers. Although it was possible that an electronic version of the CVQ could have been given to the schools, there were concerns about the availability of computers across the schools and so for consistency reasons the paper method of data collection was used. The student data were then entered into an SPSS spreadsheet for analysis [56].

2.3. Participants

Students from 11 non-government, independent, faith-based primary Australian schools were involved in this research. Australian primary school students range in age from aged 6+ (Year 1) to aged 13+ (Year 7). Students then transition into secondary schools that go to Year 12. In this research, ten of the primary schools were in the State of Queensland and one was in South Australia. The socio-economic status (SES) of each of the 11 participating schools was established using the Australian socio-economic school measure called the Index of Community Socio-Educational Advantage, ISCEA [57]. The 11 schools ranged from a low, ISCEA score of 880, to a high of ISCEA score of 1200. Most of the schools clustered around the national socio-economic measure mean (ISCEA mean of 1000). Five of the participating schools were classified as rural, two were in provincial towns and four were suburban schools located in a large city. Each of the 11 school was asked to randomly select one class from each Year (Grade) level, average class was size 28. After the return of parental permission forms, 848 students from Years (Grades) 4 to 7 participated in this research, age range 9+ years to 13+ years. Girls represented 48% of the sample and boys 52%.

3. Results

The total score for each student on all 95 items was calculated. This calculation is based on a 1 to 5 scoring for each item statement, 1 (false) student does not agree, to 5 (true) student agrees. The possible student total score can range from a low of 95 (all 95 items scored 1) to a top score of 475 (all 95 items scored at 5). In this study, the mean of the total score of the 95 items was 384.02 with a standard deviation of 38.72 (N = 846). This represents a positive skewness in the students' CVQ distribution of responses. This positive alignment, right skewness in the histogram, has been noted with other self-report student scales [14,25,58].

3.1. Construct Validity and Reliability

The Cronbach alpha coefficient of the instrument was 0.94, implying that the scale had good internal consistency [29,50]. To investigate the test–retest reliability of the instrument a sub-sample of students from Years (Grades) 4 to 6 (n = 72), who completed the CVQ once, were again given the CVQ one week later. The two sets of data yielded a significant positive test re-test reliability correlation (r = 0.78) [56].

The seven dimensions identified in Table 2 were based on the descriptors the reviewed researchers used to portray aspects of their school values programs. The inter-correlation between these seven dimensions clustered at Pearson r = 0.55, indicating that while each dimension was related, many of the dimensions were somewhat different [35,56]. To investigate the structure of the CVQ, an Exploratory Factor Analysis was conducted on the 95 item CVQ (N = 841 students). The extraction method was Principal Component Analysis, and the rotation method Varimax with Kaiser Normalization. Based on an examination of the Eigenvalues, a seven factor solution was generated. Reviewing the pattern matrix (see Appendix B): Factor 1 pertained to Behaviour; Factor 2 pertained to School Climate; Factor 3 pertained to World View; Factor 4 pertained to Social; Factor 5 pertained to Self-Concept; Factor 6 pertained to Healthy Life; Factor 7 pertained to Emotional Intelligence. The full pattern matrix is displayed in Appendix B. The seven factor solution mirrors the seven dimensions that were the theoretical foundation for the construction of the CVQ. There was, however, some migration of items that were originally placed with one dimension but had a stronger loading to another factor. Consequently, there is variability in the number of items that clustered on each factor, for example Behaviour (Factor 1) had the highest number of items and Emotional Intelligence (Factor 7) the least. This migration of items from their original assumed position to a different position in the factor analysis is not an unexpected finding, in part because it is the underlying correlation matrix that is the foundation of the factor analysis, which is only revealed after the participants completed the questionnaire (35,56). A follow up confirmatory factor analysis was conducted on the

factor structure (Appendix B) using the SPSS Amos program [59]. A number of iterations took place and as suggested by Kaplan (60) items which failed to reach a significant effect size eliminated [60]. The final Normal Fit Index (NFI) for the CVQ data on 841 students to the factor structure identified in Appendix B was 0.9. This NFI is considered to represent a satisfactory solution [60].

3.2. Which CVQ Items Were Rated Higher?

Reviewing the results (Table 3) the highest student rating dimension was the Emotional Intelligence dimension, and in particular the Self-Awareness sub-dimension. Across the CVQ there were 11 items that had student scores greater than a mean of 4.5 and these items were: when I am an adult I will not smoke; I try to do well at school; I know what to do to keep myself safe; my parent(s) is (are) proud of me; I wait my turn when playing games; I think cheating is wrong; being fit is important to me; I know when I am nervous; I know when I am happy; I know when I am sad; people should give more money to poor people overseas.

