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Factors affecting student adjustment as they transition from primary to secondary school: A longitudinal investigation

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DECLARATION

To the best of my knowledge and belief this thesis contains no material previously published by any other person except where due acknowledgement has been made.

This thesis contains no material which has been accepted for the award of any other degree or diploma in any university.

Signature: 

Date: **22 January 2010**

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My parents and my sister Karina

I love the three of you dearly.

ABSTRACT

Transition from primary to secondary school occurs during the developmental period of early adolescence. Mixed findings exist across the literature on the effects of transition on student adjustment outcomes. This has led to an understanding amongst researchers and educators that the effects of transition are not uniform. Treating young adolescents as a homogeneous group might be extremely misleading.

Much of the transition literature in early adolescence has been concentrated on typically developing students. Students with disabilities /chronic ill health conditions and at a social disadvantage have been excluded in cohort and longitudinal investigations. Thus, gaps exists in the understanding of factors that may promote or limit positive school adjustment, especially for those with social or health related issues, some of which have been addressed in this study.

The overall aim of this study was to determine the personal and contextual factors that affect adjustment outcomes of all mainstream students including those with disabilities and chronic illness and students at a social disadvantage, as they transition from primary to secondary school in Western Australia. Six study objectives were described, in order to address the aim. Student adjustment in this study was operationalised in terms of academic, emotional-behavioural, social, and participatory dimensions. Therefore, the following outcomes were included: academic competence; emotional and behavioural difficulties; sense of self-worth; school belonging; loneliness and social dissatisfaction; and participation in school extra-curricular activities (e.g., social-leisure, civic, and creative pursuits).

A longitudinal study design was used. Two cohorts of participants (those making the transition from primary to secondary school during the academic year 2006/2007, and 2007/2008) were followed. At pre-transition, data from 395 students from a representative range of 45 feeder primary schools were retrieved. Post-transition data from two hundred and sixty six participants from 81 secondary schools across

metropolitan and regional Western Australia were collected. Cross-informant data from stakeholders (i.e., parents, teachers and students) were retrieved using psychometrically robust measures.

A social-ecological and developmental systems theoretical framework guided the research, which recognized the interdependence of individual characteristics within changing personal, family, school, and peer-group contexts (Bronfenbrenner & Morris, 1998; Brooks-Gunn, Peterson, & Eichorn, 1985; J. S. Coleman & Hendry, 1999). Assumptions about key influencing factors identified in the literature to influence student adjustment in school were tested, using a series of hierarchical linear regression models. The findings of the study confirm four main issues:

1. At multivariate level, students' gender, health status, and the SES-level of their household influenced adjustment outcomes to a varying degree, depending on: the adjustment outcome under review; the timing of the analysis (i.e., whether it was before or after transition, or longitudinal); and the associated personal and contextual factors considered in each analysis;
2. Combinations of personal and contextual factors were found to predict student adjustment outcomes in primary school;
3. Longitudinally, primary level combinations of factors had reduced predictive power in explaining secondary school adjustment outcomes; and
4. Models that took into account the contribution of previous adjustment in primary school, the replica primary school model (primary school model with corresponding secondary level factors) and factors unique to secondary school, best explained adjustment outcomes in secondary school.

Most of the personal and contextual predictors of adjustment can be modified to promote adjustment. Future longitudinal research that tracks mainstream students along the educational continuum is required to identify whether there are any additional personal and contextual factors that take on prominence in the later years of school.

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1.1 STATEMENT OF THE PROBLEM

The transition from primary to secondary school; whether negotiated in a single step, or mediated by an intermediary grade, or middle school organizational system, is considered one of the biggest organisational discontinuities along the formal educational continuum (Burke & Jarman, 1994; Carnegie Council on Adolescent Development, 1989; Cormack, 1996; Hargreaves, Earl, & Ryan, 1996). This transition is normative in nature because it is systematically built into the school systems, such that all students in a particular school make a transition in early adolescence (L. H. Anderson, Jacobs, Schramm, & Splittgerber, 2000; Seidman & French, 2004). Some studies have identified declines in academic motivation, decreased classroom engagement and extracurricular activity participation, and decreased psychological membership in school in typically developing adolescents following the entry into secondary school (Blyth, Simmons, & Carlton-Ford, 1983; Crockett, Peterson, Graber, Schulenberg, & Ebata, 1989; Resnick et al., 1997; Seidman, Allen, Mitchell, & Feinman, 1994; Skinner, Zimmer-Gembeck, & Connell, 1998). Research has found that although students' self-esteem decreased immediately subsequent to the transition, it increased over the course of the year (Hirsch & Rapkin, 1987; Proctor & Choi, 1994). Case studies in Australia suggested that after spending some time in secondary school the majority of students felt they were enjoying the variety of subjects and teachers, the freedom, and making friends (Kirkpatrick, 1993, 1997; Marston, 2008).These mixed findings have led to an understanding that while some students find transition demanding, others thrive on the challenges that this change creates (Bahr & Pendergast, 2007). Thus, considering the cohort of early adolescents as a homogeneous group might be extremely misleading.

This is the first comprehensive longitudinal study in Australia that specifically focussed on the adjustment outcomes of young adolescents with disabilities or chronic illness, and those at a social disadvantage, however this was undertaken within a mainstream context. It is important to find out whether personal and contextual factors documented to influence student adjustment outcomes in the

United States of America (US) can be generalised to the Australian context, and applied within a mainstream educational setting. This study was undertaken to provide Australian-based evidence on the personal and contextual factors that affect student adjustment outcomes in school, as they negotiate the transition from primary to secondary school. Also not known is whether factors that predict adjustment outcomes in primary school hold true over time after students enter secondary school, and whether there are any additional factors that influence adjustment outcomes in secondary school. These unknowns warrant investigation and have been addressed in this thesis

1.2 AIM AND OBJECTIVES OF THE STUDY

The overall aim of the study was to determine the personal and contextual factors that affect adjustment outcomes of all students in a mainstream setting, including those with and without disability/chronic illness and social disadvantage, as they negotiate the transition from primary to secondary school. In order to attend to the study aim, the following six objectives were addressed. These objectives are presented in Figures 1.1 and 1.2.

- ***Objective 1***: To determine the pre-transition (T1)[1] personal and contextual factors that predict concurrent[2] adjustment outcomes of students in primary school (at T1) (Figure 1.1);
- ***Objective 2***: To determine the pre-transition (T1) personal and contextual factors that predict student adjustment outcomes longitudinally[3] in secondary school (at T2) [4] (Figure 1.1);

[1] Pre-transition (T1) is used to refer to the final year of primary school, and involves Year 7 for schools that follow the traditional K-7 system, or Year 6 for schools that follow the K-12 system with middle school.

[2] Concurrent is used to refer to occurrences at the same point in time. For example, to refer to T1 factors predicting T1 outcomes, or to refer to T2 factors predicting T2 outcomes.

[3] In the longitudinal model, T1 factors are used to predict T2 outcomes. The terms longitudinal, across-time and prospectively have been used interchangeably in this thesis.

- ***Objective 3***: To determine whether the factors found to be significantly associated with T1 adjustment outcomes (objective 1) retain their association when evaluated in secondary school (at T2), using T2 equivalent[5] factors and adjustment outcomes. This model is referred to as the T1 replica model (Figure 1.1);
- ***Objective 4***: To determine if there are personal and contextual factors unique[6] to secondary school that predict concurrent adjustment outcomes of students in secondary school (at T2) (Figure 1.1);
- ***Objective 5***: If unique factors are identified in objective 4, to determine whether the unique T2 factors predict concurrent adjustment outcomes at T2, better than the T1 replica model (Objective 3) (Figure 1.2);
- ***Objective 6***: After controlling for primary school (T1) adjustment outcomes, to determine whether the unique T2 factors identified in objective 4, predict concurrent adjustment outcomes at T2, better than the T1 replica model (Objective 3) (Figure 1.2).

Based on the literature, student adjustment in this study was operationalised in terms of:

1. academic competence;
2. emotional and behavioural difficulties;
3. sense of self-worth;
4. belongingness in school;
5. loneliness and social dissatisfaction in school; and
6. participation in school extra-curricular activities (e.g. social-leisure, civic, and creative pursuits).

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[4] Post-transition (T2) is used to refer to the first year of secondary school, and involves Year 8 for schools that follow the traditional K-7 toYear8-10/12 system, or Year 7 for schools that follow the K-12 system with middle school.

[5] Equivalent T2 factors include post-transition/secondary level factors that are matched to those in the T1 model. They have also been referred to as corresponding T2 factors.

[6] Unique T2 is used to refer to factors exclusive to secondary school.

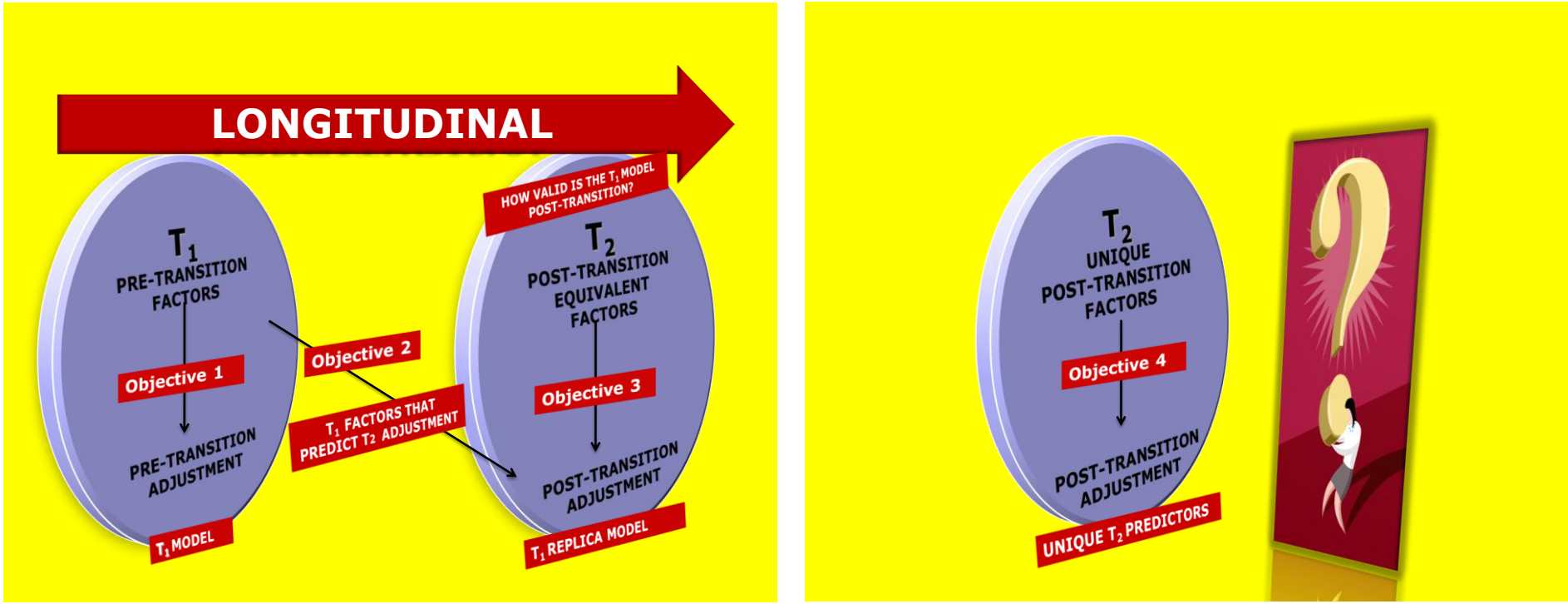


Figure 1.1 *Study objectives 1 to 4*

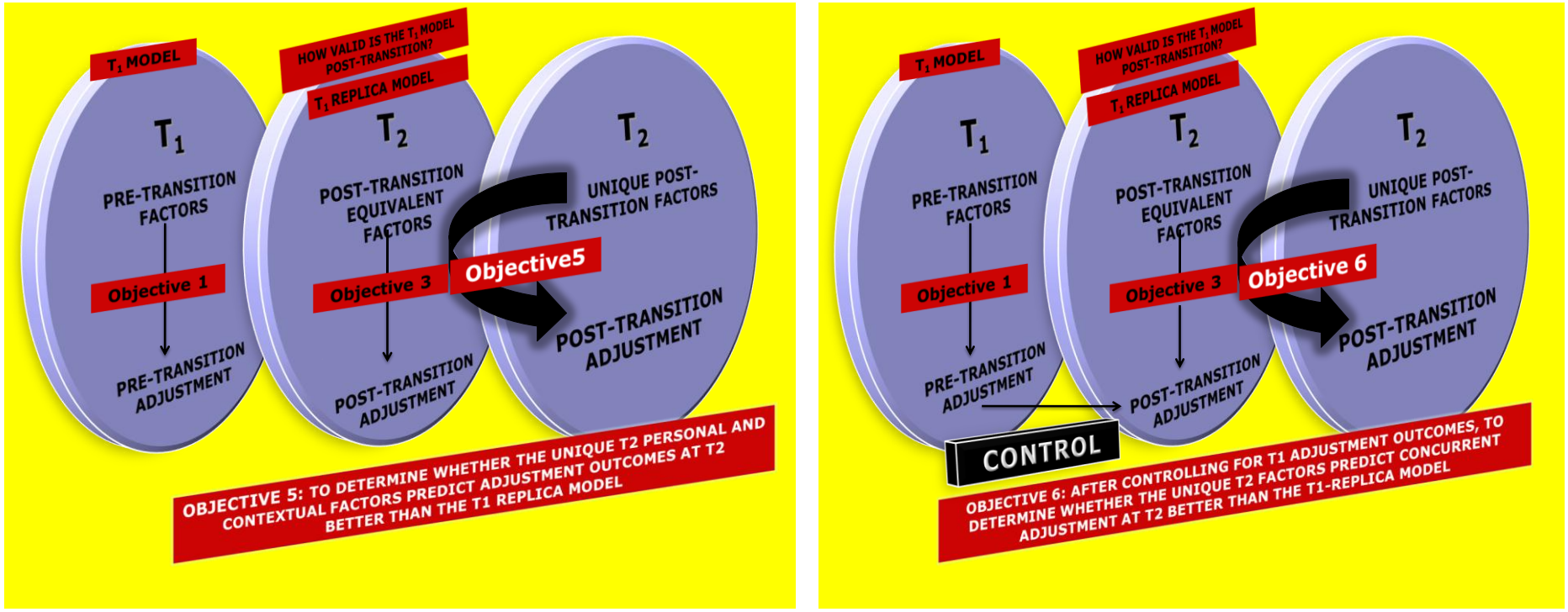


Figure 1.2 *Study objectives 5 and 6*

1.3 SIGNIFICANCE OF THE STUDY

This study is concerned with the personal and contextual predictors of mainstream student adjustment in school, in relation to the transition from primary to secondary school in Western Australia. Students who experience difficulties during this transition have been identified to be at risk for underachievement, disconnection and early school drop-out (Australian Curriculum Studies Association [ACSA], 1996; Hargreaves, Earl, & Ryan, 1996; P. W. Hill & K. Rowe, 1998; Juvonen, Vi-Nhuan, Kaganoff, Augustine, & Constant, 2004). Although international researchers have focussed on early adolescent transition, students with disabilities or chronic illness have been excluded from cohort and cross-sectional investigations. This is the first longitudinal study in Australia that presents context-specific evidence on the predictors of social, academic and participatory outcomes of all early adolescents in mainstream education. Most of the personal and contextual predictors of student adjustment identified in the study findings are modifiable and can be improved to promote adjustment outcomes. Action is required to ensure that addressing the needs of all students becomes the expected practice for students within regular schools.

1.4 OVERVIEW OF THE STRUCTURE OF THE THESIS

This chapter has introduced the area of concern addressed in this thesis, along with the significance of conducting the study. Chapter 2 outlines a conceptual framework for the study and surveys various relevant domains and key theoretical antecedents. It provides an overview of the educational movements known to impact on current delivery of services for mainstream students in Western Australia. Critical deliberations on personal and contextual factors identified in the literature to be associated with students' adjustment in school are presented, along with elucidation of the model that guides the study. The methodology that guides the research is presented in Chapter 3, along with the data management and analyses strategies undertaken to ensure that high quality rigor was maintained. As social skills were hypothesised to make a significant contribution in predicting students' adjustment, Chapter 4 presents the analysis undertaken to establish the test-retest reliability of the

Social Skills Rating System (SSRS) (Gresham & Elliott, 1990) in an Australian sample. The Bland and Altman limits of agreement and the coefficient of repeatability (Bland & Altman, 1986, 1999, 2003) of the SSRS subscale and total scores are presented whilst critically appraising routine indices used in test-retest reliability studies across the psychosocial literature. A descriptive overview of the sample that took part in the study is presented in Chapter 5. In Chapter 6, various multivariate models of student adjustment outcomes are tested before and after secondary school transition. Chapter 7 discusses the significant personal and contextual predictors of student adjustment in relation to previous research and how they translate into guiding practice. The thesis concludes by presenting the strengths and limitations of the study, and discusses areas for future research.

Chapter 2 Literature review

2.1 INTRODUCTION

This thesis is built on the premise that successful adjustment in school is an artefact of individuals' characteristics within the context of family, school, and peer-group environments. The current chapter outlines a conceptual framework for the study and surveys various relevant domains and key theoretical antecedents. This is addressed in the form of a review of related literature. Discussions on biological, social-cognitive and environmental/organisational paradigms conventionally used to understand transitions during adolescence are covered in Section 2.2. The effects of transition to secondary school on student adjustment during early adolescence are subsequently covered, followed by a review of the efforts to manage the transition. In Section 2.5, an overview of the educational movements known to impact on current delivery of services for mainstream students in Western Australia (WA) is presented. Subsequently, the adjustment outcomes of interest in the study are defined and discussed. Critical deliberations on personal and contextual factors identified in the literature to be associated with students' adjustment at school follow. The chapter ends with an elucidation of the ecological risk and protective framework that guides the study.

2.2 ADOLESCENT TRANSITIONS

A number of standards define adolescence; hence, the boundaries of definition are complex. Commonly, adolescence is acknowledged as being the period in a young person's life from when they reach puberty until they become independent and/or a legal adult (Kazdin, 1993). Its onset in societies worldwide is closely synchronized with the biological changes of puberty (Carnegie Council on Adolescent Development, 1989; J. S. Coleman & Hendry, 1999). Depending on the country under review, adolescence is usually structured by schooling and entry into work (Petersen, Silbereisen, & Sorensen, 1992). It is a period located between the transition from primary to secondary school, and from secondary school to tertiary education or work (Sanders, 1985). Adolescence has been identified in some cultures to begin as early as the age of 10 or 11 years, and extend in others to well after the

twenty-first birthday (J. S. Coleman & Hendry, 1999). Developmental researchers often divide adolescence into the phases of early adolescence (from approximately age 11 through age 14), middle adolescence (from approximately age 15 through 18), and late adolescence (from approximately age 18 to 21) (Carnegie Council on Adolescent Development, 1995; Connell & Furman, 1984; Hamburg & Wortman, 1985; Petersen & Leffert, 1995; Smetana, Campione-Barr, & Metzger, 2006). The sub-staging of adolescence remains unsatisfactory largely because of the lack of consensus across definitions and the boundaries used to limit each phase (J. S. Coleman & Hendry, 1999). Commonly, adolescence has been identified in some cultures to begin as early as the age of 10 or 11 years, and extend in others to well after the twenty-first birthday (J. S. Coleman & Hendry, 1999). As many researchers have highlighted, it is extremely important to focus on the changes that occur during each of these phases of adolescent development (Steinberg & Morris, 2001). In keeping with this recommendation, the present study focuses on a specific developmental task of early adolescence, that is, the transition from primary school to secondary school.

In order to better understand the myriad of changes that occur during adolescence, this thesis has organised adolescent transitions into the following three sets of primary changes: biological transitions; social-cognitive transitions; and environmental/organisational transitions (J. P. Hill, 1980; J. P. Hill & Monks, 1977; Steinberg, 2002). The following paragraphs discuss each of these transitions, with a specific focus on the early adolescent phase of development.

2.2.1 Biological transitions

Commonly, early adolescence is exemplified by the confluence of physical, cognitive, and psychosocial transformations that vary extensively in timing and tempo (Eccles & Midgley, 1989; Lord, Eccles, & McCarthy, 1994). A series of biological or physical changes associated with maturation into adult reproductive capability, referred to as puberty; mark its onset (Graber, Petersen, & Brooks-Gunn, 1996). The process of puberty is said to begin between ages 7 and 13 in girls and

between ages 9½ and 13½ in boys (Steinberg, 2002). For girls, the entire maturation process can be as brief as a year and a half, and as lengthy as six years. For boys, the length of the pubertal maturation process ranges from approximately two to five years.

There is some evidence to suggest that early maturation usually tends to be more advantageous for boys, with respect to participation in sports and association with the male culture that patronizes increased muscle mass (Eccles, 1999; Malina, 1990; Petersen, 1985). These findings are however not always consistent across the literature (Ge et al., 2003). In the case of girls, the evidence more constantly shows that early maturity is usually problematic, possibly because menstruation is accompanied with an increase in body fat and heightened scrutiny from peers, leading the girl to feel out of place with her age mates (Manning & Bucher, 2005; Simmons & Blyth, 1987; Simmons, Blyth, Van Cleave, & Bush, 1979). Higher rates of depressive symptoms, reports of lower body image and self-worth, reduced academic performance, and decreased participation in extracurricular activities following entry into secondary school are commonly reported by early maturing girls who are forced to concomitantly cope with several life transitions (Simmons & Blyth, 1987; Simmons, Burgeson, Carlton-Ford, & Blyth, 1987). Researchers adopting a cumulative theoretical stance argue that the combination of individual development and ecological changes during early adolescence is detrimental to individual functioning. Students who experience developmental and ecological changes at different times, rather than simultaneously negotiated the transition into a new school organisational setting better (Sameroff, Gutman, & Peck, 2003; Simmons & Blyth, 1987; Simmons et al., 1987). Thus, in a situation where the onset of puberty and the growth spurt occurs at the normal time, the student is able to adjust to puberty changes before other ecological transition-related pressures from teachers or peers are brought to bear (J. S. Coleman & Hendry, 1999). Such a focal outlook however has been critiqued for not making allowances for capital issues like disadvantage or deprivation (Coffield, Borrill, & Marshall, 1986).

2.2.2 Social-cognitive transitions

During adolescence, tasks are explored through various dimensions of identity (Blustein & Phillips, 1990). Adolescence signals the commencement of the formation of an individual's identity, which Marcia (1966) defined as "a self-structure, an internal, self constructed, dynamic organization of drives, abilities, beliefs, and individual history. The better developed this structure is, the more aware individuals appear to be of their own uniqueness and similarity to others and of their own strengths and weaknesses in making their way in the world" (Marcia, 1966, p. 159). The identity structure is reported to be dynamic, with elements continually being added and discarded. As adolescents progress in age, their self-concept becomes increasingly abstract, more accurate, differentiated, and stable (Harter, 1983, 1985, 1989, 1999). Progressively as individuals develop cognitively, they are able to separate their underlying traits and abilities, leading to a more organised and complex view of the self. Self-concept is believed to shift from concrete descriptions of behaviour in early childhood, through trait-like psychological constructs (e.g., intelligent, good looking, popular) in middle childhood, to more abstract constructs based on observations and feedback on their own performance from teachers, parents and peers (Hattie, 1992). Between the ages of eight and twelve years, young adolescents are able to differentiate between five domains of competence, namely: scholastic (refereed to as academic in this thesis); social acceptance; athletic proficiency; physical appearance; and behavioural conduct (Harter, 1983, 1985, 1989, 1999).

As students develop in age they constantly appraise their competence and capacity in relation to people, and these self-evaluations are related to their motivation to participate in learning (Jacobs, Lanza, Osgood, Eccles, & Wigfield, 2002). The very ability and inclination to compare oneself with another can however make the self-concept vulnerable in the domains that are valued (e.g., scholastic competence, athletic prowess, and peer popularity). Marsh's 'Big Fish Little Pond Effect' (PFLPE) highlights the negative effects of social comparison information on students competence, even in successful environments (Marsh & Hau, 2004b). In this

illustration, capability was indicated by self-referenced cues of improvement in performance or effortful accomplishments, but evaluations of students' social comparison cues accounted for their beliefs (Bateman, Bransford, Goldman, & Newrbrough, 2000). It has been suggested that the focus of performance goals in secondary school, of being the best in an environment that is more competitive and generally has more competitors, may limit students' participation and beliefs about their individual potential (Marsh & Hau, 2004b).

As a person moves into adolescence, ability becomes more differentiated as a capacity trait and is considered an entity independent from effort (Butler, 1999; Nicholls, 1984). Effort-ability differentiation has been viewed as a contributor to the decline in self-concept and motivation across transition into secondary school (Butler, 1999). Thus, the realisation that one is deficient in an essential trait would seemingly have an untoward effect on the adolescent's sense of competence, and make him/her unlikely to perform well on tasks that require that form of ability. Such a realisation might result in the lack of drive to attempt the task resulting in poor performance in the given situation. Failure in such individuals is more likely to be attributed to the lack of intelligence rather than to the lack of effort (Stipek & Gralinski, 1996). When not challenged, negative evaluation can detrimentally impact on adolescents' future goals, aspirations, and ultimately career trajectories (E. M. Anderman, Maehr, & Midgley, 1999; Carnegie Council on Adolescent Development, 1989).

Although abstract thought process begins to develop during this time in life (Elkind, 1974; Flavell, 1963; Piaget, 1960; Piaget & Inhelder, 1973), transition to higher levels of cognitive function varies significantly across persons, gender, and within content areas. As learners, students tend to build upon their individual experiences and prior knowledge to make sense of the world around them (Piaget, 1960), and are more interested in real-life experiences and learning opportunities, rather than conventional academic subjects (Kellough & Kellough, 2002; Manning & Bucher, 2005). A wide range of intellectual development, meta-cognition, and independent

thought occurs during adolescence, as identified in neurological studies (Kellough & Kellough, 2002; Manning & Bucher, 2005; Scales, 2003). The increased ability to monitor one's own thoughts and feelings can lead to egocentrism or an intense preoccupation with the self (Elkind, 1967). Two types of egocentrism, referred to as the personal fable and the imaginary audience are displayed in adolescents (Steinberg, 2002). Personal fables include adolescents' beliefs that their own experiences are unique and can cause them to engage in risky behaviours because they feel invincible, or beliefs that certain negative events that happen to others could not possibly happen to them (Elkind, 1967). The imaginary audience includes the belief that one's behaviours are the central focus of every other person's concern and attention (Steinberg, 2002).

Early adolescence has also been identified by researchers as the optimal time for developing and learning coping skills (Department of Education Victoria, 1998; C. Roberts, 1999; Wyn, Cahill, Holdsworth, Rowling, & Carson, 2000). Little use of problem-focused coping styles, such as planning, could be an indication of poor problem solving skills. Children and adolescents perceive seeking social support as one of the most helpful ways of coping with problems (Frydenberg & Lewis, 1991). Adolescence, with its numerous and complex changes together with increasing demands and expectations, particularly at school, may easily trigger uncertainty and a greater risk of blaming oneself for social and academic problems (Harter, Whitesell, & Kowalski, 1992). The changes and demands associated with adolescence may trigger the use of non-productive coping strategies (Frydenberg & Lewis, 1999b, 2000). Too much self-blame when faced with problems at school could be a risk factor for emotional problems (Compas, Malcarne, & Fondacara, 1988). Research with children and adolescents indicates that behavioural problems could be related to poor social competence and poor problem-solving skills (Fischler & Kendall, 1988).

Development of social skills is regarded as a fundamental task for all children (Cronin, 1996). Empathy is broadly used to refer to one individual's reactions to the

observed experiences of another (Davis, 1980), and is of importance in development of social competence. Empathy is thought to reach its highest developmental stage during late adolescence (Hoffman, 1987). Empathy has also been identified to be positively related to social intelligence, and serves as a buffer for all forms of aggression in adolescence (Bandura, 1999; Jolliffe & Farrington, 2004). Assertiveness is viewed as a dimension describing people's tendency to speak up for, defend, and act in the interest of themselves and their own values, preferences, and goals and is also considered a socially valid social skill of great importance in adolescence (Costa & McCrae, 1992; Wilson & Gallois, 1993). Self control has been identified to be significantly related delinquency and analogous behaviours (Pratt & Cullen, 2000). The ability to cooperate with others thus represents a fundamental component of socially competent behaviour (LaFreniere, 1996). A comprehensive meta-analysis of studies comparing the social behaviours of friends and non-friends concluded that friends engage in more frequent positive interactions, including talking, cooperation, and positive affect than do peers not identified as friends (Newcomb & Bagwell, 1995, 1996). Thus, development of empathy, assertiveness, self-control, and cooperative social behaviours play an important role in the acquisition of social competence during adolescence.

Moral development during adolescence involves gradual evolution from blanket acceptance of adult moral judgment to the development of personal values (Scales, 2003). Students at this age begin to consider complex moral and ethical questions but are often ill equipped to cope with consequential dilemmas. They are extremely vulnerable and at risk when it comes to making sound moral and ethical choices (Kellough & Kellough, 2002). Development in the emotional and psychological spheres is characterized by the personal quest for individual identity, autonomy and uniqueness (Knowles & Brown, 2000). Expansion of the relationship base to include family and peers may elicit feelings of conflict as the adolescent grapples with changing loyalties and competing allegiances (Lipsitz, 1980; Wiles, Bondi, & Wiles, 2006). The search for one’s identity can intensify feelings of vulnerability, lessen self-worth, and consequently make adolescents increasingly attuned to the

differences between themselves and others, resulting in increased self-consciousness and high sensitivity to other's criticism of self-perceived shortcomings (Scales, 2003). Increased emotional variability, further augments the risk for making decisions with negative consequences (Milgram, 1992).

Empirical findings substantiate that the historical portrayal of early adolescence as a period of "storm and stress" (Hall, 1904) is an exaggeration of the universality of stress experienced by young people (Arnett, 1999; Dornbusch, Petersen, & Hetherington, 1994). Evidence suggests that early adolescence may not necessarily involve an identity crisis or significantly greater distress than other phases of life (Offer, Ostrov, & Howard, 1981; Petersen, 1988). Notwithstanding the above, empirical works acknowledge that significant changes do occur during early adolescence which impact on all spheres of functioning. Individuals who are more socially withdrawn and psychologically vulnerable during childhood are more likely to experience difficulties in adolescence, which may manifest in psychological disturbances (Rutter, 1987).

Not all youngsters experience difficulties during adolescence. The majority of adolescents respect their parents as individuals, feel close to their parents, and report being loved and supported by them (Steinberg, 1990). In their quest for greater autonomy, however, individuals at this age in life, generally become more assertive in expressing their opinions and negotiating discussions with their parents. In most families, adolescence signifies a movement away from asymmetrical patterns of interaction between parents and children to interactions in which adolescents and parents function on an equal level (Steinberg, 1990). Given that early adolescence is the period when this change in parent-child interactions first occurs, researchers have suggested that this phase of development may be a particularly stressful time for the entire family (Laursen & Collins, 1994; Steinberg, 2001).

Establishing and maintaining peer group relationships is very important for children and adolescents (J. S. Coleman, 1979). As they approach adolescence, students begin

to spend significantly more time with peers (Larson & Verma, 1999). Although empirical findings suggest that the peer-group is no more important in early adolescence than in middle childhood, changes within the peer-group context during adolescence are reflective of evolving individuals' identities (J. S. Coleman, 1979). Individuals at this age explore their social standing within their peer group, and this search may prompt experimentation with slang and alternative behaviours (Manning & Bucher, 2005). The peer group provides opportunities for identity exploration, the development of autonomy, and the socialization of appropriate sexual behaviour (Steinberg, 2002). Friends also have a substantial influence on adolescents' attitudes toward school, school behaviour, and academic achievement (Berndt & Keefe, 1995). In contrast to childhood friendships, friendships in adolescence are characterised by higher levels of intimacy (Berndt, 1992), with girls' friendships tending to be more intimate than boys' friendships. Individuals begin to spend increasingly more time with opposite-sex peers (B. B. Brown, 1990). Evidence suggests that although early adolescents tend to emulate esteemed peers and prefer to make their own choices, the family continues to remain a critical factor in final decision-making (Kellough & Kellough, 2002). Feelings of rejection from a significant adult at this stage in life, however, can drive the youngster into the confines of their peer group (Kellough & Kellough, 2002).

As the preceding discussion illustrates, adolescence is a developmental period characterized by multiple biological and social-cognitive transitions. In many cases, the early adolescent must not only cope with these fundamental transitions of adolescence, but also navigate the contextual changes associated with the transition to the secondary school environment.

2.2.3 Environmental/Organisational transition

Transition from primary to secondary school settings whether negotiated in a single step or mediated by an intermediary grade or middle school organizational system is considered one of the biggest organisational discontinuities along the formal educational continuum (Burke & Jarman, 1994; Carnegie Council on Adolescent

Development, 1989; Cormack, 1996; Hargreaves, Earl, & Ryan, 1996). This transition is normative in nature because it is systematically built into the school systems, such that all students in a particular school make a transition at early adolescence (L. H. Anderson et al., 2000; Seidman & French, 2004). Traditionally, the differences between primary and secondary schooling in many ways has been regarded as amounting to differences between two quite distinct cultures that control each school setting (Hargreaves, 1986). Ahola-Sidaway (Ahola-Sidaway, 1988) provided an eloquent description of the school cultures across transition stating:

> "*Elementary students are part of the school neighbourhood, have strong connections to the school community, are located in specific classrooms, occupy a designated desk, and have close ties to teachers, classmates and their principal. Secondary students, on the other hand, go to school outside their community; occupy a large, complex building; have no home-based classroom, desk, or teacher; are controlled by bells, forms, and procedures; and have only a locker as their personal territory. Their connections are not based on relationships with teachers or classmates. Instead, peer cliques are formed around common interests*" (Ahola-Sidaway, 1988, p. 23).

Size and structure of primary schools, and the predominance of female staffing have also been identified as key variables central to the 'culture of care' that dictates the school setting (Gillian, 1982; S. M. Johnson, 1990). When students enter the secondary school setting, they are required to get accustomed to moving between rooms (unlike the being attached to one classroom in primary level), and to take on the responsibility for being in the right place at the right time. Pedagogy adopted in the secondary setting has been critiqued for lacking the responsiveness to curriculum integration and being focussed on subject matter and content (Boyd & Crowson, 1982). Allocation of students to streams is typically based on some valued criteria such as good academic and social skills (Lawton, Leithwood, Batcher, Donaldson, & Stewart, 1988). Such a process has been severely critiqued over decades as a contributor to polarisation of students within cohorts, weakening individuals' sense of institutional pride, and believed to further accentuate the dissimilarity of self from

others at a critical time in life (Hargreaves, 1982; Lacey, 1977; Lawton et al., 1988). These attributes have been identified as plausible causes for the high incidence of truancy, delinquency and dropout amongst the disadvantaged students in secondary school (Hargreaves, 1967; Lawton et al., 1988).

Several reviews of the literature based on empirical works conducted in the 1970s and 1990s have noted that the classroom organizational, instructional, and climate variables prevailing in most secondary schools are developmentally inappropriate to the needs of adolescents (Juvonen, Vi-Nhuan, Kaganoff, Augustine, & Constant, 2004). Classrooms in secondary schools have been characterised by greater emphasis on teacher control and discipline, and offer fewer opportunities for student autonomy, decision-making, leadership, and self- management when compared to primary school classrooms (Brody & Evertson, 1976; Midgley & Feldlaufer, 1988; Midgley, Feldlaufer, & Eccles, 1988). Sophisticated organisational skills are required to acclimatise oneself to the fragmented learning periods, changed pedagogical approach and assessment style that accompany the change. Students are expected to move from one class to another, and are taught by different subject teachers. Such an arrangement can result in the loss of role model or key adult teacher with whom to identify, at a time where there is a great need for guidance and support from non-familial adults (P. D. Ferguson, 1998). Contrary to the psychosocial needs of the developing adolescent making these transitions, teachers in the secondary schools are reported to be less personal and more controlling (Eccles et al., 1993; Hargreaves et al., 1996; Simmons & Blyth, 1987; Simmons et al., 1987). Changes in student-teacher relationships are also likely to destabilize the communal sense and trust between students and teachers, leading to a lowered sense of efficacy among the teachers. Teachers in secondary schools have been accused of employing higher standards in judging students' competence and grading performance than their primary level contemporaries, with decline in student grades across transition attributed to the more stringent grading practices rather than actual changes in the rate of the students' learning (Eccles & Midgley, 1989; Kavrell & Petersen, 1984). Perpetuation of a performance-driven culture in secondary school has been blamed

for the increased concerns about evaluation amongst students, and increased focus on social comparisons and competitiveness amongst young adolescents at a time of heightened self-focus (Eccles, Midgley, & Adler, 1984). Aptitude differences are made more salient to both teachers and students (Midgley, Feldlaufer, & Eccles, 1989).

Following the transition from primary to secondary school, students encounter mixes of students across classes and may experience a remixing of friendship networks and social hierarchies (Mizelle & Mullins, 1997). The transition into a new setting entails a change in student role orientation, with students moving from being the oldest in primary school to the youngest in secondary school, and experiencing disruption of the secure peer network forged through the primary school years (Bronfenbrenner, 1999). Role discontinuity demands more adaptation, and is identified as a problematic factor during the adolescent transition (Eccles & Midgley, 1989; Eccles et al., 1984).

Theorists postulate that mismatch between the developmental needs of early adolescents and the opportunities afforded to them in the secondary school setting, may negatively influence psychological and behavioural adjustment (Eccles & Midgley, 1989; Eccles et al., 1984). Adaptation to these challenges demands significant effort from even the most resilient of individuals. For those who lack the necessary resources to cope with the presented challenges, successful negotiation can be challenging and stress evoking (Roeser, Strobel, & Quihuis, 2002).

This literature review moves on to explore the existing evidence on the effects of transition from primary to secondary school in early adolescence on student adjustment in school.

2.3 EFFECTS OF TRANSITION FROM PRIMARY TO SECONDARY SCHOOL IN EARLY ADOLESCENCE ON STUDENT ADJUSTMENT IN SCHOOL

The middle years of schooling represent a major preoccupation of schools across Australia, with approximately one-third of schools participating in the Innovation and Best Practice Project (IBPP) nominating these years as the key focus area of innovation (P. W. Hill, Mackay, Russell, & Zbar, 2001). Some studies have identified declines in academic motivation, decreased classroom engagement and extracurricular activity participation and decreased psychological membership in school in typically developing adolescents following the transition into secondary school (Blyth, Simmons, & Carlton-Ford, 1983; Crockett, Peterson, Graber, Schulenberg, & Ebata, 1989; Resnick et al., 1997; Seidman, Allen, Mitchell, & Feinman, 1994; Skinner, Zimmer-Gembeck, & Connell, 1998). US studies on timing and number of transitions have reported that students in a 6-3-3 arrangement experience significantly greater decreases than students in an 8-4 school structure (Alspaugh, 1998; Crockett et al., 1989). Other studies report that although students' self-esteem decreased immediately following the transition into secondary school, it later increased over the course of the year (i.e., the year students' entered secondary school) (Hirsch & Rapkin, 1987; Proctor & Choi, 1994).

Secondary school transition has also been linked to problematic emotional outcomes (Eccles & Midgley, 1989; Seidman et al., 1994), higher levels of behavioural disturbances in the classroom, the beginning of risk-taking behaviours such as alcohol and drug use (Bronstein et al., 1996; Wallis & Barrett, 1998), and increased psychological distress (Chung, Elias, & Schneider, 1998) in typically developing students. An unacceptably high incidence of clinical depression, disruptive behaviour, delinquency, eating disorders, deliberate self harm and suicide, substance abuse, mental health breakdown, engagement in unsafe sexual practices among students during this period of adolescence has also been reported (Carr-Gregg, 2001; Chadbourne, 2001; Withers & Russell, 1998; Zubrick et al., 1997). Many of these problems, for example, anxiety among girls and conduct disorders among boys increase in the middle years of schooling and detract from learning development. The

Commonwealth government in Australia, in a report called MindMatters: A Mental Health Promotion resource for secondary schools (Commonwealth Department of Health and Aged Care, 2000) has acknowledged the enduring problems and recognised the need for continuing support of the mental health and wellbeing of all young Australians.

Although dropping out typically takes place in the later years of secondary school, the process of disengagement and alienation that ultimately leads to leaving school is believed to often start during the early adolescent years of schooling (Australian Curriculum Studies Association [ACSA], 1996; Hargreaves et al., 1996; P. W. Hill & K. Rowe, 1998; Juvonen et al., 2004). Dropping out is identified as one of the most extreme consequences of these negative attitudes, and bears social and economic repercussions and an estimated $2.6 Australian billion dollars a year in social welfare, health, and crime prevention (Black, 2007; King, 1999).

Fears of getting lost, increased workload, peer relationships and new environments and routines are among the most common worries listed by students, in qualitative case studies (Howard & Johnson, 2004; Israelashvili, 1997; Zeedyk et al., 2003). Bullying is the most frequent fear of all. A temporary revision of the trend of decreased reported victimisation over time has been reported in the literature, with increased bullying reported when students move from primary to secondary school and find themselves in a new environment (Rigby, 2002). Disruptions in peer affiliations consequential to the transition into a new school setting, affords opportunities for bullying and increased uses of aggression, possibly to establish peer hierarchies (Pellegrini & Bartini, 2000; Rigby, 2002). More often than not, boys tend to bully in direct and physical ways, while girls tend to bully in emotional or indirect ways (Olweus, 1993). New modes of bullying that involve the use of information and communication technologies are tending to blur these gender lines, with both boys and girls being involved in cyber-bullying (Rigby, 2002). Increased levels in anxiety have also been reported across the secondary school transition, with the majority of

pupils experiencing some degree of concern well into the first year of secondary school (Stradling & MacNeil, 2000).

The effects of transition into secondary school however, are not uniform for all typically developing students. Research has found that although students' self-esteem decreases immediately after the transition, it increases over the course of the year students negotiate the transition (Hirsch & Rapkin, 1987; Proctor & Choi, 1994). Research conducted in Queensland found that psychological adjustment for the majority of students is stable during secondary school transition (Wallis & Barrett, 1998). Twenty percent reported better psychological wellbeing in Year 8 while, 25% experienced a decrease in their psychological health. Case studies in Australia suggest that after spending some time in the secondary school the majority of students felt they were enjoying the variety of subjects and teachers, the freedom and making friends (Kirkpatrick, 1993, 1997; Marston, 2008). Given these mixed findings on the impact of transition to secondary school on student outcomes, researchers have suggested that the effects of secondary school transition are not universal (Lord, Eccles, & McCarthy, 1994). While some students find these changes demanding, others thrive on the challenges that the changes create (Bahr & Pendergast, 2007). Thus, considering the cohort of students in the middle years of schooling as a homogeneous cohort might be extremely misleading. Furthermore, for disadvantaged students, transition compounds the difficulties of learning, socialisation and economic hardship (Downing, 2002; Feeney & Best, 1997). Students with disabilities and chronic illness, and those disadvantaged financially might thus be at a double disadvantage. There is a however a dearth of empirical investigations to support this hypothesis.

The confluence of individual developmental vulnerability and disruptive ecological transitions navigated during early adolescence (Hargreaves et al., 1996; Seidman & French, 2004) is said to present avenues for development in new directions. The Carnegie Council on Adolescent Development (1989) entitled its path breaking report on middle years schooling Turning Points to emphasize that adolescence

should viewed as a turning point where young people develop sophisticated cognitive and social skills, and make choices that have an impact on the rest of their lives. This turning point can not only pose possible threats to psychological functioning, but also be a defining moment for growth (Carnegie Council on Adolescent Development, 1989; Rutter, 1987). It has been advocated that this period in life should be considered a window of opportunity to redirect young people so that they develop healthy lifestyles with lasting benefits (Carnegie Council on Adolescent Development, 1989; Hamburg, 1993).

2.4 EFFORTS TO MANAGE THE TRANSITION: EVIDENCE OF EFFECTIVENESS

Students in the final years of primary school and the first years of secondary school are believed to be caught in the middle of a school system which is largely designed for the needs of students at either end of it, and not always fitting to the needs of the young adolescent (L. H. Anderson et al., 2000; Australian Curriculum Studies Association [ACSA], 1996; Carnegie Council on Adolescent Development, 1989; Carrington, 2002; Hargreaves et al., 1996; P. W. Hill et al., 2001; Kruse, 2000; Luke et al., 2003). With reform being foremost on the agenda, a plethora of research, policy projects, and reports generated over the past ten years has dominated the literature. According to Carrington et al., (2002) the provision of a seamless transition from primary to secondary school has been the central focus of the middle school educational movement that strived to provide "effective student learning, positive experiences in adolescence, and a desire and capacity for lifelong learning" (p. 10). Central to this belief was the development of a middle schooling conceptual framework, during the middle years of schooling, wherein the unique educational needs of early adolescents were at the forefront of the agenda (Carnegie Council on Adolescent Development, 1989). Within the Australian context, the 'middle years' is used to refer to the early adolescent developmental phase with students generally belonging to the 10-15 age range (Barratt, 1998) and typically occupying the years 5-10 classes (Schools Council, 1992). Middle schooling refers to a "philosophy and method of education that responds more effectively to the unique developmental and

educational imperatives of middle years students within the context of contemporary society" (Cummins, 1998, p. 5).

Although there has been a growing willingness to invest in middle schooling, it has been remarked that investment in this movement in Australia is "as much a political issue as it is an educational one" (Carrington, 2006, p. 86). The majority of the States and Territories across Australia have identified this phase of learning as a delicate one, as it spans across the traditional primary and secondary school divide. Reorganization of the middle years has been embraced differently by the States and Territories across Australia. This makes it difficult to articulate any consistent train of innovation (Bahr & Pendergast, 2007).

The quality of the evidence driving middle school research has been the subject of many critiques, not only in Australia, but also internationally. The middle schooling initiative is criticised for having taken a piecemeal approach to understanding learning and learners. The middle school movement in Australia has relied on qualitative research, single cases, anecdotal and self-report type evidence (P. W. Hill et al., 2001). Numerous small case studies on middle schooling have been completed in Australia through agencies such as: the Australian Curriculum Studies Association (Australian Curriculum Studies Association [ACSA], 1993, 1996); South Australian Institute of Teaching (South Australia Institute of Teaching and National Professional Development Project Management Committee [SAIT/NPDP], 1996), National Schools Network (National Schools Network, 1995); Innovative Links Project (1994-97); cluster group initiatives in Victoria and the Northern Territory (Braggett, Morris, & Day, 1999); and the Innovation and Best Practice Project (Cuttance, 2001), to name a few. Many different proposals that that focus on organisational or structural change, such as classroom collaboration and negotiation (P. Campbell, 1997; Illman, 1997); small group or team approaches (J. Roberts, 1997); to comprehensive, full-service school approaches (Cummins, 1998; Dyfoos, 1994; Wehlage & Stone, 1996; Withers & Russell, 1998) have been proposed. Repeatedly, research showed little improvement in learning due to a focus on

organisational or structural change (Anafara, 2001). The most enduring critique of the middle school has been the apparently close ties between the development of middle schooling and economic interests (Beane, 1995), which has been identified to result in middle schools that reproduced economic inequality (Haycock & Ames, 2000). Moreover, published curriculum materials promoted by the middle school movement have failed to adopt the principles of integration of students with disabilities and social disadvantage (Anafara, 2001).

Other than the re-organisation of schools by developing specialised middle schools, several different efforts have been undertaken by government schools to tackle the transition to secondary school in Australia (P. W. Hill et al., 2001). These include: a) social events that encourage students from each side of the transition to meet and know each other; b) orientation days; c) common assemblies for primary and secondary school children; d) high school teachers being seen around the feeder primary schools; e) development of consistent student management strategies within a high school and neighbouring primary schools; f) curriculum planning across primary and high schools in a cluster; g) buddy new students with older students; and h) appointing a transition coordinator to the secondary school staff to name a few (Australian Capital Territory, 2005). The listed efforts have been undertaken to a varying degree across schools and in varying combinations. Schools using these strategies frequently report success in supporting their students' transition from primary to secondary school. This support however, is often uni-dimensional, with the focus on student support in a pastoral care sense, rather than curricular integration. Although supportive environments are essential for student wellbeing, support systems alone are not sufficient in themselves to deliver improved outcomes for students across the middle years transition (Lingard & Mills, 2002).

2.5 SUMMARY OF THE TRANSITION LITERATURE REVIEWED

The evidence of the effects of transition into secondary schooling on student social, emotional, behavioural, participatory, and academic performance outcomes is mixed. The inconsistent schooling practices adopted across schooling systems, and varied methods of collecting, analysing, and interpreting data, all subsumed under the 'middle schooling umbrella', present difficulties in comparing findings and obtaining evidence on the effectiveness of the middle year schooling practices and even the effects of transition on student outcomes. Additionally, conceptual and definitional problems plague the school literature on adolescence. Current evidence of interventions that address the primary-secondary school transition are heavily weighted by case studies and opinion-based documents that are "formative rather than summative" in nature and which "focus on process rather than product" (Luke et al., 2003, p. 15). Instruments of varying psychometric robustness limit the validity of the data. There is a dearth of longitudinal and large-scale investigations in Australia that precisely focus on determinants of student adjustment across the primary-secondary school divide. This trend in Australia could be partly attributed to the policy concentration of the State and Commonwealth on early intervention and post-school employment options.