Table 3. Mean and standard deviation of 95 CVQ items, with dimension and sub-dimensions $N = 846$.

		M	*Sd*
	Self-Concept Dimension		
Physical Ability	I can run a long way	3.53	1.16
	I can throw a small ball a long way	3.93	0.96
Appearance	I am good looking	3.54	1.01
	I am happy with the way I look	4.29	0.97
Reading	I am good at reading	4.15	1.02
	Reading is interesting	3.78	1.27
Mathematics	I am good at mathematics	3.89	1.06
	Mathematics is interesting	3.63	1.30
Spelling	I am good at spelling	3.72	1.11
School	I am good at school	4.03	0.89
	School is enjoyable	3.83	1.15
Self Esteem	I am a good person	4.22	0.86
	I like the way I am	4.47	0.82
Parent relationship	I get on well with my parent(s)	4.41	0.82
	My parent(s) is (are) proud of me	4.66	0.71
Peer Relationship	I am popular	3.28	1.19
	I join in with other children	4.14	0.99
	I have lots of friends	4.23	1.08
	I make friends with boys	3.96	1.32
	I make friends with girls	3.91	1.38
	Behaviour Dimension		
Bullying	I am not teased by other children	2.59	1.30
	I am not picked by other children	2.88	1.31
	I do not boss other children	3.47	0.82
Playing by the Rules	I play fair	4.25	0.89
	I think cheating is wrong	4.65	0.90
	I say sorry if I am wrong	4.41	0.82
	I am a good sport (accept losing)	4.25	0.94
	I do not get angry if I lose	4.14	1.07
	I follow class rules	4.33	0.76
Self-Regulation	I wait my turn when playing games	4.56	0.69
	I like to share my things with others at school	4.13	0.96
	I listen when others are speaking	4.29	0.74
Self-Efficacy	I try hard to do well at school	4.73	0.60
	If I get something wrong, I redo it	4.04	0.98

Table 3. *Cont.*

		M	*Sd*
	Healthy Life Dimension		
Creativity	Doing art is important to me	3.85	1.25
	Doing music is important to me	3.51	1.37
	Doing dance is important to me	2.67	1.55
Health	Eating healthy food is important to me	4.30	0.94
	Playing sport is important to me	4.34	1.02
	Being fit is important to me	4.52	0.80
	When I am an adult, I will not smoke	4.78	0.75
	Social Dimension		
Tolerance	I like children who are different to me	4.35	0.85
	I play with children who are different to me	4.32	0.93
	Speaking a different language is good	3.70	1.27
Encouragement	I encourage other class members to do well at school	4.00	1.00
Communication	Others understand what I say	4.06	0.96
Problem Solving	I handle problems when they happen	3.89	0.96
	If I have a problem, I talk to my friends	3.79	1.19
	If I have a problem, I talk to a teacher	3.55	1.19
	If I have a problem, I talk to my parents	4.21	1.10
	School Climate Dimension		
Safety	I feel safe at school	4.51	0.85
	I know what to do to keep myself safe	4.62	0.67
Civic Behaviour	I pick up litter without being told	3.50	1.08
	Teachers trust me to do a job (task)	4.37	0.87
	In my school older children help younger children	4.18	1.01
	I own up when I do something wrong	4.05	0.94
Peace	Children in this school do not get angry with each other	2.95	1.06
	My school is usually a peaceful place	3.94	1.00
	I feel peaceful in my classroom	4.04	1.05
Co-operation	I work well in a small group	4.29	0.95
	I do my share of work in the group	4.43	0.83
	Others do their share of work in the group	4.07	0.96
Connectedness	People respect my opinion	3.85	0.98
	My school is proud of me	3.98	1.02
	I am proud of my school	4.43	0.90
Caring	I am a leader in my classroom	2.76	1.42
	In my school, children care for each other	3.99	0.93
	In my school, teachers care for children	4.69	0.69
	In my school other adults care for children	4.52	0.78
	I care for others in need	4.38	0.80
Feeling Valued	People help me at this school	4.31	0.93
	I feel part of this school	4.46	0.96
	My efforts are appreciated	4.23	0.91
	Emotional Intelligence Dimension		
Self-Awareness	I know when I am happy	4.78	0.59
	I know when I am sad	4.77	0.60
	I know when I am nervous	4.74	0.63
Self-Management	When people upset me, I get over it	4.20	0.98
	I know how to control my temper	4.10	1.01
Motivation	I have goals for the future	4.49	0.91
	I look forward to growing up	4.10	1.19
	I practice to improve my results	4.33	0.91
	I participate for enjoyment	4.41	0.89
	I get involved because my friends are	3.60	1.20
	I do things to get rewards	3.22	1.40
Emotions	When I am happy I show it	4.35	0.93
	I can express my anger without hurting people	4.07	1.09