Some of the most comprehensive reviews commissioned by the Federal Department of Education, Science and Training in Australia have identified students from socio-economically marginalised and poverty-stricken households; diverse family configurations; culturally diverse backgrounds wherein English is not the primary language spoken at home; and students diagnosed with learning problems and disabilities to be most at risk of negative school outcomes (Edgar, 2001; Lo Bianco & Freebody, 1997; Luke, Land, Christie, Kolatsis, & Noblett, 2002). These students are the central focus of this thesis.

Although there exists international research on transition during the middle years of schooling, most of the studies focus on the entry from elementary (grade 5) into a middle school (grade 6-8) organizational unit (Chadbourne, 2003). The middle

schools based philosophy, although upheld by a few schools in WA, differs from the three stage educational system currently prevalent in WA (Pre-primary/pre-school education, Primary education, and Secondary) (Chadbourne, 2003). It is important to question whether factors found to influence student adjustment in US studies can be generalised in the Australian context, and applied within a mainstream setting. Reports commissioned by the Commonwealth Government of Australia concur on the need to focus on shifting beyond 'problematising' individual students for 'dropping out' or being disengaged, to moving toward reinvigorated, rigorous and engaging middle schooling experiences (Luke et al., 2003). In order to achieve this goal it is important to obtain Australian-based evidence on the personal and contextual factors that affect student adjustment in school across the primary-secondary school transition. Also unknown is whether there is a group of students who are more susceptible to negative outcomes once they enter secondary school. More generally, we are in the dark on whether factors that predict adjustment in primary school hold true over time, once the student enters secondary school. In addition, models that can predict adjustment for all mainstream students, especially those with disability and/or chronic ill health conditions and those who are at a social disadvantage are lacking. Many of these unknowns warrant investigation. By incorporating longitudinal research that includes the processes of transition between school cultures, and actively involves adolescents, their parents and teachers, the study was intended to help capture a more informed picture about what is currently occurring across the primary-secondary school transition in Western Australia (WA).

A description of the schooling provision for young adolescents in WA is hereafter presented.

2.6 SCHOOLING FOR YOUNG ADOLESCENTS IN WESTERN AUSTRALIA: HISTORY, LEGISLATION, AND DELIVERY OF SCHOOLING

The Constitution of Australia allocates the primary responsibility for school education to State and Territory governments, all of whom provide and manage government schools and support non-government schools (Ministerial Council on Education Employment Training and Youth Affairs [MCEETYA], 2004). Educational experiences afforded to students in primary and secondary schools are consequential to the structural arrangements that underpin teaching and teaching and learning assumptions that are made about students as learners by the State and Territory governments (Council Curriculum, 1998). In Western Australia (WA), schooling is delivered in the context of the State's Education Act (1999), the Curriculum Council Act (1997), the Adelaide Declaration on National Goals for Schooling in the Twenty-first Century (MCEETYA, 2004), and sector-specific policies and guidelines. The WA Curriculum Framework for Kindergarten to Year 12 (K-12), does not advocate a perpetuation of the traditional primary/secondary curriculum structure (Council Curriculum, 1998). It recommends that (K-12) organisational system be reformed and made developmentally responsive to four overlapping phases of student growth. The WA Curriculum Framework divides K-12 student development into: early childhood (K-3), middle childhood (Years 3-7), early adolescence (Years 7-10), and late adolescence/early adulthood (Years 10-12). A section in the Overarching Statement of the Curriculum Framework outlines principles of learning, teaching and assessment, which are consistent with the middle schooling principles and practices (Bahr & Pendergast, 2007; Council Curriculum, 1998). The middle school educational movement in WA is however currently not explicit in policy and direction statements as in other Australian States (Bahr & Pendergast, 2007).

The Australian Disability Services Act (1986), Disability Discrimination Act (1992) and School Education Act (1999) mandate the rights of children with disabilities to access educational services in their local schools (Australian Bureau of Statistics, 2000). More recently, the Disability Standards for Education (2005) formulated

under the Disability Discrimination Act (1992) further elucidated the obligation of education and training providers across Australia to ensure that students with disabilities have equal access and participation in education without the experience of discrimination (Commonwealth of Australia, 2005). The Standards specify the ways that education and training are to be made accessible to students with disabilities, with regard to enrolment, participation, curriculum development, accreditation and delivery, student support services, and elimination of harassment and victimisation (Power & Angela, 2006). The concept of inclusion is firmly embedded within the WA Curriculum Framework (Council Curriculum, 1998; Department of Education and Training [DET], 2004). Such an inclusive philosophy is based on a notion of social justice that advocates equal access to all educational opportunities for all students, regardless of the presence of a disability (Organization for Economic Cooperation and Development [OECD], 2005). In addition to students with disability, the philosophy of inclusion applies equally to children from disadvantaged backgrounds (Gale & Cronin, 1998), a sub-population that is of primary focus in this thesis.

The Australian Institute of Health and Welfare (2006) reports that almost all (97%) children aged 5–14 years with a disability attend school, 89% of them in regular schools and 9% in special schools. Around 63% of school children with disabilities experienced difficulty at school-intellectual/learning difficulties, fitting in socially and communication difficulties were the most common(Australian Institute of Health and Welfare [AIHW], 2006). Despite this shift towards inclusivity, the idea of a continuum of services to meet the needs of students with disabilities continues to exist within the school system throughout Australia, with some students' needs seen as best met through separate schools (Australian Bureau of Statistics [ABS], 1999; Loreman & Deppeler, 2000).

2.7 STRUCTURAL ARRANGEMENTS OF SCHOOLS IN WESTERN AUSTRALIA

The government and non-government school sectors are the two school sectors that operate in WA. Government schools are often called State Schools or Public Schools. Non-government schools are often called Private Schools. Government schools operate under the direct responsibility of the State Minister of Education and Training, while operation of non-government schools is determined by government registration authorities. The government sector is represented by the Department of Education and Training (DET), whilst the privatised sector is represented by the Catholic Education Office (CEO) and the Association of Independent Schools of Western Australia Incorporated (AISWA). One-third of all students in Australia study in non-government schools, the majority of whom are from middle and upper socio-economic status (SES) background (C. Ryan & Watson, 2004). There has been a steady increase in the number of students in the non-government sector over the past 30 years. This trend is attributed to a variety of factors, including Commonwealth subsidies to non-government schools (C. Ryan & Watson, 2004). Most Catholic and some independent schools in Australia receive funding from the Commonwealth government (Department of Education Science and Training [DEST], 2004).

In the privatised sector there are co-educational and single-sex schools at primary and at secondary level. WA government schools are all co-educational. There exists considerable diversity in the structural arrangements of institutions for learners. Predominately, a three-stage educational structure consisting of pre-primary/pre-school, primary, and secondary operates in most government and independent schools. Schools range from traditional primary-secondary school configurations (K-7, and Year 8-12), through separate structures within larger frameworks from Kindergarten to Years 12 (K-12), to specially designated middle schools (Year 6/7-Year 10/12) (Council of Government School Organisations [COGSA], 2005). There are relatively few designated middle schools in WA when compared to the US and the rest of Australia. In general within Australia, middle schools operate as separate units or ‘sub-schools’ within larger schools (Council of Government School

Organisations [COGSA], 2005). Some primary schools set up Year 6-7 clusters wherein the classes are a combination of Year 6 and Year 7 students. This is a structure similar to a small middle school learning community or team. Similar arrangements exist in some secondary schools that set up, Year 8-9 sub-schools. K-10 schools have traditionally consisted of two sub-schools; a K-7 primary and a Year 8-10 high school with the high school operating, structurally at least, as a separate unit specifically for young adolescents. In general, these sub-structures are stand-alone or semi-autonomous administrative units which may exist with a middle school unit within a primary or secondary school.

In WA, the transition from primary to secondary school occurs at the completion of Year seven. Students enter secondary school during the year in which they turn 13 years in age. The degree of change during the transition to secondary school particularly within school groupings, classroom groupings, and teacher and classroom groupings varies as a function of the school sector and philosophical model upheld by the setting. In the case of government and private schools that adopt the traditional primary-secondary school organisational setting students are taught by the same class-teacher for the entire academic year and stay within the same classroom with the same classmates in primary school. After transition to secondary school, in the traditional primary-secondary school model, students experience class group discontinuity (i.e., change in class-membership) wherein, they are expected to move between classrooms in order to attend a series of specialist-taught classes. In the case of schools that follow the middle school philosophy, students move from one class to the other in a group, with no disruption in class-membership.

As part of a state-wide planning framework, a phased relocation of Year 7 students into the secondary settings has been adopted on a case-by-case basis post 2009, depending on school funding, as new schools are built or schools are being redeveloped is currently in progress (Department of Education and Training [DET], 2007). During the time of data collection for this study, however, with the exception

of a few independent schools, most student cohorts in WA entered secondary school in Year 8 (i.e., during the year in which they turn 13 years in age).

Additionally, the models of inclusion for students with disabilities adopted in schools across WA vary widely with regard to student contact time in the regular classroom. In some inclusive instances, students with disabilities who are based in regular classrooms spend some time in specialised units or classes designed to cater to their needs. Students with a chronic illness also spend time out in hospital/home, or require assistance from nurses at school. The term inclusion in this thesis is used to refer to such a mainstream situation, in which students attend a regular class for almost all the time, with support from specialised service providers offered as required. It is important to find out whether students with disabilities or chronic illness who attend a regular mainstream class are being included in terms of their belongingness and participation as a regular member of the classroom and school setting. Therefore, identifying factors that support the adjustment outcomes of all mainstream students is of critical significance in this study.

2.8 DEVELOPMENT OF A MODEL OF STUDENT ADJUSTMENT OUTCOMES IN SCHOOL

The home, school, and peer-group represent important ecological contexts that educate and socialise children and adolescents (Bronfenbrenner & Morris, 1998; J. R. Harris, 1998). The basis for the development of the hypothesised model of adjustment described below has been drawn from research on personal, family, school, and peer-group factors associated with students' adjustment at school. The following section of the paper, largely drawn from US literature, describes the construct of student adjustment and discusses these factors in detail.

2.8.1 Operationalising student adjustment outcomes: A multi-dimensional approach

The construct of student adjustment in secondary school has attracted growing international interest due to falling levels of academic achievement and activity participation, and increased levels of student socio-emotional problems, boredom, disaffection, alienation, and dropout following transition into secondary school (Australian Curriculum Studies Association [ACSA], 1996; Hargreaves et al., 1996; P. W. Hill & K. Rowe, 1998). In the early childhood literature, transition into a new schooling system is considered to be successful if the process of change occurs smoothly for the individual, family, and receiving school (Fabian & Dunlop, 2002; Yeboah, 2002). Multiple dimensions of student adjustment in the middle school context have been explored. Studies have examined how contexts interact with individuals' emotional/behavioural and motivational needs to promote or challenge adjustment (Connell, 1990; Eccles & Midgley, 1989; Skinner & Belmont, 1993). Others investigations have explored the classroom environment dimensions that influence student quality of life or mental wellbeing (Roeser & Eccles, 2000; Roeser, Eccles, & Sameroff, 2000; Roeser, Midgley, & Urdan, 1996; Simons-Morton, Crump, Haynie, & Saylor, 1999). Yet others investigated the relationship between participation in school extracurricular activities and dropping out (Wehlage, Rutter, Smith, Lesko, & Fernandez, 1989).

One aspect of the social context of special relevance to education is students' sense of belongingness or psychological membership in the school; that is, the extent to which students feel personally accepted, respected, included, and supported by others in the school environment (Goodenow, 1993b). Feelings of school membership positively affects motivation for school, effort, level of participation, and eventual achievement (Goodenow, 1993b). Student-school bonding has been found to be inversely correlated with emotional distress, problem behaviour, and has been identified as the potentially critical factor in the school-retention and participation of students (M. Finn, 1989; Resnick et al., 1997; Simons-Morton et al., 1999; Wehlange, Rutter, Smith, Lesko, & Fernandez, 1990).

Students with disabilities are reported to be more likely to have difficulties with school function due to physical, intellectual and social limitations (Downing, 2002) and less likely to gain a school academic qualification than those without disabilities (Australian Bureau of Statistics [ABS], 2002). Strong patterns of association that exist between academic difficulties and other problems during adolescence like delinquency and conduct disorder, substance abuse, and emotional difficulties such as depression, anxiety and low self-worth cannot be disregarded (Feshbach & Feshbach, 1987; Hightower et al., 1986). Keeping the above in mind, student adjustment in the present study is considered to be a holistic experience consisting of academic, emotional-behavioural, social, and participatory dimensions. Accordingly, the following outcomes were chosen: academic competence; emotional-behavioural difficulties; self-worth; school belonging; loneliness and social dissatisfaction in school; and participation in school extra-curricular activities (i.e., social-leisure, creative, and civic). Such a multifaceted view of adjustment will provide a better understanding of the complexity of students' experiences across the school divide; and present empirical rationale to design more specifically targeted interventions. Brief discussions on each adjustment outcome have been presented in the following sections.

2.8.2 Academic competence

The pervasive influence of self-concept on student outcomes has resulted in many educational policy statements throughout the world and within Australia listing the development of a positive self-concept as a key goal of education (Ministerial Council on Education Employment Training and Youth Affairs [MCEETYA], 1999). The organisation of students' cognitions regarding their academic achievement has been strongly linked to the role of self-concept. Current evidence supports the claims that academic self-concept and academic achievement are mutually reinforcing and changes in one will produce changes in the other (REM-reciprocal effects model) (Marsh, 1984; Marsh & Yeung, 1997).

The study of schooling and mental health is grounded in empirical works which suggest that learning is impeded by emotional, behavioural and health problems (Roeser & Eccles, 2000; Roeser, Eccles, & Sameroff, 1998; Roeser et al., 2000; Roeser et al., 2002). There is a disagreement about the direction of the relationship between academic factors and emotional and behavioural wellbeing. Different hypotheses have been put forth in the literature to elucidate these relationships. The academic difficulties hypothesis states that academic problems cause emotional difficulties. Various cognitive motivational constructs like attributions, coping process, self perceptions of competence, and academic values are possibly implicated in translating academic problems to emotional problems (Roeser, Eccles, & Strobel, 1998). The emotional difficulties hypothesis upholds a different stance, stating that negative emotions, act on cognition and drain attentional and motivational resources. Whatever the stance upheld, Lazarus (1991) claims that the causal relationship between academics and mental health is stated to be reciprocal, where in "the direction depends on where in the psychological process one chooses to stop the action to identify the variables that precede or follow each other" (Lazarus, 1991, p. 353).

In addition to students' emotional health and wellbeing, it has been found that academic outcomes are promoted by belongingness in school (L. H. Anderman &

Freeman, 2004). Results from nationally representative, longitudinal studies in the US have also suggested that participation in extra-curricular school activities such as sports increases adolescents' academic self-concept, locus of control, and work ethic (Feigin 1994; Marsh, 1993). School-sponsored activities also appear to provide relatively higher positive effects on academic achievement than community-school sponsored activities (Gerber, 1996).The higher grade and educational attainment of activity participants as compared with non-participants may be a result of a greater commitment to school and a greater likelihood of associating with peers who value academics (B. L. Barber, Eccles, & Stone, 2001; Eccles, Barber, Stone, & Hunt, 2003; M. Finn, 1989). A non-linear relationship between activity participation and student outcomes has been identified, with involvement in too many activities becoming counterproductive for academic success as it can detract students from time allocated to school-related tasks (such as homework) (Cooper, Valentine, Nye, & Lindsay, 1999).

Numerous empirical works have demonstrated that academic self-concept influences motivation for academic tasks (Bandura, 1986), processes of meta-cognition (Borkowski et al., 1992), and subsequent academic accomplishments (Marsh & Craven, 2006). Math and verbal self-concepts are found to positively influence intrinsic motivation, effort, and participation in extracurricular activities (Skaalvik & Rankin, 1995, 1996). Collectively, the evidence suggests that the positive and negative effects of critical life events on subsequent outcomes are mediated through their significant effects on self-concept.

In summary, enhancing student academic self-concept is fundamental to psychological wellbeing, and overall school achievement. As such, an individual academic self-concept provides a promising platform for informing interventions to address some of the social issues of our times.

2.8.3 Emotional and behavioural problems

Present thinking in research indicates that conceptualizing mental health as a unitary dimension is limiting (Paikoff & Brooks-Gunn, 1990). Mental health is a state of emotional and social wellbeing which allows the individual to realise his/her own abilities, cope with normal stresses of life, undertake productive activities, experience meaningful personal relationships, and make a meaningful contribution to his/her community (World Health Organisation [WHO], 2001). It is argued that mental health should be seen to reflect a multi-faceted and interactive construct encompassing "the absence of dysfunction in psychological, emotional, behavioural and social spheres" (Kazdin, 1993); "optimal function or well being" (Kazdon, 1993, p. 128), and not just the absence of disease. The Australian National Mental Health Policy (NMHP) (1992) adopts a multidimensional stance incorporating "…happiness, competence, a sense of power over one's life, positive feelings of self-esteem and capacities to love, work, and play" while operationalising this construct (Commonwealth of Australia, 1992). The capacity for empathy and to relate and care for others (Compas, 1993), to enjoy and benefit from satisfying relationships and educational opportunities, to be involved in meaningful occupations (Keilhofner, 1995), and believe in one's personal competence (Harter, 1999) are identified to be important determinants of adolescent mental health and well-being. Additionally, perceived self-efficacy and problem-solving abilities in conjunction with social responsiveness have been claimed to be important in the development of resilience and serve as protective factors (Masten, Best, & Garmezy, 1990).

Although most adolescents are reported to have a healthy developmental transition, there is an increasing discrepancy during adolescence between those who are able to cope with the biological, social-cognitive and environmental/organisational transitions during this point in life, and those who experience some difficulties (Smart, Vassallo et al., 2003). It is estimated that 75% of mental illnesses in Australian youth begin between the ages of 15 and 25 years (Hickie, Groom, & Davenport, 2004). The Western Australian Child Health Survey (1995) identified a higher prevalence of mental health problems in the 12-16 year old group (21%) than

4-11 year old children (16%). Collectively, 18% or one in six children and adolescents aged between 4-16 years had a mental health problem (Zubrick et al., 1997). On a national front, a 14% prevalence rate was identified in a representative sample of 4,500 children aged 4 to 17 years from households across Australia (Sawyer, Arney et al., 2000a). This finding is very similar to the median prevalence of 12% reported in a review of 49 international studies conducted between 1965 and 1993 (Verhulst & Koot, 1995). National statistics reveal that only one in four of these young people in Australia receive professional help (Sawyer et al., 2001).

Mental health problems in childhood and adolescence are reported to have profound impact on social relationships, educational attainment, subsequent employment and health risk behaviours, lower quality of life and increase risk of adult psychopathology (Zubrick et al., 1997). There is increasing evidence that many mental health problems that occur in childhood continue into adult life, carrying with them an increased risk of adult mental health disorder, death, delinquency, crime, unemployment, and homelessness (Rutter, 1995; Zubrick, Silburn, Burton, & Blair, 2000; Zubrick et al., 1997). A recent review of large adult population studies in Canada, US, Australia, United Kingdom (UK) and the Netherlands indicated that there are consistent associations between high prevalence of mental disorders and a range of indicators of less privileged social position (Petticrew, Chisholm, Thomson, & Jane-LLlopis, 2005).

Following to the Ottawa Charter for Health Promotion (1986), the issue of child and adolescent mental health has received marked government and non-government forethought internationally (World Health Organisation [WHO], 1986). Better data on the mental health problems in this population, has led to the realization that there exists a significant level of unidentified and untreated mental health problems in children and adolescents that fall short of criteria for mental disorders, but negatively impact on students' daily functioning. The third National Mental Health Plan for 2003-2008, lays emphasis on mental health care that includes prevention, early intervention, rehabilitation, and recovery (Commonwealth of Australia, 2003). As

part of the 2005-2006 "Promoting Better Mental Health" Federal Budget initiative, the Australian Government provided funding of $69 million to June 2009 to help young people with mental health problems (Commonwealth of Australia, 2006). Easy access to young people through schools, offers an important opportunity to utilise interventions to help large numbers of students with mental health problems and those who are at risk for developing problems in the future (Sawyer, Arney et al., 2000b).

The Department of Education and Training (DET) advocated the adoption of the Health Promoting School Framework, which provides a comprehensive and practical approach to supporting and strengthening a school's capacity for health promotion (Department of Education and Training [DET], 2006). A range of evidence-based approaches operate across schools in WA and corroborated by the DET. These include:

- Initiatives developed overseas, such as Communities That Care (Catalano, Loeber, & C., 1999) and Promoting Alternative Thinking Strategies (Kusche & Greenberg, 1994);
- Adapted programs, such as Aussie Optimism (R. Roberts et al., 2002); and
- Australian developed approaches, such as the Positive Parenting Program (Sanders, Dadds, & Tully, 2000), MindMatters (Sheehan et al., 2002), MindMatters Plus (Beck & Horne, 1992) and Friendly Schools and Families (Cross & Erceg, 2002), to name a few.

Overall, the high prevalence of mental health in children and adolescents, and the potentially tragic outcomes of mental health underscore the need to identify key developmental points for health professionals to intervene. The findings of this study will highlight the significant personal and contextual factors that play a key role in determining emotional and behavioural outcomes across the primary-secondary school divide; and provide empirical justification for the continuation and implementation of supportive practices and interventions in WA schools

2.8.4 Self-worth

Whilst self-concept is merely a person's perceptions of self without passing personal judgements or comparisons with others, self-esteem (self-worth in Harter's (1987) model) is the value the individual places on those perceptions (M. R. Weiss, 1987). Harter (1987) operationalized self-worth as responses to five general items centred around how much one likes oneself as a person; for example, like the way one is leading his/her life, whether the individual is happy with oneself and so on. She proposed a hierarchical nature of self-evaluation, whereby self-worth is viewed as a super-ordinate construct and competence judgements are one type of lower order evaluative dimension. Global self-worth within this framework is used to define the overall value that an individual places on the self as a person. Harter (1987) argued that the conceptual and empirical separation of domain-specific competence facets from self-worth is important, because it enables the determination of relations that specific competence areas have on self-worth. Empirically, there is no clear evidence favouring either top-down or bottom-up models (Marsh & Yeung, 1997). It has been proposed that it is likely that the direction of flow is reciprocal, but more research and stronger methodological approaches are needed to resolve this theoretical issue.

Interest in whether some domains of perceived competence are more predictive of global self-worth than others had emerged alongside the growing empirical support for the hierarchical models of self (Harter, 1990). Harter's (1987) model suggests that there are two determinants of self-worth: the competence-importance discrepancy; and the social support/positive regard construct. Within the former model, a person's self-worth depends upon the extent to which the person thinks he/she is competent in those areas that he/she considers important (Harter, 1987). The social support/positive regard determinant of self-worth stems from the work of Cooley (1902, cited in Harter, 1987), who postulated that sense of self is influenced by the person's perceptions of what significant others think of himself/herself. Harter (1987) argued that parental and classmate support was more predictive of self-worth in children and young adolescents than was support from teachers and friends.

Empirical works have shown that perceived physical appearance repeatedly heads the list as the domain most highly correlated with self -worth (*rs* between 0.65 and 0.82) from childhood through adulthood, with no gender differences found in the magnitude of these correlations (Harter, 1990). Much point to the emphasis that society and the media place on appearance at every age, glamorising the popular models whom females and males emulate. Ubiquitous standards regarding desirable body characteristics such as thinness have become increasingly unrealistic for women within the past decades, making it difficult to live up to these ideals, with the high incidence of eating disorders in females identified as a major liability (Bond & McDowell, 2001). High correlations were also found in a sample of students with learning disabilities, where one might anticipate that scholastic competence would bear a stronger relationship to self-esteem (Harter, Whitesell, & Junkin, 1998). Social prowess was claimed to be "the next most critical concern with regard to the influence of discrepancies of self-worth" (Harter, 1987, p. 229), with early adolescents' identifying it to be more important a construct than primary school children. Thus, in accordance with the developmental theories of adolescence, the most important domains generally tend to relate to the social view of oneself in relation to peers (Harter, 1987)

As the evaluative component of self-concept, self-worth is one of the most frequently measured constructs. It has been argued that humans evolved as a species to pursue self-esteem (Branden, 1984). Despite popular beliefs that high self-worth facilitates academic achievement, only a modest correlation was discovered between general self-worth and school performance (Byrne, 1984; Byrne & Shavelson, 1986; Marsh & Yeung, 1998). A critical appraisal of self-esteem literature from the 1980s and 1990s concluded that benefits of high self-esteem appear to be mainly emotional (Baumeister, Campbell, Krueger, & Vohs, 2003). One possible explanation to the absence of a strong association between general self-esteem and academic performance is the specificity matching principle; which states that in order to expect a strong or moderate correlation, the specificity of predictors and criteria should be matched (Swann, Chang-Schneider, & McClarty, 2007). Neo-Piagetian analysts

contend that the abstract representations of self-worth are compartmentalised or over-differentiated from one another (Fischer, 1980). The construct of self-worth is argued to be multifaceted, hierarchical, developmental, evaluative and differentiable (Byrne & Shavelson, 1996; Harter, 1999; Marsh, 1989).

This thesis was set out to determine factors that predict student perception of their overall self-worth as defined by Harter (1987) as they negotiate the transition to secondary school, and whether there are any additional factors in secondary school that predict concurrent self-worth, once adjustment in primary school is taken into consideration.

2.8.5 Belongingness in school

Within the school context, there exists an interpersonal underworld of emotion-laden personal and social associations than can either facilitate or hinder educational success (Goodenow, 1993b) Belongingness, or the psychological sense of school membership, is viewed as a "person within a particular school environment" phenomenon (Goodenow, 1993b, p. 87) which is believed to be influenced by societal factors, personal traits, and contextual factors (Wehlage et al., 1989). It is defined as "the extent to which students feel personally accepted, respected, included, and supported by others in the school social environment" (Goodenow, 1993b, p. 80). Numerous terms such as bonding to school, school connectedness, identification with school, sense of community (cited in Maddox & Ronald, 2003) can be traced through the literature to reflect the concept of belongingness. The concept of belongingness has been investigated at school and classroom level.

This construct of school belongingness takes on a special prominence in the lives of young adolescents as they begin to explore aspects of personal identity separate from their family and rely more than before on friendship and non-kin relationships for support and direction (Bernt, 1982; Cauce, 1986; J. L. Epstein & Karweit, 1983). Belongingness in school has been found to decline following the transition into middle school, and as the period of study in middle school increases (Anderman,

2003). The making of secondary schools into better communities of support and care has been outlined as amongst the most fundamental reforms needed in the modern-day schooling system (Hargreaves et al., 1996).

There is a consensus amongst researchers that an individual's perceived sense of belonging is a basic psychological need, and when this need is met, positive outcomes occur (E. M. Anderman, 2002). School belongingness is reported to not only promote academic outcomes in its own right, but also by moderating or mediating contextual influences (L. H. Anderman & Freeman, 2004). Employing a two-level nested study design, Anderman (2002) used Hierarchical Linear Modelling (HLM) and found that both students' individual level and aggregated school-wide belongingness were positive predictors of students' grade point average (GPA). Gutman and Midgley (2002) examined the effects of psychological, family and school factors on changes in academic grades in a sample of African American middle school students living in poverty (Gutman & Midgley, 2000). Students' perceived belongingness in a new school was found to predict increased GPA, in the presence of other contextual variables. Interactions showed that positive effects of parental involvement was stronger in students who reported higher levels of school belongingness, where as parental involvement showed little effect on grades (measured in terms of GPA) of students with low school belongingness.

Utilising a subset of cross-sectional data from the National Longitudinal Study of Adolescent health (ADD health) a comprehensive school-based study of the health related behaviours of adolescents in America, Resnick et al.; (1997) found that school connectedness accounted for 13% to 18% of the emotional distress among the cohorts respectively, and 3% of the variance in suicidal ideations (Resnick et al., 1997). The effects stayed even when demographic factors, measures of family-parent-connectedness, individual self esteem and GPA were taken into account. Student perceptions of school climate was found to account for an additional 2% and 5% of the variation in internalising and externalising symptoms on the Youth Self Report (YSR) (Achenbach, 1991), a year later, after controlling for prior emotional

problems and background variables, in a prospective study design (cited in Kuperminc, Leadbetter and Blatt, 2001).

School belongingness has been identified as a potentially critical factor in school retention and participation of students at-risk (M. Finn, 1989).Finn (1989) describes two models of explaining research on dropping-out: the frustration-esteem model' and the 'participation-involvement' model. According to the former viewpoint, poor school performance leads to impaired individual self-views, leading to the youth to oppose the context held responsible. Student belongingness in the identification-participation framework is assumed to result in part from students' own behaviours and engagement with school activities, and not a reaction to the characteristics of the school environment. Empirical findings of the association between schools' rates of participation in extra-curricular activities and mean level of students' belongingness reveal that the associations between belongingness and academic motivation and behaviours are not linear (L. H. Anderman, 1999b; Roeser et al., 1996).

Research on the differences in belongingness as a function of gender is mixed. Freeman and Anderman (2003) found that middle school girls reported higher mean levels of school belongingness than boys did at both years six and seven. Alternatively, McKeely et al. (2002) reported that girls felt less connected than boys when the ADD[7] Health data set was reviewed. Mixed effects on the relationship between race and belongingness to school have been identified with some suggesting being European American predicted greater belongingness than being African American (McNeely, Nonnemaker, & Blum, 2002), whilst others reported the reverse (Voelkl, 1997). While considering the impact of race on belongingness in school, it has been recommended that the characteristics of the school setting to

[7]The National Longitudinal Study of Adolescent Health (Add Health) is a longitudinal study of a nationally representative sample of adolescents in grades 7-12 in the United States during the 1994-95 school year

which students are responding need to be considered. The argument being that belongingness to school may well be a function of the minority status and lack of peers and adults within the setting, rather than a function of race per se (L. H. Anderman & Freeman, 2004).

Thus the evidence reviewed so far suggests that belongingness is not only an outcome in its own right, but may also mediate or moderate the effects of personal and contextual factors on student emotional/ behavioural outcomes and academic performance. Examination of the factors that predict belongingness in school across the primary-secondary school divide in a sample of Australian mainstream students is worthy of scrutiny.

2.8.6 Loneliness and social dissatisfaction in school

There exist several expressions of loneliness across the literature. It is considered a uni-dimensional construct by some wherein it is considered as a discrepancy between desired and obtained social contacts. Other researchers consider loneliness a multidimensional entity comprised of several individual and relational aspects (Dill & Anderson, 1999). Present understanding is that school-aged children have a complex and multidimensional conceptualization of loneliness; however, differences in conceptualisation have not been very consistent in the literature. Indications about one's social network (i.e., being alone) and reflection of subjective sadness have been specified by 5-7 year old students in an American sample (Cassidy & Asher, 1992) and 9-11 year old students in an Australian sample (Chipuer, 2004). Not all students conceptualise loneliness as a multi-faceted entity. Almost 40% of the children in an Australian sample, described loneliness without referencing distressing emotions, whilst 10% of children described loneliness without referencing social deficits (Chipuer, 2004). More than eighty percent of 9-11 year old students did not conceptualise being alone with loneliness (Chipuer, 2004). References to self-attributions (e.g., having no courage to talk about their situation, being in one's own world, being different) have also been reported while describing loneliness (Chipuer, 2004). These findings highlight the highly subjective nature of loneliness, which over

the years has been identified as one of the key reasons behind the difficulties in understanding how individuals experience loneliness in the past (Peplau & Perlman, 1982).

Difficulties in conceptualisation of loneliness have also contributed to the inconsistency in the prevalence rate of loneliness reported across studies. Some suggest a 10% rate in children in year levels 3-6 (Asher, Hymel, & Renshaw, 1984; Cassidy & Asher, 1992), while others report that 20-50% of all adolescents experience loneliness to some degree (Inderbitzen-Pisaruk, Clark, & Solano, 1992). It has been suggested that loneliness increases during adolescence (Larson, 1999; Sullivan, 1953; R. S. Weiss, 1973). Changes in students' social surroundings can contribute to an increased feeling of loneliness when making the transition from one school environment to another (McWhirter, Besett-Alesch, Horibata, & Gat, 2002).

Social norms also play an important role in predicting loneliness. Research has found that students who lack socially validated qualities such as popularity, successfulness, thinness, athletics, good looks have a greater chance of being lonely (Krause-Parello, 2008). Although children may spend time alone, it does not necessarily mean that they are lonely (Qualter & Munn, 2002). Spending 'time alone' is a viewed by some as a positive part of childhood, where in children are afforded the opportunity to self-regulate (Buchholz, 1997), and develop imaginative capacity (Storr, 1988).

Researchers have frequently reflected on the key role played by peer relationships on individual experience of loneliness (Goswick & Jones, 1982). Peer acceptance is thought to foster the development of high-quality friendships that enhance developmental outcomes (Demir & Urberg, 2004; Nangle, Erdley, Newman, Mason, & Carpenter, 2003). According to Sullivan (1953), close, dyadic friendships, are of high value in pre-adolescence, and are considered to be central to health development (Gifford-Smith & Brownell, 2003). Having a reciprocal best friend was negatively related to loneliness even after adjusting for peer acceptance (Parker & Asher, 1993). There was no difference in reported levels of loneliness for children who did, versus

those who did not, conceptualise being alone with loneliness (Chipuer, 2004). This highlights the reality that children in middle childhood/early adolescence (8-13 years) may experience loneliness without simultaneously experiencing problems in their relationships with their peers (Hayden, Tarulli, & Hymel, 1988).

Loneliness has also been perceived as the result of negative self-appraisals, and perception of negative views of peers' social orientations towards oneself, and negative peer beliefs, or peer victimization (Kochenderfer & Ladd, 1996a; Ladd & Troop-Gordon, 2003; Renshaw & Brown, 1993). Longitudinal studies reveal that peer victimization predicts depression, loneliness, and social withdrawal anywhere from several months to several years later (Boivin, Hymel, & Bukowski, 1995; Kochenderfer & Ladd, 1996a, 1996b). Structural equation modelling supported a conceptual model wherein self-perceived peer harassment was found to predict psychological adjustment (i.e., loneliness, depression, and self-worth), which in turn predicted school outcomes (i.e., GPA and attendance) concurrently in a sample of ethnically diverse US middle school students (Juvonen, Nishina, & Graham, 2000). This present-oriented focus in most early adolescents is believed to be quite adaptive (Nishina & Juvonen, 1998).

Loneliness is considered as an emotional state that can be a barrier to social development in individuals and affect their physical and mental health (Krause-Parello, 2008). When chronic and intense, loneliness is likely to go hand in hand with maladjustment during childhood and adolescence (Rotenberg and Hymel, 1999). Several researchers consider loneliness and depression to be highly interrelated, and causally related to each other (Dill & Anderson, 1999). Others stress that loneliness and depressed affect, although highly related, are separable. Withdrawn rejected children were found to be more depressed and were characterized by peers as sad more often than average children (Boivin, Poulin, & Vitaro, 1994; Parkhurst & Asher, 1992). Children exhibiting not only shyness and withdrawal, but also disruptive-aggressive and less pro-social behaviours, as assessed by their teachers were found to score very high on loneliness (Cassidy & Asher, 1992). Other findings

suggests that aggressive children do not differ from average children as far as loneliness is concerned (Renshaw & Brown, 1993; Rubin, Chen, & Hymel, 1993). Possible explanations for this latter finding is that aggressive-rejected children are unaware of their social status; and usually exhibit a self-serving positive illusionary bias in order to protect their self-worth, and they may interact with peers, have some friends and not feel excluded by the peer group (Asher et al., 1990).

Loneliness is reported to bear negative associations with children's classroom involvement and school liking, and a positive association with school avoidance (Kochenderfer & Ladd, 1996a, 1996b; Ladd, Kochenderfer, & Coleman, 1997). The effects of loneliness on academic outcomes are mixed. An investigation into the consequences of loneliness on the future orientation of adolescents revealed that those who are lonely scored lower than their socially active counterparts on relational variables, but not on instrumental variables such as education and work. These results held after probable effects of depressive were controlled (Seginer & Lilach, 2004). Loneliness and social dissatisfaction is likely to affect individuals' perceptions of academic competence, which in turn, predict changes in academic achievement longitudinally (Guay, Boivin, & Hodges, 1999).

Reviews of research on gender difference in loneliness have shown that when gender differences were found boys scored higher than girls on being lonely (Borys & Perlman, 1985; Koenig & Abrams, 1999). A meta-analysis of published literature between 1980 and 2004 undertaken in order to identify predictors for loneliness found gender (boys more lonelier than girls), depression, shyness, and self-esteem to have a large effect size in relation to loneliness (Mahon, Yarcheski, Yarcheski, Cannella, & Hanks, 2005).

Children with disabilities, particularly children with learning disabilities and intellectual disability, have been reported to be more vulnerable to feelings of loneliness than their peers without disabilities (Margalit & Levin-Alyagon, 1994; Pavri & Luftig, 2000). Many students with disabilities have difficulties in reading

and processing social cues, expressing themselves appropriately in social situations, may display behaviours that result in their being rejected by their peers (Haager & Vaughn, 1995; Pavri, 2001).

Longitudinal research suggests that when lonely young people reached adulthood, they experienced higher anxiety, negative mood, fear of negative evaluation and anger, and were less optimistic with poorer social skills and social support (Caprara, Barbaranelli, Pastorelli, & Cervone, 2003). This indicates that many developmental and health risks, especially of the internalizing kind, are associated with loneliness.

2.8.7 Participation in school extra-curricular activities

Supporting the inclusion and participation of all students in their living environment (including the school setting) is emphasised as a universal need of individuals (Commonwealth Consolidated Acts, 1992; United Nations Educational Scientific and Cultural Organization [UNESCO], 1994). According to the International Classification of Functioning, Health, and Disability (ICF), participation is viewed as a concept related to positive expression of good health (World Health Organisation [WHO], 2001). Participation is defined in the ICF in terms of "involvement in life situations" (p. 7) or the "lived experience" of people in the actual context (WHO, 2001, p. 229). The ICF definition of participation is to be engaged in life situations. In the ICF, participation is measured as performance, and activity is measured as capacity. People can participate even if someone else, such as an assistant, performs the activity for them. It has been argued that the ability to exert one's autonomy to some extent, or being able to control one's life even if the persons concerned are not actually doing things themselves, need to be considered while discussing participation (Perenbloom & Chorus, 2003). Thus, in practice, the individual alone can determine his/her own level of participation (Perenbloom & Chorus, 2003).

Within a mainstream school setting; participation demands that students decide how and what type of activity they wish to participate in, and that students be afforded the opportunity to take part in activities they desire. It has been suggested that

participation be thought of as an overarching concept that embodies "actual performance… fulfilment of personal goals and societal roles" as its key indicators (Perenbloom & Chorus, 2003, p. 578). In Australia, the Disability Standards for Education (2005) formulated under the Disability Discrimination Act (1992) elucidates the obligation of education and training providers, to ensure that students with disabilities are afforded equal access and participation in courses or programs, and the use of facilities and services, on the same basis as a fellow students without a disability, and without the experience of discrimination. Schools offer an array of school-based extracurricular activities which include sports programs, community programs, school governance, music, art and drama, academic clubs, and vocational clubs for students to participate (Council Curriculum, 1998). In this thesis, students' perception of the availability[8] of opportunities for participation offered by their school, and their perception of the frequency they took part in activities if available before and after secondary school transition, has been used as a measure of participation.

Participation in school activities provides students with opportunities to develop skills, discover preferences, and associate themselves with others (both adults and peers) and thereby generate social and human capital outside the confines of academia (B. L. Barber et al., 2001; Lamborn, Brown, Mounts, & Steinberg, 1992; J. L Mahoney, Cairns, & Farmer, 2003). Achievement of mature identity is believed to be preceded by an exploration phase, in which adolescents engage in a period of trying out different roles, beliefs, and experiences (Erikson, 1968). The time spent in a given activity context, or experiential niche is often regarded as a "proxy variable for the quantity of a particular set of socialization experiences" (Larson & Verma, 1999, p. 702). Through these diverse experiences, students select their own developmental paths and form an integrated and stable sense of self. Thus,

[8] Availability was defined as offered by the school, with suitable adaptations/modifications undertaken to suit the student's needs

exploration of the factors that influence students' participation in school in early adolescence is important.

Activity participation has also been shown to promote educational attainment (J. D. Finn & Cox, 1992). It is said to foster a sense of belongingness, and believed to be fundamental to students' academic motivation, achievement, as well as their emotional wellbeing. Conversely, those who remain disengaged are said to be at risk for a variety of negative outcomes including school drop-out, antisocial behaviour, suicide, and illicit substance abuse. Low rates of school failure and drop-out (J. L. Mahoney & Cairns, 1997; McNeal, 1995), high rates of postsecondary school education, and good school achievement have been reported in active participants (Eccles & Barber, 1999; J. L Mahoney et al., 2003). Participation in organised activities is also associated with reduced problem behaviours across adolescence and into young adulthood. Developmental studies report reduced likelihood of developing problems with alcohol and drugs (Youniss, McLellan, Su, & Yates, 1990; Youniss, Yates, & Su, 1997), aggression, antisocial behaviours and crime (J. L. Mahoney & Stattin, 2000) and reduced teenage pregnancy in youth who actively participate in organised extra-curricular activities (Allen, Philliber, Herrling, & Gabriel, 1997). Students are also taught attributes such as respect for authority and perseverance, and afforded with opportunities to develop skills in an array of non-academic arenas. This leads to character building and the growth of an all-round and socially adept being (Coleman 1961; Miracle and Rees 1994).

Using longitudinal data from the High School and Beyond Study (Marsh, 1992) and the National Educational Longitudinal Study (Marsh & Kleitman, 2002), statistically significant relations between participation in extracurricular school activities and 12th grade and postsecondary outcomes (e.g., grades, homework, educational and occupational aspirations, self-worth, and college enrolment) after controlling for several self-selection factors have been documented. Membership in a group not only helps structure how time is spent, but also influences the kinds of norms and values to which one is exposed (Osgood, Wilson, O'Malley, Bachman, & Johnston, 1996). Furthermore, exposure to repeated success experiences in social-leisure pursuits such

as sports, learning a new skill, or winning a competition, are thought to develop self-confidence, which also carries over into educational areas (Broh, 2002).
It has been theorised that participation in structured civic-related activities exposes students to norms and values of organized collective action and creates network ties that integrate teens into normative society (Youniss, McLellan, Su, & Yates, 1999; Youniss et al., 1997). Youth are introduced to political ideas to which they might not have been exposed and offers them the opportunity to learn interpersonal and leadership skills that are likely to inspire continued involvement in civic causes in young adulthood (Glanville, 1999). Participation in school clubs and pro-social activities at 11th grade predicted higher involvement in political and social causes in young adulthood (Fredricks & Eccles, 2006).

Creative activity participation serves as a context for self-regulation and improving socially competent behaviours (i.e., cooperation, assertion, empathy, and self-control), and leadership skills (Larson, 2000). Associations between participation in creative pursuits such as music and creating, enhancing, sustaining, and changing subjective, cognitive, bodily, and self-conceptual states such as calming down, getting into the right mood, or venting strong emotions are also reported (Sloboda & O'Neill, 2001). Participation in creative extra-curricular pursuits (e.g., the arts, music) have been linked over time to positive academic outcomes, higher creative abilities (i.e., expression, risk-taking and imagination) (Burton, Horowitz, & Abeles, 2000)and problem-solving skills (Winner & Cooper, 2000). Creative activity participation also affords students the opportunities to establish supportive networks with peers and adults (Eccles & Templeton, 2002), define themselves, and belong to socially recognised and valued groups (Fredricks et al., 2002).

The positive relationship between school extra-curricular activity participation and academic progress is however not uniform. Insignificant findings have been reported in studies involving the benefits of only athletic activities (Antshel & Anderman, 2000; Melnick, Sabo, & Vanfossen, 1992). Furthermore, studies yielding insignificant findings have included only youths from cultural/racial minority

backgrounds (Melnick et al., 1992), thus limiting generalizability of their findings. These contradictory findings reflect the complexity of the relationship between extra-curricular activity participation and school outcomes. Variables such as the type of extra-curricular activity (Eccles & Barber, 1998; Eder & Kinney, 1995), school size, and school climate (Marsh, 1992) are found to mediate the relationship. Selection effects in participation as a function of gender, age, and ethnicity have also been reported (McNeal, 1998).

The effects of extra-curricular activity participation have not always been positive. Higher alcohol use amongst athletic youth has been reported (Eccles & Barber, 1999). Less structured activities are found to carry the risk of promotion of undesirable social norms (Eder & Parker, 1987; Hansen, Larson, & Dworkin, 2003) and increased likelihood that youth will be recruited into a risky peer group (J. L. Mahoney & Stattin, 2000). Highly competitive, extracurricular activity participation can increase stress and anxiety (Fredricks et al., 2002; Smoll & Smith, 1996). Positive effects of sport participation have also been reported in the literature. School-sponsored activities also appear to provide relatively higher positive effects on academic achievement than community-school sponsored activities (Gerber, 1996). Differences in the pattern of findings in sports, school clubs, and pro-social activities are believed to reflect differences in the level of public recognition, the level of social integration, peer cultures, and the skills and values learned through participation across these three activity contexts (Fredricks & Eccles, 2006).

In the case of students with disabilities, the diagnostic category, does not seem to affect participation intensity and diversity (Almqvist & Granlund, 2005; Law et al., 2004). In most studies of statistical relations between the child characteristics, type of disability, and outcomes such as everyday functioning and participation, the results reveal only moderate to weak correlations (Dunst, Trivette, Humhries, Raab, & Roper, 2001; Wehmeyer, Kelchner, & Richards, 1996; Yude & Goodman, 1999). One possible explanation for these moderate to weak associations is that disability is only one of several factors that affect participation and that the effects of other

factors are stronger. Important factors for predicting participation in school activities of pupils with disabilities are child characteristics such as autonomy, locus of control and engagement, environmental factors such as adaptations of the environment as well as the child-environment interaction and the perceived availability of the environment (Almqvist & Granlund, 2005; Dunst et al., 2001; Law et al., 2004; Wehmeyer et al., 1996; Yude & Goodman, 1999).

The size of the academic achievement gap between socio-economically advantaged and disadvantaged students is an ongoing concern in educational research (Alexander, Entwisle, & Olson, 2001). The social inequality gap reduction model predicts that activity participation will have benefits that are more positive for socio-economically disadvantaged students than advantaged students, thereby reducing the size of the academic achievement gap. Mahoney and Cairns (1997) found that school dropout rates were lower for students participating in school extra-curricular activities, but that the benefits of participation were larger for disadvantaged students. They argued that disadvantaged children are more likely to benefit because they have limited sources with which to form identification with schools, whereas more advantaged children are likely to already be identified with schools and committed to school values.

Empirical evidence suggests that the relationship between extra-curricular activity participation and student outcomes is not linear but curvilinear (Marsh, 1992; Marsh & Kleitman, 2002). An inverted U-shaped relationship between participation and student outcomes was identified. This implies that participation in too many extra-curricular activities in school has diminishing returns (Marsh & Kleitman, 2002). Thus, in line with modern theories of development, most outcomes related to developmental processes such as participation are consequences of multiple functional and structurally interrelated factors of influence (Bronfenbrenner, 1999; Wachs, 2001).

Having reviewed the components of student adjustment outcomes, existing evidence on the contribution of personal and contextual factors that affect student adjustment in school is presented in the section that follows.

2.9 FACTORS THAT AFFECT STUDENT ADJUSTMENT IN SCHOOL

Family, school, and peer-groups, represent the main ecological contexts that educate and socialize children (Bronfenbrenner & Morris, 1998; J. R. Harris, 1998). Research on personal and contextual (i.e., family, school/classroom, and peer-group) factors associated with students' adjustment at school is presented in the following section of the paper.

2.9.1 Personal factors

Examination of students' perceived competence (in domains of athletics, social acceptance, physical appearance, close friendships, and behavioural conduct) their coping skills, social skills, motivational orientation for schooling, personal expectations of schooling, and perceptions of their parents' and teachers' expectations before and after transition into secondary school can help provide a framework within which adjustment can be investigated according to a positive conceptualization of human endeavour.

2.9.1.1 Self-competence

Self competence refers to individuals' self belief about their behavioural capabilities in a range of skills, knowledge and attitudes, which is drawn from various cognitive, motor and social skills (Bandura, 1981; Caplan 1964). These beliefs are reflections of the person's actual abilities and the internalisations of the feedback obtained from significant others (Cooley, 1902), and undergo a varying degree of adaptation during different life stages and experiences (Cowen, 1994). Whilst self-concept is merely a perception of self without passing personal judgements or comparisons with others, self-esteem (self-worth in Harter's model) is the value the individual places on those perceptions (M. R. Weiss, 1987).

A link between the self-concept and social behaviour has been put forth in interpersonal theories (Leary, 1957; Sullivan, 1953). Early adolescents are more

concerned about their social prowess than primary school children. Thus, in accordance with the developmental theories of adolescence, the most important domains generally tend to relate to the social view of oneself in relation to peers (Harter, 1987).

A positive self-concept has been found to be very important for mental health and positive development in early adolescence. Having a positive self-concept during this period in life protects the person against problem behaviour, perceived threats to one's self-image, and a downward revision of the self-concept, which can result in problematic behaviour (Marsh, Parada, Yeung, & Healey, 2001). Negative self-affiliations are found to strongly influence internalizing problems for girls than for boys. Most explanations of this gender difference have focused on biological processes and experiential and family factors associated with adolescence and pubertal development. Children with negative self perceptions feel relatively worthless and ineffectual, reduce their effort, or give up in the face of difficulty(Chapman, 1988).