Table 3. *Cont.*

		M	*Sd*
Social Competence	I get upset when I see others upset	3.34	1.34
	I help if someone is hurt	4.33	0.84
	I feel for others who are worse off than me	4.22	0.91
	World View Dimension		
Empathy	I care for people who look different	4.30	0.91
	I treat people well even if they look different	4.44	0.82
	I get upset when I see someone from another country being made fun of	4.31	1.00
Justice	When I grow up I will help poor people overseas	3.48	1.16
	People should give more money to poor people overseas	4.50	0.84
	I stick up for others even if they are not my friends	4.07	0.99

3.3. Gender Differences

Of the 95 CVQ items examined, 65 items displayed significant gender differences with girls rating themselves significantly higher than boys on 56 items. Girls typically rated themselves higher in the sub-dimensions of Playing by the Rules, Responsibility, Creativity, Empathy, and Communication. The items that had the greatest significant differences were: I make friends with girls; F (1,839) = 59.2., sig = 0.000; doing dance is important to me F (1,839) = 32.2, sig = 0.000; I follow class rules; F (1,839) = 62.9; sig = 0.000: doing art is important to me F (1,839) = 58.1, sig = 0.000; doing music is important to me F (1,839) = 41.7, sig = 0.000; school is enjoyable to me F (1,839) = 41.5, sig = 0.000; I help if someone is hurt F (1,839) = 38.2, sig = 0.000; I am a good person F (1,839) = 36.12, sig = 0.000; I listen when others are speaking F (1,839) = 35.5, sig = 0.000; I care for others in need F (1,839) = 35.1, sig = 0.000; I get upset when I see others upset F (1,839) = 28.4, sig = 0.000; I wait my turn in games F (1,839) = 20.31, sig = 0.000.

Boys only scored significantly higher than girls on nine CVQ items, which had a focus on physical activity and mathematics. These items were: I make friends with boys F (1,839) = 34.3, sig = 0.000; I am good at mathematics F (1,839) = 48.9, sig = 0.000; I can throw a small ball a long way F (1,839) = 44.2, sig = 0.000; mathematics is interesting F (1,839) = 24.9, sig = 0.000; I get involved because my friends are F (1,839) = 18.62, sig = 0.000; I can run a long way F (1,839) = 11.5, sig = 0.001; I do things to get rewards F (1,839) = 9.7, sig = 0.002; Sport is important to me F (1,839) = 6.7, sig = 0.011; I am good at sport F (1,839) = 3.87, sig = 0.049.

3.4. Change in CVQ by Age

The 848 participating students were from Years (Grades) 4 to 7 and comparing the CVQ mean scores (Tables 4 and 5), demonstrated that although the children's item answers were similar across the grades, there were changes by age. There were 15 items that had a significant reduction in mean scores ($p < 0.05$) from Years 4 and 5 to Years 6 and 7 (Table 4). The four items that had the greatest reduction by age ($p < 0.000$) were: If I have problems, I talk to my teacher; If I get something wrong, I redo it; I do things to get rewards; people should give more money to poor people overseas (Table 4). There were 13 items that showed a significant increase in mean scores by age ($p < 0.05$) from Years 4 and 5 to Years 6 and 7. The three items that had the greatest increase by age ($p < 0.000$) were: I make friends with girls; I join in with other children; I am a classroom leader (Table 5).

Table 4. Significant reduction in means from Years 4 and 5 to Years 6 and 7, $N = 841$, F (1,839) p at least <0.05.

CVQ Item	Year 4		Year 5		Year 6		Year 7		
	M	*Sd*	*M*	*Sd*	*M*	*Sd*	*M*	*Sd*	*F*
I am happy with the way I look	4.6	0.7	4.4	0.8	4.5	0.8	4.3	0.8	4.7
Reading is interesting	4.0	1.2	3.7	1.3	3.6	1.2	3.8	1.2	3.9
Mathematics is interesting	3.8	1.3	3.7	1.3	3.5	1.2	3.3	1.2	3.8
School is enjoyable	3.9	1.1	3.9	1.1	3.7	1.1	3.6	1.1	3.9
If wrong, I redo it	4.0	1.0	4.2	1.0	4.0	0.9	3.7	0.8	4.1
Art is important to me	3.9	1.2	3.9	1.1	3.9	1.2	3.6	1.2	3.9
Music is important to me	3.8	1.3	3.4	1.3	3.4	1.4	3.3	1.3	3.8
Healthy food is important	4.4	0.9	4.3	0.9	4.2	0.9	4.1	0.9	4.4
If I have problem, I talk to teacher	3.9	1.1	3.7	1.1	3.3	1.2	3.0	1.0	4.0
If I have problem, I talk to parents	4.3	1.0	4.2	1.1	4.2	1.1	4.0	1.1	4.3
I pick up litter without being told	3.5	1.1	3.6	1.1	3.3	1.1	3.3	0.9	3.0
I practice to improve my results	4.3	0.9	4.4	0.7	4.3	0.9	4.1	0.9	4.3
I do things to get rewards	3.6	1.4	3.1	1.8	3.0	1.3	2.9	1.2	3.6
People should give more money to poor people	3.6	1.1	3.6	1.2	3.3	1.1	3.2	1.0	3.7

Table 5. Significant increase in means from Years 4 and 5 to Years 6 and 7, $N = 841$, F (1,839) p at least <0.05.

CVQ Item	Year 4		Year 5		Year 6		Year 7		
	M	*Sd*	*M*	*Sd*	*M*	*Sd*	*M*	*Sd*	*F*
I am popular	3.1	1.2	3.2	1.2	3.2	1.1	3.4	1.0	2.8
I join in with other children	3.8	1.1	4.1	1.0	4.2	0.8	4.2	0.8	8.3
I make friends with girls	3.4	1.5	3.7	1.4	4.0	1.2	4.3	0.9	6.4
I do not boss other children	3.4	0.9	3.6	0.7	3.4	0.8	3.3	0.8	4.3
I am not picked on by other children	2.5	1.4	2.9	1.3	3.0	1.2	2.9	1.2	5.5
I do not get angry if I lose	3.9	1.2	4.1	1.1	4.2	0.8	4.1	0.9	3.1
Playing sport is important to me	4.2	1.1	4.2	1.0	4.4	0.8	4.4	0.9	2.9
My school is proud of me	3.8	1.1	3.9	1.0	3.9	0.9	4.1	0.8	3.3
I am a leader in my classroom	2.4	1.4	2.5	1.4	2.6	1.3	3.3	1.3	7.9
I know when I am nervous	4.6	0.8	4.7	0.5	4.7	0.5	4.8	0.4	3.6
I get upset when I see others upset	4.1	1.0	4.1	1.0	4.1	0.9	4.3	0.7	3.3
I treat people well even if they look different	4.3	0.9	4.4	0.8	4.4	0.7	4.5	0.6	2.7
I get upset when I see someone from another country being made fun of	4.1	1.1	4.4	0.9	4.2	1.0	4.4	0.9	3.0

4. Discussion

4.1. Coding the CVQ to Schwartz's Valued Goals

Schwartz's Universal Valued Goals theory continues to have research application in the values and schooling domain [61]. Therefore, the question is: how do the seven main dimensions in the CVQ code to Schwartz's [10] Ten Valued Goals? The CVQ used aspects of grounded theory [39] to ascertain the seven dimensions and the related 26 sub-dimensions from the six framing programs, while Schwartz's research aimed to provide an omnibus overview of values goals adopted by adults. Even so it is relevant to map the two taxonomies, the Schwartz [10] Ten Valued Goals and their related attributes (Table 1) with the CVQ dimensions and their related sub-dimensions (Table 2). This coding used the information from Table 1 with Table 2 to locate the CVQ elements with the relevant Schwartz description of attributes. This technique involved the researchers coding and matching the CVQ dimension text statements via key words with the Schwartz Valued Goal text statements and selecting which of the goals was the most appropriate text match. This procedure of looking for specific descriptors in text as markers and then coding it to one of the Schwartz's Valued Goals has been applied by other researchers investigating people's values [62,63].

Although it is possible that the CVQ dimensions can be coded and located on more than one of the Schwartz Ten Valued Goals, Table 6 reports the main Schwartz Valued Goal associated with each of the CVQ dimensions.

Table 6. Coding the CVQ dimensions to the Schwartz Valued Goals.