Thus, in summary, the construct of competence has been identified as an essential construct within the field of education because it is not only intricately connected to the person's self-worth (Harter, 1989), but also linked to students' motivation, achievement, confidence and overall wellbeing (Hay, 2000; Schunk, 2004).

2.9.1.2 Coping strategies

Coping is used to define what one does to manage stress, and comprises the cognitive and behavioural strategies that are used to deal with the demands of everyday living (Frydenberg, 1997). The study of coping in adolescents has revealed varied coping approaches, from the consistent use of certain strategies regardless of the circumstances (Frydenberg & Lewis, 1994) to stress-specific strategies (Folkman & Lazarus, 1985). Research with students in Australia has found that secondary school students have a stable hierarchy of preferred coping strategies which are in the repertoire of most, if not all, students (Frydenberg & Lewis, 1994). The extent of

usage of the different coping strategies was found to be associated with the nature of the concern. Adolescents were found to manage social issues in a different way to achievement and relationship concerns. Social issues were found to be more effectively handled through raising the level of public awareness. Strategies such as problem-focused coping (e.g., working at solving what's causing the problem, thinking about what one is doing and why), seeking social support (e.g., talking to others about one's concerns to help sort it out), self-recrimination or the inclination to blame oneself for what is going wrong (e.g., criticising oneself, blaming oneself as being at fault), and keep to self (e.g., avoid being with people, keeping others from knowing what is the problem/worry) were found to be used significantly more whilst coping with achievement and relationship concerns than for social issues. Wishful thinking coping strategies (e.g., hoping for the best, wishing a miracle would happen) were not a preferred mode of coping with social issues. Achievement concerns were found to elicit a greater usage of strategies which reflects optimism and a positive outlook (e.g., being happy with the way things are, trying to have a cheerful outlook) and tension-reduction strategies (e.g., taking one's frustration out on others, changing the amount one's eats or drinks or sleeps, finding a way to let off the steam by crying or screaming) than social issues and relationship concerns.

Evidence suggests that resorting to functional coping decreases with age (Compas et al., 1988), and use of non-productive coping strategies increase with age, particularly in the middle adolescent years (Frydenberg & Lewis, 1999b, 2000). The reported use of dysfunctional coping strategies is believed to differentiate between people who can and cannot cope with stress (Frydenberg & Lewis, 2002). In general, the use of non-productive strategies such as keep to self, tension reduction, worry, and self-blame have been mostly found to be associated with greater overall dysfunction in a sample of adolescents (Frydenberg & Lewis, 1999a; Neill, 1996).

Coping skills are related to self-regulation in young people (Eisenberg, Fabes, & Guthrie, 1997). A number of psychosocial problems affecting adolescents such as poor academic performance and health problems such as anxiety, depression, suicide

or eating disorders, have been attributed in part to the adolescents' inadequate ability to cope with their stresses (Matheny, Aycock, & McCarthy, 1993). Coping skills are also found to serve to prevent loneliness, or function as a buffer to the negative effects of social loneliness (Hammer & Marting, 1998).

Coping is also found to be related to engagement in school in a sample of middle school children (Lodge, Frydenberg, Care, Tobin, & Begg, 2007). Students with lower emotional, cognitive, and behavioural engagement were found to use fewer problem-solving styles of coping, when compared to their contemporaries who were highly engaged in school. Additionally, when results of a spelling test as an indicator of achievement were included, it was found that those who were engaged with school had better performance (cited in Frydenberg, 2008).

Depression is found to be negatively associated with problem-solving (Glyshaw, Cohen, & Towbes, 1989; Seiffge-Krenke, 1993; Garmezy, 1994), and positively associated with non-productive coping/ withdrawal/avoidance coping styles (Ebata & Moos, 1991; Seiffge-Krenke, 1993). Several possible explanations have been put forth whilst elucidating the relationship between coping and depression. It could be possible that active or problem-focussed coping may act as a protective mechanism against depression, while avoidance coping could be a risk factor (Rutter, 1994). Equally, it may be that a predisposition to depression is associated with reduced coping skills, or that good coping mechanisms are coupled with less depression. Finally, it is equally plausible that both coping styles and depression are interrelated and have an effect on each other, and this could be a consequence of common biological predispositions (Shelton, Hollon, Purdon, & Loosen, 1991) or stressful life events (D. G. Brown & Harris, 1978). A longitudinal investigation of 903 adolescents in years 6-11 years revealed that alteration of students' coping profile was found to alter depression symptoms over a 12-month period. Those who went from using problem-solving approaches to non-productive/avoidant coping strategies showed an increase in depression, whilst a reduction in depressive symptomatology

was found with a change to problem-solving approaches (Herman-Stahl, Stemmer, & Petersen, 1995).

Australian data show that adolescent girls use more social supportive strategies (Frydenberg & Lewis, 1991, 1993a, 1993b), and 'talking and conversation' as well as more active coping than boys (J. M. Patterson & McCubbin, 1987; Seiffge-Krenke, 1995; Seiffge-Krenke & Shulman, 1990). Boys were reported to utilise more physical recreation than girls (Frydenberg & Lewis, 1993b). A growing body of evidence indicates that gender is a better predictor of coping actions than is family structure (Bird & Harris, 1990). Nevertheless, because the family makes demands on the resources of the adolescent beyond those of the school and the peer group, the family also has significant impact on adolescent coping (Shulman, Seiffge-Krenke, & Samet, 1987).

Differences in coping of students with disabilities and typically developing counterparts have been reported. An examination of the coping strategies of 30 students with a learning disability (LD) were compared with a group of average- or high-achieving students matched in age, gender and ethnicity (Cheshire & Cambell, 1997). Students with LD were found to use more wishful thinking coping as compared to their matched counterparts. Furthermore, less use of productive coping strategies were also identified in the LD group. No differences in the level of usage of reference to others and non-productive coping strategies between the two groups was reported.

In terms of SES, a cross-sectional report on the coping strategies of a sample of secondary school Australian students found that whilst most strategies are used to much the same extent, regardless of parental occupation; students from lower SES backgrounds place more emphasis on hope and prayer than do children of professionals and those employed in white collar jobs (Frydenberg & Lewis, 1999b). How young people cope with stressors in general is an important component of

health and well-being, since failure to deal with stress bears social and emotional repercussions.

2.9.1.3 Social skills

Social skills include socially acceptable learned behaviours that enable individuals to interact successfully with others and avoid socially undesirable responses (Gresham, 1986). This definition of social skills, employed in this thesis, is a hybrid of the peer acceptance and behavioural definitions and is the most socially valid in the sense of predicting important social outcomes for children (cited in Gresham, 1986). Development of these skills is regarded as a fundamental task for all children (Cronin, 1996). As students progress across the grade span, they are expected to meet teachers' expectations regarding academic performance, behavioural decorum, and social interactions. It has been suggested that social and behavioural expectations at secondary school become more rigorous for all students, including those receiving special education services. For example, in secondary school, students are required to assume increased responsibility for regulating their behavioural and academic performances (Isakson & Jarvis, 1999). Failure to meet teachers' expectations of appropriate social behaviour places students at risk of undesirable outcomes. A variety of pejorative outcomes beyond the school setting including substance abuse, chaotic personal lives, and limited or absent postsecondary educational experiences have also been reported in students with disabilities who have social skill deficits (Wagner, D'Amico, Marder, Newman, & Blackorby, 1992). Given the difficulties and the associated risk of poor social development, it is imperative for educators and health professionals to identify and provide interventions for children who experience problems in this developmental area (Gresham & Elliot, 1990). Four empirically valid positive social behaviour constructs of co-operation; assertion; self-control; and empathy are assessed in this thesis (Gresham & Elliot, 1990).

Empathy is broadly used to refer to one individual's reactions to the observed experiences of another (Davis, 1980). Conceptually, both affective and cognitive aspects of empathy have been postulated to be essential for cooperative human

interactions (Baron-Cohen & Wheelwright, 2004). Empathy is thought to reach its highest developmental stage during late adolescence (Hoffman, 1987). It plays an important role in the acquisition of social competence during adolescence. In both its emotional and cognitive components, empathy helps adolescents establish and maintain friendships (Del Barrio, Aluja, & Garcia, 2004) and enhances satisfaction in intimate relationships (Davis & Oathout, 1987). It is also positively associated with family cohesion, parental support, and communicative responsiveness (Henry, Sager, & Plunkett, 1996). Peer relationships represent a unique opportunity for adolescents to develop empathy (Eisenberg & Fabes, 1998). Positive associations between empathy and social intelligence are reported, with empathy found to buffer aggression in adolescence. High levels of empathy are positively associated with pro-social and helping behaviours (Davis, 1994) and active assistance of victimised schoolmates (Gini, Albiero, Benelli, & Altoè, 2007). Low levels of empathic responsiveness can serve as a predictor for the risk of adolescents' being involved in the bullying of others (Gini et al., 2007; Jolliffe & Farrington, 2006). The ability to be empathetic was negatively related to the experience of loneliness in a sample of pre-adolescents/adolescents with mild mental handicap, suggesting that empathy may mediate loneliness for this group (Margalit & Ronen, 1993). An inability to view the world from others' perspectives is a common deficit among youth at risk that can lead them to be rejected by typical peers (McWhirter & McWhirter, 1995).

Assertiveness is a dimension describing people's tendency to speak up for, defend, and act in the interest of themselves and their own values, preferences, and goals (Costa & McCrae, 1992; Wilson & Gallois, 1993). Assertive behaviours "can be both proactive (e.g., vocalizing needs) and reactive (e.g., defending against imposition), both verbal (e.g., articulating clear demands) and non-verbal (e.g., displaying annoyance), and both local or immediate (e.g., a face-to-face disagreement) and diffuse or prolonged (e.g., influence tactics over time)" (cited in Ames & Flynn, p. 308). Too much or too little assertiveness have social repercussions. Assertive people may be seen as less likeable and less friendly than unassertive people (Kelly et al., 1982). Highly assertive people may damage their relationships and reputations

because they are more willing to engage in conflict and to use defensive and/or unconstructive tactics with others (Graziano, Jensen-Campbell, & Hair, 1996; Kipnis, Schmidt, & Wilkinson, 1980). Children who are frequently targeted as victims at school are inclined to be psychologically introverted, to have low self-esteem and lack social skills, especially in the area of assertiveness (Rigby, 2002). Research on leadership supports a curvilinear relationship of assertiveness to underlying tradeoffs between social outcomes (a high-level of assertiveness worsens relationships) and instrumental outcomes (a low-level of assertiveness limits goal achievement) (D. R. Ames & Flynn, 2007). These findings highlight the limitations of sole reliance on linear measures of statistical analyses that have previously been used in empirical literature; and could possibly underestimate the predictive value of many measures (Simonton, 1995). The evidence supports a multidimensional theory of assertion and suggests that assertiveness comprises independent clusters of behaviours that have different correlates and, possibly, different antecedents (T. A. Wills, Baker, & Botvin, 1989).

Self-control is found to be significantly related to delinquency and analogous behaviours (Pratt & Cullen, 2000). Krettenauer, Ullrich, Hofmann, and Edelstein (2003) carried out a longitudinal study on psychosocial development and behavioural problems. Results indicated that children with externalizing aggressive behaviour had stagnated in their psychosocial development around the 12th year in age (Krettenauer, Ullrich, Hofmann, & Edelstein, 2003). De Kemp et al.; (2008) investigated the longitudinal relationship between self-control and aggressive and delinquent behaviour of early adolescent boys and girls, using a longitudinal study design (De Kemp et al., 2008). The results indicated that in a normal sample of early adolescents higher levels of self-control are associated with less antisocial behaviour. Structural equation modelling (SEM) analyses showed that higher levels of self-control are consistently associated with less aggressive and delinquent behaviours. The results of the SEM analyses for the total sample did not indicate that self-control was influenced by previous levels of aggression or delinquency; thus, no reciprocal effects of self-control and antisocial behaviour were demonstrated. However,

separate analyses for both sexes showed reciprocal effects of self-control and delinquency for boys. There exists empirical support for the importance of self-control in (early) adolescence problem behaviour and delinquency.

The ability to cooperate with others represents a fundamental component of socially competent behaviour (LaFreniere, 1996). Cooperative behaviours have been linked with peer acceptance, friendships, and popularity in different studies. Observational studies reveal that children with high peer acceptance engage in more frequent positive behaviours such as associative play, friendly approaches, social conversation, and acceptance of peer overtures (Coie & Kupersmidt, 1983; Newcomb, Bukowski, & Pattee, 1993). Cooperation was identified by peers as one of the essential behaviours of popular children, in addition to being helpful, considerate, and socially outgoing (Coie, Dodge, & Kupersmidt, 1990). A comprehensive meta-analysis of studies comparing friends and non-friends concluded that friends engage in more frequent positive interactions, including talking, cooperation, and positive affect than do peers not identified as friends (Newcomb & Bagwell, 1995, 1996). It has been argued that individuals' self-worth within an organisation is a function of both collective (taking pride on group membership) and individualistic (having discrete respect within a group) cooperative dimensions (Tyler & Blader, 2000). Thus, the more an individual feels a sense of pride and respect within an organisation, such as their school, the more they are likely to cooperate and comply with school expectations. However, within a group situation, display of extremely high levels of cooperation is not always beneficial and could result in rejection and victimisation (Schuster, 2001).

There is a substantial body of literature suggesting that children in all mild disability groups exhibit deficient social skills and excesses in interfering problem behaviours (Gresham & Elliott, 1990; Landau & Moore, 1991; Merrell, Johnson, Merz, & Ring, 1992; Swanson & Malone, 1992; Walker & McConnell, 1988). This holds true for students with learning disabilities (LD), mild mental retardation, emotional and behavioural disorders, and attention deficit disorders, as well as for children who are

low in academic achievement but not classified as mildly disabled. Results of a meta-analysis of 17 sociometric status studies of children with LD and their peers without LD found lower peer rating effect size estimates (Mdn = -.66 versus .90, respectively) for students with LD, to support the conclusion that children with LD are less well accepted than their peers without LD (Ochoa and Olivarez, 1995). The effect size estimates were not moderated by the gender or grade level of the rated students, by the research design, or by the sociometric scale type. Several studies have found that children with behaviour disorders have a positively distorted view of their social functioning (Hughes, Cavell, & Grossman, 1997; Hymel, Bowker, & Woody, 1993). Children with behaviour disorders have been found to rate themselves higher on social competence than do others' reports of their social behaviours. This idealised self-perception of social behaviours is believed to act as a resilience factor, protecting their self-esteem when they encounter negative life experiences that threaten their sense of social competence (Hughes et al., 1997; Hymel et al., 1993)

Educators from kindergarten through 12th grade identified self-control and cooperation behaviours essential for school success (Lane, Pierson, & Givner, 2003, 2004; Lane, Wehby, & Cooley, 2006). Middle school teachers viewed assertion skills as significantly more important than high school teachers do, but, did not rate assertive behaviour as critical for school success. It could be a possible that middle school teachers promote self-advocacy and assertion skills in an effort to encourage students to make their needs for assistance known and to manage their own interpersonal relationships with peers (Lane et al., 2004; Lane et al., 2006)

Given the crucial role of social skills in adolescence, it is essential for psychologists and educators to have reliable procedures available for measuring these constructs, for both intervention and research purposes.

2.9.1.3.1 Measuring social skills in adolescence

The Social Skills Rating System (SSRS) is one of the most widely used instruments for measuring child and adolescent social skills (Whiteside, McCarthy, & Miller, 2007). This questionnaire contains teacher, parent and student rating components that assess social skills, problem behaviours and academic competence (Gresham & Elliot, 1990). It is designed for use with English speaking, preschool, primary, and high school students, and has been normalised on approximately 4000 children and adolescents in the US.

The majority of the research on the psychometric robustness of the SSRS has been concentrated on the teacher and/or the parent forms (Bramlett, Smith, & Edmonds, 1994; Fagan & Fantuzzo, 1999; Fantuzzo, Manz, & McDermott, 1998; D. P. Flanagan, Alfonso, Primavera, Povall, & Higgins, 1996; Jurado, Cumba-Aviles, Collazo, & Matos, 2006; Malecki & Elliot, 2002; Manz, Fantuzzo, & McDermott, 1999; Van der Oord et al., 2005; Walthall, Konold, & Pianta, 2005). Acceptable internal consistency, test-retest reliability and criterion-related validity have been found in these studies. Despite its wide use in practice and research, there has been only one peer-reviewed study that has explored the reliability and/or validity of the SSRS self-report form, in a primary level sample (Diperna & Volpe, 2005).

Research on psychometric robustness of the secondary level self-report form is lacking. The only reliability and validity evidence for the SSRS secondary level student-form is that which was generated during the course of norming the scale in the US population and is presented in its manual (Gresham & Elliot, 1990). While an instrument may be found to be reliable for one culture, such may not be the case within a different cultural context (Jurado et al., 2006). Although the SSRS is promoted by the Australian Council of Educational Research and used by the Australian Institute of Family Studies in the Pathways from infancy to adolescence: Australian Temperament Project (Prior, Sanson, Smart, & Oberklaid, 2000), there is no evidence to suggest that this measure reliably assesses social skills in an Australian sample.

Based on the literature review, social skills were hypothesised to make a significant contribution in predicting students' adjustment outcomes across the primary-secondary school divide. It was considered to be important to assess the reliability of the SSRS in an Australian sample. To that end, chapter four of this thesis critically appraised the test-retest reliability indices routinely reported in psychosocial literature and presented the measurement error of the SSRS subscale and total scores using the Bland and Altman limits of agreement criteria (Bland & Altman, 1986, 1999, 2003). The Bland and Altman limits of agreement criteria has been identified as the gold standard for analyses involving statistical agreement across the medical literature (Hamilton & Stamey, 2007).

2.9.1.4 Motivational orientation at school

A social-cognitive outlook underpins current achievement motivation research in education. Achievement goal theory, situated in the social-cognitive realm of motivation, lays emphasis on the importance of the goals (purpose) that people pursue when engaging in achievement tasks. Goals provide a framework within which students can self regulate, by interpreting, experiencing, and reacting according to the situation (Pintrich, 2000). The models presented by Maehr (Maehr & Braskamp, 1986) and McInerney (McInerney, Marsh, & Yeung, 2003; McInerney, McInerney, & Marsh, 1997; McInerney, Yeung, & McInerney, 2001) which incorporate mastery goals, performance goals, social goals and extrinsic goals provide a mechanism for a better understanding of some of the more subtle nuances of adolescents' achievement motivation in school. Accordingly, evidence on the influence of eight types of goals listed in the inventory of school motivation (McInerney et al., 2001) namely: mastery (i.e., task and effort); performance (i.e., competition and social-solidarity/leadership); social (i.e., concern and affiliation), and extrinsic (i.e., reward and praise) goals on student adjustment in school is reviewed in the following section.

Mastery goal oriented people assert self-referenced criteria for success (Seifert, 1997). These people value learning for its own sake because the emphasis is on

learning a skill, and understanding and improving one's performance (Butler, 1999; Graham & Golan, 1991; McInerney & McInerney, 1998). Learning in such a goal pursuit is thus of intrinsic value. The level of engagement in and attainment of, a mastery goal in adolescence is related to a person's perceptions of capability or competence (A Bandura, 1997; Bandura & Locke, 2003). Although, the development of a mastery goal may symbolise optimal achievement during adolescence, for some, its attainment may not be realised due to limitations in their self-perceptions. Task and effort pursuits fall under the category of mastery goals. A task-goal orientation represents the belief that the purpose of achieving is personal improvement (E. M. Anderman, Hicks, & Midgley, 1998). Perception of the need to persevere and overcome challenges as they arise characterise effort-goal pursuits (Simpson & McInerney, 2004). Mastery-goal driven people typically uphold a less differentiated formation of ability, and usually argue that even less competent people can preserve and feel successful if they strive to learn and improve (Seifert, 1997).

Empirically, the literature supports the assertion that the adaptive qualities of mastery goal orientation are beneficial across cognitive, socio-emotional, and achievement outcomes (Kaplan & Middleton, 2002; Midgley, Kaplan, & Middleton, 2001). Decline in the usage of mastery goals in adolescence has been associated with negative patterns of change in self-regulation, and reduced self-efficacy in students as they advance in grade level (Midgley & Urdan, 2001). Eccles and Wigfield (2002) found gradual declines in students' attitudes toward school and academic subjects with advancing grade level. In an Australian sample of secondary school students, the use of effort driven goals were found to decline between years seven and eight, whereas students' task driven goals continued to decline up to and including year nine (Simpson & McInerney, 2002). Evidence pertaining to this pattern of goal adoption is from studies showing how secondary classrooms become more focused on competitive goal structures that promote the adoption of performance goals, relative to primary classrooms that emphasise mastery goal structures over performance goal structures (E. M. Anderman et al., 1999; Eccles & Midgley, 1989; Eccles & Wigfield, 2002). Others attribute the decline to the emergence of a

differentiated concept of ability around the same time as that transition (Butler, 1999; Nicholls, 1984; Stipek & Gralinski, 1996), with adolescents who accept ability as a fixed trait, likely to self-sabotage through this belief and accordingly not apply effort in their learning endeavours.

The primary concerns in performance goal pursuits are to establish one's sense of self-worth (Butler, 1999) and seek favourable judgments from others (Meece, 1994). Success, in a performance goal pursuit is measured by extrinsic variables such beating someone, coming first, or taking on leadership role (McInerney, 1995; McInerney, Roche, McInerney, & Marsh, 1997; McInerney et al., 2001). Although individuals who pursue performance goals may apply effort, they are not always engaged in the process of learning to improve their knowledge. Performance oriented individuals attribute success to ability (Solomon, 1996). This criterion for success depends on the performance of peers, so improved performance or mastery of a task is not in itself sufficient to evoke feelings of competence. A performance-goal driven person must outperform others to feel a sense of achievement and, consequently, may not always view success as a possibility. From this perspective, ability is likely to be characterised as a fixed attribute. Little or no effort will be invested in a task if the individual perceives he/she lacks the ability to out perform others.

Evidence on the effects of performance goal on student outcomes is mixed. American-based research by Anderman and Young (1994) found that performance-based goals were negatively correlated with academic competence (E. M. Anderman & Young, 1994). Others argued that adhesion to performance goals can also be helpful, with the use of performance goals to be positively associated with the use of meta-cognitive strategies[9] in male college students (Bouffard, Boisvert, Vezeau, & Larouche, 1995). Declines in competition pursuits and leader pursuits in an

[9] Metacognition is defined as "cognition about cognition", or "knowing about knowing." Metacognition can take many forms; "it includes knowledge about when and where to use particular strategies for learning or for problem solving (Santrock, 2008)

Australian adolescent sample across years seven, eight, and nine have been reported (Simpson & McInerney, 2002). Competition pursuits declined across the three grades, whereas leader pursuits only declined between grades seven and eight. Other research found that competitive emphasis increases rather than decreases with increasing school year level (E. M. Anderman & Maehr, 1994). Whilst some have sub-divided performance goals into approaching success or avoiding failure orientations (Midgley et al., 2001), this study appraises mainstream students' social-power and competition pursuits as they negotiate the transition to secondary school.

Social goals take on an important role in early adolescence (Maehr & Braskamp, 1986; McInerney, Roche et al., 1997; McInerney, Simpson, & Dowson, 2003; Wentzel, 1999). Adolescents tend to spend more time with their peers, and these relationships impact on how the student thinks, feels, and behaves (Hartup & Sancilio, 1986).Two primary social goals, namely social-affiliation (concerned with students' perceived friendships at school in their learning context), and social-concern (dealing with perceived concern for other students' schoolwork and a willingness to offer help) goal pursuits are considered to be important while investigating early adolescents' social goal orientations in school (McInerney, Marsh et al., 2003; McInerney, Simpson et al., 2003). A link with social concern pursuits and academic gains has been identified in early adolescence. Wentzel's (1993) research found sharing helpful behaviour towards their peers assisted the individual student's own academic success. Social affiliation and social concern goals resulted in increased student effort (Dowson, 1999). Effort expenditure facilitates these students' understanding of academic tasks so as to transfer this understanding to peers. Social goals are believed to engender feelings of belonging and solidarity, although occasionally these goals can result in negative feelings of isolation or rejection (loneliness), if desires to facilitate belongingness remain unfulfilled. For those who regard inclusion within a group of peers at school as a major priority, the pursuit of social affiliation goals may be of critical importance (McInerney, Marsh et al., 2003). In this study, social goals are limited to the focus to adaptive social academic goals; that is, the goals associated with students' beliefs about the social

reasons for attempting to achieve in academic situations (Urdan & Maehr, 1995). Cross-sectional research (Simpson & McInerney, 2002; Simpson & McInerney, 2004) conducted on affiliation pursuits and social-concern pursuits in an Australian high school sample, found declines with increasing grade levels. Affiliation pursuits were significantly and negatively correlated with maths grades and English grades, and were positively correlated with absenteeism. Social-concern pursuits were not significantly associated with any criteria across the three grades (McInerney, Simpson et al., 2003).

Extrinsic goals are found to vary not only by level but also vary by dimension such as praise pursuits or rewards pursuits (E. L Deci, Koestner, & Ryan, 1999; McInerney, Simpson et al., 2003). Although praise has been included in the umbrella term of an extrinsic reward in a majority of investigations, the effect of praise or positive feedback are believed to be viewed differently to that of tangible rewards (Gagne & Deci, 2005). A meta-analysis conducted by Deci, Koestner and Ryan (1999) suggests that positive feedback (rewards) enhanced intrinsic motivation only in situations when it was communicated as a source of information/feedback and not when administered as a form of control (E. L Deci et al., 1999). Hattie's (2000) meta-analysis on the effects of the receipt of praise and rewards from the teacher reported that neither were positively related to adolescents' perceptions of their self-worth or value (Hattie, 2002). Gender differences have also been identified, with extrinsic goals found to have more negative effects on males' efficacy perceptions, strategy use, and performance over time (Patrick, Ryan, & Pintrich, 1999). Advocates for the dissemination of praise suggest that only when praise is seen as a form of platitude, that is manipulative or controlling, is it negatively perceived (E. L Deci et al., 1999).

Gender difference in the pursuit of goals has been identified. Males are found to be oriented more towards leadership (A. M. Ryan, Hicks, & Midgley, 1997; Simpson & McInerney, 2004), and performance pursuits (Hinkley, McInerney, & Marsh, 2001) than female counterparts. A meta-analysis conducted by Deci, Koestner and Ryan

(1999) found that females reported praise pursuits as more controlling and undermining of intrinsic motivation, compared to males who viewed them as more informational and enhancing of intrinsic motivation. Females were more oriented towards social goals in Australian high school samples (Simpson & McInerney, 2004). In Hinkley, McInerney and Marsh's (1999) study, females were found to be motivated in mentoring other students (social-concern pursuits) than males. In addition, females endorsed relationship and responsibility goals more than males (Patrick, Hicks, & Ryan, 1997) and were more responsive to task goals than males (Nicholls, 1984).

2.9.1.5 Expectation for schooling and worrying before and after the transition to secondary school

Children's perception of the expectations that their parents hold for them has been identified as an important factor influencing children's school success (Entwisle & Hayduk, 1978; Jacobs, 1991). In an experimental investigation wherein parent expectations were raised through a series of conferences, children's grade point averages improved significantly (Brookover, LiPere, Hamachek, Thomas, & Erikson, 1965). Further, these researchers reported that children's perceptions of parent expectations were related to parent expectations as well as their subsequent performance. Au and Harackiewicz (1986) have reported that "low perceived parental expectations might actually impoverish children's performance". (p. 389).

Teachers' beliefs and expectations have also been linked with children's performance in school (Good, 1981). Teachers are reported to interact in different ways depending on their expectations of specific students. For example, low-expectation students (i.e. those who are expected to do less well scholastically) are praised less often for success and more frequently criticised for failure (Brophy & Good, 1970; Good, 1982). Teachers also tend to provide students who they expect to perform low scholastically with briefer, less accurate feedback on their work (Cooper, 1979). There seems to be an understanding that teacher expectations may produce self-fulfilling prophecies by evoking students' performance levels that are

consistent with those expectations (Brophy & Good, 1974; Jussim, 1989) The amount of criticism from a teacher, although found to be correlated with teacher expectations, was not related to student scholastic achievement (M. J. Harris & Rosenthal, 1985). The process of communication of parent and teacher expectations on sixth-grade reading and math achievement for African American children from low-income families was explored using path analysis (Gill & Reynolds, 1999) . Compared to parent expectations (maths, $\beta = 0.09$, $p < 0.05$), teacher expectations emerged as a stronger predictor of sixth-grade reading ($\beta = 0.19$, $p < 0.05$) and math outcomes ($\beta = 0.11$, $p < 0.05$). Teacher expectations mediated the effects of early educational intervention to sixth-grade outcomes even after accounting for the effects of socio-demographic variables and prior achievement. Perhaps parent and teacher expectations may be conveyed through some behavioural indicators that are likely to be interpreted by children (Gill & Reynolds, 1999) .

Studies have found that in addition to having concerns, students looked forward to certain aspects of the middle and high school transition such as the opportunities to choose classes, make new friends, and have more freedom (Akos, 2002; Akos & Galassi, 2004; Kirkpatrick, 1993, 1997; Odegaard & Heath, 1992). Following the school transition, student worries varied by term with worries about making and/or keeping friends predominating in the first term and worries about school work and routines being salient in the second term (J. M. Brown & Armstrong, 1982). Similarly, Brown and Armstrong (1986) reported that students have enduring worries following the transition in relation to class work, homework, and strict teachers. Case studies in Australia suggest that after spending some time in the secondary school the majority of students felt they were enjoying the variety of subjects and teachers, the freedom and making friends (Kirkpatrick, 1993, 1997; Marston, 2008). Taken together, these findings suggest that the transition experience involves both challenges and opportunities for students.

2.9.1.6 Summary

Investigation into the influence of students' perception of competence coping skills, social skills, motivational orientations for schooling, personal expectations and perception of parents and teachers expectations of scholastic success, and level of worrying before and after transition into secondary school can help provide a framework within which adjustment can be investigated according to a positive conceptualization of human endeavour.

2.9.2 Contextual factors: Family factors

The family is considered a multidimensional construct embodying various characteristics that are typically used to augment the attainment of social and culturally derived goals, and influence children's health, educational, and psychosocial well-being (Prior et al., 2000; Zubrick, Silburn et al., 2000). The forthcoming section of the paper reviews evidence on the contribution of family characteristics such as household income, education level of parents, parental occupation, family structure, parental self-efficacy for helping one's child succeed in school, family functioning, social support offered to child and expectations of scholastic success on student adjustment at school.

2.9.2.1 Household income

Household income has traditionally been a key indicator used to describe families' economic capital, and infer how they are managing. Income provides families the wherewithal necessary to meet the physical needs and provide material resources for their children (Blau, 1999; Bonstein, Chun-Shin, Suwalsky, & Haynes, 2003; Duncan & Brooks-Gunn, 1997; Zubrick et al., 1997). The resource investment model argues that higher income enables increased parental purchasing power to invest in food, housing, medical care and education, which in turn results in greater child well-being (Hauser, Brown , & Prosser, 1997). A complementary model examines the indirect effects of economic deprivation on child well-being via increases in family stress, which decrease their ability to provide stability, adequate attention, supervision and cognitive stimulation to children (Hauser et al., 1997).

An amalgamation of the analyses of 12 groups of researchers working with ten different developmental data sets which offered longitudinal measures of family income as well as developmental outcomes at various points in life, suggests that on the whole, family income may have substantial but selective associations with children's attainments (Duncan & Brooks-Gunn, 1997). The findings of the study identified that family income had a much larger association with measures of

children's ability and achievement, than with measures of behaviour, mental health, and physical health. Family economic conditions in early childhood appeared to be more important for shaping achievement in adolescence, than did economic conditions in adolescence. The association between income and achievement appear to be 'non-linear', with the biggest effects found at the lowest level of income. Persistent poverty has stronger negative associations than does transitory poverty (Duncan & Brooks-Gunn, 1997). Results from the Canadian National Longitudinal Survey of Children and Youth, found that higher levels of socio-economic status were linked directly to higher levels of achievement and academic skills (B. A. Ryan & Adams, 1998). Conversely, lower socio-economic status households have been associated with lower academic outcomes in an Australian population (Silburn et al., 1996). Household SES was also found to affect children's school experiences, and teachers' perception of students' academic competence in a sample of pre-school children (Tudge, Odero, Hogan, & Etz, 2003). Families with children with disabilities typically have lower than average household incomes (Bradbury, Norris, & Abello, 2001). It has also been noted that education, occupation, and income are not highly correlated and each of these indicators is differently associated with different child outcomes (Liberatos, Link, & Kelsey, 1988).

2.9.2.2 Education level of parents

When compared to less educated caregivers, those who have acquired more formal schooling, tend to provide their children with a more cognitively stimulating environment with more verbal and supportive teaching, and instil in their children higher aspirations and expectations for educational attainment (Entwisle & Astone, 1994; Richman, Miller, & LeVine, 1992). These differences in the cognitive dimensions of the home environment are considered important determinants in explaining why children of less-educated parents perform less well on measures of cognitive developmental than their more highly educated caregivers (Y. R. Harris, Terrel, & Allen, 1999). Furthermore, parental educational attainment is found to be related to higher occupational aspirations (Majoribanks, 1985). Higher maternal education was related to higher educational aspirations, a greater knowledge in

occupations, pursuit of more non-traditional courses in high school, and an increased likelihood to attend and complete college education (D'Amico, Haurin, & Mott, 1983). Compared to other social characteristics of families, such as family size, income, and parental occupations, the educational level of parents is a salient family determinant of the child's school achievement (Stevenson & Baker, 1987).

Research has identified that although mothers' educational attainment does not influence the number and types of schooling strategies suggested by mothers to manage high school transition, the implementation of these strategies varies as a function of the educational level of the mother (Baker & Stevenson, 1986). These effects were noted even after the child's academic performance of the child was controlled. Mothers with at least a college education knew more about the child's school performance, had more contact with the teachers, and were more likely to take action to manage their child's academic achievements. Mothers with at least a college education were also more likely to choose college-preparatory courses for their children, irrespective of their child's academic achievement (Baker & Stevenson, 1986). Although occupation is a major marker of social class, education and income are considered to be implicit in one's occupation. Some of this evidence on the influence of parental occupation on student outcomes is discussed in the following sub-section.

2.9.2.3 Influence of parental occupation

Kohn pursued the hypothesis that the association between SES and child development lie in the nature of the occupations of parents that distinguish the middle from the low class household. Correlational research reports that job conditions appear to influence the values, personalities, and cognitive skills of individuals, which in turn are passed on to their children through parenting practices (Kohn, 1969; Kohn & Schooler, 1973; Luster, Rhoades, & Haas, 1989). Parental occupation has been linked to children's cognitive competence, social competence and moral development (Baumrind, 1991; Krevans & Gibbs, 1996).

Longitudinal investigations suggest that the occupations of fathers and not mothers are related to child developmental outcomes (Gottfried, 1985). Sons in particular have been reported to aspire to follow the careers of their fathers (Featherman & Hauser, 1978). High achievement scores have been reported by daughters with full-time employed mothers as compared to the achievement scores of sons and daughters of part-time or unemployed mothers (Alessandri, 1992). Goddfried (1991) reported that higher maternal occupational status (i.e., in regards to their engagement in careers traditionally pursued mostly by men) was related to higher levels of cognitive development in children at ages two, three and a half, six, and seven and was also associated with higher educational attitudes and aspirations for five and seven year old children (Gottfried, 1991). Using a within and across-time model of mother-adolescent relationships, structural equation modelling analyses revealed that both within and across-time maternal employment prestige and educational attainment, positively predicted young adolescents' academic competence, career aspirations and gender-role attitudes (Castellino, Lerner, Lerner, & von Eye, 1998). Maternal employment and educational factors related to adolescent career trajectories were found to be differentiated by gender by the end of the sixth grade (Castellino et al., 1998).

2.9.2.4 Family structure

The increasing diversity in the family structure has fuelled scholarly examination of the developmental significance of family structure on child well-being (Schneider & Coleman, 1993). Although the couple family is still the most dominant type in today's society, lone parent families are becoming increasingly common in Australia (Australian Institute of Health and Welfare [AIHW], 2001; De Vaus, 2004). According to 2001 census counts, 47% of all families with children were couple families; lone parent families represented 15.4% of all families (Australian Bureau of Statistics [ABS], 2003). The relationship between family structure and child outcomes is not a simple causal one with conflicting evidence presented. Evidence that children from non-intact families, particularly lone parent families, are more likely to experience adverse developmental outcomes such as low educational

attainment, increased likelihood of engaging in aggressive, antisocial, and criminal behaviour, and substance use in adulthood has been documented (De Vaus & Gray, 2003; Deleire & Kalil, 2002).

Theories arguing that family structure itself leads to negative child outcomes identify the decreased resources available to children (e.g., time and financial resources) that often stem from living with a single parent as probable contributors. Sigle-Rushton & McLanahan (2002) have demonstrated that "once income differences are taken into account, differences between children in single mother and two-parent families are far less pronounced." (p. 32). Mother's absence is however reported to have a more negative effect on children's schooling than does father absence. A gendered process of parenting has been argued as a probable cause for these effects, in that mothers are more likely than fathers to spend time with children, with the effects of mother's absence reported to be apparent later in life (Wallerstein, Blakeslee, & Lewis, 2000). Fathers interact with their children in a different way than mothers do, in that fathers engage in more playful social interactions than in practical caretaking tasks (Yeung, Sandberg, Davis-Kean, & Hofferth, 2001)

Step-parents have been shown to be less likely to have close relationships with their step-children and to have lower levels of social control (Furstenberg, Nord, Peterson, & Zill, 1983). Feelings of social distance between stepparents and stepchildren may be particularly problematic for adolescents, who are in need of guidance, supervision, and direction (Schneider & Stevenson, 1999). Children whose parents divorced between the ages of 7 and 22 are reported to be more likely to report emotional problems compared to children whose parents stayed together (Cherlin, Chase-Lansdale, & McRae, 1998). Parental divorce was associated with an increase in emotional problems at age 33 years in offspring from divorced families. A recent meta-analysis of 67 studies on the effects of divorce on student outcomes compared data completed in the 1980s with those from the 1990s (Amato, 2001) suggests that effect sizes of family disruption on psychological adjustment, self-concept, and social relations were found to have increased over time; and in the case of

psychological adjustment, the gap between children from divorced versus continually married parents was higher than in the previous three decades. Non-traditional family structure has been shown to be associated with stress, depression, anxiety, and low self-esteem in adolescents (Amato, 2001). This increasing gap in psychological adjustment between children in married versus divorced families raises serious concerns in light of increases in divorce rates among families with children, coupled with changing policies regarding marital dissolution (Maccoby & Mnookin, 1992).

Students with disabilities are more likely to belong to divorced or separated households, households with lower incomes, and have parents who have not attended postsecondary school (Wagner, Marder, Blackorby, & Cardoso, 2002; Wagner et al., 2003), and hence may be further disadvantaged.

2.9.2.5 Family involvement in their child's schooling

Parental involvement in schooling has been viewed as a form of social capital, which involves dyadic relationships between significant stakeholders (McNeal, 1999). Families' support for their children's education has been found to contribute to improved motivation to learn and academic self-confidence (Grolnick & Slowiaczek, 1994; Hoover-Dempsey et al., 2001); sense of self as a learner (Eccles, Goldsmith, Jacobs, & Flanagan, 1988); academic performance (J. D. Finn, 1998; Keith et al., 1998); and achievement on standardized tests (Sui-Chu & Willms, 1996). Better behaviour in school (Gonzalez, 2002); more consistent attendance (Falbo, Lein, & Amador, 2001); higher school completion rates (Rumberger, Ghatak, Poulas, Ritter, & Dornbusch, 1990); and better defined educational expectations and plans about the future (Eccles et al., 1988; Trusty, 1999) have also been reported.

Meta-analyses have found that when parents are involved in education, students benefit (Jeynes, 2003, 2005). A meta-analysis (N = 21 studies during 1992-1999) found positive effect sizes of parent involvement on academic achievement (Effect size 0.01-0.74), but a varied effect among different ethnic groups depending on type of involvement (parental style, attending, expectations or rules) (Jeynes, 2003).

Findings from a more recent meta-analysis indicates that for the overall population of students, the academic advantage for those whose parents were highly involved in their education averaged in the general range of about ½ of a standard deviation for overall educational outcomes, grades, and academic achievement (Jeynes, 2005). Parental style and expectations had a greater impact on student educational outcomes than some of the more demonstrative aspects of parental involvement, such as having household rules, and parental attendance and participation at school functions. For overall achievement, the effect size was .46 standard deviation units for studies that examined all minority children, and .53 standard deviation units for those studies that included mostly minority children (Jeynes, 2005).

Significant association between home-based involvement and caregiver education has been found in samples of early childhood, primary level children (Fantuzzo, Tighe, & Childs, 2000; Kohl, Lengua, & McMahon, 2000; Manz, Fantuzzo, & Power, 2004). Prospective analysis suggested that a relatively high degree of organization in the family was found to be associated with academic achievement. Organization in the home, such as having a regular time and appropriate setting in which to do homework each day, may help reduce stress and flux in the child's or adolescent's life outside of school and thus contribute to academic success. Analysis of the National Longitudinal Transition Study-2 (NLTS-2)[10] revealed that secondary-school-age youth with disabilities are more likely to receive homework assistance than are their peers in the general population ($p < .001$) (Newman, 2004a). Research has also linked two-parent families, higher household incomes, and higher parent education levels with higher levels of parent involvement (J. S. Coleman, 1987; Gavidia-Payne & Stoneman, 1997; A. Lareau, 1987).

[10] The National Longitudinal Transition Study-2 (NLTS-2) provides the first National (American-wide) picture of the involvement of families in the educational development of their secondary-school-age children with disabilities. NLTS2 is a rich source of information on the characteristics, experiences, and achievements of youth with disabilities who were ages 13 through 16 and receiving special education services in grade 7 or above when they were sampled in 2000.

No relationship between mother's employment and involvement in their child's education has been reported in a study (Grolnick, Benjet, Kurowski, & Apostoleris, 1997), whilst Zill & Nord, (1994) reported that mothers who work part-time were more involved in school-related activities than both mothers who work full-time and mothers who are full-time homemakers (Zill & Nord, 1994). In the case of mothers with a child with disability, NLTS-2 data failed to find a significant difference when part-time and full-time employment data are included separately in analyses (Newman, 2004a).

Parental involvement in their child's schooling has been found to vary as a function of the level of formal education achieved by the caregiver; with those who have attained high school diplomas reporting greater involvement at home than those who had not attained this level of formal education (Fantuzzo, Mcwayne, Perry, & Childs, 2004; Kohl et al., 2000). Educational attainment of mothers of students with disabilities was also found to be strongly related to family involvement. Children with better-educated mothers were found more likely to have families who are involved in their education across multiple settings-at home, at school, and in the Individualised education planning process (IEP process) (Newman, 2004a). Caregivers' personal success in school has been found to be related with increased contact with school professionals (Christenson & Sheridan, 2001; Dauber & Epstein, 1993).

NLTS-2 data also revealed that families of students with disabilities are as likely than their peers in the general population to participate in several types of school-based activities such as attending general school meetings, parent-teacher conferences, compared with the general population ($p<.001$) (Newman, 2004a). Differences in school-based family involvement, as a function of the child's disability have also been identified in the NLTS-2 data, with families of students with emotional disturbances or intellectual handicaps among the least likely to attend a general school meeting or a school or class event, or to volunteer at the school (Newman, 2004a). Parents who described their children's behaviour as being more difficult to

manage are less likely to be involved in their child's education both at home and at school (Grolnick, Apostoleris, & Rosen, 1995; Sui-Chu & Willms, 1996). In addition, parents are found more likely to be involved in school activities when their children are participating in them (J. L. Epstein, 2001).

It is interesting to note that for both students with disabilities and those in the general population, when students are in elementary school, parents of sons are more likely than parents of daughters to be involved in supporting their children's educational development (Cooper, Lindsay, & Nye, 2000; Newman, 2004b). Holding other family demographic and child health-related factors constant, wealthier families in the NLTS-2 study were more likely to be involved at school and participate in the IEP process (Newman, 2004a). Wealthier families were however less likely to be involved at home, which might be due in part to their hiring tutors to help with homework. Findings for the general population show a similar trend, with more affluent families more likely to be involved at school, but less likely to be involved at home (J. S. Coleman, 1987; Gavidia-Payne & Stoneman, 1997; Grolnick et al., 1997; A. Lareau, 2000) Research has found that family involvement is lower for older students in studies of the general population as well (Ames, deStefano, Watkins, & Sheldon, 1995; Burke, 2001; Cooper et al., 2000; Crosnoe, 2001). Not only is parental involvement in their child's schooling noted to decline as students transition from primary to secondary schools, but it continues to decline as students' progress through secondary schools (L. H. Anderson et al., 2000; Carnegie Council on Adolescent Development, 1989).

2.9.2.6 Parental self efficacy for helping one's child succeed in school

Self-efficacy is defined as self belief that one can act in ways that will produce desired outcomes. Self-efficacy is important in shaping the goals an individual chooses to pursue, and his or her level of persistence in working toward those goals (A Bandura, 1997). It is a socially constructed entity that is influenced by personal experiences of success, vicarious experiences, and verbal persuasion. Positive personal beliefs about efficacy for helping one's child succeed in school is associated

with increased parental involvement among elementary, middle, and high school students (Grolnick et al., 1997; Hoover-Dempsey, Bassler, & Brissie, 1992b; Shumow & Lomax, 2002).

2.9.2.7 Family functioning

Appreciation of the functioning of the family as a unit, beyond the individual or dyadic level relationships is critical to the understanding of the development of children (New South Wales Population Health Survey, 2006). Dimensions of activity entailing relating, communicating, making decisions, problem-solving, and maintaining relationships are considered to be essential ingredients of family functioning, according to the McMaster Model of Family Functioning (Byles, Byrne, Boyle, & Offord, 1988). According to this model, the primary function of the family is to develop and maintain family members socially, psychologically and physiologically by successfully accomplishing three groups of tasks: a) Basic Tasks (those that provide food, money, shelter and transportation); b) Developmental tasks that arise as the family as a groups and its members individually progress through their life-cycle developmental stages; and c) Hazardous tasks that are required to manage crises that result from illness, accidents, job loss, death and other major life events. The perception of how the family works together as a unit on the essential tasks of functioning form the essence of its functioning (Byles et al., 1988). The model focuses on six dimensions of family functioning. Problem solving the first dimension, taps on the ability of the family to resolve problems that threaten its integrity and functional capacity at a level that maintains effective functioning. Communication dimension that focuses on whether exchange of information among members is clear with respect to content and whether there exist direct exchange to the person intended to be spoken with. Roles, the third dimension focuses on whether the family tasks are clearly and equitably assigned to members and carried out responsibly. The extent to which individual members are able to experience appropriate affect over a range of stimuli is assessed by the affective responsiveness dimension. Affective involvement assesses the extent to which family members are interested in and place value on each other's activities and concerns; while the

behaviour control dimension assesses the way in which a family expresses and maintains standards of the behaviour of its members (Byles et al., 1988).

Dysfunctional patterns of family functioning are characterised by common interactions or characteristics between family members' associated with impaired functioning in one or more dimensions of family functioning. Dysfunctional patterns are hypothesised to increase anxiety in the family as a whole, or in some subset of family members, at the expense of overall family functioning (Byles et al., 1988). In Australian research studies, family discord has been found to be a significant risk factor for children's poor mental health (Silburn et al., 2006). Initial ratings of family organization and parent-child relationships were both related significantly to follow-up indices of school adjustment obtained two years later (Dubois, Eitel, & Felner, 1994). Children living in families that function well tend to benefit from having positive role models for building relationships and an environment that fosters the development of high self-esteem. The benefits of family organization in the home and parental support assume greater importance in facilitating academic success as youths move into adolescence (Dubois et al., 1994). The way in which families operate can help family members cope with disadvantage, adverse life experiences, and stress (Silburn et al., 2006). Strong bonding with parents may facilitate success in school by serving as a deterrent against the emergence of delinquent behaviour patterns (e.g., truancy) that are closely associated with academic difficulties (Dubois et al., 1994).

In relation to conflict, some studies have documented that level of conflict within the family is a better predictor of children's adjustment than family structure (Borrine, Handal, Brown, & Searight, 1991; Forehand, Long, Brody, & Fauber, 1986). Disorganized family management strategies (Swadi, 1999), coercive and manipulative attempts to control the adolescent (Loeber & Stouthamer-Loeber, 1998), and low levels of involvement and autonomy granting (Gray & Steinberg, 1999) have been implicated as among the most important predictors of the severity of adolescent substance abuse and antisocial behaviour.