CVQ Dimension	Schwartz's Valued Goal
Self-Concept	Achievement
Behaviour	Conformity, Tradition
Healthy Life	Self-Direction
Social	Security
School Climate	Benevolence
Emotional Intelligence	Self-Direction
World View	Universalism

Reviewing the table above, the Children's Values Questionnaire linked well to seven of the Schwartz Valued Goals criteria of: Benevolence; Universalism; Self-Direction; Security; Achievement; Tradition; Conformity. The three Schwartz Valued Goals less clearly identified with the CVQ were the more self-focused values of: Hedonism; Power; Stimulation. This is not to say that they were not present in some items, for example 'I do not boss other children' is a Power Valued item in the CVQ survey, there were also aspects of Hedonism and Stimulation Valued Goals in the framing program, Outward-Bound Adventure Programs. However, when the Outward-Bound Adventure Programs were reviewed their aims aligned more with Schwartz's Valued Goal of Self-Directed, than to the Stimulation or Hedonism Valued Goals. The Self-Direction Goal refers to individuals having self-control, independence, and mastery of thoughts and actions. CVQ items, such as 'I can run a long way', 'playing sport is important to me', in part map to the Hedonism and Stimulation Goals, but clustered better to Schwartz's Achievement Valued Goal criteria.

Schools have a social role to engender positive citizenship values within their students [28,41,55,64]. Therefore, it is not unexpected that the more 'negative' Schwartz Valued Goals of Hedonism and Power were not strongly featured in the value programs used to frame the design of the CVQ. This is not to say that more 'negative' and self-centred value goals are not indirectly 'taught', demonstrated, or encouraged as part of the hidden curriculum in schools [65]. The indications are that the 'hidden curriculum' within schools plays an active role in the process of developing a student's value system [66]. Consequently, educators, need to actively counter possible negative value goals, such as greed, exploitation, marginalization, power, sexism, and racism that are too often indirectly encouraged via the 'hidden school' curriculum [61,65,66]. The evidence is that individuals who score higher on measures for egocentric thinking and control of others, but lower on empathy are associated with higher rates of anti-social behaviour [67]. Consequently, schools and others need to identify and ameliorate the more negative values and work to instil and inculcate more positive values and attributes, as a protective factor to assist the students' long-term wellbeing [49,55,68].

To date, the first author has worked with Australian school administrators to evaluate and ascertain students' needs using the CVQ as part of a suite of instruments informing the development of proactive student well-being programs. Much of this work has targeted middle school students aged 9 to 13 with the aim of monitoring and furthering students' values, mindfulness (a form of meditation), resilience, and social competencies. The evidence is, such school based enhancement programs have both short-term student academic and social benefits and long-term wellbeing advantages to the future adults [68,69]. Referring specifically to the use of CVQ in Australian schools, a number of schools sought to enhance their school's social climate with teachers developing programs to promote tolerance, and friendships, along with stronger anti-bullying programs. Another set of schools utilized the CVQ to mitigate concerns of discrimination and racism within the school and they designed curriculum resources along with invited speakers and visitations.

A third set of schools employed the CVQ to help identify students who could benefit from guided specific learning strategies, particularly in terms of social interaction, social isolation, and mindfulness.

4.2. Gender

Gender was identified as a consideration in the CVQ analysis, with girls typically rating themselves higher than the boys, particularly on items that focused more on caring, empathy, and tolerance domains. This finding is not unique to this study. Girls typically had higher scores, than boys for values and moral related items [52] and typically rated themselves higher an interpersonal understanding of fairness and kindness items, in contrast to boys who rated higher on items related to active pursuits with their peers [70]. These gender differences are assumed to be related to gender socialization differences [70,71]. For example, compared to boys, girls' experiences of childhood were linked more to intimate, dyadic language-based interactions, and play, that in turn produced a style of moral reasoning that emphasized empathy and sensitivity to others [72]. Even so, the suggestion that gender related differences are the product of socialization alone (the nurture argument) has been challenged by researchers focusing on the human biological and gene influence on behaviour (the nature argument) with both nature and nurture considered to influence gender related behaviours and attributes [73]. The critical issue is both boys and girls need opportunities to talk about their values and engage in activities and personal experiences upon which they can reflect and clarify their values. It is incorrect to assume that because boys may not articulate their affect domain as well as girls, that boys are inadequate or deficient in these emotions [74]. It does, however, suggest that the strategies to explore students' values have a somewhat different orientation for boys compared to girls [75].