Having a child with a disability or a chronic ill health condition can put additional pressures on families; but the results are not always consistent and are believed to vary as a function of the kind of disability and its severity. Families of a child with cystic fibrosis (CF) were found to score significantly lower than healthy controls in domains of communication, interpersonal involvement, affective management, behaviour control, and role (Spieth et al., 2001). Others have found no differences in family functioning between families of children with CF and psychologically healthy children (Blair, Freeman, & Cull, 1995). The health-related quality of life (HRQL) of children with mild or moderate/severe asthma (aged 8-13 years) was compared with that of a large representative sample of children in the general community (Sawyer, Spurrier et al., 2000). The study explored the relationship between the HRQL of children with asthma and their demographic characteristics, asthma severity and family functioning. Results indicate that children with asthma had a significantly poorer HRQL than other children in the community. Among the children with asthma, parents reported that children living in single-parent families had poorer physical health, mental health, and social functioning than children in two-parent families. There was a significant relationship between the mental health of children with asthma and family functioning, but no significant relationship between their physical health and family functioning (Sawyer, Spurrier et al., 2000). These findings suggest that the domains comprising the HRQL of children with asthma are related to both disease and non-disease factors. The influence of family functioning on the adjustment of mainstream students in Australia, within the context of a multivariate model is investigated in this study.

2.9.2.8 Parental expectations of scholastic achievement

Consistent and high expectations for one's off-springs' learning and academic performance plays an important role in student achievement (Entwisle & Baker, 1983; Entwisle & Hayduk, 1978). Even in the case of individuals with disabilities, the evidence suggesting that parents' expectations are powerfully related to the youths' accomplishments in multiple domains, including postsecondary education

and aspects of independence (Wagner, Blackorby, Cameto, & Newman, 1993). The background characteristics of parents (e.g. socioeconomic status (SES), race) influence the degree to which parents set high goals for themselves and their children (Boocock, 1972). According to Boocock (1972), high parental expectations lead students to set high standards for their education, and to make greater demands on themselves from an early age, and this could be responsible for high achievement. Empirical evidence has reported significant correlations between parents' prior expectations and children's performance, after partialling out the effects of children's IQ, gender, and ethnicity (Entwisle & Baker, 1983). Analysis of the NLTS-2 data revealed that that youth with disabilities are much less likely to be expected to attend school after high school than are their peers in the general population (Newman, 2004a). Lower expectations were found to be common for youth with mental retardation, autism, multiple disabilities, and, to a somewhat lesser extent, deaf-blindness (Newman, 2004a). Expectations were also lower for youth with disabilities from lower-income households. Families' expectations for their children's scholastic achievement and their satisfaction with their children's current schools were both associated with differences in levels of family involvement (Newman, 2004a).

2.9.2.9 Social support from family

Cohen, Gottlieb, and Underwood (2000) defined social support as ''any process through which social relationships might promote health and well-being''. (p. 4). Social support can comprise of different categories such as instrumental (i.e., providing a direct service), emotional (i.e., listening and providing acceptance), or informative support (i.e., providing advice or knowledge) (T. A. Wills & Shinar, 2000). It positively contributes to both the psychological adjustment and academic achievement of students (Demaray & Malecki, 2002b; Demaray, Malecki, Davidson, Hodgson, & Rebus, 2005). Close relationships with one's parents has been found to serve as a buffer against depression and feelings of low self-worth, especially during times of transition, such as entering middle-school or developing intimate relationships with friends (Wentzel & McNamara, 1999). Parental support also positively influences academic goal orientation, academic effort, and interest in

school (Wentzel, 1998). Ecological models of educational persistence maintain that elements from multiple social support systems (such as family and school) affect school engagement and thus educational attainment (Richman & Bowen, 1997). Middle and high school students receiving support from parents, friends, and teachers, or from combinations of parent-teacher or parent-friend sources, were higher in achievement and more positive in their behaviour than were those relying on a single source (Rosenfeld, Richman, & Bowen, 2000).

Evidence suggests that the extent to which students draw support from different sources, differs with age. For example, older children typically identify a broader range of support providers including more extended family members and friends, unlike their pre-school counterparts who tend to receive support primarily from immediate family members. Some research has noted a shift to increased reliance on friends for support during the adolescent years (Furman & Buhrmester, 1992). A longitudinal investigation that examined the relationship between perceived social support from various sources and adjustment over time in a sample of early adolescents, revealed that support from parents in the spring of one year emerged as a significant individual predictor of clinical maladjustment and emotional symptoms one year later (Demaray et al., 2005). These effects were evident even after previous levels of clinical maladjustment were taken into account. Clinical maladjustment was measured in terms of social stress, anxiety, somatisation, and locus of control (Demaray et al., 2005).

Additionally, research with early adolescents, has found that different relationships vary in the social provisions they offer (Furman & Buhrmester, 1985). Friendships are viewed by pre-adolescents as the highest source of companionship, whereas parent-child relationships are seen as providing instrumental support, affection, and enhancement of self-worth. It has also been proposed that the availability of functionally similar relationships may compensate for a deficit in another; and despite the uniqueness of each relationship in children's social networks, all social provisions can be obtained in more than one relationship (Furman & Buhrmester,

1985). This proposition is supported in research conducted by Gauze, Bukowski, Aquan-Assee, and Sippola (1996) where friendships were found to be more strongly linked to self-perceived wellbeing for children from maladaptive families than for those from healthy families.

The combination of peer and adult relationships has been found to be optimal for student psychological well-being. Buchanan and Bowen (2008) examined the influence of peer support on the psychological well-being of middle-school students within the context of adult support (parent and teacher support) (Buchanan & Bowen, 2008). Peer support emerged as an important contributor of student psychological well-being, especially in the presence of high adult support, even after demographic variables of gender, race/ethnicity, and grade in school were controlled. It is believed that there is a critical level of perceived support that is adequate with regard to relationships with other outcomes. There appears to be no significant beneficial effect of perceived social support beyond this average or adequate level of perceived support (Buchanan & Bowen, 2008).

The evidence also suggests that social support may differ for girls and boys and for students of varying SES-background. Girls have been found to perceive higher levels of support than boys from most sources including teachers, classmates, and close friends (Demaray & Malecki, 2002a; Furman & Buhrmester, 1985). Social support from parents and classmates was found to moderate the relation between SES and GPA for only the low-income group (SES was measured in terms of students who got free lunch at school) (Malecki & Demaray, 2006).

2.9.2.10 Summary

In summary, family is an important ecological context that plays an important role in students' education and socialisation. Investigation into the critical role that the family plays in the adjustment of a sample of mainstream students as they negotiate the transition to secondary school is worthy of investigation.

2.9.3 Contextual factors: School and classroom factors

The school setting is a primary extra-familial institution that serves not only to educate students, but also to direct and shape their intellectual, physical, social, moral, spiritual, and aesthetic development (Simons-Morton et al., 1999). This section of the literature review addresses variables (i.e., school related; classroom; teacher; availability and adequacy of support; and invitations offered to parents by school for involvement in their child's education) identified in the literature to be associated with student outcomes. The value of these variables to predict mainstream student adjustment concurrently and across the primary-secondary school divide is of central interest in the development of models of students' adjustment.

2.9.3.1 School related factors

There is inconclusive evidence on whether the type of school sector (private or public) influences student outcomes. Although, the evidence across most Organization for Economic Cooperation and Development (OECD) countries suggests that student academic performance is greater in private schools, once student SES is controlled for, the advantage of private schooling disappears or becomes minimal (Gorard, 2006; Organisation for Economic Co-operation and Development [OECD], 2003). This suggests that private schools have a performance advantage because of their student characteristics, and not because of school-based differences. One of the richest cross-national data sets on the effects of family background and school composition on student achievement comes from the Programme for International Student Assessment (PISA) studies conducted by the Organization for Economic Cooperation and Development (OECD). An analysis of the PISA (2000) data revealed that after controlling for student SES, student achievement was higher in government-dependent private schools, than in either government or independent schools (Dronkers & Robert, 2004). It is hypothesised that government-dependent schools are more effective because they enjoy the advantages of both public and private institutional features in terms a steady stream of funds that permits forward planning and budgeting, and institutional autonomy (cited in Perry, 2007).

High-SES schools tend to be better resourced, have more functional and supportive teacher-teacher and teacher-student relations, more positive and conducive school climate, to be more supportive of achievement, and have fewer discipline problems (OECD, 2005). Educational systems are considered more equitable if they have lower levels of between-school differences in student outcomes (Perry, 2007). In Australia, 80% of the variation of student achievement is found within schools, while 20% of the variation is found between schools. Australia's between-school variation in student outcomes is lower than the OECD average of 36% (OECD, 2005). Thus, in Australia, between-school difference is low compared to other countries. The effect of mean-school SES[11] is larger than the effects of individual SES. Many parents are aware that the social composition of a school influences the academic achievement of their child. Accordingly, school choice and composition are mutually related. Middle class parents in particular are likely to choose a school based on its social composition, with those at the same or higher average SES as their own family. A study of school choice in New Zealand found that 65% of higher SES families in a lower SES community exited the local neighborhood school (Lauder & Hughes, 1999). Similar results have also been found in Australian data (Lamb, 2007).

Australian results suggest that the increased enrolment in non-government schools is exacerbating the school separation of students by their socio-economic status. This trend is believed to impact on the educational provision of students in Australia and hypothesized to have the potential to further entrench social class differences in educational outcomes (Lamb, Long, & Baldwin, 2004). Speculation that this increased choice and competition are intensifying between-school differences within the government sector have also been put forth (Lamb, 2007). Conclusive evidence to support this claim, however, is lacking.

[11] Mean school SES is used to refer to the composition of schools when measured solely by the SES of the students (as opposed to their race or ethnicity)

The performance of high-SES students varies across countries much less than the performance of low SES students (Lokan, Greenwood, & Cresswell, 2001, p. 165). Because low-SES students do not have the advantage of their higher SES counterparts, the impact of school-level factors is greater for this group.

Evidence on which grade-span configuration best meets early adolescence needs is mixed and scarce. Much of the public debate about grade-span configuration in the US has focused where the sixth and eight year level students should reside. Some evidence from case studies in US schools suggest that student achievement was higher when the year levels six and seven were included in primary school (Howley, 2002; Renchler, 2000). Part of the main reasons for the dearth of evidence on the effects of grade configuration on student outcomes is that grade configuration is to some degree dependent on the exigencies of factors such as geographic location, limited financial resources, student populations, and community preferences (Renchler, 2000). For example, schools with broad grade spans are influenced by the nature of the role modelling younger students receive from older students; training and experience of the staff, and building size. Those with narrow grade spans experience frequent student turnover, which can influence the school's identity and sense of community. Additionally, narrow grade spans also impose on students the stress of frequent school transitions (Renchler, 2000). It has been suggested that designing a school system to use a particular span of grades in individual schools will not in itself guarantee that students will learn well and be well adjusted (Paglin & Fager, 1997).

2.9.3.2 Classroom factors

2.9.3.2.1 Classroom environment

The nature of the classroom environment itself appears to be a determinant of student quality of life at school and wellbeing. Pioneers in the development of social climate scales argue that the social matrix in which individuals are embedded have a great influence on the person (Moos, 1979) . Several cross-sectional and longitudinal

investigations have indicated that cognitive and affective outcomes in students can be attributed to dimensions of the classroom environment, after the control of student background characteristics (Fraser, 1984). Associations between the level of classroom individualization afforded to students in junior secondary school science classes and positive attitudinal outcomes were also found in follow-up cross sectional investigations (Fraser, 1981; Fraser & Butts, 1982). Using a large sample of 2,330 students in 65-classes in senior high school, positive student attitudinal outcomes were found to be consistently apparent in science classroom environments where student cohesiveness, integration, rule clarity, and material resources were perceived as favorable (Fraser & McRobbie, 1995). A review of 46 studies conducted in elementary and secondary schools revealed that individual student accountability increased student achievement along with teacher praise, improved marks etc. Positive affective outcomes in the form of self-esteem, acceptance of others, and better race relations were achieved in 63% of the studies analysed (Slavin, 1983). The review established a link between cooperative learning and student learning outcomes, only when motivation and individual accountability of the student were conditioned by teachers.

Goal structure of the classroom has also been an area of scientific scrutiny. The evidence suggests that students' perceptions of an emphasis on mastery goals in the classroom are associated with positive school affect (L. H. Anderman, 1999a), better coping with academic difficulty(Kaplan & Maehr, 1999), and a greater sense of well-being in school (Kaplan & Maehr, 1999). Additional research has revealed that when students perceive the classroom goal structure to be performance goal oriented , they avoid seeking help (A. M. Ryan, Gheen, & Midgley, 1998; Urdan, Midgley, & Anderman, 1998). A performance goal orientation was found to predict increased negative affect, and school belonging was inversely related to negative affect (L. H. Anderman, 1999a).

The quality of relationships between students and teachers, and the degree to which this relationship impacts on student outcomes has been explored (Brekelmans,

Wubbels, & Creton, 1990; Wubbels, Brekelmans, & Hooymayers, 1991; Wubbels, Creton, & Hooymayers, 1992). A large body of research undertaken by Wubbels and colleagues supported the argument that teachers who exhibit dominant behaviours such as strict, leadership, helpful, friendly and understanding tend to promote cognitive outcomes (Wubbels et al., 1991; Wubbels et al., 1992; Wubbels & Levy, 1993). Teachers who support student responsibility by affording them autonomy are thought to facilitate the internalization of extrinsically motivated behaviour, which in turn increases student effort and engagement in learning activities (R. M. Ryan & Deci, 2002). The evidence suggests that students in classrooms with autonomy-supporting teachers compared to those with controlling teachers demonstrate greater perceived academic competence (D. Deci, Schwartz, Sheinman, & Ryan, 1981), greater conceptual understanding (Grolnick & Ryan, 1987), perform better (Boggiano, Flink, Shields, Seelbach, & Barrett, 1993; Flink, Boggiano, & Barrett, 1990) and are less likely to drop out of school (Hardre & Reeve, 2003). The exertion of a great deal of control by teachers by offering students few opportunities for self-determined behaviour can potentially cause both emotional and behavioural problems in students (Roeser & Eccles, 2000).

The need to feel related to others is identified to be important for the internalisation of values, behaviour, and engagement in tasks (Roeser et al., 2000). The findings of several studies supported this stance, with those who feel emotionally supported by their teachers more likely to experience enjoyment of learning and motivation for academic success and to display on-task behaviour and to have fewer emotional problems (Bru, Boyesen, Munthe, & Roland, 1998; Fraser & Fisher, 1982; Moos, 1979). When students feel a sense of teachers' support they are more likely to expend effort, ask for help, engage in academic work, and use self-regulated learning strategies. These students are also more likely to have higher achievements academically (Trickett & Moos, 1974). Additionally, students' perceptions of teachers as being emotionally supportive, and caring towards students is believed to be vital for developing positive relationships between teachers and students. Such positive relationships promote a feeling of relatedness or belongingness in students

(Connell, 1990; Connell & Wellborn, 1991; E. L. Deci & Ryan, 2000; Resnick et al., 1997). Students' achievement and attitudes towards particular subjects are reported to be better in classes that emphasized teacher leadership, helpful/friendly and understanding, and less uncertain teacher behaviour, and in classes with greater perception of cohesiveness and less friction (Goh & Fraser, 1998).

In addition to teachers, classmate approval or disapproval is found to influence students' sense of self (Berndt & Keefe, 1996). Classmate support correlates more highly with self-worth than support from one's teachers (Harter, 1996). Poor levels of support in the form of disapproval from classmates are believed to be critical for individuals' self-worth. Low levels of social support from classmates were found to increase the risk of depression and low self-esteem in adolescents with physical disability (Varni & Setoguchi, 1991). Lower youth functional status, independent of physical limitation, was associated with psychosocial maladjustment (Witt, Riley, & Coiro, 2003). Similar results have been found in a sample of students with diabetes (La Greca et al., 1995), juvenile rheumatoid arthritis (JRA) (Von Weiss et al., 2002) and spina bifida (Hommeyer, Holmbeck, Wills, & Coers, 1999).

Support for, and sensitivity to, cultural pluralism and student diversity are important dimensions of the social climate of educational settings that impact on student adjustment (Felner & Felner, 1989; Gottfredson & Gottfredson, 1985). Additionally, a sense of safety in school is theorised to impact on student's academic, behavioural, socio-emotional, and physical well-being (National Research Council, 1993).

Gender differences have been found in classroom climate ratings (Townsend & Hicks, 1997). It has been observed that girls are more likely to favour a cooperative learning atmosphere (Owens & Barnes, 1982) where positive social interactions provide a system of student support rather than individual competitiveness (Slavin, 1991). Such a preference has been attributed to girls' inclination to engage in behaviour that is consistent with cooperative learning styles (Charlesworth & Dzur, 1987). In terms of SES, those from lower-SES backgrounds may hold more negative

views of their schools than their higher SES counterparts, as the former groups are more likely to attend under-funded and understaffed schools that have few resources to create positive learning environments (Conchas & Noguera, 2004; Kuperminc, Leadbeater, Emmons, & Blatt, 1997).

The research reviewed suggests that students' achievement and adjustment outcomes are more likely to be enhanced when school improvement efforts bring about comprehensive change in multiple dimensions of the social climate, rather than focusing on piecemeal or fragmentary change in single elements of the school environment (Felner et al., 2001). Climate dimensions that are related to one domain of student adjustment indices tend to be related to students' adjustment in other domains. These findings suggest that the relationship of climate to adjustment is not strictly categorical. It is necessary to investigate a broad array of classroom dimensions in order to identify their predictive power on student adjustment (Brand, Felner, Shim, Seitsinger, & Dumas, 2003). Such an approach has been upheld in this investigation.

2.9.3.2.2 Importance of teachers

The weight of considerable international evidence in recent years asserts that the quality of the classroom teacher is the major in-school influence on student achievement (Hattie, 1999, 2003; Rowe, 2003; Scheerens, 1993). The quality of teaching is believed to contribute to effective schools (P. W. Hill & Rowe, 1996; P. W. Hill & K. J. Rowe, 1998; Rowe & Hill, 1998). Some of the most compelling research about the importance of teacher effectiveness comes from the work of Hattie. According to Hattie (2003), what teachers know, do, and care about is very powerful in this learning equation, with 30% of the variance in student outcomes accounted for by the teacher (Hattie, 1999, 2003). In line with this recommendation, this study surveyed the literature on key teacher variables identified to impact on student outcomes. Some of the variables associated with teacher quality are discussed below.

2.9.3.2.3 Teacher efficacy

Departments of education across Australia acknowledge the critical influence of teacher efficacy on student educational outcomes Improving teacher efficacy is claimed to have four times the [impact] on student outcomes than improving school effectiveness (Department of Education Science and Training [DEST], 2005). According to Dellinger, Bobbett, Olivier, & Ellett (2008), teachers' sense of efficacy refers to "teachers' beliefs in their abilities to affect student performance" (p. 753). Teachers' efficacy has been found to be related to student achievement (Ross, 1992), student motivation (Midgley et al., 1989), students' own sense of efficacy (R. J. Anderson, Greene, & Loewen, 1988), self-esteem, and pro-social attitudes in students (Cheung & Cheng, 1997).

It has been reported that secondary school teachers usually feel less effective in the classroom and more distrustful of students than their primary level counterparts (Eccles, Lord, & Midgley, 1991). Bandura (1997) proposed that because self-efficacy beliefs were explicitly self-referent in nature and directed toward perceived ability-specific tasks, they were powerful predictors of behaviour. The evidence suggests that efficacious teachers persist with struggling students and criticize them less after incorrect student answers (Gibson & Dembo, 1984). They are more likely to agree that a low-SES student should be placed in a regular education setting, and less likely to refer students for special education (Meijer & Foster, 1988; Podell & Soodak, 1993). Efficacious teachers tended to experiment with methods of instruction, seek improved teaching methods, and experiment with instructional materials (Allinder, 1994; Guskey, 1988). They also showed higher professional commitment for efficacious in-service teaching (Coladarci, 1992).

In contrast, teachers with low efficacies have been identified to give up more easily when confronted with difficult situations, reported to be less resourceful, and oftentimes feel that students cannot learn because of the extenuating circumstances (Ashton & Webb, 1986; A Bandura, 1997). Some studies reported no significant differences for age or gender, but significant differences between experienced and

novice teachers (Tschannen-Moran & Woolfolk Hoy, 2002). Factors such as position in the school hierarchy, gender, and years of experience have also been reported to influence teacher self-efficacy (Imants & De Brabander, 1996).

The examination of the primary and secondary level teachers' efficacy, attitudes towards students with disabilities or chronic illness, and expectations of schooling for each participant (student), will provide insight into the role teachers' play in the adjustment of students before leaving primary schooling and after entering the secondary school system.

2.9.3.2.4 Opinion relative to integration of students with disabilities or chronic illness

Although the inclusion of students with disabilities and chronic illness has been promoted in Australia for decades, advocacy for inclusion alone does not ensure that the policy is favourably accepted by those most responsible for its effective implementation, namely, the classroom teacher (Forlin, 2006). There is a consensus in the literature that the attitudes of people towards those with disabilities is believed to be extremely complex and often multidimensional (R. J. Anderson & Antonak, 1992; Horne, 1985). The attitude of the classroom teacher towards disability is identified as an important contributor to inclusive outcomes. Teachers who are positive about including students demonstrate more instructional or management skills (Avramidis, Bayliss, & Burden, 2000). Teachers' attitudes to disability vary as a function of the severity of the disability. Research from the US (Rainforth, 2000; Scruggs & Mastropieri, 1996), and in Western Australia (Forlin, Douglas, & Hattie, 1996) support this claim. Many teachers believed that 'type of disability' is related to 'difficulty in teaching'. For example, Westwood and Graham (2003) found that teachers in New South Wales and South Australia regarded teaching students with emotional/behaviour problems, language and general learning difficulties, autism, and intellectual disability very challenging. Teachers with negative attitudes towards inclusion report much less frequent use of instructional strategies known to facilitate the effective inclusion of children with learning disabilities (Bender, Vial, & Scott, 1995). In addition, concerns about the influence of the teacher's attitude on peer

acceptance have also be raised (Dodge, Coie, & Brakke, 1982; Larrivee & Horne, 1991). While this is concerning, it has been argued that teacher attitude toward an individual student may be more influential than their general attitude toward inclusion (C. Roberts & Zubrick, 1992).

2.9.3.2.5 Teacher demographic factors

Evidence on whether students learn more from teachers with particular degrees, coursework or teaching experience is difficult to interpret (Murnane & Phillips, 1981). Several factors such as whether teachers were hired during a shortage or a surplus and the influence of cultural trends as well as labour market conditions influence the choice of teaching. Most studies investigating the contribution of experience on student outcomes have been indeterminate (Hanushek, 1992) with the determinate findings both positive (R. F. Ferguson & Ladd, 1996) and negative (Ehrenberg & Brewer, 1994; Kiesling, 1984).

Another important element to consider is the effect of experience with inclusion on teacher's ability to include children with disabilities. Results are inconclusive. In two Australian studies, teachers in their first few years of teaching were more positive towards inclusion than those with more experience (Center & Ward, 1987; Forlin et al., 1996) however, other studies did not find any attitude difference among experience levels (Larrivee, 1981). A Western Australian study reported teachers to have greater difficulty in adapting to having a student with a severe or profound intellectual disability in their classroom (O'Donoghue & Chalmers, 2000). Inclusion was claimed to impact negatively on teachers' school life, professional work, and their general life. There is evidence that in-service education about one disability category may generalize to other types of disability. Campbell, Gilmore and Cuskelly (2003) found pre-service teacher education students who gained practical and theoretical knowledge about students with Down Syndrome demonstrated an increase in positive attitudes to the inclusive education of these children, and towards people with disabilities in general (J. Campbell, Gilmore, & Cuskelly, 2003).

In addition to experience, impact of professional education and further development of teachers has been a priority area in school effectiveness research. The value of professional standards and related certification for teachers as a means of improving the quality of teaching is embraced in the Australian Government Quality Teacher Initiative. Related policy documents such as Teachers for the 21st Century-Making the Difference (DEETYA [now DEST], 2000), document that teacher participation in high quality professional development is a key element in improving student outcomes. It has been argued that teachers' general skills in inclusion strongly influence the quality of inclusive education they are able to provide.

2.9.3.3 Availability and adequacy of support

The ability of the teacher to offer students satisfying academic, social, and physical needs support is also an important factor in establishing positive relationships with students. It has been suggested that when teachers teach well and provide appropriate learning support, students are more likely to succeed instead of becoming frustrated and withdraw or play up in class (Evertson & Emmer, 1982). Academic support helps students to perform well and to know that they have performed well, thereby increasing their academic competence. Hirschi (1969) argued that perceived academic competence helps to prevent the development of norm-breaking behaviour. Empirical studies support this claim, indicating that opportunities for students to experience success in school are linked to a low incidence of student misbehaviour (Rutter, Giller, & Hagell, 1998).

Central to the provision of supports and resources is the issue of funding. Teachers argue that these unmet needs are also the supports that are critical for successful inclusion and provision of quality education for all (Kilgallon & Maloney, 2003; Werts, Wolery, Snyder, & Caldwell, 1996). However, a bias could also exist in the teacher perception. For example, teachers who have experience in successful inclusion tend to report fewer discrepancies between perceived needs and availability of resources (Wolery, Werts, Caldwell, Snyder, & Lisowski, 1995). Critics argued that whilst supports may promote successful inclusion, it could be also possible that

teachers who are more successful require less support to make inclusion work. Scrutiny of parental reports of the availability and adequacy of academic, physical, and social support and its effect on student adjustment across the primary-secondary school divide has been investigated in this thesis.

2.9.3.4 Parental perception of invitations for involvement offered by their child's school

Various qualities of the school environment such as structure, climate, and management practices are associated with increased parental involvement (Griffith, 1998). Findings in recent studies underscore the important role that positive school invitations and a welcoming school climate play in supporting school involvement (Comer & Haynes, 1991; Griffith, 1998; Simon, 2004). An open and warm atmosphere, ensuring that parents are well informed about students' progress; school requirements and events convey to parents a sense of respect and responsiveness and leads to better parental involvement.

In summary, examination of the primary and secondary level teachers' efficacy, attitudes towards students with disabilities, and expectations of schooling, will provide insight into the role teachers' play in the adjustment of students before leaving primary schooling and after entering the secondary school system.

2.9.4 Contextual factors: Peer-group factors

2.9.4.1 Social support from friends/ special person in one's life

Relationships with same-aged peers become more significant during the preadolescent years. It is through relationships with a few close friends that an emerging need for intimacy is first satisfied. Friendships have been rated as the highest source of companionship in early adolescence (Furman & Buhrmester, 1985) Student who were successful in establishing friendships have been reported with higher emotional well-being and lower levels of distress when compared to those without friends (Wentzel, Barry, & Caldwell, 2004).

A small number of studies examining the role of peers across the secondary school transition, reported that adolescents' perceptions of social support from peers predict increases in self-worth and decreases in symptoms of psychopathology (Fenzel, 2000; Hirsch & DuBois, 1992). High quality sixth-grade friendships are also found to predict increases in student sociability and leadership (Berndt, Hawkins, & Jiao, 1999). Such was not the case in an Italian sample, where in, social support by parents, but not friends, was found to predict school bonding and academic motivation following the transition into secondary school (Schneider, Tomada, Normand, Tonci, & de Domini, 2008). Support by a friend did not compensate for negative relationships with parents. Parent support, however, contributed very substantially to the variance in the dependent measures, even after statistical control for support by friends. These findings are contrary to the empirical literature on US samples on the compensatory role of friendship in comparison with poor family relations (Bachar, Canetti, Bonne, Kaplan De-Nour, & Shalev, 1997; Gauze et al., 1996), and the importance of peer support on student psychological well-being, even in the presence of high adult support (i.e., additive model) (Buchanan & Bowen, 2008). Taken together, these findings suggest that the role of support by friends varies across cultures and is also dependent on the outcome under review, and remains ambiguous.

Gender differences in the perception of social support have been reported, with girls found to perceive higher levels of support than boys from most sources including teachers, classmates, and close friends (Demaray & Malecki, 2002a; Furman & Buhrmester, 1985). Students with LD have been shown to view their friendships as less positive and supportive, and turn to their families less for problem-solving support than their counterparts without LD (Morrison, Laughlin, Smith, Ollansky, & Moore, 1992; Wenz-Gross & Siperstein, 1997; Wenz-Gross, Siperstein, Untch, & Widaman, 1997). More stress, less peer support, and poorer adjustment in students with LD has been reported (Wenz-Gross & Siperstein, 1998). Aggressive children and adolescents do not necessarily report lower support, as they often derive support from like-minded peers (Hartup, 1996). Wallander and Varni (1989) found that

children with a variety of chronic illnesses who reported high levels of support from both family and friends exhibited fewer behaviour problems than did children who reported support from only one source. Additionally, family, but not peer support has been found to significantly predict better adjustment in terms of internalizing and externalizing behaviour problems in youths with Jeuvenille Rheumatoid Arthritis (JRA) (Varni, Wilcox, & Hanson, 1988).

2.9.4.2 Peer group influence

Peer-groups can be conceptualised as communities with intentional boundaries, such that, being a part of a peer-group involves connotations associated with membership. Several researchers have noted an increased need for conformity to one's peer-group in the early adolescence, followed by a steady decline in that need in later adolescence (Berndt, 1979; Steinberg & Silverberg, 1986). Thus, young adolescents may be particularly susceptible to peer-group influence. Evidence on whether such is the case in an Australian sample is lacking.

The term 'homophily' is used to refer to individual's tendency to affiliate with others who are similar on various attributes (cited in A. M. Ryan, 2001). Homophily in peer-groups has also been found for academic characteristics such as GPA and educational aspirations (J. L. Epstein, 1983), time spent on homework (J. M. Cohen, 1977), and general involvement in schoolwork (Kindermann, 1993). Peers may also cultivate values that adults readily label positive such as hard work, loyalty and other forms of pro-social behaviour (Santrock, 2001).

Peer-group beliefs and behaviours have been documented to be more homogeneous than the student body as a whole, on frequency of smoking, drinking, drug use, and dating (J. M. Cohen, 1977; Ennett & Bauman, 1994). Multilevel analyses undertaken on data from a sample of middle school adolescents (A. M. Ryan, 2001) indicated that when selection was controlled for, the peer-group context was found to be related to changes in young adolescents' intrinsic value for school and their achievement during the first year of middle school. The peer-group context was

found to be unrelated to changes in students' beliefs about the importance of school or expectancies for success over the school year. Thus, peer-group influences different outcomes in a varying fashion.

2.9.4.3 Summary

Evidence suggests that the nature of peer-group influence is complex and is dependent on the characteristics of the sample, the outcome under review, and other covariates considered in the analyses. After controlling for selection, the ability of these peer group norms in predicting student adjustment across the school divide both concurrently and prospectively has been appraised in this study. The importance that the students' peer-groups (in primary and secondary school) placed on various adaptive domains of functioning such as attending class regularly, scholastic success, academic expectations of success, participation in extracurricular activities at school, and appropriate behaviour was assessed.

2.10 CONSTRUCTION OF AN A PRIORI MODEL

Defined as the movement from "one state of certainty to another with a period of uncertainty in between", transition from primary to secondary school represents a period of profound change in the lives of young adolescents (Schilling, Snow, & Schinke, 1988, p.2). Because life events affect individuals differently, what is viewed by some as a stressor or a crisis, others consider as a typical event along life's course (Fenzel, 1989; Garmezy & Rutter, 1983). Guided by the ecological approaches proposed by Bronfenbrenner (1979), Garmezy and Rutter (1983), and Lerner (1986) researchers over past decades have examined the relationship between changes in individuals' and environment with developmental outcomes. Evidence to date falls short of reaching a consensus as to whether changes along life's course are inherently stressful; or whether events such as school change cause stress-related responses such as anxiety or depression.

Transition studies have focussed on the understanding of the development of problem behaviours by concentrating on resilience, or successful adaptation to stress and adversity. The entry into the realm of idiographic methodology to help identify for whom ecological transitions are most risky or beneficial and elucidate the resources or attributes or protective and risk factors that might mitigate the transition experiences across students has also been explored by some investigators (Crockett et al., 1989; Lord et al., 1994; McDougall & Hymel, 1998; Seidman & French, 2004). Disparate findings across the literature through the use of nomothetic assessments have lead to the suggestion that the effects of transition during the middle years of schooling are not universal (Lord et al., 1994) and neither inherently "good" nor "bad" for students at this age (Eccles et al., 1991, p. 537).

Several viewpoints have evolved over the past decades to help clarify the various outcomes associated with this shift, some built on the individual developmental perspective and others guided by social-ecological theories (Berliner, 1993). The timing and discontinuity theory regards negative adjustment outcomes as indicators of transition stress. Declines in self-worth, academic performance, and participation

in school extra-curricular activities, and increased feelings of victimization and anonymity subsequent to the entry in secondary school as compared to experiences in primary school are viewed as pointers of stress (Barone, Aguirre, & Trickett, 1991; Simmons & Blyth, 1987). These studies have suggested two hypotheses with which contemporary research continues to grapple (Berliner, 1993). The first argues that the timing of school change with other events in a students' life is believed to exacerbate the development of stress and other adjustment difficulties, whilst the second hypothesis suggests that the abrupt change from a child-focused primary, to a performance-focused secondary, school is a powerful stressor (cited in Berliner, 1993). According to the cumulative standpoint, persons with stability in some aspects of their lives are more likely to successfully negotiate the stress posed by transition, than those confronted with concurrent ongoing stressors across multiple domains. Increased vulnerability in early maturing girls to psychological turmoil and symptoms of depression as compared to boys following the transition to secondary school highlighted empirical support to the cumulative standpoint when an ecological transition occurs in conjunction with puberty (Hirsch & Rapkin, 1987; Simmons & Blyth, 1987).

Building on the person-environment interaction models of Lewin (1935) Murray (1938) and Hunt (1975), Eccles & Midgley (1989) proposed the developmental mismatch hypothesis to underscore the nature of the environmental change and its timing (cited in Seidman & French, 2004). Supported by compelling empirical evidence, declines in academic achievement, motivation, and self-perception following a school transition are conceptualised as less a consequence of adolescence than of systematic differences between primary and secondary classrooms (Eccles & Midgley, 1989; Fenzel, 1989; Midgley et al., 1988). The developmental mismatch framework placed the interaction between the person and the environment at the central position. The "volatile mismatch between the developmental needs of early adolescents and the organization and curriculum prevalent in a typical junior high school setting" was identified to increase the likelihood of developmental mismatch (Carnegie Council on Adolescent Development, 1989, p. 9). While not refuting the

timing and discontinuity theories, proponents of developmental mismatch premise recommended reorganization of middle grades into developmentally sensitive middle schools cater to the unique needs of young adolescents to ease the transition (Carnegie Council on Adolescent Development, 1989; Filby, Lee, & Lambert, 1990).

The transitional life events theory viewed all difficulties associated with making adjustments as an artefact of contextual factors, individual history, and coping abilities (Felner & Adan, 1988). Every individual in this framework is looked upon to have a benchmark or a threshold of vulnerability from which to conjecture predictable difficulties associated with school transition. For youth behaving below their threshold, school change is attributed to concurrent risk factors such as living in poverty, entering puberty, or other academic and social stressors that tax individuals' coping resources (Felner & Adan, 1988). A different vantage in terms of role strain and conflicting expectations from parents, teachers and peers while considering the potential for increased manifest problem behaviours and stress during transition, has also been advocated (Fenzel, 1989). Some promote the significant role played by students' peer group in mediating transition-related stress as well as influencing alcohol and other substance use during adolescence (Barone et al., 1991; Steinberg, 2001). Social adjustment has been found to be considerably less stressful for adolescents who enter secondary school with a strong support network (Berndt, 1987; Hirsch & Rapkin, 1987).

Building on the work of past research, the present study employed an approach that bears in mind each theoretical view as variations on a theme, uniquely attempting to explain a piece of the overall picture on transition. The development of a conceptual model of potential contributing factors and their relationships with one another grounded in empirical evidence is the foremost step towards the development of a framework of successful adjustment. As identified in the literature gender, health status, and social status of students' household have been identified as significant moderators of student outcomes. Additionally, the need for testing whether adjustment models can be applied to all mainstream students, including those with

disability and/or chronic ill health conditions and those who are socially disadvantaged is warranted. Model testing was accordingly conducted on the whole sample, with gender, health status, and income level of one's household controlled for in the first step of regression analyses.

The proposed model, depicted in Figure 2.1, provides a representation of the relationships between the factors which are believed to influence the process to be studied. It is grounded in social-ecological and developmental systems theory which recognizes the interdependence of individual characteristics within changing developmental personal and family, school, and peer-group systems (Bronfenbrenner & Morris, 1998; Brooks-Gunn et al., 1985; J. S. Coleman & Hendry, 1999), although, interactions between the contexts is not of central focus in the framework. The principle of inclusivity is central to the selection of factors within the model (D. Wills & Jackson, 1996), and the outcomes chosen address needs of academic competence, emotional and behavioural adjustment, self worth, psychological needs of belongingness and loneliness in school, and participation in social-leisure, civic, and creative activities at school. These components of student adjustment in school go beyond the physical act of being present in a mainstream classroom, and are grounded in an inclusive model. Such a multifaceted view of the adjustment will provide a better understanding of the complexity of students' experiences across the school divide in WA, and present an empirical rationale to design more specifically targeted interventions.

Due to the complex relationships and tensions that exist within and between system structures, schools, students, teachers, and other educational stakeholders, the development of a single solution to the issues surrounding the middle years of schooling is very challenging. Hence, the study has incorporated a myriad of influences within a methodologically robust design to help elucidate the key determinants of student adjustment outcomes. The possibility that this period of developmental vulnerability and disruptive ecological transition may contribute to a positive change along life's course underscores the need for rigorous empirical

investigations into the predictors of student adjustment before and after this change (Bronfenbrenner, 1979; Carnegie Council on Adolescent Development, 1989; Fenzel, 1989; Rutter, 1987; Seidman & French, 2004). While the notion of risk and protection could sometimes leads to unfortunate pathologising or problematising of young people (Cormack, 1996; Glover, Burns, Butler, & Patton, 1998), the employment of a prospective school-based investigation was intended to help identify key individual and contextual factors that affect adjustment of mainstream students as they negotiate the transition from primary to secondary school.

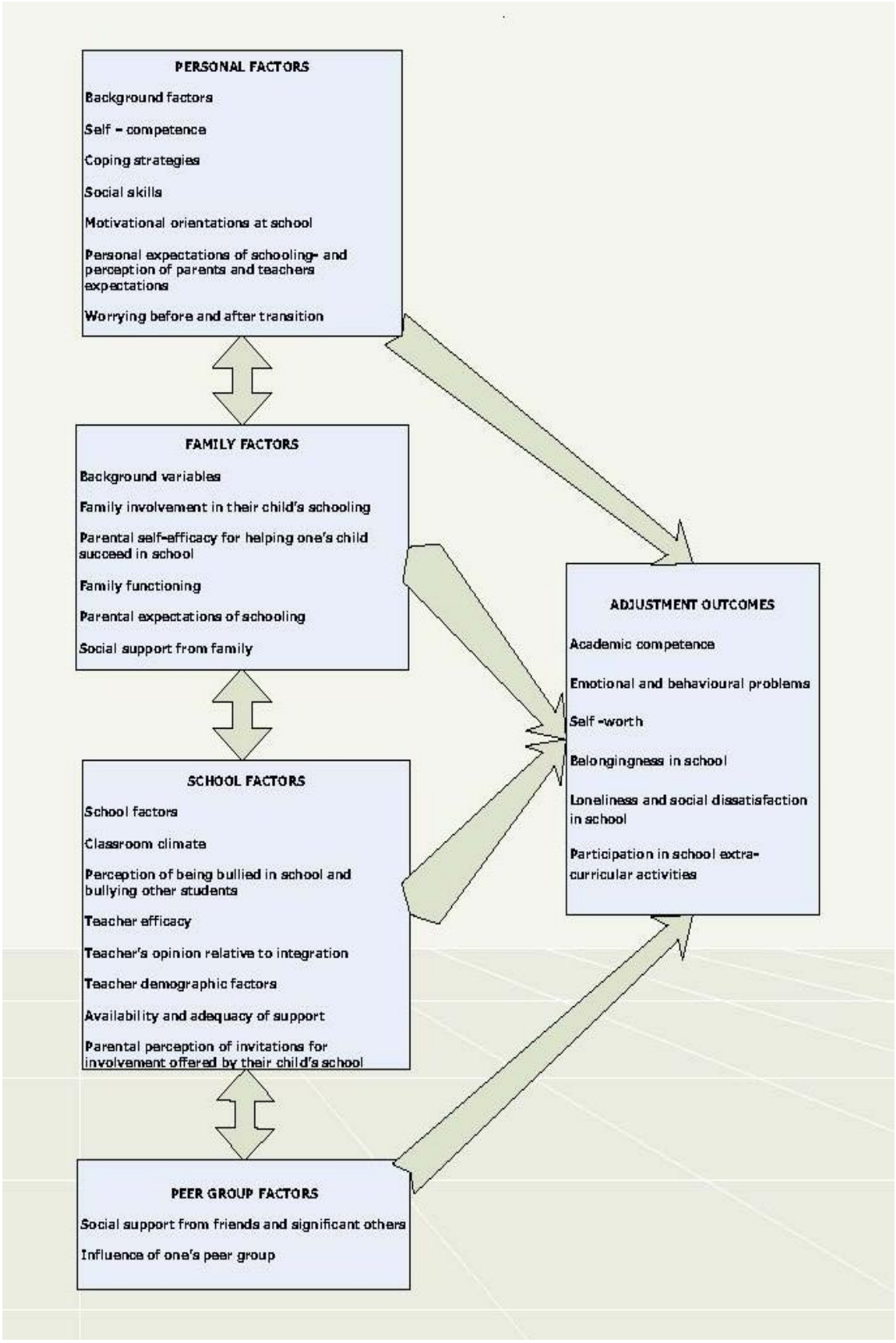


Figure 2.1 *Hypothesised model of adjustment*

Chapter 3 Methodology

3.1 INTRODUCTION

This segment of the thesis outlines the methodology used to identify the personal and contextual factors influencing student adjustment outcomes as they transition from primary to secondary school. The chapter is organised as follows: A brief discussion on the overall aim and objectives of the study is presented followed by a description of the study design employed. Section 3.4 addresses the selection process employed for including participants into the study along with sample size and power estimation. The recruitment and data collection procedures are subsequently addressed. Discussions on the psychometric properties of the tools used to measure the independent variables (IVs) and adjustment outcomes are presented in Section 3.7, followed by an overview of the ethical considerations. The chapter concludes by covering the data management and analyses strategies undertaken to ensure that high quality rigor was observed.

3.2 AIM AND OBJECTIVES

The overall aim of the study was to determine the personal and contextual factors that affect adjustment outcomes of all students in a mainstream setting, including those with and without disability/chronic illness and social disadvantage, as they negotiate the transition from primary to secondary school. In order to attend to the study aim, the following six objectives were addressed. These objectives are presented in Figures 3.1 and 3.2.

- ***Objective 1***: To determine the pre-transition (T1)[12] personal and contextual factors that predict concurrent[13] adjustment outcomes of students in primary school (at T1) (Figure 3.1);
- ***Objective 2***: To determine the pre-transition (T1) personal and contextual factors that predict student adjustment outcomes longitudinally[14] in secondary school (at T2) [15] (Figure 3.1);
- ***Objective 3***: To determine whether the factors found to be significantly associated with T1 adjustment outcomes (objective 1) retain their association when evaluated in secondary school (at T2), using T2 equivalent[16] factors and adjustment outcomes. This model is referred to as the T1 replica model (Figure 3.1);

[12] Pre-transition (T1) is used to refer to the final year of primary school, and involves Year 7 for schools that follow the traditional K-7 system, or Year 6 for schools that follow the K-12 system with middle school.

[13] Concurrent is used to refer to occurrences at the same point in time. For example, to refer to T1 factors predicting T1 outcomes, or to refer to T2 factors predicting T2 outcomes.

[14] In the longitudinal model, T1 factors are used to predict T2 outcomes. The terms longitudinal, across-time and prospectively have been used interchangeably in this thesis.

[15] Post-transition (T2) is used to refer to the first year of secondary school, and involves Year 8 for schools that follow the traditional K-7 toYear8-10/12 system, or Year 7 for schools that follow the K-12 system with middle school.

[16] Equivalent T2 factors include post-transition/secondary level factors that are matched to those in the T1 model. They have also been referred to as corresponding T2 factors.

- ***Objective 4***: To determine if there are personal and contextual factors unique[17] to secondary school that predict concurrent adjustment outcomes of students in secondary school (at T2) (Figure 3.1);
- ***Objective 5***: If unique factors are identified in objective 4, to determine whether the unique T2 factors predict concurrent adjustment outcomes at T2, better than the T1 replica model (Objective 3) (Figure 3.2);
- ***Objective 6***: After controlling for primary school (T1) adjustment outcomes, to determine whether the unique T2 factors identified in objective 4, predict concurrent adjustment outcomes at T2, better than the T1 replica model (Objective 3) (Figure 3.2).

Based on the literature, student adjustment in this study was operationalised in terms of:

1. academic competence;
2. emotional and behavioural difficulties;
3. sense of self-worth;
4. belongingness in school;
5. loneliness and social dissatisfaction in school; and
6. participation in school extra-curricular activities (e.g. social-leisure, civic, and creative pursuits).

[17] Unique T2 is used to refer to factors exclusive to secondary school.

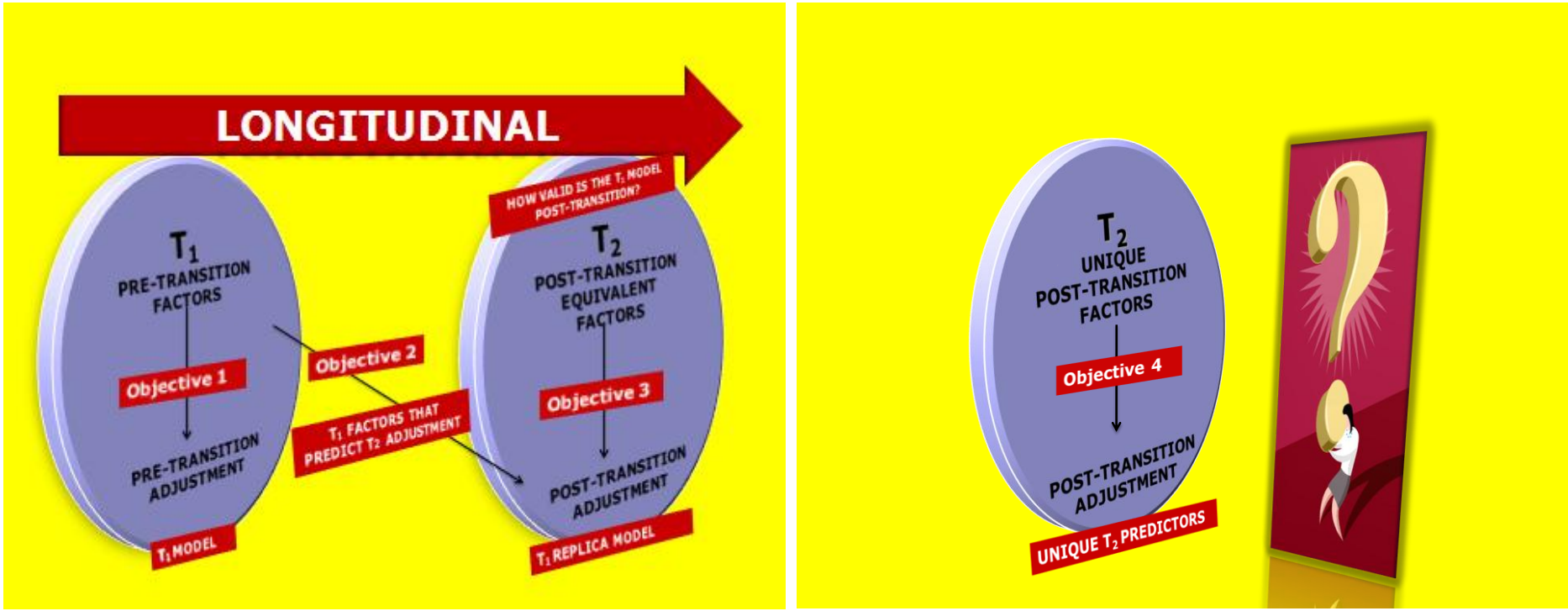
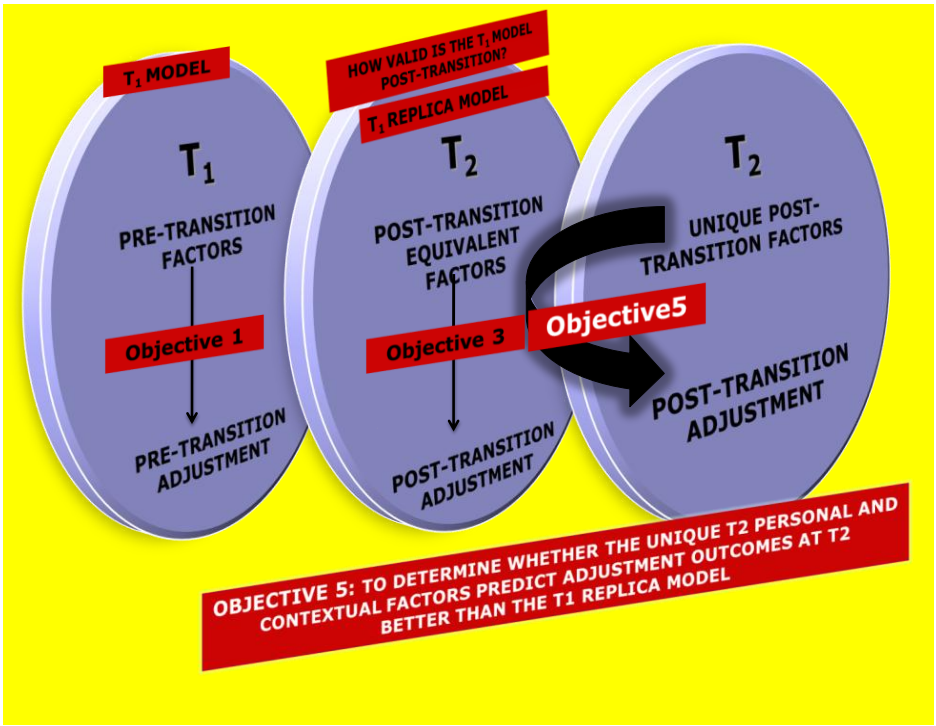


Figure 3.1 *Study objectives 1 to 4*



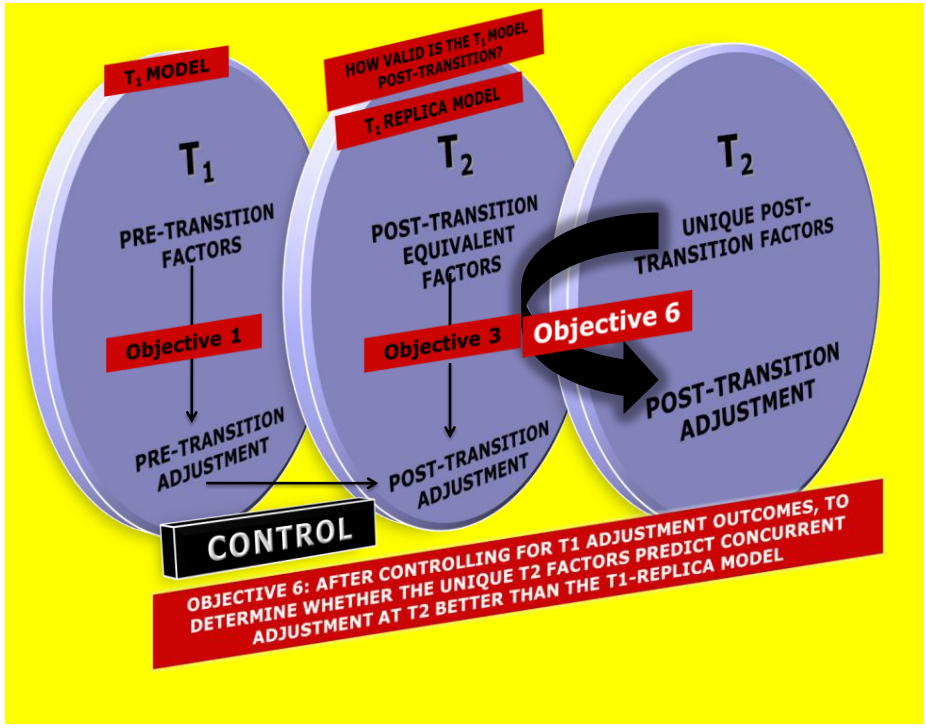


Figure 3.2 *Study objectives 5 and 6*

3.3 STUDY DESIGN

A longitudinal study design was employed. Two cohorts of participants (those making the transition from primary to secondary school during the academic year 2006/2007, and 2007/2008) were followed.