4.3. Age Issues and Implication of the Findings to the Values Domain

This study reinforces the notions that a person's values are multidimensional and multifaceted [11–13] and although a person's value beliefs are stable there is still some level of malleability over time [10,16,24,76]. This change in a person's values, with age has been a point of discussion in the literature for some time. The philosopher Russell [5] hypothesized that because of experiences and maturation in reasoning an individual's values became less fixed and less 'rule bound' with the person being more aware of exceptions, concessions, and contexts. Russell illustrated his theory when he noted that the value 'respecting one's elders' became less rule bound and less fixed as an absolute, as the individual had more experience with their elders. Therefore, over time the individual recognized that not all older people were automatically respectable all the time. This notion of greater discernment in the self-assessment of a person's values with age, tends now to be discussed in the psychological literature in terms of greater self-complexity and self-perception differentiation with maturation [77].

The greatest reductions in mean scores from Years 4 to 7 were for the items such as, 'People should give money to poor people' and 'I ask for help from my teacher when I have a problem'. This suggests that the older students are demonstrating greater discernment of context with increased cognitive maturation. The CVQ items that had the greatest increase in mean scores from Years 4 to 7, clustered around an increase in confidence in social relationships, such as joining in with other children, being a classroom leader, and (for older boys) joining in activities with girls. As noted in Table 5 there was a reduction ($p < 0.05$) in older students wanting to talk with parents about problems. Such behaviour has also been noted in related studies [14,16] and these developmental changes are associated with adolescents increasingly transferring more of their emotional attachment from parents to peers in a process called 'individuation' [74]. Although older students were more reluctant to talk to parents about problems, compared to younger students, the older Year 6 and 7 students were still more likely to talk to their parents about problems, than their teachers. This is consistent with the hypothesis that parents continue to play a significant role in

terms of their children's values clarification, and as important reference points for children and early adolescents to validate, extend, and refine their values [19,78].

Consistent with this study, research by Bilsky et al. [22] with German, Portuguese, and Chilean children noted that children's value structures progressively differentiated as children matured. Furthermore, Lewis-Smith et al. [79] claimed that this increased values differentiation was linked to abstract reasoning maturity and the influence of parents and increasingly peer friendships on students' values formation. Lewis-Smith et al. also reported that young people welcomed and benefited from opportunities to discuss their values, and teachers needed to do more to explore values with their students.

4.4. Limitations and Future Direction

As noted already, there is a high level of conjecture and controversy about which values are to be taught, how values are to be taught and how values in school can be evaluated and assessed [4,9,29,30]. The researchers in this study selected six pedagogical values programs as sources upon which to identify, frame and conceptualize the dimensions for the CVQ. Thus, it needs to be acknowledged that when selecting previous research, upon which to frame a research project, researcher bias may directly or indirectly influence that selection process [39]. The authors of this research are not suggesting that the seven dimensions and the 95 CVQ items identified, is the 'definitive' set. Nor are the researchers suggesting that students' values can only be assessed using a quantitative survey procedure. In fact, we are also supportive of qualitative and interview procedures in assessing students' values [21,79], but there are some methodological advantages in terms of the 'efficiency' and consistency of data collection and analysis when using quantitative instruments [34,35].

The home, school and community contexts are all reported to influence students' values formation [2,3,38]; therefore, the generalizability of the results needs to be a consideration when interpreting these research findings. Different school and age populations, in other locations and settings may respond differently to the same instrument. Investigating this is a possible future research direction. To facilitate this, a copy of the CVQ is provided (see Appendix A).

In terms of future values research, the likely expected change will occur at the item level, and it is less likely that change will occur with unrelated items, or at the total score level [15,25,26,80]. For example, in a values enhancement program aiming to provide students with an opportunity to engage with individuals with some level of disadvantage, only those CVQ items logically linked to the student experience would be expected to change, such as empathy items. The claim is that the non-related survey items form a de facto control group to the survey items logically linked to the intervention [33,34].

5. Conclusions

Conceptually the domain of values formation and pedagogy for school-aged students is a complex and a still emerging research domain. Although positive values formation remains a goal of education, its definition, implementation and, in particular, its assessment in schools continues to be a challenge.

This research is supportive of the notion that children's and early adolescents' values are multifaceted and multidimensional and have malleability in terms of age and gender. The CVQ was designed to address concerns about the lack of sensitivity, specificity and bandwidth often associated with children's self-report questionnaires. It was developed using aspects of a grounded theory procedure. The CVQ dimensions were identified from a review of school based interventions and extension programs constructed around children's values.