To address the study objectives a number of studies were built on. An overview of the studies that were carried out has been displayed in Figure 3.3.
A reliability study was undertaken in order to establish the 4-week test-retest reliability of the secondary level student form of the Social Skills Rating System (SSRS). Chapter 4 of this thesis reports on the reliability study.

A trial of the questionnaires was undertaken on a purposeful sample, prior to administration of the questionnaires in the longitudinal transition study. Details of the trial study have been discussed in section 3.10.

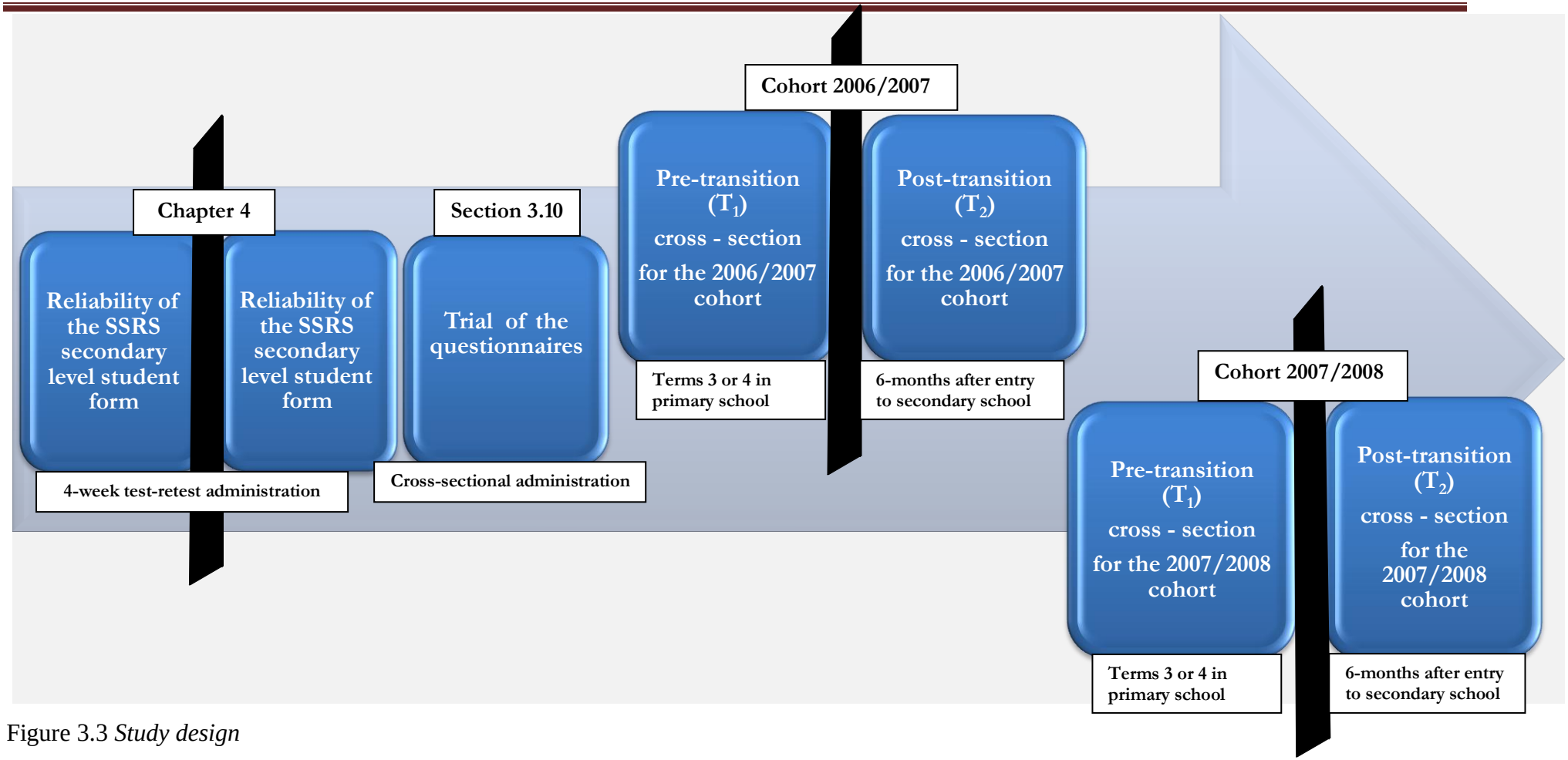


Figure 3.3 *Study design*

3.4 STUDY SAMPLE

Cross-informant information was sought from students (with and without disabilities/ chronic illness), parent (or primary care giver) and the school class teacher (most responsible for the student's outcomes at school).

The following inclusion criteria were applied for recruiting students into the study.

1. Attending a mainstream school in metropolitan Perth and/or in major centres in Western Australia; and
2. Enrolled in the final year of primary school in academic years January 2006/07 and due to transit into either middle school or secondary school in January 2007/08.

3.4.1 Sample size

Power calculations were conducted to determine the required sample size. Power estimation was based on the 10 independent variables that emerged to be statistically significant from the analysis and also were supported theoretically in the literature. For the purpose of sample size estimation, it was assumed that there would be approximately 10 independent variables in the final regression model. In order to have power of at least 80% and with $p < 0.05$ indicating a statistically significant association, a sample size of 395 would be required to detect a relatively small effect size of 0.05 (Sample Size Program: PASS) (NCSS, 1996). If the effect size is larger (0.1), then a sample of 215 would be adequate to detect this with 90% power. If there were 35 IV's, then the sample size would be 287 (80% power to detect a moderate effect size of 0.1).

According to the Department of Education and Training (2004), 3-4% of the total student population studying in WA government schools have disabilities (Department of Education and Training [DET], 2004). The percentage of students with chronic illness included in government schools in WA is not accessible from any database. Neither has data on the percentage of students with disabilities or chronic illness attending inclusive Catholic and Independent private schools been reported. Data drawn from the Australian Bureau of Statistics (ABS) Survey of

Disability, Ageing and Carers (2003) suggests that 11% of children aged 10–14 years had a disability (Australian Institute of Health and Welfare [AIHW], 2006). National, population based studies from Western countries however shows that 20-30% of teenagers (aged 12-18 years) have a chronic illness, defined as one that lasts longer than six months. However, 10-13% of teenagers report having a chronic condition that substantially limits their daily life or requires extended periods of care and supervision. Additionally, 89% of children aged 5–14 years with a disability were attending 'ordinary' schools and 9% in 'special' schools (AIHW, 2006). Based on these data sources, this study estimated a proportion of 20% of all students in mainstream schools to present with a disability or chronic illness. This provided the minimum number of 79 students out of a total of 395, which was based on sample size calculations for questionnaire administration.

3.5 RECRUITMENT OF PARTICIPANTS

Letters of support were sought from the Department of Education and Training of Western Australia, the Disability Services Commission, the Association of Independent Schools of Western Australia, and the Catholic Education Office of Western Australia prior to approaching the respective school sectors. A wide range of primary schools listed in the Canning, Fremantle-Peel, Swan, and West Coast educational districts of Perth and major centres of Albany, Bunbury, Mid West, Midlands, and Esperance in WA were approached to ensure inclusion of a representative sample of mainstream students.

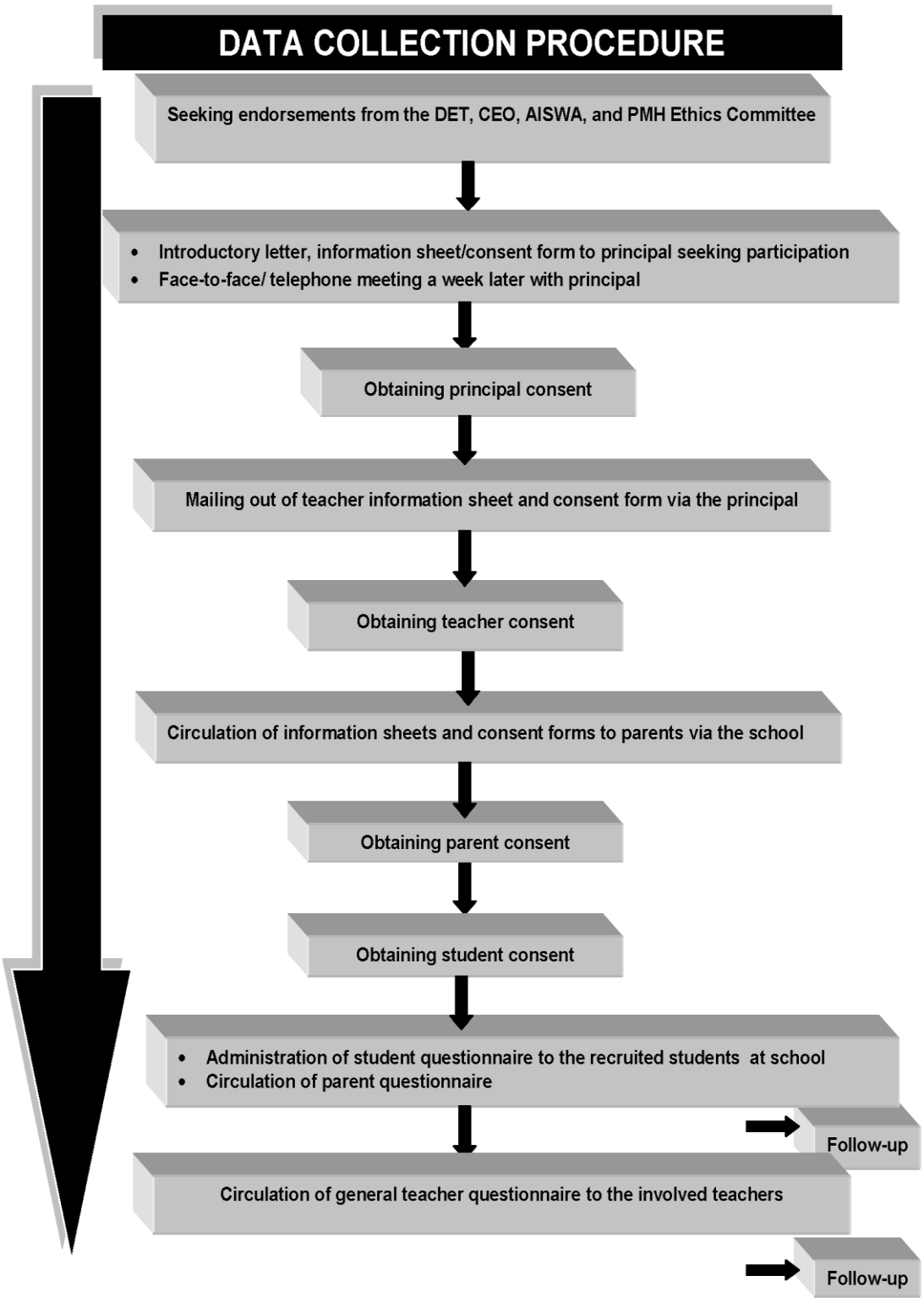


Figure 3.4 *Data collection procedure undertaken in the main transition study*

School recruitment: Initial contact was made with the primary schools via an introductory letter and followed up with a telephone call. A week later, an information package containing a principal consent form that outlined the purpose of the study, its significance, commitment involved, and ethical considerations was mailed out (Appendix B). The respective governing body endorsement was also included in the pre-paid return package (Appendix A). A week after the introductory package was sent out to school, a phone call to the school principal inviting participation into the study and seeking participation for students and teachers was made. A total of 200 schools were approached in the first round.

In most instances, the initial request was taken to a staff meeting for discussion with the respective years seven or six class-teachers, or in the case of smaller schools the vice-principal. Where principals declined participation, no further contact was made. Written consent from 51-principals was obtained, with a response rate of 25.5%. Each consenting principal was requested to provide an approximation of the number of students enrolled in the particular year level and the number of class teachers who volunteered to be involved. This provided a crude estimation of the sample size on an ongoing process level.

Teacher recruitment: Once written principal consent was obtained, teacher consent forms were mailed out to the principal, who distributed them to the respective classroom teachers. A 2-week period to return the forms was accounted for. This initial contact was followed up with a minimum of two reminder phone calls to the principals' office. Fifty-four percent of teachers elected not to be involved in the study, due to workload issues.

Parent recruitment: Following the recruitment of teachers from schools, most contact beyond this stage was made directly with the class-teacher. Some schools published a notice in their school newsletter encouraging parental involvement in the study. Each consenting teacher was requested to provide an estimate of the number of students enrolled in their class. Packages containing information sheets, consent forms, and reply paid envelopes were mailed out to the respective class-teachers for

circulation to parents via the children. Each teacher was given a cut-off date, set two week later, by which the forms needed to be returned to the principal investigator. In case of delay, a follow-up reminder phone call was made. Informed voluntary consent was obtained from parents for both their participation and that of their adolescent, who was also required to provide written consent.

Student recruitment: On the day of data collection, all students were handed an information sheet and consent form. They were also made aware that they were not obliged to participate in the study and free to withdraw from this study at any time without justification or prejudice.

Additional measures to recruit students with disability and /or chronic ill health conditions were involved: As it was the intention of the study to come up with models of adjustment that could be applied for all mainstream students in WA, it was imperative to include a sample of students' representative of those studying in mainstream education. Community organisations across WA that offer services to students with disabilities and chronic illness and their families were approached to ensure all potential students with an ill health condition were accessed (Appendix B).

Follow-up: The pre-transition questionnaire requested parents to list the name of the high school or middle school they planned to send their child to, for follow-up purposes. Follow-up of participants was carried out using the same protocol as described above in approaching schools. As consent had already been obtained from parents and adolescents for follow-up, only the surveys were readministered.

3.6 DATA COLLECTION

Data collection procedures were replicated at T1 and T2. Two participant samples were involved in the main study in an attempt to increase the sample size. At T1, questionnaire administration commenced in the second semester (Terms 3 and 4) of the final year in primary school (either in 2006 or 2007 depending on participant sample). T1 data collection point for each cohort was timed to ensure that parents had a definitive letter of acceptance from the secondary school, so that the identified secondary schools could be contacted at the commencement of the following academic year. T2 data collection commenced in the second semester (Terms 3 and 4) of the first year in secondary school. The T2 data collection point was timed to ensure that students had settled into the school setting. At T2, information was retrieved from parents and students only. Teacher data could not be collected as secondary-level teachers declined to be involved due to work commitments.

Student data: To ensure consistency of administration, all questionnaires were administered on site by the researcher and a research assistant (RA). All questionnaires were colour coded. Administration guidelines were developed subsequent to the trial out of the questionnaire, to make sure that all students' questions were addressed in similar ways, and that information for interpretation of questions and items within the questionnaire was delivered with consistent language and intent (Appendix F). All administrators involved were cognisant of the guidelines. Student questionnaires were designed to be completed within the duration of a class period (35-40 minutes). Although students were encouraged to fill in the questionnaire during the allocated time period, additional time was provided to those who required more time to complete the questionnaire.

Questionnaires were administered at a time convenient to the school either in the classroom or in the library depending on the size of students in the group and the availability of space. Each administration session commenced with a discussion on the study purpose as well as a clarification of the degree of confidentiality that students had. As the researcher and the RA were qualified occupational therapists, in

all cases teachers were given an option to leave the classroom during the session. If in attendance, teachers were requested to refrain from providing students with any explanation to their queries. All queries were directed to the researcher and RA. Once a majority of the students finished answering the questions, they were allowed to go on with their routine work, or return to the class teacher in another area (in cases where administration took place in the library).

Parent data: The parent questionnaire enclosed in a reply-paid envelope was handed over to the student for delivery to their parent.

Dealing with absenteeism: In cases where students were absent on the date of data collection, parent and student questionnaire package containing respective questionnaires and administration guidelines was sent out in the mail to their residence. Administration guidelines that were used during routine administration in the classroom (by the researcher and RA) were enclosed in the package to parents, in order to ensure consistency of administration. These absences represented no more than 30 students across the schools sampled in both administrations.

Teacher data: Classroom teachers received the questionnaires during the time of student data collection. It was anticipated that participation of the classroom teacher in this study could result in increased workload. Efforts were made to reduce the load on class teachers. The questionnaire was designed so that each class teacher filled out the General questionnaire only once. Filling out of the General questionnaire was estimated to take not more than 10-minutes of a teacher's time.

Follow-up procedures for all questionnaires: Routine follow-up protocol for parent/student/teacher questionnaires included: phone call to residence/teacher within 2-weeks, sending out of a reminder mail in case questionnaires were not received within 4-weeks, fortnightly reminder phone calls.

T2 data collection procedure: As identified previously, the post-transition questionnaire was administered using the same protocols. As composite classes do

not exist in secondary school in WA, administration was undertaken in normal timetabled classrooms, which demanded detailed planning and organization. Given that this was the second exposure to the survey, a decision was made to mail out 40% of the parent and student questionnaires to the students' residence, with the administration guideline and reply-paid envelope enclosed in the package.

3.7 MEASUREMENT TOOLS

An overview of the tools employed to measure the key factors identified in the literature as being associated with student adjustment at school are presented in Table 3.1. Personal and contextual (i.e., family, school/classroom and peer-group) factors have been refereed to as Independent Variables (IVs).

Table 3.1 *Overview of key variables and related measures*

		VARIABLE	INSTRUMENT/AUTHOR	RATER	NO OF ITEMS	PSYCHOMETRIC PROPERTIES
INDEPENDENT VARIABLES	**PERSONAL FACTORS**	**Demographics**	Age, Sex, Presence/ absence of disability/ chronic illness Type of disability/ chronic illness Drawn from the Indicators of Social and Family Functioning Instrument Version-1 (ISAFF) (Zubrick, Williams, Silburn, & Vimpani, 2000)	Parent/ Guardian	6-items	Drawn from the Indicators of Social and Family Functioning Instrument Version-1 (ISAFF) Zubrick, Williams, Silburn and Vimpani (2000) and ABS (2000) survey
		Perceived Self Competence	Self Perception Profile for Adolescents (Harter, 1988). Domains: Athletics, Friendship, Peer acceptance, Physical characteristics	Adolescent	20 items in total 5-items for each domain	Cronbach's alpha coefficient range .78-.90
		Coping skills	Short form of the Adolescent Coping Scale (ACS) (Frydenberg & Lewis, 1993a). 3 coping skill domains: non-productive, problem solving, and reference to others	Adolescent	18-items + 1-filler item	Cronbach's alpha coefficient range from .50 (reference to others) to .66 (non-productive coping)
		Social skills	Social Skills Rating System (SSRS) (Gresham, and Elliott, 1990)-secondary level student form Domains: assertion, empathy, cooperation, and self-control Frequency and Importance subscales	Adolescent	Social skills frequency-39 items Social skills importance-39 items	Cronbach's alpha coefficient range from .86-.92.

Table 3.1 *continued*

		VARIABLE	INSTRUMENT/AUTHOR	RATER	NO OF ITEMS	PSYCHOMETRIC PROPERTIES
INDEPENDENT VARIABLES	**PERSONAL FACTORS**	**Motivational orientation for schooling**	Inventory of School Motivation (ISM) (Ali & McInerney, 2005; McInerney & Ali, 2006) Task goals: (Mastery) task and effort motivation Ego goals (Performance): competition and social-power motivation Social solidarity goals: affiliation and social concern motivation Extrinsic goals praise and token reward.	Adolescent	22-items	Cronbach's alpha homogeneity coefficient range .53-.81
		Personal expectations of schooling and perception of parents and teachers expectations	Personal expectation Perception of teachers & parent/guardian expectations of schooling (adapted from Gill & Reynolds, 1999)	Adolescent	3-items	(adapted from Gill & Reynolds, 1999)
		Worry about the transition to secondary school	Based on evidence on the effects of worrying about transition and student outcomes	Adolescent	1-item	Developed by researcher

Table 3.1 *continued*

		VARIABLE	INSTRUMENT/AUTHOR	RATER	NO OF ITEMS	PSYCHOMETRIC PROPERTIES
INDEPENDENT VARIABLES	**FAMILY FACTORS**	**Family demographics**	**Background**: Structure, Family income Time: Time spent in paid employment Parents educational background Adapted from the ISAFF reference instrument-Version 1-April 2000 (Australian Bureau of Statistics [ABS], 2001; Zubrick, Williams et al., 2000) Adapted from 6359.0 forms of employment, (Australian Bureau of Statistics [ABS], 2003) Australian and New Zealand standard classification of occupations (ANZSCO) (Australian Bureau of Statistics [ABS], 2006)	Parent/ Guardian	15-items	Adapted from the ISAFF Reference instrument - Version 1-April 2000 (Australian Bureau of Statistics [ABS], 2001; Zubrick, Williams et al., 2000) Adapted from 6359.0 forms of employment, (Australian Bureau of Statistics [ABS], 2003) Australian and New Zealand standard classification of occupations (ANZSCO) (Australian Bureau of Statistics [ABS], 2006)
		Perceived social support from one's family	Multidimensional scale of perceived social support (MSPSS) (Zimet et al.; 1988)	Adolescent	4-items	Reliability for the total scale .91 Subscales: .90 to .95 Validity: good factorial & concurrent

Table 3.1 *continued*

		VARIABLE	INSTRUMENT/AUTHOR	RATER	NO OF ITEMS	PSYCHOMETRIC PROPERTIES
INDEPENDENT VARIABLES	FAMILY FACTORS	**Family functioning**	General functioning subscale of the McMaster family assessment device (FAD) (Byles et al., 1988; N. B. Epstein, Baldwin, & Bishop, 1993)	Parent/ Guardian	12-items	Reliability for the total scale .86 (Cronbach's alpha) Split-half coefficient .83 Validity: good construct
		Parental expectations of schooling for their child	Expectation of schooling (adapted from Gill & Reynolds, 1999)	Parent/ Guardian	1- item	Developed by researcher (adapted from Gill & Reynolds, 1999)
		Parental involvement in education	Multidimensional assessment of family involvement among urban elementary students (Manza, Fantuzzo & Power, 2004) Domains: Home-School Comunication, Home-Based Involvement, School-Based Involvement	Parent/ Guardian	43-items	Cronbach's coefficient alpha homogeneity coefficient ranges from .84-.91
		Parental self-efficacy for helping their child succeed in school	Parent Involvement scale (Walker, Wilkins, Dellaire, Sandler, & Hoover-Dempsey, 2005)	Parent/ Guardian	7-items	Cronbach's coefficient alpha homogeneity coefficient is .78

Table 3.1 *continued*

		VARIABLE	INSTRUMENT/AUTHOR	RATER	NO OF ITEMS	PSYCHOMETRIC PROPERTIES
INDEPENDENT VARIABLES	SCHOOL/ CLASSROOM FACTORS	**Background School level and teacher level variables**	Type of school, services offered by school to address child's needs Gender Teaching experience (Norman, Caseau, & Stefanich, 1998; Soodak, Podell, & Lehman, 1998).	Teacher/ Parent	10- items	Developed by researcher (Norman et al., 1998; Soodak et al., 1998)
		Student's perception of the classroom	The Middle School Classroom Environment Indicator (MSCEI) (Hine, 2001) Subscales: Subscales: Ease, Affiliation, Communication, Autonomy, Student Cohesiveness, Teacher Support, Cooperation, Task-Orientation, and Involvement subscales Single items on bullying and cultural/disability tolerance (Felner, Aber, Cauce, & Primavera, 1985; Gottfredson & Gottfredson, 1985; Pellegrini & Bartini, 2000; Rigby, 2002)	Adolescent	43-items 2-items on bullying 1-item on cultural tolerance and 1-item on tolerance to disability/CI	Cronbach's alpha homogeneity coefficient range .63-.81

Table 3.1 *continued*

		VARIABLE	INSTRUMENT/AUTHOR	RATER	NO OF ITEMS	PSYCHOMETRIC PROPERTIES
INDEPENDENT VARIABLES	SCHOOL/ CLASSROOM FACTORS	**Perceived teacher efficacy**	27- item version Bandura's Teacher Efficacy Scale (Bandura, 1997)	Teacher	27-items	Cronbach's coefficient of reliability were .94, .95, and .92 across the three administrations (Hoy, 2000)
		Teacher's opinion relative to integration of students with disabilities/chronic illness	Opinions Relative to Integration of Students with Disabilities scale (ORI) (Antonak & Larrivee, 1995)	Teacher	25-items	Spearman-Brown corrected split half reliability 0.82 with a SE of 5.98 Cronbach's coefficient alpha .88
		Parents' perceptions of general invitations for involvement offered by their child's school	Parent Involvement Scale (Walker, Wilkins, Dellaire, Sandler, & Hoover-Dempsey, 2005)	Parent/ Guardian	6-items	Cronbach's coefficient alpha homogeneity coefficient is .78

Table 3.1 *continued*

		VARIABLE	INSTRUMENT/AUTHOR	RATER	NO. OF ITEMS	PSYCHOMETRIC PROPERTIES
INDEPENDENT VARIABLES	**PEER-GROUP FACTORS**	**Perceived social support from peers and a special person in one's life**	Multidimensional Scale of Perceived Social Support (MSPSS) (Zimet et al.; 1988)	Adolescent	8-items, 4-for each domain	Reliability for the total scale .91 Subscales: .90 to .95 Validity: good factorial & concurrent
		Perceived peer group norms	Value that one's peer-group places on academia, extracurricular activity participation and appropriate behavioural repertoire Developed by researcher based on (Kindermann, 1993; A. M. Ryan, 2001; Santrock, 2001)	Adolescent	7-items	Developed by researcher based on (Kindermann, 1993; A. M. Ryan, 2001; Santrock, 2001)

Table 3.1 *continued*

		VARIABLE	INSTRUMENT/AUTHOR	RATER	NO. OF ITEMS	PSYCHOMETRIC PROPERTIES
OUTCOME VARIABLES	ADJUSTMENT OUTCOMES	**Academic competence**	Self Perception Profile for Adolescents: Academic competence (Harter, 1988)	Adolescent	5-items	Cronbach's alpha homogeneity coefficient range .53-.81 Validity: good construct
		Emotional and Behavioural difficulties	Strength and Difficulties Questionnaire (SDQ) (Goodman, 1997)	Parent/ Guardian	25 -item	Cronbach's alpha coefficient ranging from .70-.80 (Mellor, 2005). Adequate discriminate and predictive validity (Goodman, 1997; Goodman & Scott, 1999)
		Self–worth	Self Perception Profile for Adolescents: Self worth (Harter, 1988)	Adolescent	5-items	Cronbach's alpha homogeneity coefficient range .53-.81 Validity: good construct

Table 3.1 *continued*

		VARIABLE	INSTRUMENT/AUTHOR	RATER	NO. OF ITEMS	PSYCHOMETRIC PROPERTIES
OUTCOME VARIABLES	ADJUSTMENT OUTCOMES	**School membership/ belongingness**	Psychological Sense of School Membership (PSSM) Goodenew (1993)	Adolescent	18- items	Cronbach's alpha values 0.803 (Goodenow, 1993b). The construct validity-using contrasted groups validation procedures.
		Loneliness and social dissatisfaction in school	The Loneliness and Social Dissatisfaction scale (Asher, Hymel, & Renshaw, 1984)	Adolescent	16-items	Cronbach's alpha value of 0.79 Test-retest reliability coefficient over one year of 0.55 (Asher, Parkhurst, Hymel, & Williams, 1990)
		Participation in School Extra-curricular Activities	Modified version of : 1. National Survey of School Environments (Simeonsson, Carlson, Huntington, McMillen, & Brent, 2001); 2. School Micro systems subscale adapted from the Involvement Micro systems Scale (Seidman, et al.,1995); and 3. The Curriculum Framework of Western Australia (Council Curriculum, 1998)	Adolescent	14-items	Exploratory FA undertaken in the study. Kaiser-Meyer-Olkin measure of sampling adequacy was .79

3.7.1 Independent variables: Personal factors

3.7.1.1 Perceived self-competence

Items from the Self-Perception Profile for Adolescents (SPPA) measured student perceived competence in domains of athletics, social acceptance, physical appearance, close friendships, and behavioural conduct (Harter, 1988). Students in this study had not yet reached the legal age for employment as per Australian standards. Based on educator recommendations, self-report data on job competence and romantic appeal competence were not retrieved.

The SPPA is constructed with five-items for each domain. Each subscale provides a separate score, based on the evidence that suggests that adolescents make discrete judgements regarding their sense of adequacy in different dimensions of their lives. These competencies are understood to reflect the underpinnings of an individual's self-worth and are intricately related to the latter, depending on the perceived value individuals' place on each domain (Harter, 1988). This scale used a "structured alternative format", with each items requiring the individual to first decide on what kind of teenager he or she is most like, and then respond to whether the description is "sort of true" or "really true" (Harter, 1988, p. 4). For each item, a score of four represents the most satisfactory self-assessment, and a score of one represents the least satisfactory self-assessment, after reverse-coded items are recoded. Domain scores are obtained by calculating the mean of the five items within each subscale. Subscale scores with means closest to four are most positive and reflect a high perception of competency in the domain in question.

The SPPA is reported to be a psychometrically robust measure; with internal consistency scores for each subscale based on Cronbach's alpha reported to be acceptable, with the global self worth score > 0.80 (Harter, 1988). Comparable internal consistency of the measure has also been established in populations of students with learning disability ($\alpha = 0.89$), and behavioural disorders ($\alpha = 0.85$) (Harter et al., 1998). Robustness of the factor pattern for both students with learning

disabilities and behavioural disorders reveals that domain distinctions are meaningful for these sub-groups, and that the instrument is valid enough to be used effectively in special education research (Harter, 1988)(Harter, 1988). Validity of the measure in an equivalent Australian sample has been substantiated by Zubrick, Silburn and Garton (1993) and Passmore (1998).

3.7.1.2 Coping skills

The short version of the general Adolescent Coping Scale (ACS) (Frydenberg & Lewis, 1993a), developed for use with young people from 12 to 18 years in Australia, was used to assess students' coping behaviour across the primary-secondary school divide. The self report form is based on the implicit assumption that groups of coping actions that are functional are more likely to lead to adaptive outcomes, whereas dysfunctional strategies are more likely to result in maladaptive outcomes. It measures coping strategies about what people feel, think, or do to cope (Frydenberg & Lewis, 1999a). The short version accesses eighteen conceptually and empirically distinct coping strategies. Studies with adolescents provide empirical support to this categorization. The nineteenth item on the form, asks students to write down any things that they do to cope, other than those describe in the preceding eighteen items. The scale uses a five-point Likert rating system, ranging from 1 (*doesn't apply* or *don't do it*) to 5 (*used a great deal*) to rate each item.

In line with evidence that suggests that an individual's choice of coping strategies is to a large extent consistent, regardless of the nature of the concern (Frydenberg & Lewis, 1994), the General Form of the instrument which addresses how persons cope with concerns in general was employed. The short version of the ACS also allows for combining scales to produce measures of three empirically defensible coping styles based on factor analysis (Frydenberg & Lewis, 1996). These three coping domains comprise two functional coping styles (i.e., solving the problem and reference to others), and one dysfunctional coping style (i.e., non-productive coping). Internal consistency alphas are reported to range from 0.50 (reference to others) to 0.66 (non-productive coping) (Frydenberg & Lewis, 1993a). Test-retest reliabilities for the

same subscales range from .44 to .84 (*Mean r* = .69) on the general form (Frydenberg, 2008).

3.7.1.3 Social Skills

Social skills were assessed using the secondary level student form of the Social Skills Rating System (SSRS) (Gresham & Elliot, 1990). Despite the SSRS being the most commonly used measure to assess social skills in children and adolescents, its psychometric robustness has not been previously tested in an Australian sample. Chapter 4 of this thesis discusses the related testing undertaken to evaluate the 4-week test-retest reliability of the measure prior to its use in the main study.

3.7.1.4 Motivational orientation for schooling

The Inventory of School Motivation (ISM), based on the multiple goal orientation element of Maehr's Personal Investment Model (Maehr, & Braskamp, 1986; McInerney, McInerney, & Marsh, 1997) was employed for collecting information on the goals students adopted for schooling. Goal-orientation questions on the ISM relate to eight perceived goals of behaviour. Task goals (Mastery) measured task motivation and effort motivation goal pursuits; Ego goals (Performance) measured competition and social-power motivation goal pursuits; Social solidarity goals measured affiliation and social concern motivation goals; and, Extrinsic goals measured praise and token reward goals.

In this study, twenty-two items selected on the basis of literature and factor loadings, from the version employed by Ali and McInterney (2005) in four different cultures in Australian high schools (N = 4508) and in American high schools (N = 1759) were used. Students were asked to rate themselves on a scale of 1 to 5. The responses to the items were coded such that higher scores reflected higher levels of motivation. The ISM scale version employed by Ali and McInterney (2005) is reported to have moderate levels of internal consistency with a Cronbach's alpha coefficient ranging from .53 (token rewards) to .81 (praise) (Ali & McInerney, 2005; McInerney & Ali,

2006). Considerable empirical evidence drawn from both exploratory and confirmatory factor analytic studies for the validity and reliability of the various scales drawn from the ISM is available (McInerney, Marsh et al., 2003; McInerney & McInerney, 1998; McInerney, McInerney et al., 1997; McInerney, Simpson et al., 2003; McInerney et al., 2001). Evidence suggests that the Inventory is broad enough to reflect the global dimensions of Maehr's Personal Investment Model in a the Australian context (McInerney, McInerney et al., 1997).

3.7.1.5 Personal expectations of schooling and perception of parents and teachers expectations

Single item measures have been shown to be valid as a means of assessing aspects of health perceptions and have correlated highly with standardised multi-item instruments (Rohland, Kruse, & Rohrer, 2004; Taylor, Miller, Smith, & DeBusk, 1997). In this study, three single items were used to measure a) students' personal expectations for schooling; b) their perception of parents' expectations for schooling; and c) their perception of teacher's expectations for schooling (adapted from Gill & Reynolds, 1999).

3.7.1.6 Worrying about the transition to secondary school: before and after transition

In this study, a single item was used to measure a) how much students worried about the impending transition to secondary school; and b) how much they worried about the transition after entry to secondary school (at T2). A 5-point Likert type scale was used to measure this factor.

3.7.2 Independent variables: Family factors

3.7.2.1 Family Demographics

This questionnaire retrieved information about the family socio-demographic factors to measure around social disadvantage, and the child's health status. This section was drawn from the Indicators of Social and Family Functioning Instrument Version-1 (ISAFF) (Zubrick, Williams et al., 2000) and ABS (2001) census data.

3.7.2.2 Perceived Social Support from one's family

The four-item family subscale of the Multidimensional Scale of Perceived Social Support (MSPSS) was used to measure subjective perceptions of social support adequacy from the family (Zimet, Dahlem, Zimet, & Farley, 1988; Zimet, Powell, Farley, Werkman, & Berkoff, 1990). A seven-point Likert rating response options that ranged from 1 (*very strongly disagree*) to 7 (*very strongly agree*) was used to rate each item. The items in the scale are worded in the positive, with the measure shown to be relatively free of social desirability bias (Kazarian & McCabe, 1991), with higher scores indicating higher levels of perceived support. Excellent psychometric properties particularly considering the number of items in the scale are reported (Zimet et al., 1988) Subscale reliability estimates are high, with internal consistency scores of .87 for the family sub-scale. Furthermore, test-retest reliability coefficient of .85 has also been obtained. An inverse correlation with depression scores supports its construct validity (r = -.25).

3.7.2.3 Family Functioning

The General Functioning subscale (GF) of the McMaster Family Assessment Device (FAD) (Byles et al., 1988; N. B. Epstein et al., 1993) was employed for measuring the perception of "how the family unit works together on essential tasks"; namely the essence of functioning (Byles et al., p. 103). It consists of 12-items, half of which are worded to describe healthy and half unhealthy family functioning. A four-point

Likert-rating scale is used to rate each item. Item scores are then summed and divided by 12 to give a total score ranging from 1.0 to 4.0; with a higher score suggestive of increasing family dysfunction (Byles et al., 1988). Cut-off scores are available to divide families into those with healthy family functioning (scores of < 2.0) and those with unhealthy family functioning (scores of > 2.0) (Miller, Epsrein, Bishop, & Keitner, 1986). Empirically, the summary scale of the FAD has demonstrated strong construct validity as a measure of family functioning. Coefficients of .85, .87, and .88 in non-clinical, psychiatric, and medical samples respectively are documented (Kabacoff, Miller, Bishop, Epstein, & Keitner, 1990). Internal consistency of the scale has been found to be .86 (Cronbach's alpha), the split-half coefficient (Gutman) reported to be .83 (Byles et al., 1988). One week, test-retest reliability is stated to be .71 (Miller et al., 1986). The brevity, ease of administration, high correlations with the longer version of the FAD, and sound psychometrics strongly support the use of the GF scale as a single index representing overall functioning of the family unit.

3.7.2.4 Parental expectations of schooling for their child

Parents/ Guardians were asked to rate their expectations for their child's future success in response to the item: "What is the highest qualification you expect your child to achieve?" Options ranging from primary level qualifications through to post-graduate level degrees were presented (adapted from Gill & Reynolds, 1999).

3.7.2.5 Parental involvement in their child's education

Multidimensional conceptualization of family involvement, informed by Epstein's model was used to assess parental involvement in their child's education. The Family Involvement Questionnaire for Early Childhood scale (FIQ-EC) (Fantuzzo et al., 2004; Manz et al., 2004) was used to assess family involvement behaviours across both school and family settings.

Three types of family involvement were measured using this scale:

- The Home-School Communication (HSC) factor: Items pertaining to various forms of contact that may take place between family members and school personnel, such as issues related to attendance at conferences, phone contact with school etc. were included in this grouping;
- The Home-Based Involvement (HBI) category: This includes various activities carried out by family members outside of school that encourage their off-spring's learning. Items range from maintaining routines, visiting educational places in the community, and talking to children about personal school experiences; and
- The School-Based Involvement (SBI) factor: This consists of conventional activities that occur in the school setting, such as volunteering, attending workshops, and participation in fundraising.

Parents were asked to rate 43 involvement items on a 4-point Likert scale, with higher scores denoting greater involvement. High internal consistencies for each factor have been reported, with Cronbach's alpha coefficients of .91, .88, and .84, respectively. Acceptable unit-weighted inter-factor correlation (.41 to .55) specify that factors reflected distinct but related family involvement constructs (Kline, 1998; Manz et al., 2004).

3.7.2.6 Parental self-efficacy for helping their child succeed in school

A 7-item scale was used to assess parents' beliefs about their efficacy for helping their offspring succeed in school, prior to and after entry into secondary level education (Walker, Wilkins, Dallaire, Sandler, & Hoover-Dempsey, 2005). This scale is reported by its authors to draw on literature about personal efficacy and teacher self-efficacy (Ashton, Webb, & Doda, 1983; Bandura, 1977, 1986; Dembo & Gibson, 1985) and was initially developed during a study of relationships among teacher efficacy, parent efficacy, and parent involvement in elementary schools (Hoover-Dempsey, Bassler, & Brissie, 1992a). A 6-point Likert scale was used to assess parental agreement with statements related to their behaviour during the current school year. Total scale scores range from 6 to 36; with higher scores reflecting a stronger sense of efficacy for helping the child succeed in school. Internal consistency for the scale is reported to be 0.78 (Walker et al., 2005).

3.7.3 Independent variables: School and classroom factors

3.7.3.1 School and teacher characteristics

This demographic questionnaire collected information about the type of school, teachers' background factors, and facilities available for students' within the school setting that have been documented to be important factors of student quality of school life. Fifteen items chosen for inclusion into the questionnaire were dictated by input from experienced academics, and a review of literature (Norman et al., 1998; Soodak et al., 1998).

3.7.3.2 Student's perception of the classroom environment

The Middle School Classroom Environment Indicator (MSCEI) was used to assess students' perception of the psychosocial features of the classroom environment before and after transition to secondary school (Hine, 2001). Scales selected for inclusion into the MSCEI have been drawn from works of contemporary classroom environment research and the growing body of knowledge on middle schooling (Cormack, 1996; Hargreaves, 1986; Hargreaves et al., 1996).

Predominately, the scales used in this study fell into the Relational and Personal Developmental dimensions of Moos' (1974) codification of human environments. Relational dimension of the classroom environment were assessed by items within the Affiliation, Cooperation, and Communication, Student cohesiveness, Teacher Support and Involvement scales that tap into type and intensity of teacher-student and student-student relationships (Hine, 2001). The Difficult, Autonomy, and Task Orientation scales appraised the Personal development dimension of classrooms before and after secondary school transition. These scales assessed the directions along which personal growth and development of self occur. Items that tapped into students' reports on bullying others and being bullied by others in school and their perception of class/school's tolerance to students from different cultural backgrounds and with disability and chronic illness were included in the questionnaire (Felner et

al., 1985; Gottfredson & Gottfredson, 1985; Pellegrini & Bartini, 2000; Rigby, 2002).

A 5-point Likert scale provided students with a means of responding to each of the 43-propositions contained in the questionnaire (Hine, 2001). The internal consistency for different scales for grade seven students is reported to range from .67 to .86 (Hine, 2001). Past investigations attest that overall factor structure, discriminate validity, and alpha reliability of MSCEI is robust (Hine, 2001).

The individual student level format (personal variation format) of the questionnaire was used instead of a class form, as evidence suggests that this format has the propensity to provide a richer source of information, especially when the focus is on the individual's perception of their own response/role within the class (Fraser, Giddings, & McRobbie, 1995; Fraser & Tobin, 1991).

3.7.3.3 Bandura's Teacher Efficacy scale

The 30-item Bandura's Teachers' Efficacy scale is said to provide a multi-faceted collective picture of teachers' efficacy beliefs, without becoming too narrow or specific (A. Bandura, 1997; A Bandura, 1997). The scale has seven subscales consisting of: efficacy to influence decision making; efficacy to influence school resources; instructional efficacy; disciplinary efficacy; efficacy to enlist parental involvement; efficacy to enlist community involvement; and efficacy to create a positive school climate. Three items culturally inappropriate in the Australian context were omitted in the current study, during the course of the face validity trial. Measurements are anchored on a nine-point scale, with notations ranging from "nothing, very little, some influence, quite a bit, and a great deal". Items are scored such that a higher score indicates greater efficacy. Based on the average score for the entire 30-item scale, internal consistency alphas of .92 or higher for each administration have been reported (Hoy, 2000).

3.7.3.4 Opinion relative to integration of students with disabilities or chronic illness:

Teachers' attitude towards the integration of students with disabilities or chronic illness in general education classrooms was measured using the Opinions Relative to Integration of Students with Disabilities scale (ORI) (Antonak & Larrivee, 1995). The scale uses a 6-point response continuum to rate each item in order to prevent a midpoint response style threat, with responses to the items ranging from -3 (*I disagree very much*) through +3 (*I agree very much*) This modified response format is believed to emphasise the difference between a disagree (negative) and an agree (positive) response (Antonak & Larrivee, 1995).

Psychometrically, good internal consistency has been reported with a Cronbach's alpha value of .88 and split-half reliability statistic of .82 (Spearman-Brown prophecy statistic) (Antonak & Larrivee, 1995). ORI scores also correlate well with scores obtained on the Scale of Attitudes towards Disabled Persons (r = .66). The scale was used as a uni-dimensional construct, with only the total score used for the purposes of analysis.

3.7.3.5 Parents' perceptions of general invitations for involvement offered by their child's school

Adapted from Griffith's (1996) measure of parent satisfaction, the 6-point Likert-format was used to measure parents' perceptions of general invitations for involvement offered by their child's primary and secondary schools. Parents were asked to think about the current school year while considering each of the six indicators of the construct in question. Alpha reliability for the scale is reported as 0.83 (Walker et al., 2005). Construct validity of this measure has been confirmed factor analysis (Walker et al., 2005).

3.7.4 Independent variables: Peer-group factors

3.7.4.1 Perceived social support from peers and a special person in one's life

The peer and significant-other subscale of the Multidimensional Scale of Perceived Social Support (MSPSS) were used to measure subjective perceptions of social support (Zimet et al., 1988). Subscale reliability estimates are high, with internal consistency scores of .85, and .91 reported for Friend, and Significant Other sub-scales respectively. Furthermore, test-retest reliability coefficient of 0.85 has also been reported (Zimet et al., 1988).

The scale leaves it to respondents to define who the 'significant other' is in their life (Canty-Mitchell & Zimet, 2000; Zimet et al., 1990); with the argument being that the significant other subscale is a strong supplement to the family and the friends subscales because it could tap on different support sources for individuals, such as boyfriend/girlfriend, teacher and counsellor. The 3-factor structure has been replicated across Western populations (Eker, Arkar, & Yaldiz, 2000; Kazarian & McCabe, 1991). The family subscale is addressed in section 3.7.2.2.

3.7.4.2 Perceived peer-group pro-social influence

Students were asked to report the importance placed on seven-items including: attending class regularly; scholastic success expectations (grades, and finishing secondary school); academic expectations of success; participation in extracurricular activities at school; and appropriate behaviour when at school (Kindermann, 1993; A. M. Ryan, 2001; Santrock, 2001). Each response option was assessed on a three-point Likert scale. Items were summed using to generate total scores; with the higher score suggestive of greater adaptive (pro-social) group norms.

3.7.5 Adjustment outcomes

3.7.5.1 Academic competence

Student perception of academic performance was assessed using related domain specific subscales from the Self-Perception Profile for Adolescents (SPPA) (Harter, 1988). Each subscale provides a separate score, based on the evidence that suggests that adolescents make discrete judgements regarding their sense of adequacy in different dimensions of their lives. Current research findings suggests that once individuals' perceptions of ability or academic competence become firmly established; mainly during the developmental phase of early adolescence, the relationship between academic self-concept and achievement goals become more reciprocal in nature, and in turn, academic achievement and self-concept become reciprocal (Marsh & Yeung, 1997). One's self-concept may significantly influence the amount of effort put in within the educational domain (Stipek & Gralinski, 1996), and ultimately, the degree to which an individual feels competent in an endeavour will directly influence the level of motivation and performance in that undertaking (Covington, 1992). Psychometric robustness of the measure has been demonstrated. Refer Section 3.7.1.1 for an overview of the psychometric robustness of the measure.

3.7.5.2 Emotional and behavioural adjustment

The 25-item behavioural screening questionnaire-the Strengths and Difficulties Questionnaire (SDQ) was employed to retrieve parental perception of students' emotional, conduct problems, hyperactivity/inattention, peer relationship problems, and pro-social behaviour of participants (Goodman, 1997). A three point response format is used to rate each item, with scores values ranging from 0 to 2. For each clinical scale, the total score can range from 0 to 10. Summation of individual item scores from all the scales except the pro-social scale generates a total difficulties score, which can range from 0 to 40 (Goodman, 1997).