The CVQ provides educators and researchers with an additional instrument to assist with the evaluation of school values and related programs and to assist with the investigate individual student attributes within a schooling context. The hope is that the CVQ provides a framework upon which teachers and other professionals can explore students' values in

a non-threatening, supportive, and co-operative school environment and so assist students to engage in positive values clarification experiences.

Author Contributions: Conceptualization, L.R.F. and I.H.; methodology, L.R.F. and I.H.; formal analysis, L.R.F. and I.H.; investigation, L.R.F. and I.H.; data curation, L.R.F. and I.H.; writing—original draft preparation, L.R.F. and I.H.; writing—review and editing, L.R.F. and I.H. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Informed Consent Statement: This research was conducted in accordance with the *Australian National Statement on Ethical Conduct in Research Involving Humans* and as administered by the Griffith University Human Research Ethics Committee (https://www.nhmrc.gov.au/research-policy/ethics/national-statement-ethical-conduct-human-research, accessed on 15 February 2021).

Data Availability Statement: Questions related to the data or the analysis can be directed to the corresponding author. Gaining ethical consent required restricted access to the student files.

Acknowledgments: The researchers wish to acknowledge the 11 schools and their staff and students who participated in this study. The contribution of Glen Palmer (Griffith University) in the initial development of the CVQ is also acknowledged, and Rosemary Callingham (University of Tasmania) in the final edition.

Conflicts of Interest: The authors declare no conflict of interest, associated with this paper or the research.

Appendix A

Children's Values Questionnaire
Developed by L. R. Fyffe and I. Hay

Your Name: _____ Circle one: Boy Girl
School: _____
Class: _____ Date: _____

This is a chance for you to express how you feel about some things. It is not a test. There are no right answers, and everyone will have different answers. Be sure that your answers show how you feel. Please do not talk about your answers with anyone else. We will keep your answers private.
When you are ready to begin, please read each item and choose an answer. There are five possible answers to each item: True, False, and three answers in between. There are five boxes next to each item, one for each of the answers. The answers are written at the top of the boxes. Choose your answer to each item and make a tick (✓) in the box under the answer you select.

Example question, discuss this item with your teacher.

I like cake	**False**	**Mostly False**	**Sometimes**	**Mostly True**	**True**

If you do not like cake, tick (✓) box 1, if you like it sometimes tick (✓) 3, if you like it a lot tick (✓) box 5

		False	Mostly False	Sometimes	Mostly True	True
1	I can run a long way					
2	I can throw a small ball a long way					
3	I am good looking					
4	I am happy with the way I look					
5	I am good at reading					
6	Reading is interesting					
7	I am good at mathematics					
8	Mathematics is interesting					
9	I am good at spelling					
10	I am good at school					
11	School is enjoyable					
12	I am a good person					
13	I like the way I am					
14	I get on well with my parent(s)					
15	My parent(s) is (are) proud of me					
16	I am popular					
17	I join in with other children					
18	I have lots of friends					
19	I make friends with boys					
20	I make friends with girls					
21	I am not teased by other children					
22	I am not picked on by other children					
23	I do not boss other children					
24	I play fair					
25	I think cheating is wrong					
26	I say sorry if I am wrong					
27	I am a good sport (accept losing)					
28	I do not get angry if I lose					
29	I follow class rules					
30	I wait my turn when playing games					
31	I like to share my things with others at school					
32	I listen when others are speaking					
33	I try hard to do well at school					
34	If I get something wrong I redo it					
35	Doing art is important to me					
36	Doing music is important to me					
37	Doing dance is important to me					
38	Eating healthy food is important to me					
39	Playing sport is important to me					
40	Being fit is important to me					
41	When I am an adult, I will not smoke					
42	I like children who are different to me					
43	I play with children who are different to me					
44	Speaking a different language is good					
45	I encourage other class members to do well at school					
46	Others understand what I say					
47	I handle problems when they happen					
48	If I have a problem, I talk to my friends					
49	If I have a problem, I talk to a teacher					
50	If I have a problem, I talk to my parent(s)					
51	I feel safe at school					
52	I know what to do to keep myself safe					
53	I pick up litter without being told					
54	Teachers trust me to do a job (task)					