Moderate to high ranges if internal consistency have been reported for Parent versions of the SDQ, with Cronbach's alpha coefficients ranging from .70 to .80

(Mellor, 2005). It has adequate discriminate and predictive validity (Goodman, 1997; Goodman & Scott, 1999). The SDQ is also found to correlate highly with the Child Behaviour Checklist (Achenbach, 1991), although it was considered more sensitive in detecting inattention and hyperactivity and equally effective in detecting internalising and externalising problems (Goodman & Scott, 1999). The questionnaire has been recently normed in Australia, on a random sample consisting of 910 students aged 7-17 years, recruited through government schools across Victoria, with the students, their parents, and teachers completing the appropriate versions of the questionnaire (Mellor, 2005). The reliability and validity of the SDQ makes it a useful brief measure of the adjustment and psychopathology in children and adolescents (Goodman, 1999; Goodman, Ford, Simmons, Gatward, & Meltzer, 2003; Goodman & Scott, 1999).

3.7.5.3 Self-worth

Student perception of global self-worth was assessed using the subscale from the Self-Perception Profile for Adolescents (SPPA) (Harter, 1988). The global dimension of self-worth is not a dimension of competency, but is reported to reflect a global perception of an individual's self or worth or esteem as a person (Harter, 1988). A set of 5-items that reflect a general perception of a person's view of the self were used to measure this construct. Refer to Section 3.7.1.1 for an overview of the psychometric robustness of the measure.

3.7.5.4 School belongingness/membership

The 18-item long, Psychological Sense of School Membership scale (PSSM) assessed participants' perceptions of school membership and belongingness (Goodenow, 1993b). Belonging within this scale is operationalised in terms of the degree to which a student feels accepted and included within the school (Goodenow, 1993b). Approximately one-third of the items are phrased in a negative direction in an attempt to avoid the development of a 'response set' on the part of students. A five-point Likert scale format is used; with choices ranging from 1 (*not at all true*) to

5 (*completely true*). Total mean score is calculated by summing the item scores and dividing them by 18, to give a total mean score ranging from 1.0 to 5.0; with a higher score indicative of increasing belongingness. This scale has been tested on middle school and secondary school students in both urban and suburban communities in the US (Goodenow, 1993b). Satisfactory internal consistency has been reported on every occasion with a Cronbach's alpha of .803 reported (Goodenow, 1993b).

3.7.5.5 Loneliness and social dissatisfaction in school

To obtain an index of students' feelings of loneliness and dissatisfaction with peer relations, the Loneliness and Social Dissatisfaction scale (Asher et al., 1984) was administered. This is a 24-item self report scale consisting of 16-items measuring feelings of loneliness and social dissatisfaction and 8-filler items. The 8-filler items that ask about hobbies were excluded in this current study, to minimize the time needed to complete the assessment battery. Students were asked to indicate the degree to which each statement is a true description of themselves on a five-point scale ranging from 1 (*not at all true*) to 5 (*always true*), with reverse ordering for particular items to minimise response set bias adhered to (Asher et al., 1984). The authors report satisfactory internal consistency reliability, with a Cronbach's alpha of.79 (Cassidy & Asher, 1992).

3.7.5.6 Participation in school activities

The nature and extent of participation in school activities in the context of the physical, social and psychological features of the school environment was assessed by the school participation questionnaire. Items from the National Survey of School Environments (Simeonsson et al., 2001), the School Microsystems subscale from the Involvement Microsystems Scale developed by (Seidman et al., 1995), and The Curriculum Framework of Western Australia (Council Curriculum, 1998) were incorporated into this questionnaire. Students' were asked to report whether 14 school activities were "Available" at school. Availability was operationalised as "offered by the school with appropriate adaptations that make it possible for the

student to take part". Students were asked to also rate how often they participated in each of the 14-activities if available, on a six-point frequency scale. The original version of the School Microsystems subscale has demonstrated moderate internal consistency with a Cronbach's alpha coefficient of .73 (Seidman et al., 1995).

To ensure validity, prior to using the scale in the analysis, exploratory factor analysis was undertaken using the pre-transition sample data (Table 3.3). A primary factor loading about .45 was set, and a forced three-factor solution was run using Principal component analysis. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was .79, above the recommended value of .6, and Bartlett's test of sphericity was significant ($\chi^2(266) = 509.77$, $p < 0.05$). Eigen values greater than one, showed that the first factor explained 23.94% of the variance, the second factor 9.78% of the variance, and a third factor 8.05% of the variance in participation. The three-factor solution was found to account for 41.7% of the variance in participation.

Table 3.2 *Factor analysis of the 14-item participation in school activities scale (N = 266)*

Items	Participation components		
	Social-leisure activities	**Civic related activities**	**Creative pursuits/activities**
Academic activities- buddy programs		.657	
Computer classes	.575		
Library use	.478		
Student council/prefect		.463	
School newsletter	.547		
Physical education	.721		
Playground games	.535		
School faction/organised sport	.673		
School performing arts			.543
School media			.486
After school program			.771
Excursions	.474		
Volunteering		.713	
Fundraising events		.479	

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

Note: Factor loadings < .45 are suppressed a Rotation converged in 8-iterations.

Summary: Thus, efforts were undertaken to employ psychometrically robust and contextually valid measures to appraise each independent variable and adjustment outcome of interest.

3.8 ETHICAL ISSUES

At all stages, the study conformed to the approved National Health and Medical Research Council Ethics Guidelines (National Health and Medical Research Centre [NHMRC], 2005). Full ethics approval was obtained from Curtin University of Technology Health Research Ethics Committee (Reference number HR 194/2005) (Appendix A). Endorsements from the Department of Education and Training Western Australia; Catholic Education Office of Western Australia; and the Association of Independent Schools of Western Australia were obtained. At all phases of the study participants were voluntarily recruited with informed consent through written documentation. The Information Sheet (Appendix B) provided participants with an overview of the purpose, methods, demands, participant rights, risks and benefits, as well as the contact details of the researches in team to whom further inquiries could be directed.

3.8.1 Informed Consent

All participants were informed that their views would remain strictly confidential and that no information regarding their participation would be disclosed to anyone or anywhere at any time during the study. Informed consent was sought from each participating subject. For young adolescents participating in this study, approval from the legal guardian was obtained. Consent was also sought from the student. In situations where the student declined to participate, even with parental consent, they were not included. Participants were also made aware that they were not obliged to participate in the study, and free to withdraw from this study at any time without justification or prejudice.

3.8.2 Confidentiality

The recruitment process of this study was designed to ensure the privacy of potential participants' details. Schools or Community agencies to which the participant was associated were forwarded letters of invitation to the potential participants or

advertise for the study. The researcher had access to the participant's details once they had provided consent to be involved. All participants who consented were assigned a participant number, which appeared on he/she data collection file. The decoder of this information was kept in a secure location, separate from the data files. Data obtained from participants was only used for research purposes. No individual was identifiable when reporting the findings and only aggregated results were reported. Complete confidentiality has been ensured in any publications or presentations that arise from this research and no personal details will be published.

3.8.3 Data Storage

Data collection forms were filed in a locked cabinet. All personal data was kept confidential. A master list of participants' names was kept in a secure location in the Centre for Research into Disability and Society (separate from coded individual data in the Occupational Therapy PhD Research Office) for follow-up purposes. Only members of the research team had access to the data collected in order to secure confidentiality for the participants. All data will be stored at The Centre for Research into Disability and Society for a minimum of 5-years after research completion.

3.9 DATA MANAGEMENT

On completion of data collection, the raw data were entered into a Statistical Package for Social Sciences Version 15.0 (SPSS) spreadsheet. An alpha level of .05 was used for all statistical tests and *r* was calculated as the effect size (Rosenthal, 1991). Careful screening of the data as recommended by Tabachnick and Fidell, (2007) was undertaken on two separate occasions. The following areas were checked for statistical appropriateness: accuracy of data input; missing value patterns; presence of outliers; need for transformation of outcomes; representation of the independent variables in quartiles; checking for the assumptions of regression.

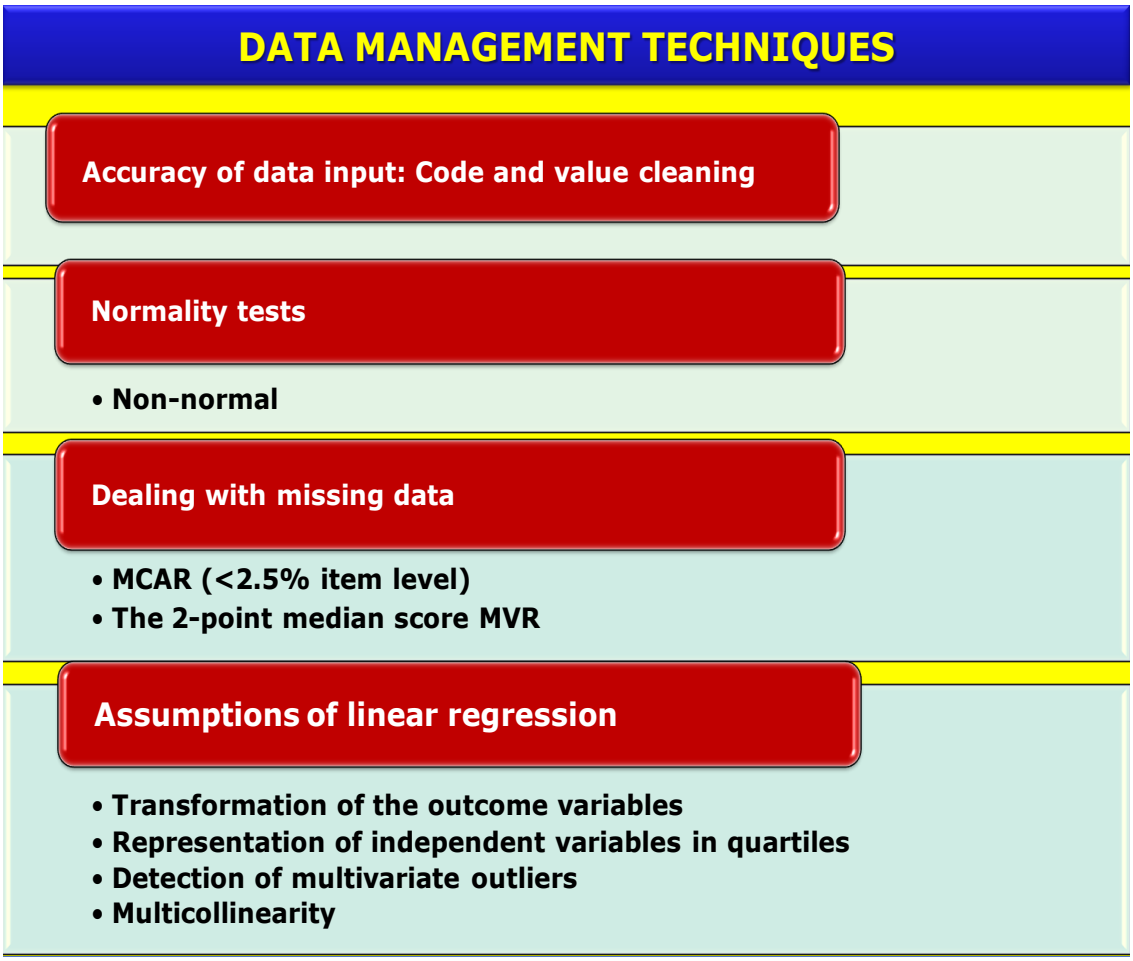


Figure 3.5 *Data management techniques*

3.9.1 Accuracy of data input: Code and value cleaning

The following steps were undertaken to identify any areas in coding and value entry:

- Computerised data were proofread against the original data (questionnaires) to check that each item has been entered correctly. Proof-reading was undertaken for 20% of the questionnaires. Only 0.15% data entry errors were identified at this stage.
- Code cleaning was undertaken for every case to ensure each variable contained only legitimate numerical codes or values that were reasonable (Meyers, Gamst, & Guarino, 2006).
- Univariate descriptive statistics were run in SPSS to identify any data entry errors. Continuous data were checked if within range and whether means and standard deviations were plausible. Any discrete variables out of range were identified and tallied against the original questionnaires.

At this point of data screening, missing values were left as empty cells.

3.9.2 Normality tests

Data were visually examined to detect the presence of univariate outliers, and histograms and box-plots were scrutinized for outliers. Each extreme value was then inspected to ensure that it represented a practical score, and was not a data entry slip-up. No data entry mistakes were identified.

Many total scores were found to have a skewed distributions, with the extreme values found to represent observed scores (viewpoints) of the participants on the particular measure in question. In the current study (N = 395), none of the total scores had a skewness/kurtosis greater than ± 3.3.

3.9.3 Dealing with missing data

The important question about the issue of missing data, is whether or not data missingness is a function of a random or a systematic process (Meyers et al., 2006). Data were screened for pattern of missingness at scale-level and informant-level.

Cases with completed parent and student questionnaires were considered for this screening procedure. Questionnaire manuals were reviewed for guidelines regarding dealing with data missingness (Tabachnick & Fidell, 2001). Only 2.3-2.8% of the data were missing at scale levels. Given the small percentage of missingness in the study, listwise exclusion of the cases appeared to be the most preferred way of obtaining unbiased estimates (Tabachnick & Fidell, 2001). When this listwise deletion option was selected, however, a 30% reduction of the sample size was observed. This was because the data missingness was scattered across most of the scales. In order to avoid any ramifications subsequent to listwise deletion (such as loss of power, increased estimate of measurement error, and reduced external validity), alternate methods to establish whether any patterns of data missingness were explored (Meyers et al., 2006; Tabachnick & Fidell, 2007). The estimation maximization (EM) algorithm and Little's chi-square statistic were used. The data was found to be missing completely at random (MCAR), with probability level set at 0.05. This suggests that pattern of missing values did not depend on the data values, at scale level.

3.9.3.1 Missing value replacement

Based on the review of the literature, it was determined that group differences due to students' gender and health status would exist on various independent variables and outcomes. Independent sample *t*-tests were undertaken to determine whether the mean of sub-groups differed significantly on each of the indicators. Statistically significant *t*-statistic values for some indicators provided empirical support to substitute missing data vales with subgroup means rather than a full sample mean would be a more valid estimate for a given missing score. The argument for using the median rather than the mean in the context of the study was based on the accepted rubric that the given sample's median is the best estimate of the population central tendency when the data does not follow a normal Gaussian distribution (McKnight, McKnight, Sidani, & Figueredo, 2007). Thus missing values were substituted by the median score around 2-points, with the pre-transition data set sub-divided by gender and health status. Such an approach is deemed more appropriate than sample-wide

median substitution because it narrows the configuration of cases on which the imputation is based (McKnight et al., 2007). Data substitution was undertaken at item level, prior to total score computation.

3.9.3.2 Validation of the 2-point median score missing value replacement technique

The following was undertaken to validate the use of the 2-point median score in data substitution:

- The process of visual binning (name used by SPSS to mean the creation of a new ordinal variable from a scale variable, when each category represents a range of values in the original variable) was undertaken using un-substituted incomplete data set, and 2-point median substituted data. The quartile cut-outs using 2-point median substituted data were nearly identical to the raw un-substituted score cut-outs. This further validates the meticulousness of the data substitution procedure. Data substitution generated a total sample of 395 completed students and parent forms.
- A series of Regression analyses were undertaken using total scores computed with a) the raw un-substituted data set, and b) 2-point median substituted data sets. Since no differences emerged between the raw and median imputed data sets, we were confident that missing value replacement with the median reflected statistical reality.

3.9.4 Dealing with the assumptions of linear regression

3.9.4.1 Issue of linearity of the outcome

Review of the distribution of the outcome variables revealed some that exhibited a positive or negative skew. Presence of a non-normal dependent variable, not only invalidates the likelihood function, but also the derivation of the sampling distributions that provide us with the standard errors for testing (Tabachnick & Fidell, 2007). Thus, transformations to normalize the dependent variables were explored to make the dependent variable more symmetric. In the context of

regression, the argument to make the dependent variable more symmetric is based on the knowledge that the mean of the outcome which linear regression analysis focuses on, is not a good measure of central tendency when the distribution is skewed. Additionally, transformations make the dependent variable more homoskedastic (as the standard errors of estimates are incorrect under heteroskedasticity) and also reduce the impact of outliers.

The following transformations were carried out in the study depending on the type of distribution of the outcome (Tabachnick & Fidell, 2007).

Table 3.3 *Transformations of the outcome undertaken*

Outcome variable	**Type of transformation**
Emotional and behavioural problems Loneliness in school Creative participation Civic participation	logarithm, used when there positive skewness/ deviation
Scholastic competence Self–worth Belongingness in school Social-leisure participation	Multiplicative inverse (reciprocal), used when there is negative skewness/ deviation

3.9.4.2 Linearity between independent variable and outcome: Representation of independent variables in quartiles

As identified in the preceding section of the chapter, many independent variables were either positively or negative skewed. The study proposed the use of multiple linear regression analysis to model the relations between the set of predictor variables on a dependent variable at each phase of the study. In real applications, traditional regression summarizes the relationship between the outcome and predictor variables by describing the mean of the response for each fixed value of the predictors, using a function referred to as the conditional mean of the response (Despa, 2007; Koenker & Hallock, 2001). One of the drawbacks of linear regression

is that because of its exclusive focus on the conditional mean, it can steer attention away from the properties of the whole distribution and thus fail to identify informative trends in the response distribution. The straightforward assumption that there is a linear relation between the predictor variable and the outcome of interest, and that linear relationships increase smoothly across the range of the predictor variable might not always be the case, especially when the data deviate from normality (Despa, 2007; Koenker & Hallock, 2001).

In order to account for the listed drawbacks of linear regression, analyses were undertaken to investigate how changes in the predictor variable distribution may affect the underlying shape of the distribution of the response (Despa, 2007; Koenker & Hallock, 2001). Accordingly, it was considered imperative to test the key assumptions made by linear regression that: a) the linear trend of a predicted variable is distributed evenly across the independent variable; and b) absence of heteroskedasticity (Field, 2006). To that end, each independent variable (IV) was divided into 4-quartiles, worked out by ranking all the observations from smallest to largest, then taking the first 25% as the lower-quartile (Q), then the next 25% etc using the SPSS Visual Binning analysis function. Such a categorisation ensured a reasonable number of participants in each group, with each group centered on the median rather than the mean, which gets around the non-normal issue. In cases where quartiles could not be formed due to the distribution of the data, three categories were formed centered on the median.

A one-way analysis of variance (ANOVA) run on the ordinal coded data determined that the marginal mean estimates of the middle quartiles (25-50 quartiles and 50-75 quartiles) did not differ statistically for each IV in question. Hence the groups were clumped together to form the mid 25-75 percentile category.

Gender, disability status and income level were taken as fixed factors and each 3-level independent variable was regressed on each outcome variable, using General Linear Model ANOVA. The main objective in this analysis was to identify whether

the differences in the mean scores (variance) on the dependent variable across the three groups displayed a consistent linear trend. The null hypothesis was that the Step from group 1 (lower-quartile) to group 2 (mid 25-75 percentile) would be the same as from 2 (mid 25-75 percentile) to group 3 (upper-quartile), with essentially a linear trend with each group treated as endpoints assumed. On analyses, output of the marginal mean estimates failed to support a consistent linear trend across all IV levels. Instead, a quadratic trend was displayed in some data. Therefore, a decision to leave the groupings as quartiles (quantitative categorical data) and not transform them back to total continuous data was undertaken. The final presentation of an independent variable varied as a function of whether the marginal mean estimates supported a consistent linear trend across the given outcome variable in question. It was thus possible to have a given independent variable presented differently (either total score or quartile score) for a different outcome.

This analysis was repeated for each outcome variable, by using SPSS Visual Binning categorisations based on the pre-transition data. The pre-transition Visual Binning syntax was repeated whilst categorising each independent variable at the post-transition cross-section because:

- The conceptual focus of the study was to test the validity of the pre-transition replica model; and
- The characteristics of the sample that continued to be involved in the study did not differ from the baseline presentation;

Thus, while classic linear regression model can address the question "Does athletic competence significantly predict adjustment in year7?" the current study extends further; to ask the important question "Does athletic competence significantly predict adjustment differently for year 7 students with low-Q athletic competence level, than for those with median-range athletic competence?" Typically, the standardised regression coefficient (β^2) represents the change in the response variable (in standard deviation units) produced by a standard deviation unit change in the predictor variable associated with that coefficient. In the case of the latter question, as in this

study, the regression parameter estimates the change (in terms of standard deviation) in a specified quartile of the response variable (lower- or upper-quartile) produced by a one standard deviation unit change in the predictor variable (Field, 2006). Such an method allows comparing how some quartiles of a students' competence may affect adjustment outcomes different from others, as reflected in the change in the size of the regression coefficient (Despa, 2007).

3.9.4.3 Detection of Multicollinearity

Multicollinearity is typically conceptualised in terms of the degree to which any variable's effect can be predicted or accounted for by the other variables in the analysis (Stevens, 2002). Multicollinearity is identified as an important concern in regression as it makes it difficult to determine the importance of a given predictor due to the confounding effects of correlations amongst predictors, and it also makes the regression coefficients unstable (i.e., it increases the variance of the regression coefficients) (Stevens, 2002).

As recommended, in this study, bivariate correlations between the independent variables were examined to check for multicollinearity. Output from Standard Multiple regression in SPSS that houses the Tolerance, Variance Inflation Factor (VIF) and the Collinearity Diagnostics output (with the Condition Index) were checked for multicollinearity based on recommended guidelines (Meyers et al., 2006). Close inspection of these diagnostics for each of the outcome variables in question indicated that none of the criteria suggestive of multicollinearity were met. Thus, we can conclude that multicollinearity was not a problem in the analyses.

3.9.4.4 Detection of multivariate outliers

In agreement with the requirement of regression, examination of all cases with extreme multivariate outliers using Mahalanobis' distance criteria was carried out (Tabachnick & Fidell, 2001). All the reviewed cases appeared to have a reasonably understandable and logical range of responses. No case warranted deletion. The data

were thus identified to be suitably correlated with the dependent variable for examination through multiple linear regressions to be reliably undertaken.

3.9.5 Dummy coding of categorical independent variables

Dummy variables were created to represent the categorical (qualitative) independent variables incorporated into the regression model, so that the variables had interpretable coefficients (Meyers et al., 2006). The dummy coding system as outlined in Andy Field (2005) was employed. For example, for coding a 3-level independent variable, separate dummy variables to represent portions or levels of the nominal variable were created, with each dummy variable coded in a binary fashion, representing a subcategory (level) of the main variable. Because the dummy variables need to be orthogonal to (or independent of) each other, the number of levels of the variable we are allowed to use is one less than the number of categories within the IV in question (Meyers et al., 2006). For example, 3-level variable athletic competence variable was coded as shown in Table 3.4.

Table 3.4 *Dummy variable transformation of the data*

	Athletic comp < 25percentile	**Athletic comp > 75percentile**
	Dummy1	**Dummy2**
< 25 percentile (low-Q)	1	0
Mid 25-75 percentile	0	0
> 75 percentile (high-Q)	0	1

Thus, with 3-levels of athletic competence, we have created two dummy variables to represent the '<25 percentile' and '>75 percentile' groups. The '<25 percentile' group has also been referred to as the 'low-quartile (Q)' and the '>75 percentile group has been referred to as the high-Q group'. The mid (25-75 percentiles) category is excluded from the dummy coding and treated as the reference category and consistently coded as zero. The recommended statistical standpoint suggests the reference group should be one that, all else equal, has a relatively large sample size. From a methodological perspective, it has been recommended that the reference

group should be the one with which it makes sense to compare the other groups (Allison, 1999). In this study, the median group was considered as the reference group as it was considered both methodologically and statistically meaningful.

Accordingly, interpretation of the results of the coefficient associated with the dummy variable (as reported in the multiple regression section of the results) is based on the difference between the two means when statistically controlling for the other predictors in the model.

Since this method of quartiles is easier to interpret based on the original scale, quartiles based on the original scale have been used. For the purposes of uniformity across scales, "total scores" and not mean scores have been used for quartile divisions across independent variables.

3.10 DATA ANALYSES

3.10.1 Presentation of a descriptive overview of the sample

Descriptive statistics were undertaken in order to describe the characteristics of the sample involved in the study at T1 and T2. In the descriptive section of the results (chapter 5) the following statistics were run to address each of the listed objectives:

- Testing for group differences in gender, health status and SES-level of one's family: Given the presence of skewness in some of the IVs and DVs, univariate parametric and non-parametric statistics were explored in order to identify group differences due to gender, health status and SES-level of household. As there were no differences in findings, a decision to use parametric statistics was made. Theoretically, in spite of the evident skewness, the large sample size ensures that the theoretical distribution of the means is close to normal (i.e., the central limit theorem). Therefore, the use of parametric statistics to compare means is still valid (Field, 2006).
- A series of univariate analyses using independent sample *t*-tests were undertaken to identify whether gender and the health status of the participants contributed to differences in each of the sample characteristics at the pre-transition presentation. The Levene's test was used to decide which version of the t-test to report. In cases where Levene's test shows no significant violation of the homogeneity of variance assumption, the equal variances assumed version of the t-test was reported. In cases where the assumption of equal variances was violated, the equal variances not assumed version of the *t*-test, which has an adjusted (smaller) degrees of freedom and provides a more conservative analysis was reported (Field, 2006).
- One-way ANOVA was carried out to explicate the contribution of SES-level on each determinant. As recommended, when sample sizes are very different (as in the case of this study), Hochberg's post-hoc analysis is recommended because it has greater power and exercises greater control over Type I error (Field, 2006).
- Chi-square tests of independence were performed to identify group differences in situations where the dependent variable was nominal, dichotomous, ordinal, or

interval. Standardized residuals were explored to identify whether the cell was over-represented (positive residual greater than +1.96) or under-represented (negative residual less than -1.96) in the actual sample, compared to the expected frequency. In cases where the cell count was low, then exact test was used (Field, 2006);

- Paired sample *t*-tests and chi-square analyses were undertaken to determine whether the participants who continued to be involved in the study differed in profile from those who discontinued involvement, on control variables and outcome measures;
- Change scores across transition: Paired sample *t*-tests tests were used for continuous data to test the null hypothesis that that there is no difference between a series of paired observations before and after transition. The kappa statistic was employed for binary and nominal ratings, to test whether agreement exceeds chance levels (J. M. Cohen, 1960). Kappa coefficient values ranging from .01-.20 were considered slight, .21-.40 were labelled fair, .40 to .59 were considered moderate, .60 to .79 substantial, and .80 outstanding/almost perfect (Landis & Koch, 1977).

3.10.2 Addressing Objectives 1, 2, 3, 5 and 6.

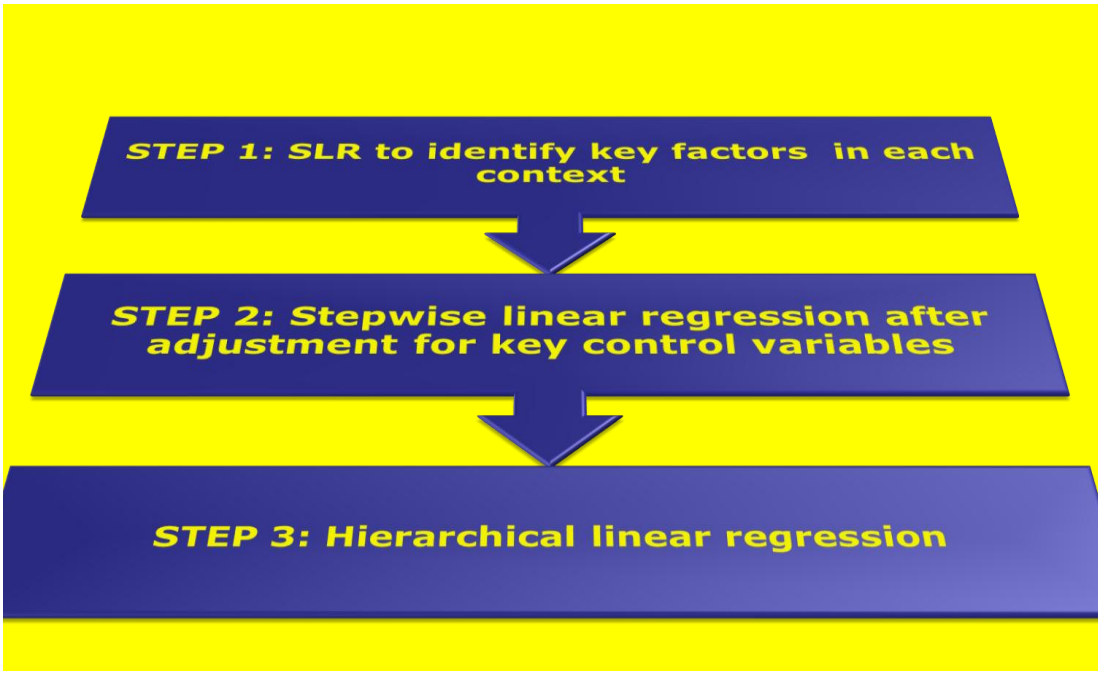


Figure 3.6 A *three-step process followed to address objectives 1, 2, 3, 5 and 6*

Step 1: Simple linear regression (SLR) was carried out in order to identify the significant factors within each context (i.e., personal, family, school, and peer-group) that could predict a given dependent variable. The significant results of Step 1 were included in Step 2.

Step 2: All factors were arranged by context (i.e., personal, family, school, and peer-group), and stepwise linear regression was undertaken after controlling for gender, disability/CI status, and SES-level of students' household. Dummy variables were created to convert the control group variables into a form suitable for regression. (Refer section 3.8.9). Stepwise linear regression analysis is identified as a useful method for eliminating variables that are clearly superfluous and elucidate the most parsimonious model (Tabachnick & Fidell, 2001). On completion of Step 2, the significant factors were then regressed hierarchically in Step 3.

Step 3: We were interested in testing theoretical assumptions and examining the influence of several predictor variables in a sequential way, such that the relative importance of a predictors was judged on the basis of how much the block of factors adds to the prediction of a criterion, over and above that which can be accounted for by the previous block of predictors (Petrocelli, 2003). The order of entry of factors in blocks into the analysis was guided by the research work on the major sources of variance in student achievement at school (Hattie, 1999). The evidence suggests, that when interaction effects, which very often are minor are disregarded; the majority of the variance in student achievement is accounted for by student (50% of variance), family (5-10% of variance), school [class teacher (30% of variance) and other school factors (5-10% of variance)], and peer-group (5-10% of variance) factors.

While addressing objectives 1-3, the order of entry of factors in blocks, in ***Step 3*** of the analysis, was as follows:
Block 1: Control factors (gender, health status, and income level of one's household);
Block 2: Student factors;
Block 3: Family factors;
Block 4: Classroom, school and teacher factors; and
Block 5: Peer-group factors
For the sake of brevity, the significant result of Block 5 will be presented as the paper moves along.

While addressing objective 5, the order of entry of factors in blocks, in ***Step 3*** of the analysis, was as follows:
Block 1: Control factors (gender, health status, and income level of one's household);
Block 2: Student factors;
Block 3: Family factors;
Block 4: Classroom, school and teacher factors; and
Block 5: Peer-group factors

Block 6: Unique T2-factors identified in stepwise linear regression analyses in objective 4.

While addressing objective 6, the order of entry of factors in blocks, in ***Step 3*** of the analysis, was as follows:

Block 1: Control factors (gender, health status, and income level of one's household);

Block 2: Pre-transition adjustment (since the bivariate correlation between loneliness and belongingness was > 0.72, in accordance with the assumptions of linear regression (i.e., to avoid multicollinearity), only belongingness was entered into the regression.);

Block 3: Student factors;

Block 4: Family factors;

Block 5: Classroom, school and teacher factors; and

Block 6: Peer-group factors

Block 7: Unique T2-factors identified in stepwise linear regression analyses in objective 4.

3.10.3 Addressing Objective 4

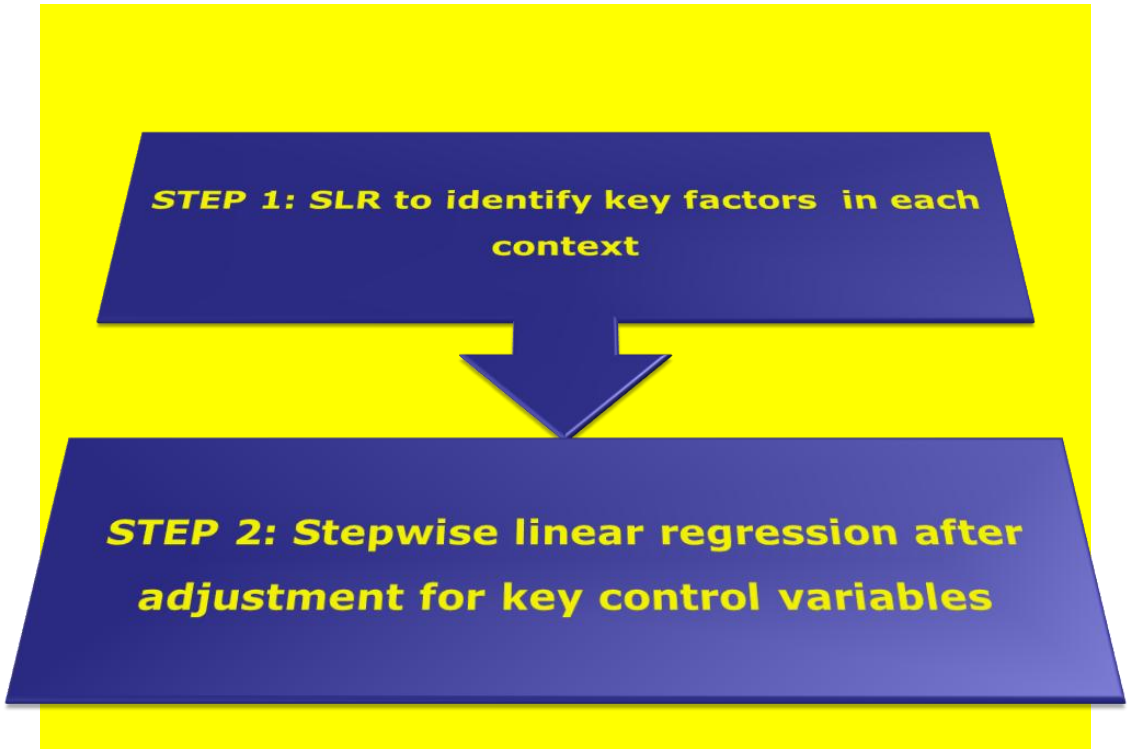


Figure 3.7 *A two-step process followed to address objective 4.*

Step 1: Simple linear regression (SLR) was carried out in order to identify the significant factors within each context (personal, family, school, and peer-group) that could predict a given adjustment outcome variable. The significant results of Step1 underwent Step2.

Step 2: All factors were arranged by context (personal, family, school, and peer-group), and stepwise linear regression was undertaken after controlling for gender, disability/CI status, and SES-level of students' household. A series of Stepwise linear regression analyses was used to elucidate the most parsimonious model (Tabachnick & Fidell, 2001).

3.11 TRIAL STUDY

Prior to questionnaire administration in the main transition study, a trial of the questionnaires was undertaken in order to: decide upon the most appropriate method of recruiting schools into the study; determine the feasibility of using a wide range of previously validated instruments and still maintain a high response rate; and determine the most appropriate method for administering the questionnaire to students (time needed to access students, explanation required).

Study design of trial study: A cross-sectional study design was employed, where in testing of survey questionnaires occurred prior to commencement of the main longitudinal study. As the study focus was the transition from primary to secondary school, schools were selected in clusters consisting of a secondary school together with each of its main feeder primary schools. A single school cluster was approached. Additionally, a total of five schools (3-primary level and 2-secondary level) schools that did not belong to any cluster were also approached. Cross-informant data from students, parents, and teachers was retrieved using survey questionnaires. The listed inclusion criteria were applied in deciding on the convenient school location:

Study sample: Cross-informant information was sought from students (with and without disabilities/ chronic illness), one parent (or primary care giver) and the school class teacher (most responsible for the student's outcomes at school) at the pre-transition cross-section. The same inclusion criteria were applied for recruiting students into the main study was employed. A purposeful sample of at least 15 students (year7) was considered for inclusion.

Recruitment of sample*:* Five government schools, an Independent school, and a Catholic mainstream school that catered to a range of SES-backgrounds based on the Perth Social Atlas (2001), representing the requirement of the main study, were

approached for participation. The recruitment and data collection procedures as outlined in the main study were followed.

Presented below is a summary on the findings of trial testing and consequential questionnaire adaptations.

Findings of the trial study:

1. Low recruitment rate: Only five of the ten approached schools agreed to participate in the pilot round. Additionally, only three of the six, Year7 classroom teachers across the two schools agreed to be involved in the study. Ten parents consented to be involved in the trial phase.
2. Discussions with the principals validated anecdotal and government records that suggest that although students access the local community school at primary level, an inclination to travel to specialised schools that cater to the individual student's area of interest during the secondary years of schooling exists. Hence, it was identified to be important to contact primary schools across educational districts.
3. Discussions with school principals identified that secondary level homeroom teacher maybe an unreliable source of student-specific information.
4. Given that participation in the study was voluntary, it was identified that obtaining teacher reports on each student outcome were low due to workload issues and the absence of any financial reimbursement for time spent in participation, based on brief telephone conversations with the teachers who did not return the questionnaires.
5. Difficulties completing the student questionnaire: The student questionnaire was found to be easily completed by students within a span of 40-minutes. Students however required explicit reminders to fill up 'only one box' for the Harter's (1988) self-perception questionnaire. A few typographical errors were noted.

Adaptations undertaken to the main transition study because of the trial study:

1. Efforts to boost recruitment: The principals recommended seeking a letter of approval from the governing administrative bodies prior to making contact with schools. Accordingly, an endorsement letter was included in the package sent to the school at the time of initial contact.
2. Outcome reporting done by student: A decision was undertaken to obtain student related information from only students and parents. Since participation in the study was exclusively voluntary, students and parents were primarily used as informants for each of the outcomes assessed instead of the class-teacher. None-the-less, teachers were encouraged to be involved in the first round of data collection (T1).
3. Modification of student questionnaire: Administration guidelines were developed to ensure the consistency of instructions offered to students during administration (Appendix J).
4. Dealing with post-transition inconsistencies: A major problem identified in the trial was related to the degree of change in post-transition classes, particularly within school groupings, class groupings, and teacher and classroom settings. In settings that followed the middle school philosophy, students moved from one class to the other in a group, so there was no disruption of class-membership. In other instances, a complete class group discontinuity was experienced, wherein; change in class membership was experienced with students moving from a homeroom class to a series of specialist classes. Thus, for post-transition classes, it was not feasible to gain complete data about each class-subject. Therefore, while asking students to report on their post-transition year level classes, a decision to request students to provide an overall estimate of their year level classes was undertaken. Accordingly, an individual student's response was used as the unit of analysis, and not a class response. While comparing classroom learning environments pre-and post-transition, individual student's perception of the generalist primary level classroom with the student's overall perception of secondary year level classes (post-transition year level classes) were compared.

Amendments to post-transition questionnaire items to reflect the focus were carried out.

Participants involved in the trial phase were not selected to be part of the main study sample, as the sample size was too small to permit sequential cohort comparisons to be undertaken.

Chapter 4 Test-retest reliability of the Social Skills Rating System

4.1 INTRODUCTION

This chapter critically appraises the value of reliability indices routinely employed in measurement studies, and presents the measurement error of the Social Skills Rating System (SSRS) secondary-level student form (Gresham & Elliot, 1990). The background section to this chapter presents information on the key constructs of interest, namely: instrument test-retest reliability and measurement error. Thereafter, an overview of the measure along with the test-retest reliability indices frequently reported in investigations on the SRRS is covered. A critical consideration of the value of the Bland and Altman limits of agreement criteria (Bland & Altman, 1986, 1999, 2003), a method that has been identified as the gold standard for analyses involving statistical agreement for variables measured on a continuous scale across the medical literature has been presented (Hamilton & Stamey, 2007). Discussion on the value of this metric as an index of the instrument's repeatability has been presented.

4.2 BACKGROUND: TEST-RETEST RELIABILITY AND MEASUREMENT ERROR

Reliability or the extent to which a measurement is consistent and free from error is a crucial requirement at the very heart of measurement (Portney & Watkins, 2000). Measurements are considered to be reliable if repeated measures in individuals remain stable over time in the absence of any treatment, show adequate levels of measurement variability, and are also sensitive (precise) enough to detect clinically important change (Lexell & Downham, 2005; Rothstein, 1985). Test-retest reliability in clinical practice is most frequently determined by administering the same measure to the same subjects on two or more occasions hours or days apart (Bland & Altman, 1986). In the context of measurement, however, we are aware that any observed score (O) is composed of a true value (T) and an error component (E). Since it is impossible to know T; the true reliability of any test is not calculable (Bruton, Conway, & Holgate, 2000). It can however be 'estimated' on the statistical concept of variance. Reliability (R) in such a measurement context is thus expressed as the

ratio of T (true score variance) to the total variance comprising of (T+ E). This ratio gives a value known as a reliability coefficient (Portney & Watkins, 2000). In a hypothetical situation, a reliability coefficient score of 'one' could only be obtained if the error component is zero. In such a purist context, however, the observed score and the true score value would be identical.

In the absence of any treatment, the stability of measurement over time is influenced by systematic bias and random error. Errors are labelled systematic if a predictable flaw exists in measurement, leading to a consistent overestimation or underestimation of the true value of a score (Portney & Watkins, 2000). For example, a systematic bias could occur if subjects consistently display a trend to perform better or worse on retest occasions due to insufficient recovery between tests (due to fatigue), or a learning effect, or change in motivation. By definition, since systematic errors are consistent in nature, they are referred to as method error. A random or a sampling error on the other hand is purely due to chance, and can influence a person's score in an unpredictable manner from one trial to the next. Such an error could arise due to inherent biological (fatigue, inattention), mechanical inaccuracy, simple mistakes, or even inconsistencies in measurement protocol (Atkinson & Nevill, 1998). As such, measurement errors not only affect a single measurement, but also the measurement of individuals' responsiveness to change.

Measurement test-retest reliability primarily focuses on the degree of random inaccuracy present in a given system. As random errors diminish, the observed scores move closer to the true value. An assumption is made that no relation between the random error and magnitude of the true score exists (no heteroskedasticity) (Atkinson & Nevill, 1998); and that if enough measurements are taken, random errors eventually cancel out each other, making the average score a good estimate of the true score (Central limit theorem) (Portney & Watkins, 2000). Unfortunately, once a tool is purchased, a clinician can do relatively little to reduce random errors that are wholly due to mechanical variation. So in practice, if a given client fills out an SSRS form across 2-points in time, it is relevant to know 'the variation in

individual's score' that is due to the inherent mechanical inaccuracy of the scale, and which can be considered suitable for the reliable use of the measure. In this chapter, the 4-week measurement error of the SSRS secondary level self-report student has been presented. The size of error bands presented will help differentiate between change in score due to the instruments' error and true change. Discussions are centred on the value of this metric as a measure of the instrument's repeatability as opposed to routinely cited metrics like Pearson's correlation coefficient, the Intra-Class Correlation coefficient (ICC), and the paired t–test statistics.

4.3 AN OVERVIEW OF THE SSRS

The SSRS is a cross-informant questionnaire, designed for appraisal of social skills, problem behaviours and academic competence of children and adolescents (Gresham & Elliot, 1990). The SSRS includes three forms (preschool, elementary, and secondary school) that can be used for children in preschool through grade 12. An elementary and secondary level self-report form is available for students in grades three to six, and grades seven to twelve respectively. The secondary level student form assesses student perceived frequency of engagement in 39-listed behaviours at school, as well as the social value (i.e., subjective perception of importance) of the behaviours to their relationships with others. Four types of positive social behaviour constructs namely: co-operation; assertion; self-control; and empathy are assessed (Gresham & Elliot, 1990). The assertion subscale includes initiating behaviours that take into account starting a conversation with peers; making friends; and asking adults for help. Behaviours that show concern and respect for others' feelings and viewpoints such as: understanding how one's peers feel; standing up for friends; smiling, waving or nodding at others are measured on the empathy subscale. The cooperation subscale taps in to behaviours such as helping others; sharing materials; and complying with rules and directions. Finally, the self-control subscale includes behaviours that emerge in a conflict situation such as accepting punishment from adults; controlling one's temper; and compromising with parents or teachers. Each subscale is comprised of 10 items. Raw scores are transferred into percentile scores

and standard scores, but all score comparisons are based on US norms (Gresham & Elliot, 1990).

4.4 REVIEW OF EVIDENCE ON THE TESTS-RETEST RELIABILITY OF THE SSRS SELF-REPORT FORM

Test-retest reliability evidence for the SSRS self-report form as reported in the manual includes estimates of test-retest stability, and inter-rater agreement, but solely of the elementary level form (Gresham & Elliot, 1990). Retest stability and inter-rater reliability indices of the secondary-level student self-report form have not been published. Estimates of internal consistency (i.e., Cronbach's alphas) have been calculated using the complete standardization sample. Salvia and Ysseldyke's (1981) classic criteria for 'acceptable' internal consistency of measures used for screening purposes ($\alpha = .80$) were used to appraise the homogeneity or intra-scale reliability of the total and subscale scores (Salvia & Ysseldyke, 1981). Acceptable levels of internal consistency for the total social skills scores (i.e., frequency and importance) have been documented ($\alpha = .83$). Alpha values for the empathy ($\alpha = .77$), cooperation ($\alpha = .69$), self-control ($\alpha = .68$), and assertion ($\alpha = .67$) domains failed to meet the acceptable criteria. The short-term (4-week interval) reliability of the SSRS primary level student form ($n = 171$) is reported as moderate for the total social skills ($r = .68$) and empathy ($r = .66$) domains. Low values have been reported for cooperation, assertion, and self-control domains ($r = .52$-$.54$). The inter-rater reliability coefficients were lower and partially explained by the fact that the forms used by teachers, parents and students are different with less than fifty percent similarity between the three forms (Gresham & Elliot, 1990). Acknowledging the lower range of repeatability, it has been concluded that these estimates appear adequate, in view that the reliability coefficients of the teacher and parent report forms are higher. Since its release, several researchers have reviewed the reliability and validity of the SSRS with samples of kindergarten and primary school students. Almost all of these investigations have focussed on the teacher and/or the parent forms (Bramlett et al., 1994; Fagan & Fantuzzo, 1999; Fantuzzo et al., 1998; D. P. Flanagan et al., 1996;

Jurado et al., 2006; Malecki & Elliot, 2002; Manz et al., 1999; Van der Oord et al., 2005; Walthall et al., 2005).

Despite its use in practice and research, there has been only one peer-reviewed publication to date (i.e., until 2009) that has explicitly exploring the reliability of the SSRS self-report form in a sample of primary school children (Diperna & Volpe, 2005). The study examined the 6-month reliability of the measure using partial correlations between student ratings at Time 1 (controlling for student age at Time 1) and ratings completed 6-months later. Data from a sample of 144 students from grades three to five were analysed (Diperna & Volpe, 2005). The 6-month stability scores of the subscales were low, with cooperation (r = .53) and assertion (r = .50) demonstrating higher stability than self-control (r = .45) and empathy (r = .46). The six-month stability estimate for the total social skills frequency scale was also low (r = .58). These estimates were slightly lower than the short-term (i.e., four-week latency) correlations reported by Gresham and Elliott (1990) during scale standardisation. In each analyses, the largest percentage of students fell within the ± 1standard error of the estimate (SE_{est}), indicating the Time 2 score was stable relative to the Time 1 score. Smaller percentages of students had difference scores falling between -1 and -2 SE_{est} or +1 and +2 SE_{est}, and the smallest percentage of students had difference scores exceeding ± 2 SE_{est} (i.e., Time 2 score could not be accurately predicted based on the student's Time 1 score for this set of students).

The research conducted by Diperna and Volpe (2005) found an acceptable internal consistency value (α = .86) for only the total social skills score. Evidence was less supportive for the subscales, with none demonstrating acceptable alpha levels for screening purposes (assertion α = .56, cooperation α = .68, self control α = .67 and empathy α = .72). Although it is recommended that the short-term stability (2-4 week latency) should meet standards similar to the aforementioned internal consistency criteria, individual differences in rates of development make it difficult in identifying a universal standard for longer term stability of social skills (Bracken, 1987). Mean score differences across Times 1 and 2 were however non-significant, suggesting that

there was no significant systematic change in the mean score across the two administrations. In their conclusion, the authors highlighted the need for further review of the internal consistency and the stability of the measure (Diperna & Volpe, 2005).

4.5 A CRITICAL REVIEW OF THE RELIABILITY INDICES IN TEST-RETEST RELIABILITY STUDIES

The majority of the test stability studies on the SSRS have been undertaken with samples of primary school children, using Pearson's correlation coefficient as a measure of relative reliability. This coefficient measures the strength of linear association, or the consistency of position between two sets of data, by fitting them on a straight line (Portney & Watkins, 2000). It has been argued that whilst a correlation tells us how the scores vary together, it fails to provide any indication of the extent of agreement between the two sets of measurement. Thus in a clinical situation, it is also possible to obtain high correlations using the test of significance even though the agreement between the scores is extremely low. In most clinical and research situations, the very essence of test-retest reliability is 'agreement between the two data sets', with the actual values obtained by two measurements being the same, and not just proportional to one another. Additionally, Pearson's index, when quoted alone fails to provide any indication of systematic bias, even in the presence of a large random variation. In cases where repeated observations on the same subject are undertaken, there should not be any consistent bias. The use of correlations in such a situation is justifiable, provided the sample is representative (Bland & Altman, 2003), because this measure is greatly dependent on heterogeneity or the spread of values in the sample (Bates, Zhang, Dufek, & Chen, 1996). That is, if the subjects' range of scores was well spread out, the Pearson's r value often would show high reliability, even if actual agreement between the test scores is low (Portney & Watkins, 2000). The use of the Pearson's index in test-retest situations has been severely critiqued in the medical literature (Bland & Altman, 1986, 1995, 2003).

The Intra Class Correlation coefficient (ICC) was an attempt to overcome some of the limitations of the classic Pearson's correlation coefficients as a measure of relative reliability (Atkinson & Nevill, 1998). This index can be calculated in such a way that it is sensitive to the presence of systematic bias in the data. The ICC can thus assess not only the strength of correlation, but also if all measures on each subject are identical, and not systematically different. A major criticism of the ICC is the influence of between-subjects variance on the ratio. In simple terms, the ICC is the ratio of true score variance (between-subjects variance) to true score variance plus error. If the true score variance is sufficiently large, reliability will always appear high and vice versa (Bland & Altman, 1990; Rankin & Stokes, 1998). The ICC value is of limited use clinically, as one cannot be sure whether a high ICC value for an instrument actually means low variability at the individual level (Rankin & Stokes, 1998). Thus like its Pearson's counterpart, this measure of relative reliability is extremely dependent on the range of subjects' scores.

The lack of consensus within the statistical community on what the standard acceptable level of a relative reliability index that can be applied across all measures should be, has been identified as a key contributor to the limited use of indices of relative reliability in medical research studies (Brouwer et al., 2004). Some report that correlations ranging from .000 to .25 indicate little or no relationship, those ranging from .25 to .50 suggest a fair degree of relationship, values of .50 to .75 signify moderate to good relationships, and those above .75 represent good to excellent (Portney & Watkins, 2000). Others recommend higher criteria outlining various categories of agreement ranging from 'questionable' (.7 to .8) to 'high' (> .9) (Vincent, 1994). Overall, it appears that the sociological and behavioural scientists often make use of lower values as evidence of functionally useful relationships for the interpretation of complex abstract phenomena (Portney & Watkins, 2000). Although the citation of the ICC as a measure of relative reliability is appreciated in medical science, it is generally suggested that it should not be employed as the sole metric, and ought to be complemented by a measure of absolute reliability (Atkinson & Nevill, 1998 ; Bland & Altman, 1999; Lexell & Downham,

2005). The use of a dimensionless numerical representation ranging from zero to unity does not easily lend itself to straightforward interpretation. Despite the above cautionary notes, some argue that a high correlation coefficient can reflect adequate relative reliability to justify the usage of the tool in the population that has been investigated. Such a stance however, appears logical only in the context of a homogeneous sample, since the more homogeneous a population, the smaller the measurement error required to detect differences between individuals within that population (Atkinson & Nevill, 1998).

The paired *t*-test has also been used in repeatability studies in the medical sciences to determine whether two sets of measurements agree on average (Atkinson & Nevill, 1998). The usual null hypothesis in such an investigation is that the mean difference in individuals' scores over time is zero (Portney & Watkins, 2000). In a test- retest context, it is the difference between 'within-subjects scores' that is the focus of interest. Taking the mean score of all subjects has potential to provide misleading estimates; with a high scatter of individual differences most likely to result in the difference between the means being non-significant (Bland & Altman, 1999). In situations where the mean value for the difference differs 'significantly' from zero, a systematic (relative) bias is acknowledged (Figure 4.1). By definition, as systematic variability is consistent in nature, it primarily presents a threat to instrument validity. The central purpose of a repeatability study is to identify how closely the pairs of samples agree, rather than looking for evidence of difference in mean scores (Bland & Althman, 1986, 1999). The *t*-statistic fails to address this key objective. Additionally, the correlation between test and retest scores may not always be a good indicator of the total absolute random error present; which is the basis of the denominator in the paired t-test equation (as stated above in the correlation section). Overall, there is a general agreement in the measurement literature that the t-test should not be employed on its own as an assessment of instrument retest reliability (Atkinson & Nevill, 1998).

Prior to this critical review, the majority of the reliability studies on the SSRS have used relative indices of repeatability to evaluate the stability of scores overtime. To date, there has been no reliability study exploring the stability of the SSRS self-report secondary level form. As such, the primary evidence for the secondary level SSRS form was generated during the course of norming of the scale in an American population (Gresham & Elliot, 1990). Researchers in the past have been quite explicit in contending that whilst an instrument may be found to be reliable for one culture, such may not be the case within a different context (Jurado et al., 2006). Thus, although the SSRS is promoted by the Australian Council of Educational Research and used by the Australian Institute of Family Studies, in the Pathways from infancy to adolescence: Australian Temperament Project (Prior et al., 2000), evidence substantiating the psychometric robustness of the measure in an Australian population is lacking. It has been argued that social skills are relatively stable over time, and changes in these skills can be very small (Meisels, Atkins-Burnett, & Nicholson, 1996). The SSRS manual reports that the SSRS is sensitive to subtle developmental changes in social skills when the same rater assesses children from varying points on the developmental sequence (Gresham & Elliot, 1990).

Although measurement errors of the total social skills frequency and importance scores have been reported in its manual, the method of computation of these indices has not been elaborated. In addition, the measurement errors of the subscale scores are not available. The absence of measurement error makes it difficult for clinicians to identify changes in student perceived social skills that are indicative of a true change in skills. Therefore, it is extremely important that the precision of SSRS be calculated using an Australian sample, to help professionals in Australia decide whether any observed change in social skills score is real and not merely a function of the instrument's measurement error.

4.6 PRESENTATION OF THE BLAND AND ALTMAN LIMITS OF AGREEMENT

Bland and Altman proposed a method to quantify the amount of error due to the instrument variability that one could expect when a given test is administered to the same person over two or more points in time (Bland & Altman, 1986, 1999, 2003). Their approach is based on analysis of differences between measurements, with the estimation of the agreement between measures used as an estimate of measurement reliability by means of confidence intervals (CI) rather than using significance (*p*) values resulting from hypothesis testing (Rankin & Stokes, 1998). The terms in the formula for the t-value are used in the computation of measures of random error (namely the limits of agreement). This method relies on the assumptions that the mean and standard deviation of the differences are constant, i.e. that are independent of the magnitude of the measurement (Bland & Altman, 1999). These limits are expected to contain the difference between measurements by the two methods for 95% of pairs of future measurements on similar individuals (Bland & Altman, 2007)To specifically evaluate the limits of agreement, the data from the two subsequent test occasions are used to calculate a reference range or "error band", which represents a 95% likely range for the differences between a subjects measurements from two successive test occasions to fall within (Lexell & Downham, 2005). If the difference in score for a subject is within the reference range, it is believed to fall within the instrument's measurement's variability and does not represent a true change. This method for computation of agreement is based on estimation, the limits merely provide estimates of two parameters, and thus reporting these limits without corresponding confidence intervals can be quite misleading (Hamilton & Stamey, 2007). Figure 4.1 provides an overview of the diagrammatic representation of the Limits of agreement for year 7 boys Social skills frequency score.

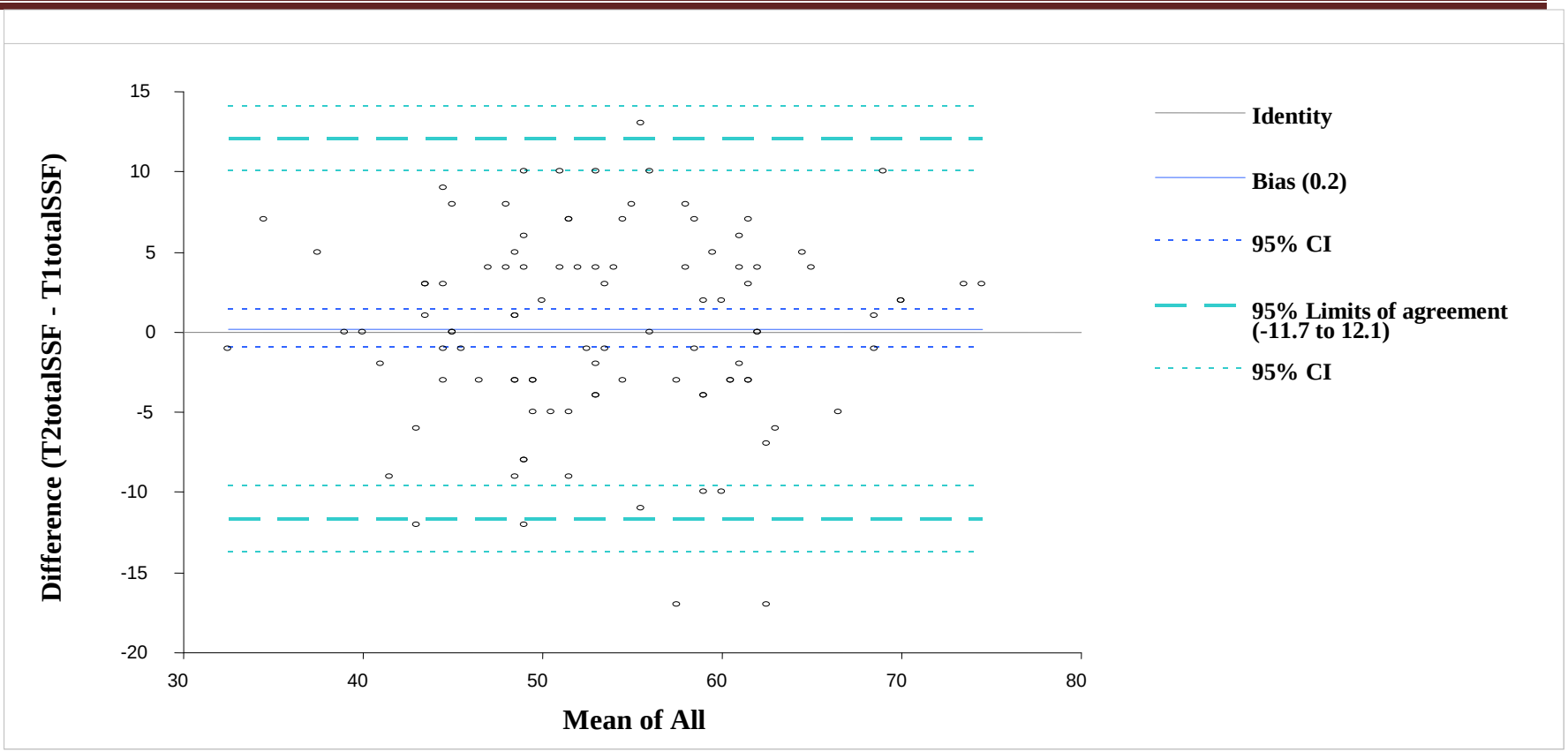


Figure 4.1 *Bland and Altman difference plot: Total social skills frequency score for year 7 boys*

The Bland and Altman plot (Figure 4.1) is also used to assess the repeatability of a method by comparing repeated measurements using the same method on a series of subjects. The repeatability coefficient is an estimate of the maximum difference we might get between two measurements made at random on the same subject. Also labelled as method/typical error and related to the within-subject standard deviation (S_w) , this repeatability coefficient is viewed as an important reliability index for estimating the precision of change (Bland & Altman, 1986) . It is important to note that this coefficient is an index of the clinimetric property of a measure and does not represent a clinically significant change (Lexell & Downham, 2005). When one has estimated a given instrument's typical error, it makes it easier to note or measure change that is not a function of instrumental variation. According to the British Standards Institution (1979), the coefficient of repeatability is defined as the value below which the absolute differences between two measurements would lie with 0.95 probability (Bland, 2000; British Standard Institution, 1979). The repeatability coefficient is the difference which will be exceeded by only 5% of pairs of measurements on the same subject and is thus directly comparable to the 95% limits of agreement (LOA). The 95% LOA take into account any systematic bias and give a measure of the variation above and below the bias. The coefficient of repeatability can only be used when there is no significant bias, in which case it is comparable with the LOA.

According to Bland and Altman (1996), in a typical 2-point repeatability design, the method of computing the measurement error can be simplified because the variance of two observations is half the square of their difference (Bland & Altman, 1996). In such a context, the difference between the two observations for a given subject has variance given by the sum of the two variances, i.e. $Sw^2 + Sw^2 = 2\ Sw^2$. The standard deviation is the square root of the variance and is equal to $\sqrt{(2)}\ Sw$. Because it is a retest situation, the null hypothesis is that the mean difference score is zero (no bias), with the difference in score expected to follow an approximately normal Gaussian distribution. Accordingly, 95% of the differences lie within 1.96 standard deviations from the mean difference. Hence we can say that 95% of differences will be between $1.96 \times \sqrt{(2)}\ Sw$ or the measurement error is expected to be less than 2.77

(within subject-standard deviation) (Bland & Altman, 2003). To be certain that a change in score is due to a change in function and not just to measurement error, the difference has to be ≥ 2.77 Sw.

There does not appear to be any consensus as to whether researchers should report the typical error or the limits of agreement as a measure of within-subject variation. Atkinson and Nevill (1998) favoured limits of agreement, while Hopkins (2000) favoured the use of the coefficient of repeatability. Both indices have been calculated and are presented in this reliability study.

4.7 METHODOLOGY

4.7.1 Study design

A longitudinal study design was used to administer the SSRS to a sample of 215-year seven students from five public schools across metropolitan Perth, WA. The same inclusion criteria as employed in the secondary school transition study were employed.

4.7.2 Recruitment procedure

As reported in the methods section of the main transition study (Chapter 3), a date and time that suited the school and the researcher was arranged, and the SSRS was administered by the researcher at each school following the instructions developed by Gresham and Elliot (1990). Students were included with informed voluntary consent. Students completed the survey during a usual teaching period, with both the teacher and the researcher present. The presence of both the teacher and researcher increased the probability that the questionnaire was fully and accurately completed, and ensured that students' questions were answered. A date was then scheduled within a four-week period for the re-administration of the SSRS. Each questionnaire was coded to ensure that individual SSRS questionnaires from the initial administration corresponded to the questionnaire completed at the time of the second administration.

4.8 DATA ANALYSIS

Data analyses were undertaken using SPSS version-15 and the Analyse-it version 2.11. Analyses involved comparison of the indices most frequently reported in SSRS test-retest situations. Measures of relative reliability like Pearson's coefficient were explored to assess the consistency of how the student held his or her position in a sample over 4-weeks. Terms from the *t*-test were used to compute measures of random error mean and the Bland and Altman limits of agreement and corresponding measurement errors. Exploration of direction and magnitude of the scatter of difference scores around the zero line was undertaken by plotting the values against respective mean scores.

4.9 RESULTS

A total of 215 students participated in the study. Mean age of the participants was 146.38 months (12 years 3 months) (*SD* = 3.93 months). The participants included 117 boys and 98 girls. Repeated-measure one-way ANOVA was employed to identify the significance of gender difference in social skill frequency and importance subscale and total scores across both administrations.

Marginal mean estimates revealed that Year 7 girls reported significantly higher scores across the empathy, cooperation, self-control and total social skills scores for both periods in time when compared to their male counterparts. As displayed in Tables 4.1 and 4.2, significant gender differences in the value placed on different domains of social skills were also identified. Year 7 girls placed statistically significantly greater importance on empathy, cooperation and self-control skills when compared to their male counterparts.

Table 4.1 *Social skills frequency across time*

Social skills Frequency constructs	G	N	Mean estimates	SE	CI 95% LB	CI 95% UB	F	Sig.	Partial Eta Squared	Df	P[a]
Assertion	M	84	13.40	.326	12.755	14.043	.483	.488	.003	1	.106
	F	74	13.07	.347	12.381	13.754					
Empathy	M	98	14.12	.244	13.640	14.605	37.439	.000	.166	1	1.000
	F	92	16.27	.252	15.774	16.769					
Cooperation	M	96	14.08	.264	13.558	14.598	24.515	.000	.121	1	.998
	F	84	15.99	.282	15.432	16.544					
Self-Control	M	92	11.57	.327	10.919	12.211	15.991	.000	.083	1	.978
	F	86	13.45	.338	12.780	14.116					
Total Social Skills	M	102	53.60	.806	52.012	55.194	17.666	.000	.087	1	.987
	F	85	58.63	.883	56.887	60.372					

Computed using alpha = .05

Table 4.2 *Social skills importance across time*

Social skills Importance constructs	**G**	**N**	**Mean estimates**	**SE**	**CI 95% LB**	**CI 95% UB**	**F**	**Sig.**	**Partial Eta Squared**	**Df**	**P[a]**
Assertion	M	78	11.449	.404	10.650	12.247	.291	.590	.002	1	.084
	F	69	11.130	.430	10.281	11.980					
Empathy	M	97	12.222	.333	11.565	12.878	12.380	.001	.064	1	.938
	F	86	13.930	.354	13.233	14.628					
Cooperation	M	93	12.919	.360	12.208	13.631	8.610	.004	.050	1	.831
	F	73	14.514	.407	13.711	15.317					
Self-Control	M	85	11.994	.411	11.183	12.805	8.444	.004	.050	1	.823
	F	76	13.730	.434	12.873	14.588					
Total Social Skills	M	101	49.233	1.231	46.803	51.662	3.097	.080	.017	1	.417
	F	82	52.470	1.367	49.773	55.166					

Computed using alpha = .05

Table 4.3 *Comparison of measures of reliability for social skills frequency scores*

Social skills freq Constructs		Time1			Time 2			Systematic change in mean							ICC$_{1,1}$			HETEROSKEDACITY	COEFICIENT OF REPEATABILITY	LOA			
	GENDER	N	M	SD	M	SD	r[a]	Mean diff (bias)	SD$_{diff}$	SE M	95% CI LB	95%CI UB	t	Sig	α	ICC$_{1,1}$	95% CI LB	95%CI UB			95% LOA LB	95% LOA UB	95% CI LB	95% CI UB
Assertion	M	84	13.08	3.24	13.71	3.30	0.80	0.63	2.05	0.22	0.19	1.08	2.82	0.006*	0.89	0.79	0.86	0.69	N	4.18	-3.40	4.70	-4.2 to -2.6	3.9 to 5.4
	F	74	12.86	3.07	13.27	3.07	0.72	0.41	2.29	0.27	-0.12	0.94	1.53	0.13	0.84	0.72	0.81	0.59	N	4.52	-4.08	4.90	-5.0 to -3.2	4.0 to5.8
Empathy	M	98	14.38	3.00	13.87	3.15	0.64	-0.51	2.60	0.26	-1.03	0.01	-1.94	0.06	0.78	0.63	0.74	0.50	N	5.17	-5.61	4.59	-6.5 to -4.7	3.7 to 5.5
	F	92	16.42	2.22	16.11	2.22	0.55	-0.30	2.11	0.22	-0.74	0.13	-1.38	0.17	0.71	0.54	0.67	0.38	N	4.16	-4.44	3.84	-5.2 to-3.7	3.1 to 4.6
Cooperation	M	96	14.28	2.83	13.88	2.82	0.78	-0.41	1.89	0.19	0.79	0.02	-2.11	0.04*	0.87	0.77	0.84	0.67	N	3.77	-4.11	3.29	-4.8 to -3.5	2.6 to 4.0
	F	84	16.13	2.55	15.85	2.85	0.70	-0.29	2.11	0.23	-0.74	0.17	-1.24	0.22	0.82	0.69	0.79	0.56	N	4.16	-4.43	3.85	-5.2 to-3.6	3.1 to 4.6
Self-Control	M	92	11.40	3.33	11.73	3.35	0.75	0.33	2.38	0.25	-0.17	0.82	0.17	0.19	0.86	0.75	0.82	0.64	N	4.68	-4.33	4.99	-5.2 to -3.5	4.1 to 5.8
	F	86	13.48	3.63	13.42	3.16	0.73	-0.06	2.53	0.27	-0.60	0.48	-0.21	0.83	0.84	0.73	0.81	0.61	N	4.93	-5.02	4.90	-6.0 to-4.1	4.0 to 5.8
Total Social kills	M	102	53.50	8.98	53.71	9.05	0.77	0.21	6.05	0.60	-0.98	1.39	0.34	0.73	0.87	0.78	0.84	0.69	N	11.80	-11.65	12.1	-13.7 to -9.6	10.0 to 14.1
	F	85	58.78	8.10	58.48	8.30	0.76	-0.29	5.62	0.61	-1.51	0.92	-0.48	0.63	0.87	0.77	0.84	0.66	N	10.97	-11.31	10.73	-13.4 to-9.2	8.6 to12.83

*a All Correlations were significant at the 0.01 level (2-tailed). *b ICC single measure: One-way random effects model where person is identified as a random effect

*c ICC$_{1,1}$ Intra class correlation coefficient (95% confidence interval) * SD $_{diff}$ Standard deviation of difference

Table 4.4 *Comparison of measures of reliability for social skills import*ance scores

Social skills Imp Constructs		Time1		Time 2			Systematic change in mean							ICC$_{1,1}$			HETEROSKEDACITY	COEFICIENT OF REPEATABILITY	LOA			
	GENDER	N	M	SD	M	SD	r[a]	Mean diff	SD$_{diff}$	SEM	95% CI LB	95%CI UB	t	*p-value*	α	ICC$_{1,1}$	95% CI LB	95%CI UB			95% LOA LB	95% LOA UB	95% CI LB	95% CI UB
Assertion	M	78	11.46	4.14	11.44	4.18	0.67	-0.03	3.37	0.38	-0.79	0.73	-0.07	0.95	0.80	0.67	0.54	0.78	N	6.56	-6.64	6.58	-7.9 to-5.3	5.3 to7.9
	F	69	11.22	3.41	11.04	3.74	0.69	-0.17	2.85	0.34	-0.86	0.51	-0.51	0.614	0.81	0.69	0.54	0.79	N	5.56	-5.76	5.42	-6.9 to-4.6	4.2 to6.6
Empathy	M	97	12.84	3.58	11.60	4.02	0.66	-1.23	3.15	0.32	-1.86	-0.59	-3.83	0.000*	0.79	0.62	0.48	0.73	N	6.60	-7.40	4.94	-5.8 to-6.3	3.9 to6.0
	F	86	14.45	3.12	13.40	3.87	0.52	-1.04	3.48	0.37	-1.79	-0.30	-2.79	0.006*	0.68	0.48	0.30	0.63	Y1	7.07	-7.9	5.8	-9.1 to-6.6	4.5 to7.0
Cooperation	M	93	13.65	3.83	12.19	4.27	0.70	-1.45	3.16	0.33	-2.10	-0.80	-4.44	0.000*	0.82	0.65	0.51	0.75	N	6.78	-7.64	4.74	-8.8 to-6.5	3.6 to5.9
	F	73	15.10	3.23	13.93	3.90	0.51	-1.16	3.57	0.42	-1.99	-0.33	-2.78	0.007*	0.67	0.47	0.27	0.63	N	7.32	-8.16	5.84	-9.6 to-6.7	4.4 to7.3
Self-Control	M	83	12.54	3.83	11.94	4.17	0.77	-0.67	2.74	0.30	-1.26	-0.08	-2.25	0.027*	0.87	0.76	0.65	0.84	N	5.45	-6.04	4.70	-7.1 to-5.0	3.7 to5.7
	F	76	14.25	3.53	13.21	4.15	0.63	-1.03	3.36	0.39	-1.81	-0.27	-2.70	0.009*	0.77	0.59	0.43	0.72	N	6.85	-7.62	5.56	-8.9 to-6.3	4.2 to6.9
Total Social skills	M	101	50.55	13.51	47.91	14.35	0.79	-2.64	9.05	0.90	-4.43	-0.86	-2.94	0.004*	0.88	0.78	0.68	0.84	N	18.38	-20.38	15.1	-23.4 to-17.3	12 to18.2
	F	82	53.45	10.85	51.49	13.96	0.66	-1.96	10.68	1.18	-4.31	0.38	-1.67	0.100	0.78	0.63	0.48	0.74	Y2	21.14	-22.89	18.97	-26.9 to 18.90	14.9 to 23.0

*a All Correlations were significant at the 0.01 level (2-tailed). *b ICC single measure: One-way random effects model where person is identified as a random effect

*c $ICC_{1,1}$ Intra class correlation coefficient (95% confidence interval) * SD_{diff} Standard deviation of difference

* Y1 Correlation is significant at the 0.05 level (2-tailed). * Y2 Correlation is significant at the 0.001 level (2-tailed)

4.9.1 Internal consistency

Acceptable levels of internal consistency for the total social skills frequency scale (α = .87) for boys and girls was obtained (Refer Tables 4.3 and 4.4). With the exception of empathy, all other subscale scores were found to have acceptable internal consistency values. In the case of the empathy subscale, lower internal consistency estimates were reported for girls (α = .71) than boys (α = .78).

On the importance scale, the gender of the student appeared to influence the internal consistency estimates. The internal consistency for the social skills importance scale in girls was .78, while for males it was .88. As showed in Table 4.4, on empathy, cooperation, and self-control domains, lower internal consistencies for females were identified, all of which were in the moderate category range (Salvia & Ysseldyke, 1981). In the case of boys, all subscale and total score internal consistency estimates met the minimal criteria of acceptable internal consistency.

4.9.2 Pearson's correlation

As displayed in Table 4.3 and Table 4.4, Pearson's correlation coefficient and the ICC $_{(1, 1)}$ index of relative reliability were reviewed whilst appraising the 4-week relative stability of the SSRS subscale and total scores. The single measure intra-class correlation coefficient ICC $_{(1, 1)}$ was used because in reality the instrument would only be administered once to a subject at one period. Values of the relative reliability coefficients appeared to be consistently higher for boys across all subscale and total score measures. Moderate to good Pearson's 4-week stability scores were obtained for boys, with values ranging from .64 ($p < 0.01$) for the empathy subscale to .80 ($p < 0.01$) on the assertion subscale. The 4-week *r* value for girls ranged from .55 (empathy subscale) to .73 for the self-control subscale (Portney & Watkins, 2000). Good to excellent Pearson's indices were obtained for both genders on the overall social skills frequency scale, with $r = .77$ ($p < .01$) for boys and $r = .76$ ($p < .01$) for girls. A similar trend was presented on the importance rating scales, with boys consistently displaying higher relative reliability indices than girls.

With the exception of the assertion subscale (for both genders), the self-control subscale (for boys) and total social skills scores (for boys); negative bias were observed for all other subscale and total scores across genders.

4.9.3 Paired sample t-tests

Paired sample t-tests were employed to identify the presence of systematic bias in student report on subscale and total score frequency and importance scales across administrations (Tables 4.3 and 4.4).

Statistically noteworthy changes in the mean scores on the assertion (p = .0006) and cooperation frequency subscales for boys were observed (p = .04). A higher value on the second round was obtained for the assertion score; whilst a reduction in cooperation scores was observed across time. On the social importance form, statistically significant differences in mean score values were obtained for the empathy; cooperation; self-control subscales for both genders; and the total social skills importance score for boys only. A reduction in value for each of the identified scores was observed across time.

4.9.4 The Bland and Altman's Limits of Agreement

Terms from the *t*-test analyses were used to compute measures of random error mean and the Bland and Altman limits of agreement and corresponding measurement errors (Bland & Altman, 1986, 1999, 2003). Refer to Tables 4.3 and 4.4.

The direction and magnitude of the scatter of difference scores around the zero line were explored by plotting the values against respective mean scores. The plot of difference against average also allowed investigating any possible relationship (correlation) between measurement error (i.e., the absolute difference between two administrations) and the assumed true value (i.e., the average value of two methods). The correlation coefficient was tested against the null hypothesis of $r = 0$ for a formal test of independence. As heteroskedasticity was not identified for the frequency

scores across genders, the upper and lower limits of agreement and their corresponding bounds were obtained from the raw data. One could safely conclude that within subject repeatability was not associated with the size of measurements.

On the importance scale however, heteroskedasticity was identified on the empathy subscale and the total social skills importance score for girls only, hence the LOAs for those scores are presented. Tables 4.3 and 4.4 provide a snapshot of the limits of agreement and repeatability coefficients as calculated by the Bland and Altman method. It can be said that for a new year7 student from the studied population, it would be expected (with an approximate 95% probability) that the difference between any two -test scores should lie within the limits of agreement. Thus, in the case of the assertion frequency subscale, we expect the differences between the test and retest of a year 7 girl student from the WA population to lie between -4.08 and +4.90 (CI = -5.0 to -3.2, 4.0 to 5.8).

4.10 DISCUSSION

This paper set out to present the Bland and Altman approach (Bland & Altman, 1986, 1999, 2003) to determine the limits of agreement of the SSRS secondary level self-report student form in a sample of Year 7 students from Australia. A critical consideration of the value of the reliability indices usually reported in SSRS studies was presented whilst arguing the merits of the proposed repeatability coefficient. A purposeful sample of 215-year seven students from five public schools across metropolitan Perth, Western Australia was recruited into the study. Using a longitudinal study design, students were administered the self-report questionnaire, 4-weeks apart, at a time suitable to the school authorities. The procedure for the second administration of the survey replicated the procedures for the initial supervision, with the same researcher and teacher present in the classroom to minimize administration bias. Analyses involved appraisal of the relative and absolute reliability indices for both the subscale and total social skills frequency and importance scales.

Statistically significant gender differences in social skills frequency and importance scores were identified in one-way repeated measures ANOVA analyses, lead to a decision to split the sample by gender. Across both administrations, girls were not only found to report the use of significantly higher empathy, cooperation, self - control and total social skill behaviours but also place significantly greater importance on these domains as compared to their male counterparts. These findings corroborate previous research on the existence of gender differences in social skills (Eisenberg & Fabes, 1998; Taylor, Liang, Tracy, Williams, & Seigle, 2002).

Acceptable levels of internal consistency for the total social skills frequency scale for boys and girls were identified in the current sample of Australian students. The gender of the student appeared to influence the internal consistency estimates on the importance scale, with lower indices identified for females. These findings differ from American estimates, where the internal consistency of subscale and total scores were about the same for males and females (Gresham & Elliot, 1990).

In the current study, the magnitude of the 4-week relative reliability coefficient whether calculated by Pearson's association or by the one-way random method using the ICC as a measure of reliability were similar across gender. Boys consistently displayed higher relative reliability coefficients than girls on both the frequency and importance subscales. Whilst the measures of relative reliability give us an indication of the strength of the relationship between the retest values, such a dimensionless value is of limited use clinically, as one cannot be sure whether a high value for an instrument actually means low variability at the individual level (Rankin & Stokes, 1998). Sole presentation of a ratio value is ineffective in providing any insight into the methodological rigor with which the instrument measures change within a subject over time (Brouwer et al., 2004). Similar magnitudes using Pearson and ICC indices are reported to occur in situations where the predominant source of error is due to random variation instead of a systematic difference (Streiner & Norman, 1995). Furthermore, in situations where low to moderate relative reliability indices are quoted; as in the case of this study, one cannot but ignore the random variation in

addition to the systematic change in means that contributes to this estimate. Caution needs to be exercised while extrapolating retest correlation values deemed acceptable in this sample to a new and possibly more heterogeneous population, and in comparing retest Pearson's *r*-values with other reliability studies (Atkinson & Nevill, 1998; Perrin, 1983).

Paired *t*-test analyses identified the presence of significant negative systematic bias on the empathy, cooperation, and self-control subscales for both genders and the total social skills importance score for boys. This significant mean score change value suggests that subjects consistently display a trend to perform worse on retest occasions. The effect of change in motivation, student boredom, or even the possibility that a more critical reflection on the questions on re-administration could have led to a lowered rating on the second round, cannot be disregarded as contributing factors (Portney & Watkins, 2000). Although attempts were undertaken to minimise administration bias, by having the same classroom teacher and researcher in attendance across administrations, the questionable validity of the SSRS as identified in previous articles cannot be out-ruled as a potential contributor (Fantuzzo et al., 1998; Manz et al., 1999; Van der Oord et al., 2005). Additionally, the *t*-statistic by itself could not provide any indication on whether the observed mean score differences compromised the reliability of the scale.

Terms from the *t*-test analyses were used to compute the Bland and Altman limits of agreement and corresponding measurement errors. In the current analyses, we found that for the subscales and total scores on the frequency and importance scales, the upper and lower limits of agreement bounds were spread on either side of zero. Therefore, according to the Bland and Altman criteria (Bland & Altman, 1986, 1999, 2007), the findings of this study provide empirical support for the 4-week test-retest reliability of the SSRS secondary level self-report form in an Australian sample of year 7 students. It is important to re-iterate the essential difference between the reliability indices outlined here and a clinically important change. This index describes a clinimetric property of a measurement, whilst clinically relevant changes

are more arbitrarily chosen values clinical scientists judge as minimally and clinically important (Lexell & Downham, 2005). Having said so, the findings throw open opportunities for future exploration of whether the clinimetric properties of the SSRS are related to clinically important change in social skills.

Chapter 5 Sample Characteristics

5.1 INTRODUCTION

This section provides a description of the characteristics of the sample that participated in the study, before and after negotiating the transition to secondary school. Student characteristics in relation to the key control factors (i.e., gender, health status and SES-level of household) are covered in Section 5.2. Section 5.3.describes the characteristics of the students that continued to be involved in the study after the transition to secondary school on the same control factors. Section 5.4 onwards presents an overview of the independent variables categorised in terms of personal and contextual factors (i.e., family, school/classroom, peer-group), along with an overview of the adjustment outcomes of interest. Predominantly, the following details have been addressed for each factor and adjustment outcome:

- Pre-transition (T1) description;
- Testing for group differences in students' gender, health status, and SES-level of their household; and
- Change scores across transition.

5.2 CHARACTERISTICS OF STUDENTS: GENDER, HEALTH STATUS AND SES-BACKGROUND AT T1

Table 5.1 *Student characteristics at T1 and T2: Gender, health status, and household SES-level*

Characteristics	T1		T2	
	***N* = 395**	**%**	**N = 266**	**%**
Gender				
Boy	187	47.3	124	46.6
Girl	208	52.7	142	53.4
Health status				
No Disability and/or No Chronic Illness	308	78.0	197	74.1
Disability and/or Chronic Illness	87	22.0	69	25.9
Household SES-level				
$1-599/ per week (low-SES level)	38	9.8	23	8.7
$600-1, 999/ per week (mid-SES level)	224	58.0	154	58.3
$2,000 + / per week (high-SES level)	124	32.1	87	33.0

Two cohorts of participants (those making the transition from primary to secondary school during the academic year 2006/2007, and 2007/2008) were followed. At T1, data from 395 students from a representative range of 45 feeder primary schools were retrieved. Girls accounted for 52.7% (n = 208) of the sample. The mean age boys was 147.23 months (12 year 3 months) (SD = 5.31 months) and that of girls was 145.15 months (12 years 1 month) (SD = 6.01 months).

Twenty-two percent (n = 87) of the involved students were identified by a parent to have a disability and/or chronic ill health condition. The mean age of students with a disability and/or chronic illness was 146.86 months (12 years 2 months) (SD = 6.08 months) and that of typically developing students was 145.87 (12 years 1.5 months) (SD = 5.66 months).

The sample was categorised into three-income groups as per the median income distribution based on the ABS (2001) data. As displayed in Table 5.1, 58% (n = 224) of the sample came from median income level of $ 600-1,999/ per week households. The low-income bracket was under-represented (n = 38), with only 9.8% of the sample reported to belong to households with a median earning between $ 1-599/ per week.

For the purposes of further analyses in this thesis, the $1-599/ per week household has been referred to as the low-SES household (socially disadvantaged), and the $2,000+/per week category have been labelled the high-SES group. The mid-SES income household is represented by the $ 600-1,999/ per week grouping.

Table 5.2 *Disability/chronic illness profile of the sample at T1*

Type of disability/Chronic illness	***n* = 87**	**%**
ADD	3	3.4
ADHD	7	8.0
Asperger's syndrome	5	5.7
Asthma	14	16.1
Autism and other PDD	1	1.1
Bed wetting	1	1.1
Brachial plexus injury	1	1.1
Cerebral Palsy	8	9.1
Diabetes Type1	3	3.4
Duchene Muscular dystrophy	1	1.1
Ear or Hearing problems	11	12.6
Epilepsy	2	2.3
Eye or vision problems	4	4.5
Haemophilia	1	1.1
Hypothyroidism	1	1.1
Hyperthyroidism	1	1.1
Intellectual disability	1	1.1
Irlene syndrome	1	1.1
Juvenile Rheumatoid arthritis	1	1.1
Learning disability	15	17.2
Oestrogen brittle bone syndrome	1	1.1
Spina bifida	1	1.1
Total	87	100.0

As shown in Table 5.2, the majority of the students in the disability/chronic illness category were reported to have either learning disability (17.2%; n = 15), or asthma (16.1%; n = 14), or ear/ hearing problems (12.6%; n = 11). Only 9.1% (n = 8) were

identified with developmental disability like cerebral palsy, or a condition that affects social-communication like Asperger's syndrome or autism (6.8%, *n* = 6).

5.3 CHARACTERISTICS OF STUDENTS: GENDER, HEALTH STATUS AND SES-BACKGROUND AT T2

An attrition rate of 32.65% resulted in a total 266 participants from 81 secondary schools across metropolitan and regional Western Australia (Table 5.1). At T2, data were retrieved from parents and students only.

At T2, girls accounted for 53.4% (*n* = 142) of the sample. The mean age of boys was 159.23 months (13 years 2.7 months) (*SD* = 5.30 months) and that of girls was 157.15 months (13 years 1 months) (*SD* = 6.01 months).

Sixty-nine students (25.9%) were reported by a parent to have a disability and/or chronic ill health condition. The mean age of students with a disability and/or chronic illness was 158.86 months (13 years 2.4 months) *SD* = 5.08 months) and that of typically developing students was 157.87 months (13 years 1.6 months) (*SD* = 5.66 months).

The low-SES level group continued to be under-represented (*n* = 23), whilst 58.3% (*n* = 154) of the sample came from mid-SES level households.

Paired sample *t*-tests and chi-square analyses demonstrated that the participants who continued to be involved in the study did not differ in profile from those who discontinued involvement, on gender, health status, SES-level, and all adjustment outcomes (i.e., academic competence, emotional and behavioural adjustment, overall sense of self-worth, belongingness in school, loneliness and social dissatisfaction in school, and participation in school extra-curricular activities). This provides statistical rationale for using the T1 sample as a reference group in subsequent analyses.

5.4 CHARACTERISTICS OF THE SAMPLE

The characteristics of the sample on each independent factor and outcome are addressed. Personal factors are first outlined, followed by contextual (i.e., family, school, and peer-group) and adjustment outcomes. While addressing each factor, the following details are discussed:

- T1 (Pre-transition) profile using univariate descriptive parametric statistics;
- Group differences in gender, health status and household income level; and
- Change scores across transition

5.4.1 Personal factors

5.4.1.1 Perceived self-competence

Table 5.3 *Mean perceived competence of the sample at T1*

Measure (*N* = 395)	**M**	**SD**	**Range**
T1 Social acceptance competence	3.12	0.67	1-5
T1 Athletic competence	2.84	0.77	1-5
T1 Physical appearance competence	2.84	0.71	1-5
T1 Behavioural conduct competence	3.14	0.67	1-5
T1 Close friendship competence	3.26	0.73	1-5

T1 profile: Table 5.3 proves an overview of the sample's mean competence scores across each of the five discrete domains (Harter, 1988). As identified by their mean values, the majority of the sample at pre-transition displayed a positive perception of competence across all domains under review.

Group differences at T1: Independent sample *t*-tests and one-way ANOVA analyses were undertaken to explicate the contribution of gender, health status, and SES-level of household on competence domains (Appendix G). The following sub-section discusses the findings.

Gender*:* Considerable gender differences in perceived competencies were identified through univariate scrutiny. Boys reported higher physical appearance $t(393) = 3.20$, $p = .002$ and athletic $t(393) = 3.35$, $p = .001$ competence scores. Girls on the other hand were found to be more competent in forging close friendships $t(393) = -2.00$, $p = .046$, and in the behavioural conduct domain $t(393) = - 4.41$, $p = .000$.

Health status: Differences in perceived competence as a function of students' health status were identified in social acceptance $t(393) = 4.60$, $p = .000$, athletic $t(393) = 2.80$, $p=.005$, and close friendship $t(393) = 4.80$, $p = .000$ domains. Largely, typically developing students held higher competence than their counterparts with a disability and/ or chronic illness.

SES-level of household: Group differences in perceived behavioural conduct competence were found using one-way ANOVA analysis $F(2, 383) = 4.06$, $p = .018$. Hochberg's post-hoc comparisons indicated that students from high-SES families reported higher behavioural competence scores ($M = 3.26$, $SD = 0.62$) when compared to those from the mid-SES income households ($M = 3.06$, $SD = 0.68$) ($p = .02$). While those in the low-SES group had similar behavioural competence scores to the mid-SES groups, the smaller number of subjects in the low-SES group meant that comparison against high-SES group was not significant.

Table 5.4 *Change in perceived competence domains across transition*

Measure (*N* = 266)	**M**	**SD**	**ΔM (T2-T1)**	**t**	**p-value**
T2 Social acceptance competence	3.17	0.58	0.037	0.99	.320
T1 Social acceptance competence	3.13	0.69			
T2 Athletic competence	2.86	0.75	-0.006	-0.18	.855
T1 Athletic competence	2.86	0.77			
T2 Physical appearance competence	2.78	0.70	-0.04	-1.11	.270
T1 Physical appearance competence	2.83	0.72			
T2 Behavioural conduct competence	3.10	0.64	-0.03	-0.75	.452
T1 Behavioural conduct competence	3.13	0.68			
T2 Close friendship competence	3.37	0.61	0.11	2.80	.006
T1 Close friendship competence	3.26	0.73			

Change scores across transition: Change scores identified students to be significantly more competent in forging close friendships when in secondary school $t(265) = 2.80$, $p = .006$. Reductions in perceived competence across the remaining domains were identified. The change scores in the latter cases were however not statistically significant.

5.4.1.2 Coping skills

Table 5.5 *Coping skills of the sample at T1*

Measure (*N* = 395)	M	SD	Range
T1 Solving the problem	23.58	3.83	10-30
T1 Reference to others	10.95	3.13	4-20
T1 Non-productive	24.46	6.38	9-44

T1 profile: Table 5.5 provides an overview of the sample's coping profile based on the short version of the Adolescent Coping Scale (ACS) (Frydenberg and Lewis, 1993).

Group differences at T1: Independent sample *t*-tests and one-way ANOVA analyses were undertaken to explicate the contribution of gender, health status, and SES-level of household, on coping skill domains (Appendix G). The following sub-section discusses the findings.

Gender: Univariate testing identified significant gender differences in the manner in which students coped in relation to others $t(393) = -2.30$, $p = .023$. Girls ($M = 11.30$, $SD = 2.98$) were found to seek support from others more often than boys ($M = 10.60$, $SD = 3.26$).

Health status: No significant differences in students' coping style as a function of their health status were identified at T1.

SES-level of household: Group differences in coping as a function of SES-level were identified in the 'solving the problem' coping domain $F(2, 383) = 5.85$, $p = .003$. Hochberg's post-hoc analysis found that students from low-SES families ($M = 21.93$, $SD = 3.81$) used fewer 'solving the problem' coping strategies when compared to those from high-SES families ($M = 24.25$, $SD = 3.44$).

Table 5.6 *Change in coping style domains across transition*

Measure (*N* = 266)	**M**	**SD**	**ΔM (T2-T1)**	**t**	**p-value**
T2 Solving the problem	23.27	3.63	-0.52	-2.30	.027
T1 Solving the problem	23.79	3.64			
T2 Reference to others	10.50	2.90	-0.42	-2.09	.037
T1 Reference to others	10.93	2.98			
T2Non-productive	24.00	5.68	-0.19	-0.50	.615
T1 Non-productive	24.19	6.27			

Change scores across transition: Univariate change scores revealed a reduction in adaptive coping techniques used across transition. Coping styles like solving the problem (T2*M* = 23.27, *T2SD* = 3.63) (*T1M* = 23.79, *T1SD* = 3.64); *t*(265) = -2.30, *p*=.027 and reference to others (*T2M* = 10.50, *T2SD* = 2.90) (*T1M* = 10.93, *T1SD* = 2.98); *t*(265) = -2.09, *p* = .037 were used less in secondary school. Although these differences are small in magnitude, they are statistically significant. No comments on the clinical significance of these systematic mean scores changes can be made at this point.

5.4.1.3 Social skills

Table 5.7 *Social skills of the sample at T1*

Measure (*N* = 395)	**M**	**SD**	**Range**
T1 Total Social Skills Frequency	55.55	10.22	0-80
T1 Total Social Skills Importance	48.51	12.55	0-80
T1 Assertion Frequency	12.63	3.46	0-20
T1 Empathy Frequency	15.32	3.35	0-20
T1 Cooperation Frequency	15.12	3.04	0-20
T1 Self-Control Frequency	12.48	3.35	0-20
T1 Assertion Importance	10.76	3.78	0-20
T1 Empathy Importance	12.99	3.78	0-20
T1 Cooperation Importance	12.74	3.48	0-20
T1 Self-Control Importance	12.00	3.68	0-20

T1 profile: Table 5.7 presents the mean and standard deviation of frequency of engagement and importance laid on social skills in primary school.

Group differences at T1: Results of independent sample *t*-tests and one-way ANOVA analyses undertaken to review the contribution of gender, health status, and SES-level of household on domain-specific and total social skills scores are discussed in the following sub-section. Refer to Appendix G for further details.

Gender: At T1, statistically significant gender differences in the total frequency of use of social skills were identified $t(393) = -2.87$, $p = .004$. Girls ($M = 56.96$, $SD = 8.54$) reported to use social skills more often in their engagements with others than boys ($M = 53.98$, $SD = 11.64$).

Further exploration of the subscale scores found girls to use more empathy $t(392) = -5.62$, $p = .000$ and cooperative skills $t(393) = 3.85$, $p = .000$ when dealing with others. Although gender differences in the overall importance laid on social skills were not statistically significant ($p = .864$), girls were found to place significantly more importance on empathy related social skills than boys $t(392) = -3.17$, $p = .002$.

Health status: The health status of the student also moderated the sample's mean social skills frequency scores at T1 $t(393) = 2.325$, $p = .021$. Students with disabilities/chronic illness used social skills less often ($M = 53.31$, $SD = 10.33$) than the typically developing peers ($M = 56.18$, $SD = 10.12$).

Group differences appeared to be significantly apparent in the frequency of use of assertiveness $t(393) = 3.30$, $p = .001$ and cooperative skills $t(393) = 1.95$, $p = .052$. In each of these skill domains, typically developing students reported more frequently use of skills than their classmates with a disability/chronic ill health condition. Students' health status did not influence the importance laid on social skills.

SES-level of household*:* The SES-level of student household significantly influenced the frequency of the use of social skills $F(2, 383) = 5.971$, $p = .003$. Those from high-SES households ($M = 57.90$, $SD = 8.82$) reported significantly higher total skill use when compared to their counterparts from mid-SES ($M = 54.33$, $SD = 10.48$) ($p = .005$) and low-SES ($M = 53.29$, $SD = 10.96$) ($p = 0.040$) households.

Further scrutiny into the domain scores revealed that the use of assertion $F(2, 383) = 3.36$, $p = .036$, cooperation $F(2, 383) = 7.39$, $p = .001$, and self-control $F(2, 383) = 3.53$, $p = .030$ skills differed according to the SES level of students' family unit. Post-hoc examinations identified that students belonging to high-SES families ($M = 13.17$, $SD = 3.25$) tended to be more assertive than those from low-SES level households ($M = 11.66$, $SD = 3.48$) ($p = .054$). Cooperative skills were reported to be used less by mid-SES household adolescents ($M = 14.66$, $SD = 3.13$) than those from high-SES income families ($M = 15.91$, $SD = 2.66$) ($p = .001$).

Students from low-SES families placed very low importance on assertive skills (M = 9.03, SD = 3.12), when compared to children from mid-SES (M = 10.92, SD = 3.85) (p = .013) and high-SES households (M = 10.96, SD = 3.71) (p = .017).

Table 5.8 *Change in social skills domain and total scores across transition*

Measure (N = 266)	**M**	**SD**	**ΔM (T2-T1)**	**t**	**p-value**
T2 Total Social skills frequency	54.92	9.45	-1.02	-1.64	.101
T1 Total Social skills frequency	55.94	10.31			
T2 Total social skills importance	46.98	11.45	-2.03	-2.62	.009
T1 Total social skills importance	49.02	11.96			
T2 Assertion frequency	12.49	3.27	-0.130	-0.64	.523
T1 Assertion frequency	12.62	3.33			
T2 Empathy frequency	15.17	3.40	-0.301	-1.43	.154
T1 Empathy frequency	15.47	3.38			
T2 Cooperation frequency	15.00	2.91	-0.25	-1.45	.147
T1 Cooperation frequency	15.26	3.11			
T2 Self-control frequency	12.25	3.12	-0.33	-1.47	.143
T1 Self-control frequency	12.58	3.48			
T2 Assertion importance	10.36	3.55	-0.53	-2.29	.023
T1 Assertion importance	10.90	3.59			
T2 Empathy importance	12.60	3.64	-0.40	-1.64	.103
T1 Empathy importance	13.00	3.70			
T2 Cooperation importance	12.47	3.38	-0.40	-1.70	.090
T1 Cooperation importance	12.87	3.38			
T2 Self-control importance	11.52	3.53	-0.71	-2.91	.004
T1 Self-control importance	12.23	3.51			

Change scores across transition: Paired sample *t*-test failed to reveal a statistically significant change in the frequency of use of social skills across the secondary school transition. A reduction in the mean importance laid on overall social skills was found $t(265) = -2.621$, $p = .009$. Further scrutiny into domain specific scores identified that in secondary school, the sample laid less value on assertiveness $t(265) = -2.29$, $p = .023$, and self-control skills $t(265) = -2.91$, $p = .004$.