		False	**Mostly False**	**Sometimes**	**Mostly True**	**True**
55	In my school older children help younger children					
56	I own up when I do something wrong					
57	Children in this school do not get angry with each other					
58	My school is usually a peaceful place					
59	I feel peaceful in my classroom					
60	I work well in a small group					
61	I do my share of work in the group					
62	Others do their share of work in the group					
63	People respect my opinion					
64	My school is proud of me					
65	I am proud of my school					
66	I am a leader in my classroom					
67	In my school, children care for each other					
68	In my school, teachers care for children					
69	In my school, other adults care for children					
70	I care for others in need					
71	People help me at this school					
72	I feel part of this school					
73	My efforts are appreciated					
74	I know when I am happy					
75	I know when I am sad					
76	I know when I am nervous					
77	When people upset me, I get over it					
78	I know how to control my temper					
79	I have goals for the future					
80	I look forward to growing up					
81	I practice to improve my results					
82	I participate for enjoyment					
83	I get involved because my friends are					
84	I do things to get rewards					
85	When I am happy I show it					
86	I can express my anger without hurting people					
87	I get upset when I see others upset					
88	I help if someone is hurt					
89	I feel for others who are worse off than me					
90	I care for people who look different					
92	I treat people well even if they look different					
92	I get upset when I see someone from another country being made fun of					
93	When I grow up I will help poor people overseas					
94	People should give more money to poor people overseas					
95	I stick up for others even if they are not my friends					

Appendix B

Table A1. Factor pattern matrix of the CVQ: Seven factor solution $N = 841$ (Loadings < 0.3 not shown).

CVQ Item	Factors						
	1	2	3	4	5	6	7
I am a good person	.639						
I listen when others speak	.594						
I follow class rules	.579						
I play fair	.568						
I wait my turn in games	.554						
I can control my temper	.545						
I do not boss other children	540						
I do not get angry if I lose	.481						
I own up when I do something wrong	.463		.326				
I get on with my parents	.449						
I say sorry if I am wrong	.429						
Teachers trust me to do a job	.419	.314					
Can express my anger without hurting others	.387						
I like the way I am	.379						.315
I do my share in group work	.362						
I try hard to do well at school	.357						
I work well in small group	.357						
I pick up litter	.344		.342				
When people upset me, I get over it	.335						.304
I like to share my things with others	.331		.318				
If I get something wrong, I redo it	.325				.319		
I practise to improve	.324	.310					
My parents are proud of me	.322						
I am happy with the way I look	.304						
I know what to do to keep myself safe							
I think cheating is wrong							
As an adult I will not smoke							
I feel peaceful in my classroom		.633					
My school is usually a peaceful place		.631					
I am proud of my school		.619					
I feel part of my school		.598					.335
In my school, teachers care for children		.589					
People help me at this school		.589	.309				
In my school adults care for children		.556					
In my school children care for others		.534					
I feel safe at school		.513					
My efforts are appreciated		.445		.326			
In my school older children help younger		.429					
Children don't get angry with others at school		.428					
If I have problem, I talk to my teacher		.413					
Others do their share in group work		.405					
My school is proud of me		.390		.340			
If I have a problem, I talk to my parents		.326					
If I have a problem, I talk to friends							
I look forward to growing up							
I care for people who look different			.614				
I help if someone is hurt	.311		.599				
I get upset at making fun of others			.586				
I care for others in need	.378		.544				
I stick up for others			.543				
I treat people well, even if they look different	.347		.539				
I feel for others worse off than me			.529				
When I grow up, I will help the poor			.478				
I like children who are different to me			.454				

Table 1. *Cont.*

CVQ Item	Factors						
	1	2	3	4	5	6	7
I get upset when I see others upset			.452				
I play with children who are different to me			.446				
I encourage others in class	.393		.431				
People should give money to the poor			.386				
Being fit is important			.378			.357	
I can handle problems, when they happen	.319		.334	.310			
I participate for enjoyment			.326				
Healthy food is important			.308				
I am popular				.683			
I have lots of friends				.617			
I join in with other children				.503			
I am a classroom leader				.493			
I make friends with girls				.476		.456	
I am good looking				.427			
People respect my opinion		.391		.413			
I am not picked on by other children				.361			
I am not teased by other children			.314	335			
Others understand me	.316			.321			
Reading is interesting					.629		
I am good at reading					.580		
I am good at spelling					.537		
Doing music is important					.489		
School is enjoyable		.401			.460		
I am good at school	.392				.419		
Speaking a different language is good			.310		.359		
Doing art is important							
I make friends with boys						.532	
I am good at maths					.349	.518	
Playing sport is important				.320		.505	
Maths is interesting					.400	.455	
I am a good sport				.315		.449	
Doing dance is important						.447	
I can run a long way				.358		.435	
I can throw small ball						.346	
I get involved because my friends							
I do things to get rewards							
I know when I am happy							.725
I know when I am sad							.718
I know when I am nervous							.552
I show when I am happy			.302				.362
I have goals for future							

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