5.4.1.4 Motivational orientation for schooling

Table 5.9 *Motivational orientation for schooling scores at T1*

Measure (*N*=395)	M	SD	Range
Task motivation	4.07	0.93	1-5
Effort motivation	4.00	0.87	1-5
Competition motivation	2.88	1.02	1-5
Social-power motivation	2.79	1.08	1-5
Affiliation motivation	3.89	0.99	1-5
Social concern motivation	3.94	0.78	1-5
Praise motivation	3.68	0.85	1-5
Token motivation	3.30	0.97	1-5

T1 profile: An overview of the sample's mean motivational orientation scores, on each of the eight discrete motivational domains, is presented in Table 5.9. The mean scores of the sample on each discrete domain at T1 were positively skewed. In spite of the evident skewness, the large sample size ensures that the theoretical distribution of the means is close to normal (i.e., the central limit theorem) (Portney & Watkins, 2000). Therefore, the use of *t*-tests to compare means is still valid. Furthermore, non-parametric tests undertaken replicated the findings of the *t*-tests, further validating the appropriateness of the parametric analyses.

Group differences at T1: Independent sample *t*-tests and one-way ANOVA analyses were undertaken to clarify the contribution of gender, health status, and SES-level of household on students' motivational orientations in primary school (Appendix G).

Gender*:* Gender differences in the domains of: task $t(393) = -2.52$, $p = .012$; competition $t(393) = 3.50$, $p = .001$; social-power $t(393) = 4.02$, $p = .000$; and social-concern $t(393) = -2.01$, $p = .046$ motivational orientations were reported. Girls were more motivated than boys in not only task orientations, but also by the desire to

make friends (i.e., social-concern motivation). Boys on the other hand were more driven by competition, and by the aspiration to be involved in situations that afforded them opportunity to gain social authority (i.e., social-power or leadership motivation).

Health status: At T1, no group differences in students' motivational orientations due to their health status were identified.

SES-level of household*:* The SES-level of the students household exerted a decisive role on effort motivational orientations $F(2, 383) = 3.93$, $p = .021$. Those belonging to high SES-level households (M = 4.18, SD = 0.79) placed a high premium on effort as the contributor to academic success when compared to students from mid-level income households ($M = 3.91$, $SD = 0.89$) ($p = .016$). No other group differences in motivational orientation as a function of the SES-level of students' households were identified

Table 5.10 *Change in motivational orientation for schooling scores across transition*

Measure (*N*=266)	**M**	**SD**	**ΔM (T2-T1)**	**t**	**p-value**
T2 Task motivation	4.18	0.72	0.02	0.38	.702
T1 Task motivation	4.16	0.84			
T2 Effort motivation	3.96	0.75	-0.13	-2.42	.016
T1 Effort motivation	4.10	0.76			
T2 Competition motivation	2.92	1.05	-0.01	-0.12	.903
T1 Competition motivation	2.93	1.03			
T2 Social-power motivation	2.55	0.98	-0.31	-4.26	.000
T1 Social-power motivation	2.87	1.07			
T2 Affiliation motivation	3.91	0.89	-0.01	-0.137	.891
T1 Affiliation motivation	3.92	0.94			
T2 Social concern motivation	3.89	0.66	-0.12	-2.66	.008
T1 Social concern motivation	4.02	0.69			
T2 Praise motivation	3.60	0.81	-0.11	-1.92	.056
T1 Praise motivation	3.71	0.79			
T2 Token motivation	3.15	0.94	-0.16	-2.50	.013
T1 Token motivation	3.31	0.95			

Change scores across transition: Students' task and competition motivational orientations were found to be relatively stable across transition. Reductions in effort $t(265) = -2.42$, $p = .016$, social-power $t(265) = -4.26$, $p = .000$, social concern $t(265) = -2.66$, $p = .008$, praise $t(265) = -1.92$, $p = 0.056$, and token $t(265) = -2.50$, $p = .013$ motivational orientations subsequent to the transition into secondary school were identified.

5.4.1.5 Expectations of schooling: personal, parental, and teacher expectations

Table 5.11 *Expectations of schooling at T1*

Measure	Level of scholastic completion	N	%
T1 Personal expectations of schooling	Until Years 7-12	82	20.8%
	TAFE/University degree	302	76.5%
	Other	2	.5%
	Don't know	9	2.3%
T1 Perception of parental expectations for scholastic success	Until Years 7-12	106	27.0%
	TAFE/University degree	272	69.2%
	Other	10	2.5%
	Don't know	5	1.3%
T1 Perception of class-teacher's expectations for scholastic success	Until Years 7-12	133	33.8%
	TAFE/University degree	236	59.9%
	Other	21	5.3%
	Don't know	4	1.0%

T1 profile: As displayed in Table 5.11, at T1, 76.5% (n = 302) of the sample expected to pursue a TAFE/University degree. Sixty nine percent (n = 236) and 59.9 % (n = 236) of the sample felt a parent or class-teacher expected them to obtain a TAFE/University degree. About 2.3% (n = 9) of the students were oblivious of how far they wanted to achieve scholastically

Group differences at T1: Chi-square tests of independence were performed to examine the relationship between expectations of schooling (i.e., personal, parental, teacher) and gender, health status, and SES-level of household (Appendix G). Because of the small numbers in the others/don't know category, a decision to leave out the others/don't know reports from subsequent analyses was undertaken to avoid bias to the chi-square test (Portney & Watkins, 2000).

Gender*:* Boys were more likely than girls to hold lower expectations of success $\chi^2(1, N = 384) = 5.955, p = .015$. There was no significant relationship between perceptions of parental and teacher expectations for scholastic success and individual's gender.

Health status: Students with a disability/chronic ill health were more likely to hold lower expectations of success than their typically developing counterparts $\chi^2(1, N = 384) = 10.159, p = .001$. No significant relationships between perceptions of parental expectations for scholastic success and students' health status were identified. Perceptions of teachers' expectations for scholastic success were identified to differ as a function of health status $\chi^2(1, N = 369) = 4.842, p = .03$. Those with a disability/CI felt that their teachers' expected them to achieve less scholastically.

SES-level of household: Personal expectations for scholastic success differed as a function of the student's household income level $\chi^2(2, N = 376) = 21.397, p = .000$. Examination of the standardized residuals revealed that fewer than expected students from the high-SES income category reported lower expectations of success, whilst more than expected students from low-SES households group held lower expectations of success.

Perception of parental expectations of schooling differed as a function of the income level of one's household $\chi^2(2, N = 369) = 6.806, p = .03$. Examination of the standardized residuals revealed that more students from lower-SES households felt

that their parents expected them to achieve less scholastically. Perception of teachers' expectations of schooling differed as a function of one's household income χ^2 (2, N = 361) = 15.694, p = .000. More students from low-income level families felt that their teachers' held lower expectations of success (than expected statistically), whilst fewer than expected sensed that their teachers expected them to obtain a TAFE/University degree.

Table 5.12 *Personal expectations of schooling across transition*

		T2 Personal expectations of schooling	
	Category	Until Years 7-12	TAFE/University e
T1 Personal expectations of schooling	Until Years 7-12	27 (62.8%)	16 (37.2%)
	TAFE/University e	25 (12.1%)	181 (87.9%)

Change scores across transition: Across the school divide, the agreement of students' expectations of scholastic success was found to be moderate (Kappa coefficient = .47). At T2, 12.1% of students lowered their expectations of schooling from TAFE/University completion to studying until years 7-12 years. Thirty-seven percent increased expectations.

Table 5.13 *Perception of parental expectations of schooling across transition*

		T2 Perception of parental expectations	
	Category	Until Years 7-12	TAFE/University e
T1 Perception of parental expectations	Until Years 7-12	22 (34.9%)	41 (65.1%)
	TAFE/University e	29 (15.6%)	157 (84.4%)

Change scores across transition: The agreement of student perception parental expectation of scholastic success across the school divide was found to be moderate (Kappa coefficient = .21). At T2, 15.59% of students felt that their parents lowered

expectations (i.e., from TAFE/University completion to 7-12 years expectations), while 65.1% felt their parents increased expectations (i.e., from 7-12 years expectations at T1, to TAFE/University completion at T2).

Table 5.14 *Perception of teacher's expectations of schooling across transition*

		T2 Perception of year level teachers expectations	
	Category	Until Years 7-12	TAFE/University
T1 Perception of year level teacher's expectations	Until Years 7-12	53 (6.3%)	27 (33.8%)
	TAFE/University e	46 (28.6%)	115 (71.4%)

Change scores across transition: The agreement on students' perceptions of the expectations that their respective year level teachers held for them across transition was found to be fair (Kappa coefficient = .36). At T2, 28.57% of students felt that their secondary year level teachers held lower expectations than their primary level teachers. Nearly thirty-four percent felt that their secondary year level teachers held higher expectations than their primary level teachers.

5.4.1.6 Worrying about transition to secondary school: Before and after transition

Table 5.15 *Level of worry about the impending transition at T1*

Measure	Category	N	%
T1 Self report of worrying prior	Low-Q	204	51.6
to transition	Mid-Q	126	31.9
	High-Q	65	16.5

T1 profile: Students in the study were asked to report on how often they worried about the impending transition to secondary level school. About 31.9% (N = 126) reported mid-Q level worrying, while 16.5% (N = 65) were highly worried about the impending transition.

Group differences at T1: Chi-square tests of independence were performed to examine the relation between level of worry prior to transition and student gender, health status, and SES-level of household (Appendix G).

Gender: At T1, girls were more likely than boys to worry about the impending transition to secondary school $\chi^2(2, N = 395) = 22.65$, $p = .000$. Standardized residual scores identified girls to be over-represented in the mid-level worrying category, and under-represented in the low-level category. The profile of boys was exactly the reverse.

Health status and **SES-level of household**: No group differences in the level of worrying about the impending transition to secondary school, as a function of gender and SES-level of the student's household were identified.

Table 5.16 *Change in the level of worry before and after the transition to secondary school*

		T2Worry after the transition to secondary school		
	Category	Low-Q	Mid 25-75 percentile	High-Q
T1 Worry about impending transition	Low-Q	102 (71.8%)	37 (26.1%)	3 (2.1%)
	Mid 25-75 percentile	58 (66.7%)	19 (21.8%)	10 (11.5%)
	High-Q	16 (43.2%)	7 (18.9%)	14 (37.8%)

As shown in Table 5.16, across the school divide, students reported a slight agreement of the amount they worried before and after transition into secondary school (Kappa coefficient = .11). In secondary school, 26.1% of students who fell in the low-Q worrying category at T1 reported mid-level worry, while 2.1% reported high-level worry subsequent to the transition into secondary school.

Forty-three percent of students who were highly worried prior to transition reported lowered worry subsequent to transition, while 18.9% reported mid-level worry in secondary school.

Fifty-eight students (66.7%) were less worried in secondary school, while 11.5% reported an increase in worry. Overall, there appeared to be a general trend towards less worry subsequent to the transition into secondary school.

5.4.2 Family factors

5.4.2.1 Family demographics

Table 5.17 *Demographic characteristics of families involved in the study at T1*

Measure	Categories	N	%
T1 Family type	Original family	295	74.7
	Blend/extended/combination	43	10.9
	Single parent family	57	14.4
T1 No of children less than 18 years of age in the home (either full time or some of the time)	At least 2	248	62.9
	Three	105	26.6
	Four	41	10.4
T1 Language predominantly spoken at home	English	370	94.1
	Other than English	23	5.9
T1 Female parent qualification	No post-school	89	22.9
	Apprentice/ TAFE	155	39.9
	University/ Post-Graduate	144	37.1
T1 Female parent employed	No	104	26.3
	Yes	291	73.7
T1 Female parent employment type (N = 291)	Part-time	90	30.93
	Full time	201	69.07
T1 Title of Female parent employment (N = 291)	Manager /Professional	156	53.61
	Trade/Service/Administration/Sales	130	44.67
	Missing data	5	1.72

Table 5.17.continued…*Demographic characteristics of families involved in the study at T1*

Measure	Categories	N	%
T1 male parent qualification	No post-school	61	18.1
	Apprentice/ TAFE	159	47.2
	University/ Post-Graduate	117	34.7
T1 Male parent employed	NA	57	14.43
	No	21	5.31
	Yes	317	80.25
T1 Male parent employment type (N = 317)	Part-time	6	1.89
	Full time	311	98.11
T1 Title of Male parent employment (N = 317)	Manager /Professional	170	53.63
	Trade/Service/Administration/Sales	111	35.02
	Missing data	35	11.04

T1 profile: As displayed in Table 5.17, at T1, 74.5% (N = 295) of students lived in a family consisting of both natural parents of the child.

The blended/extended/combination family was represented by 10.9% of the sample (n = 43). Fifty-seven students (14.4%) were reported to belong to single parent households

The majority of the families that took part in the study (n = 248; 62.9%) had one or two children less than 18 years of age in their home (i.e., either full-time or most of the time). Forty-one families (10.4%) had more than four children. English was the predominant language spoken in the homes of 94.1% of the participants (N = 370). Only 5.9% (n = 23) spoke a language other than English in the household.

Nearly 40% (*n* = 155) of mothers had an apprentice/TAFE qualification. University/post-graduate degrees were held by 37.1% (*n* = 144) of the mothers, whilst 22.9% (*n* = 89) did not have a post-school qualification.
Male parents from 47.2% (*n* = 159) household were reported to have an apprentice/TAFE degree, 34.7% held (*n* = 117) a university/post-graduate degree, and 18.1% (*n* = 61) did not study beyond school.

Nearly three-quarters of the mothers (*n* = 291) were in paid employment. Of the 291 that worked, 60.07% (*n* = 201) worked full time, and 30.93% (*n* = 90) worked part-time. 53.61% of the working mothers who were involved in the study (*n* = 156) held professional/managerial employment titles while 44.67% (*n* = 130) worked in Trade/Service/Administration/Sales.

A majority of male parents were in paid work (80.25%, *n* = 317), with 98.11% (*n* = 311) working full-time and only 1.89% (*n* = 6) reported to be in part-time work. Little more than half of the employed fathers held managerial/professional posts (*n*= 170; 53.63%) and 35.02% (*n* = 111) held either a trade or service or administration, or sales related job title.

Group differences at T1: Chi-square tests of independence were performed to examine the relation between family demographic variables and student gender, health status, and household income (Appendix H).

Gender/ Health status: At T1, no differences in family demographic characteristics as a function of the health status or gender of the student were identified.

SES-level of household: A significant relationship between students' family type and household income was identified $\chi^2(4, N = 386) = 115.554$, $p = .000$. Examination of the standardized residuals revealed that 2-parent family households were under-represented by low-SES families, and over-represented by affluent families. The blended/extended/combination family sub-type in turn was represented by more than

expected students from the mid-range income category, and lesser than expected affluent households. Low-SES households over-represented single-parent family sub-type, whilst affluent families were under-represented in this category.

A significant relationship between the predominant language spoken at home and the income level of one's household was also recognized $\chi^2(2, N = 384) = 19.282$, $p = .000$. More than expected lower-SES bracket households primarily spoke languages other than English. These findings support findings that social and cultural disadvantage concur.

The qualification of the female parent was found to vary as a function of household income $\chi^2(4, N = 379) = 35.658$, $p = .000$. Examination of the standardized residuals revealed that more than expected mothers from lower income families and fewer mothers from affluent homes did not have a post-school qualification. Equally, on the contrary, more than expected mothers who held a university degree were from high-SES households. The mid-SES and lower-SES level categories each had less than expected female parents with a University degree.

Female parents' employment status was identified to be related to household income level $\chi^2(4, N = 379) = 35.658$, $p = .000$. More than expected women represented the unemployed category from lower–SES households. The relationship between the hours that a female parent spent in paid employment and household income was also identified to be significant $\chi^2(4, N = 386) = 19.100$, $p = .001$. Less than expected mothers from low-income households, and more than expected women from high-income families were employed in full-time labour. Additionally, significant relationships between job title of the female parent and one's SES level were also recognized $\chi^2(4, N = 378) = 59.028$, $p = .000$. Management/Professional designation was held by more than expected women from high-SES families, and under–represented by mid-SES and low-SES income women. More women from mid-SES households pursued trade/service/administration/sales vocations, while these professions were under-represented by women from high-SES families.

Significant relationships between father's qualification $\chi^2(2, N = 378) = 6.729$, $p = .000$ and household income were obvious. Examination of the standardized residuals revealed that more than expected males from the unemployed category were from low-SES income families. More than expected males from high-SES households held university degree qualifications, whilst the mid-SES category and low-SES families were under-represented. Apprentice/TAFE certification in turn was acquired by more than expected male parents from mid-SES income families, and less than expected men from the high-SES category. More than expected low-SES income household males represented the unemployed category.

The relationship between the hours that the male parent spent in paid employment and economic capital was also identified to be significant $\chi^2(4, N = 386) = 112.49$, $p = .000$. Less than expected fathers from low income families were employed in full–time labour.

Significant relationships between job title of the male parent and economic capital were also recognized $\chi^2(4, N = 348) = 142.643$, $p = .000$. Management/Professional titles were over-represented by affluent males and under -represented by mid-range and lower income males. Mid-range household males were over-represented in either trade, or service, or administration, or sales-related vocations. Fathers from both high-SES and low-income households were under-represented in the listed employment title categories. The financially unsupported category was represented by more than expected fathers from low-SES level households, and less than expected mid-SES and high-SES families.

Change scores across transition:

Across time, the agreement of parental accounts on each of their qualifications, employment type, level of employment and income levels was substantial to perfect (Kappa coefficient ranging from .60 - .89). This suggests that family demographic factors remained relatively stable across the ecological shift to secondary school.

5.4.2.2 Perceived Social Support from one's family

Table 5.18 *Mean perceived social support from the family at T1*

Measure (*N* = 395)	M	SD	Range
T1 Social support from Family	5.88	1.24	1-7

T1 profile: Table 5.18 presents the mean and standard deviation of student perceived social support from their family when enrolled in the final year of primary education. Overall, participants reported a high level of social support from their families.

Group differences at T1: Independent sample *t*-tests and one-way ANOVA analyses were undertaken to explicate the contribution of gender, health status, and SES-level of household on students' perception of social support received from their families (Appendix H).

Gender*:* At T1, no significant group differences in family support as a function of the students' gender were identified.

Health status: Students with a disability or a chronic ill health condition reported receiving significantly higher social support from their families $t(393) = -1.98$, $p = .05$ ($M = 6.07$, $SD = 0.92$) when compared to their typically developing counterparts ($M = 5.82$, $SD = 1.31$).

SES-level of household*:* One-way ANOVA testing failed to identify any noteworthy pattern of variation in family support as a function of household income level.

Table 5.19 *Change in perceived social support from family across transition*

Measure (*N*=266)	**M**	**SD**	**ΔM (T2-T1)**	**t**	**p-value**
T2 Social support from Family	5.81	1.15	-.13	-1.84	.067
T1 Social support from Family	5.94	1.16			

Change scores across transition: Students reported families to be less supportive in secondary school. The reduction in perceived family social support was however not statistically significant.

5.4.2.3 Family Functioning

Table 5.20 *Family functioning scores at T1*

Measure (*N* = 395)	M	SD	Range
T1 Family functioning	1.61	0.42	1-4

T1 profile: At the T1 presentation, parents reported a mean family functioning score of (M = 1.61, SD = 0.42).

Group differences at T1: Independent sample *t*-tests and one-way ANOVA analyses were undertaken to explicate the contribution of gender, health status, and SES-level of household on family functioning (Appendix H).

Gender*:* No group differences in family functioning as a function of students' gender were identified.

Health status: No group differences in family functioning as a function of students' health status were identified.

SES-level of household*:* The SES-level of students' household emerged as significant determinant of functioning $F(2, 384) = 4.12$, $p = .017$. Low-SES families reported higher aberrant functioning scores (M = 1.72, SD = 0.46) than their high-SES counterparts (M = 1.53, SD = 0.41) (p = .032).

Table 5.21 *Change in perceived family functioning across transition*

Measure (*N*=266)	**M**	**SD**	**ΔM (T2-T1)**	**t**	**p-value**
T2 Family functioning	1.61	.41	0.19	1.00	.317
T1 Family functioning	1.59	.41			

Change scores across transition: The change in family functioning score was not statistically significant across transition.

5.4.2.4 Parental expectations of schooling for their child

Table 5.22 *Parental expectations of schooling for their child at T1*

Measure (*N* = 382)	Level	N	%
T1 Parental expectations of schooling for their child	7-12	59	15.4
	Trade/TAFE	109	28.5
	Uni/post	214	56.0

T1 profile: As displayed in Table 5.22, 56% (*n* = 214) expected their children to obtain a TAFE/university degree. Only 15.4% (*n* = 59) parents expected their children to not progress past year 7-12.

Group differences at T1: Independent sample *t*-tests and one-way ANOVA analyses were undertaken to explicate the contribution of gender, health status, and SES-level of household on parental expectations of schooling for their child (Appendix H).

Gender*:* A greater proportion of boys were expected to achieve a TAFE/Trade qualification than girls. More girls were expected to achieve a University degree.

Health status: Students with a disability/chronic ill health condition were expected to achieve less academically than their able-bodied counterparts $\chi^2(2, N = 382) = 25.584, p = .000$.

SES-level of household: Scrutiny of the standardised residuals revealed that fewer students from affluent families and more students from low-SES households were expected to study until years 7-12. Trade or TAFE certification expectations were held by more families from the mid-SES households, and were under-represented by the high-SES household grouping. Smaller numbers of students from low-and mid-range SES income households and more from high-SES household than estimated statistically, were expected by a parent to obtain University/Post-graduate degrees.

Table 5.23 *Parental expectations of schooling for their child across transition*

		T2 Parental expectations of schooling for their child		
	Category	Until Years 7-12	TAFE/Trade	University/ Post-grad
T1 Parental expectations of schooling for their child	Until Years 7-12	14 (36.8%)	16 (42.1%)	8 (21.1%)
	TAFE/Trade	5 (6.8%)	56 (76.7%)	12 (16.4%)
	University/ Post-grad	2 (1.4%)	6 (4.1%)	137 (94.5%)

Change scores across transition: Across the school divide, parental expectations for scholastic success of their child was found to be moderate (Kappa coefficient = .65). Parents overall displayed a trend of increased expectation for scholastic success.

At post-transition, 42.1% parents who expected their children to study until year 7-12 when in primary school increased their expectations to TAFE/ Trade certification. Twenty-one percent expected their children to obtain a University/Post-graduate degree.

On the other hand, only 1.4% of parents lowered their expectations from University/Post-graduate expectation at T1, to until year7-12 at T2, while 4.1% lowered expectations to TAFE/trade certification. About 6.5% of parents lowered their expectations from TAFE/ Trade certification at T1 to until years 7-12 at T1, while 16.5% increased their expectations.

5.4.2.5 Parental involvement in their child's education

Table 5.24 *Parent involvement in their child's schooling at T1*

Measure (*N* = 395)	M	SD	Range
T1 Home-based involvement	45.67	6.93	27-67
T1 Home-school communication	24.99	7.99	13-50
T1 School-based involvement	26.36	6.20	13-46

T1 profile: The mean scores of parental involvement in Home-School Communication (HSC), Home-based Involvement (HBI), and School-based Involvement (SBI) domains at the T1 cross-section are presented in Table 5.24.

Group differences at T1: Independent sample *t*-tests and one-way ANOVA analyses were undertaken to explicate the contribution of gender, health status, and SES-level of household on parental involvement in their child's schooling (Appendix H).

Gender*:* Univariate investigation failed to identify any variation in involvement as a function of their students' gender.

Health status: Disparity in the level of home-school communication as a function of their child's health status $t(393) = -4.400$, $p = .000$ was identified. Parents of teenagers with a disability/chronic ill health condition reported higher level of HSC ($M = 28.24$, $SD = 8.465$) when compared to parents of typically developing students ($M = 24.07$, $SD = 7.62$).

SES-level of household*:* At T1, the SES-level of students' household made a significant contribution to the difference in the level of HBL opportunities afforded to the student $F(2, 384) = 2.815$, $p = .04$. Those from high-SES households were afforded more HBL opportunities ($M = 46.87$, $SD = 5.87$) than students from mid-SES households ($M = 45.04$, $SD = 7.35$).

Table 5.25 *Change in family involvement in school scores across transition*

Measure (*N* = 266)	**M**	**SD**	**ΔM (T2-T1)**	**t**	**p-value**
T2 Home-based involvement	44.20	6.98	-1.51	-4.16	.000
T1 Home-based involvement	45.70	6.87			
T2 Home-school communication	23.00	7.73	-2.11	-4.72	.000
T1 Home-school communication	25.11	8.10			
T2 School-based involvement	23.77	5.56	-3.08	-9.56	.000
T1 School-based involvement	26.84	6.32			

Change score across transition: A significant reduction in mean parental involvement across each of the domains was identified post-transition (p = .000).

5.4.2.6 Parents' beliefs about their efficacy for helping their children succeed in school

Table 5.26 *Parental self efficacy for helping their child succeed at school at T1*

Measure (*N* = 395)	**M**	**SD**	**Range**
T1 Parental self-efficacy	32.62	5.58	6-36

T1 profile: Table 5.26 provides an overview of the mean self-efficacy scores of the parents who participated in the study. At T1, parents were optimistic about their ability to help their children succeed in school. The scores were positively skewed.

Group differences at T1: Independent sample *t*-tests and one-way ANOVA analyses were undertaken to clarify the contribution of gender, health status, and SES-level of household on perceived parental self-efficacy for helping their children succeed in school (Appendix H).

Gender*:* The gender of the student failed to exert an influential role in moderating parental beliefs about their efficacy for helping their children succeed in school

Health status: Differences in parental self-efficacy for helping their children succeed in primary school as a function of the child's health status were identified $t(393) = 2.436$, $p = .016$. Parents of children with a disability/chronic ill health condition reporting significantly lower self-efficacy scores ($M = 31.25$, $SD = 6.09$), than those of typically developing students ($M = 33.01$, $SD = 5.37$).

SES-level of household*:* The SES-level of students' household also made a major contribution to the variance in perceived parental self-efficacy $F(2, 393) = 8.93$, $p = .000$. Post-hoc testing recognized higher scores for parents from high-SES families ($M = 34.25$, $SD = 4.61$) when compared to the mid-SES households ($M = 31.93$, $SD = 5.79$) ($p = .001$) and low-SES income families ($M = 31.00$, $SD = 6.22$) ($p = .004$).

Table 5.27 *Change in Parental self-efficacy for helping their child succeed at school across transition*

Measure (*N* = 266)	**M**	**SD**	**ΔM (T2-T1)**	**t**	**p-value**
T2 Parental self-efficacy	31.83	5.15	-.921	-3.22	.001
T1 Parental self-efficacy	32.75	5.68			

Change scores across transition: A reduction in mean parental self-efficacy was identified post-transition (*T2M* = 31.83, *T2SD* = 5.15) (*T1M* = 32.75, *T1SD* = 5.68), *t*(266) = -3.223, *p* = .001.

5.4.3 School and classroom factors

5.4.3.1 School characteristics

Table 5.28 *School characteristics at T1*

Measure	Categories	N	%
T1 school sector accessed by sample	Government	197	49.9
	Catholic	117	29.6
	Independent/Private	81	20.5
T1type of school accessed by sample	Primary level	330	83.5
	K-12 without Middle school (MS)	39	9.9
	K-12 with MS	26	6.6
Year of transition (retrieved at T2)	Year 6 to year7 shift	26	9.8
	Year7 to year8 shift	240	90.2
T1 Parental report of receipt of physical assistance	Yes	60	15.2
	No	335	84.8
T1 Parental report of adequacy of physical assistance received	Adequate	363	91.9
	Inadequate	32	8.1
T1 Parental report of receipt of academic assistance	Yes	109	27.6
	No	286	72.4
T1 Parental report of adequacy of academic assistance offered	Adequate	325	82.3
	Inadequate	70	17.7

Table 5.28 continued…*School characteristic at T1*

Measure	Categories	N	%
T1 Parental report of receipt of social assistance	Yes	71	18.0
	No	324	82.0
T1 Parental report of adequacy of social assistance offered	Adequate	347	87.8
	Inadequate	48	12.2
T1 Parental report of missing school due to ill health	never	104	26.3
	Few times	290	73.4
	Very often	1	.3
T1 Parental report of hours left unsupervised after school	more than 2 hours	90	22.8
	upto2 hours	99	25.1
	no hours	206	52.2
T1 Parental report of held back when in primary school	No	373	94.4
	Yes	22	5.6
T1 Parental report of being suspended when in primary school	No	388	98.2
	No	7	1.8
T2 Parents attended transition program	No	124	46.6
	Yes	142	53.4
T2 Parents accessed transition-related package	No	225	84.6
	Yes	41	15.4

T1 profile: As displayed in Table 5.28, at T1, 49.9% (n = 197) of the students were enrolled in the government school sector. Only, 20.5% (n = 81) received their education from the independent school sector. The majority (83.5%, n = 330) of the students, received education from the primary/secondary school system, as it is the common school organisational system currently prevailing in WA. Only, 6.6% (n = 26) of the sample accessed the K-12 system that upholds the middle school philosophy.

Most of the data collection in the study was conducted in 2006/2007, a greater portion of (*n* = 240) of the students entered year eight during the year in which they turned 13 years in age. Only 9.8% (*n* = 26) of the sample transitioned to secondary school at the end of year 6.

About 15.2% (*n* = 60) of the sample at T1 were reported by a parent to be receiving physical assistance at school, and 8.1% of parents felt that the physical assistance offered by their child's primary school in terms of programs/services and facilities both within and outside the classroom, outside the standard program, was inadequate. In terms of academic assistance, 27.6 % (*n* = 109) of the sample were reported by a parent to be receiving academic assistance at school. 82.3% of parents felt that the academic assistance offered in terms of programs/services and facilities both within and outside the classroom, outside the standard program, was adequate to enable access and participate in school to his/her maximum capacity. Social assistance was found to be offered to 18% (*n* = 324) of the sample. About 12.2% (*n* = 48) of the parents felt that the social assistance offered by their child's primary school in terms of programs/services and facilities both within and outside the classroom, outside the standard program, was inadequate.

At T1, 73.4% (*n* = 290) were reported to miss school a few times over semesters 3 and 4 due to health reasons. As per parental report, 25.1% of the sample (*n* = 99) were left independent (without adult supervision) for up to two hours per week, while 22.8% (*n* = 90) were left independent (without adult supervision) for more than two hours per week. Only, 5.6% (*n* = 22) of the sample were reported to be held back in a particular class when in primary school, while 1.8% (*n* = 7) were reported to be suspended from school at primary level.

Additionally, post transition, 53.4% (*n* = 142) of parents attended a parent program and forty-one families (15.4%) reported access to a transition package aimed at assisting their chid transition to either middle of secondary school.

***Group differences at T1*:** Chi-square tests of independence were performed to examine the relation between school characteristics and students' gender, health status, and SES-level of household (Appendix I).

Gender, health status and SES-level of household:

A significant relationship between the type of school organization accessed in primary-level and gender was identified $\chi^2(2, N = 395) = 22.406$, $p = .000$. Scrutiny of the standardized residual scores revealed that K12 schools systems with a MS were under-represented by boys, and over represented by girls. Household SES-level was associated with the type of school organization $\chi^2(4, N = 386) = 32.759$, $p = .000$ and sector accessed when in primary level education $\chi^2(4, N = 386) = 23.289$, $p = .000$. Students from high-SES households were identified to over-access K12 schools systems (both with and without a middle school organisational unit). K-12 schools without a MS were under-represented by students from low-income households, whilst K-12 schools with MS were under-represented by students from mid-range income families.

The relationship between the type of school sector accessed in primary level and household SES-level was significant $\chi^2(4, N = 386) = 23.289$, $p = .000$. Predominantly, high-SES households, under-accessed government schools and were over-represented in independent/private schools. The independent/private school sector was under-represented by students from mid-range households.

More than expected girls and less than expected boys were identified to access the 6/7 level system $\chi^2(1, N = 395) = 18.889$, $p = .000$. The income level of students' household also significantly moderated the transition year-level profile of the sample $\chi^2(2, N = 386) = 12.189$, $p = .002$.

The health status $\chi^2(1, N = 395) = 9.050$, $p = .01$ and the income level of students' household $\chi^2(4, N = 386) = 31.207$, $p = .002$ each made a noteworthy contribution in deciding who received physical assistance in primary school. More than expected students with a chronic ill health condition and from low-income households, and

less than expected students from affluent families, were identified to receive assistance. Adequacy of physical assistance when in primary school did not vary as a function of any moderator.

The receipt of social assistance when in primary school was related to students' household SES-level $\chi^2(4, N = 386) = 15.836, p = .003$. More students from low-income households and less from high-SES families were identified to receive assistance. Adequacy of social assistance when in primary school varied as a function of one's health status $\chi^2(1, N = 395) = 9.808, p = .002$ and income level $\chi^2(2, N = 386) = 7.70, p = .021$. More parents of students with a chronic ill health condition, and from low-income households identified social resources to be inadequate to meet their child's needs when in primary level.

Both the receipt of academic assistance $\chi^2(1, N = 395) = 12.454, p = .000$ and its adequacy $\chi^2(1, N = 395) = 10.592, p = .05$ when in primary school were found to vary as a function of one's health status. More than expected parents of students with a chronic illness identified their children to be getting academic assistance and acknowledged the resources to be inadequate to meet their children's educational needs.

Skipping school was identified to vary as a function of family income level $\chi^2(4, N = 386) = 9.873, p = .043$, with those from low-SES households were found to more often miss school than the other groups.

Students with disability/chronic illness $\chi^2(2, N = 395) = 10.267, p = .006$ and boys $\chi^2(2, N = 395) = 9.461, p = .009$ were more often than expected, found to be left unsupervised for more than 2-hrs after school on a weekly basis.

Students with a disability and or a chronic ill health condition were identified to be more likely to be held back in a particular class when in primary school than expected $\chi^2 (1, N = 395) = 23.488, p = .000$. A history of being suspended from

school was found to vary as a function of one's gender $\chi^2(1, N = 395) = 7.927$, $p = .005$, with boys over-representing the 'yes-suspended' category.

No differences in attendance of, or access to, transition support material as a function of students' gender or SES-level of household were identified. More than expected parents who had a child with a disability/chronic illness $\chi^2(1, N = 266) = 4.320$, p = .038 reported access to transition-related package aimed at assisting their child transition to secondary school.

Table 5.29 *Change in school sector across secondary school transition*

		T2 School sector		
T1 School sector	Category	Government	Catholic	Independent/Private
	Government	75 (60.0%)	14 (11.2%)	36 (28.8%)
	Catholic	2 (2.6%)	66 (85.7%)	9 (11.7%)
	Independent/Private	2 (3.1%)	1 (1.6%)	61 (95.3%)

Change scores across transition: Across transition, the agreement of the schools accessed by participants was substantial (Kappa coefficient = .64). A greater amount of participants were seen to shift from the government system to the privatised/independent and Catholic systems. Specifically, 28.8% of students moved from the government school system to the independent school system, and 11.2% of the sample shifted to the Catholic school system. A few students, 3.1% and 1.6% moved from the independent school system to the government and Catholic system; while 2.6% and 11.7% moved from the Catholic system to the government and independent/private sectors.

This is an example of a limitation of a correlation method like the Kappa statistic, which tests the association or consistency as a measure of test-retest stability since correlation is a measure of relationship rather than agreement. It is possible to sometimes obtain a high Kappa value when the measures are strongly related and

despite the fact there is no agreement, when measures are unstable (Bland & Altman, 1986).

Table 5.30 *Change in school type across secondary school transition*

		T2 School Type		
	Category	Secondary	K-12 without MS	K-12 with MS
T1 School type	Primary	172 (82.3%)	20 (9.6%)	17 (8.1%)
	K-12 without MS	1 (3.0%)	32 (97.0%)	0 (.0%)
	K-12 with MS	0 (.0%)	0 (.0%)	24 (100.0%)

Change scores across transition: Across transition, the agreement of the school organisational systems accessed by the sample was substantial (Kappa coefficient = .683). As displayed in the Table, 9.6% transitioned from the primary school system to the K-12 without MS organisational system, while 8.1% moved to the K-12 with MS system. Only one student (3%) moved from the K-12 without MS system to the secondary school system.

Change scores across transition: Since the majority of the data collection in the study was conducted in 2006/2007, a greater portion of (N = 240) of the students entered year 8 during the year in which they turned 13 years in age. Only 9.8% (N = 26) of the sample transitioned into secondary school at the end of year 6.

Table 5.31 *Receipt of physical assistance at school across secondary school transition*

		T2 Receipt of physical assistance	
T1 Receipt of physical assistance	Category	No	Yes
	No	208 (90.0%)	23 (10.0%)
	Yes	24 (70.6%)	10 (29.4%)

Change scores across transition: Across the school divide, a fair agreement on parental report on their children receiving physical assistance at school was found (Kappa coefficient = .20). Physical assistance was measured in terms of parent's perception of their child being offered programs/services and facilities both within and outside the classroom, outside the standard program so that he/she could access and participate in school to his/her maximum capacity. In secondary school, 70.6% of students who were reported to be receiving physical assistance in primary school did not get assistance, while 10% of students who did not get assistance in primary school were reported to be receiving physical assistance.

Table 5.32 *Adequacy of physical assistance offered by school across secondary school transition*

		T2 Adequacy of physical assistance	
T1 adequacy of physical assistance	Category	No	Yes
	No	2 (10.5%)	17 (89.5%)
	Yes	10 (3.8%)	256 (96.2%)

Change scores across transition: Across the school divide, parents reported a slight agreement on the adequacy of resources and facilities offered by their children's schools, to address their children's physical needs (Kappa coefficient = .09). At T2, 3.8% of students whose physical needs were reported to be satisfied at T1 were not getting adequate assistance, while 89.5% of students who did not get adequate assistance at T1 were reported to be receiving adequate assistance at T2

Table 5.33 *Receipt of academic assistance at school across secondary school transition*

		T2 Receipt of academic assistance	
T1 Receipt of academic assistance	Category	No	Yes
	No	155 (79.9%)	39 (20.1%)
	Yes	31 (43.1%)	41 (56.9%)

Change scores across transition: Across the school divide, parents reported a fair agreement on their children receiving academic assistance at school (Kappa coefficient = .36). At T2, 43.1% (31 of the 72) of students who were reported to be receiving academic assistance at T1 did not get assistance, while 20.10% of students who did not get assistance at T1 were reported to be receiving assistance.

Table 5.34 *Adequacy of academic assistance offered by school across secondary school transition*

		T2 adequacy of academic assistance	
T1 adequacy of academic assistance	Category	No	Yes
	No	8 (18.2%)	36 (81.8%)
	Yes	17 (7.7%)	203 (92.3%)

Change scores across transition: Parents reported a slight agreement on the adequacy of resources and facilities offered by their children's schools to address their children's academic needs across transition (Kappa coefficient = .13). At T2, 7.7% (17 of the 220) of students whose academic needs were reported to be satisfied at T1, were reported to be not getting adequate assistance, and 81.81% of students who did not get adequate assistance at T1 were reported to be receiving adequate assistance (36 of 44 students). Overall, a trend of improved academic assistance in secondary school was reported by parents.

Table 5.35 *Receipt of social assistance at school across secondary school transition*

		T2 Receipt of social assistance	
	Category	No	Yes
T1 Receipt of social assistance	No	190 (84.8%)	34 (15.2%)
	Yes	25 (62.5%)	15 (37.5%)

Change scores across transition: A slight agreement on parental report on their children receiving social assistance at school was identified (Kappa coefficient = .20). At T2, 62.5% of students who were reported to be receiving social assistance at T1 were not getting assistance, while 15.17% of students who did not get assistance at T1 were reported to be receiving assistance.

Table 5.36 *Adequacy of social assistance offered by schools before and after secondary school transition*

		T2 adequacy of social assistance	
	Category	No	Yes
T1 adequacy of social assistance	No	4 (12.9%)	27 (87.1%)
	Yes	16 (6.8%)	219 (93.2%)

Change scores across transition: A slight agreement on parental report on the adequacy of resources and facilities offered by their child's school to address their child's social needs was obtained (Kappa coefficient = .07). At T2, 6.8% of students whose social needs were reported to be satisfied at T1 were not getting adequate assistance, while 87.1% of students who did not get adequate assistance at T1 were reported to be receiving adequate social assistance in school.

Table 5.37 *Students' suspension profile from school across secondary school transition*

		T2 suspended from school	
	Category	No	Yes
T1 suspended from school	No	256 (97.7%)	6 (2.3%)
	Yes	3 (75.0%)	1 (25.0%)

Change scores across transition: A slight agreement on students' suspension profile before and after transition into secondary school was obtained (Kappa coefficient = .17). At T2, 75% of students who were suspended at T1 were not suspended since entry into secondary school, while 2.3% who were not suspended at T1, reported to be suspended.

Table 5.38 *Students' profile of missing school, before and after secondary school transition*

		T2 miss secondary school	
	Category	Never	Few times
T1 miss primary school	Never	41 (58.6%)	29 (41.4%)
	Few times	29 (14.9%)	165 (85.1%)

Change scores across transition: A moderate agreement on students' profile of the days they missed school before and after secondary school transition was obtained (Kappa coefficient = .44). At T2, 14.94% of students who were reported to miss school a few times at T1 did not miss school after the transition to secondary school. 41.42% of students who never missed school at T1, reported to miss school a few times since the transition to secondary school.

Table 5.39 *Students' profile of being left unsupervised after school, before and after transition*

		T2 left unsupervised after school		
	Levels	more than 2 hours	Up to 2hours	No hours
T1 left unsupervised after school	more than 2 hours	35 (60.3%)	18 (31.0%)	5 (8.6%)
	Up to 2hours	26 (35.1%)	33 (44.6%)	15 (20.3%)
	No hours	25 (18.7%)	40 (29.9%)	69 (51.5%)

Change scores across transition: There was a fair agreement on the hours students were reported to be left unsupervised after school, when assessed at the T1 and T2 cross-sections (Kappa coefficient = .27). At T2, 35.13% of students who were left unsupervised for up to 2 hrs at T1 were left for more than 2 hrs. Nineteen percent who were not left unsupervised at T1 were left for more than 2 hrs unsupervised, while nearly thirty percent who were not left unsupervised at T1 were left unsupervised up to 2 hrs. Nearly twenty percent of students who were left up to 2hrs unsupervised at T1 were not left unsupervised after school since the transition into secondary school.

5.4.3.2 Teacher characteristics

Table 5.40 *Teacher characteristics at T1*

Measure	Category	N	%
T1 teachers' gender	Female	33	54.1
	Male	28	45.9
T1 Teachers' age	<35 years	11	18.0
	35-55 years	39	63.9
	55years and over	11	18.0
T1 Educational level	diploma	13	21.3
	Degree	27	44.3
	Post-graduate	14	23.0
T1 Employment status	Full time	54	88.5
	Part time	7	11.5
T1 Teaching experience	< 10 years	13	21.7
	11-30 years	32	53.3
	> 31 years	15	25.0
T1 Teaching experience in the same primary school	< 2.5 years	17	28.3
	2.51-11 years	26	43.3
	> 11 years	17	28.3

T1 profile: As displayed in Table 5.40, 61 primary school teachers took part in the study. About 54.1% (n = 33) of the involved teachers were female, and 44.3% (n = 27) had a University degree. Nearly sixty-four percent of the teachers were aged between 35 and 55years. The majority (88.5%, n = 54) of the teachers were employed as full-time staff. The involved teachers varied in teaching experience, with 53.3% (n = 32) having 11-30 years of experience as teachers, and a minority (21.7%, n = 13) less than 10 years of experience in teaching. Most of the involved

teachers (43.3%, *n* = 26) had taught in the same primary school for between 2.5-11years.

Table 5.40 continued…*Teacher characteristics at T1*

Measure	Category	N	%
T1 Degree in inclusive teaching	No	47	78.3
	Yes	13	21.7
T1 Post-graduate degree in inclusive teaching	No	55	90.2
	Yes	6	9.8
T1 Training in teaching students with disability	No	54	88.5
	Yes	7	11.5
T1 Training in teaching students with CI	No	58	95.1
	Yes	3	4.9
T1 Years of experience in teaching students with disability	No experience	12	20.0
	1-2 years	27	45.0
	3 years and more	21	35
T1 Years of experience in teaching students with CI	No experience	37	60.7
	1-2 years	15	24.6
	3 years and more	9	14.8
T1 Professional development in inclusive teaching	No	25	41.7
	Yes	35	58.3
T1 Professional development in teaching students with disability	No	28	45.9
	Yes	33	54.1
T1 Professional development in teaching students with CI	No	49	80.3
	Yes	12	19.7

The majority of teachers (78.3%, *n* = 47) did not have a degree in inclusive education, while only 9.8% (*n* = 6) held a post-graduate degree in inclusive education. About 11.5% (*n* = 7) reported to have received some training in teaching

students with a disability, while only 4.9% (n = 3) had training in teaching students with a chronic illness. Teachers varied in experience in teaching students with a disability, with 20% (n = 12) reporting no experience in teaching students with a disability, and 35% (n = 21) reporting three or more years experience in the same. The majority of involved teachers (60.7%, n = 37) did not have any experience in teaching students with a chronic illness.

When asked to report on their professional development in inclusive teaching practices, 41.7% (n = 25) had not undergone professional development in inclusive teaching during the year of the study. Nearly forty-six (n = 28) reported no professional development in teaching students with a disability, while 80.3% (n = 49) reported no professional development in teaching students with a chronic illness.

Group differences at T1:

Gender, health status and SES level:

No differences in teacher demographic variables as a function of students' gender, health status, and SES-level were identified using chi-square analyses.

5.4.3.3 Perception of the classroom environment

Table 5.41 *Classroom characteristics at T1*

Measure (*N*= 395)	**M**	**SD**	**Range**
T1 Ease	3.45	0.83	1-5
T1 Affiliation	4.20	0.80	1-5
T1 Autonomy	3.39	0.76	1-5
T1 Cohesiveness	4.12	0.64	1-5
T1 Teacher support	3.67	0.82	1-5
T1 Task orientation	4.15	0.69	1-5
T1 Involvement	3.81	0.72	1-5
T1 Satisfaction	3.87	0.87	1-5
T1 Cultural tolerance	4.36	0.69	1-5
T1 Disability and CI tolerance	4.16	0.77	1-5

T1 profile: Tables 5.41 provides an overview of the entire sample's perception of various features of the classroom environment when enrolled at T1. The sample's views of the classroom environment in each psychosocial dimension were somewhat positively skewed.

Table 5.42 *Students report of being bullied and bullying others at T1*

Measure	Categories	N	%
T1 Being bullied at primary school	Disagree	224	57.0
	Can't decide	37	9.4
	Agree	132	33.6
T1 Bullying others at primary school	Disagree	312	79.4
	Can't decide	38	9.7
	Agree	43	10.9

As shown in Table 5.42, 33.6% (n = 132) reported to being bullied in primary school, and 9.4% were indecisive about whether they were bullied in school. Forty-three (10.9%) of the sample reported to bully other students and 9.7% (n = 38) were indecisive about whether they were a bully.

Group differences at T1: Independent sample t-tests and one-way ANOVA analyses were undertaken to identify the contribution of gender, health status, and SES-level of household on students' perception of the classroom environment (Appendix I).

Gender*:* In primary school, girls reported greater satisfaction in class (M = 3.96, SD = 0.81) than their male counterparts (M = 3.78, SD = 0.94). No other differences in perception of classroom environment as a function of students' gender were identified.

Health status: Differences in several classroom dimensions such as: perception of class-work simplicity $t(393) = 5.49$, $p = .000$; perception of the degree of affiliation within the class $t(393) = 2.19$, $p = .029$; perception of the amount of cohesiveness amongst students within the classroom $t(393) = 2.98$, $p = .003$; and perception of the degree of task-orientation in the classroom $t(393) = 3.15$, $p = .002$ as a function of students' health status were identified.

Students with a disability/chronic illness were also more likely to report being bullied than their typically developing peers $\chi^2(2, N=383) = 7.99$, $p = .0018$.

SES-level of household: Variations in perception of ease of classroom work, and degree of cohesiveness in the classroom as a function of the SES-level of one's household were reported at T1. Post-hoc analyses identified students from high-SES families (M = 3.65, SD = 0.85) to find classroom work and assignments much easier than the mid-SES level student (M = 3.38, SD = 0.79) (p = .009). Furthermore, the high-SES students (M = 4.25, SD = 0.59) also reported greater cohesiveness in their classrooms than those from mid-SES (M= 4.08, SD = 0.65) (p = .058) and low-SES households (M = 3.94, SD = 0.74) (p = .026).

Table 5.43 *Change in classroom characteristics across transition*

Outcome (*N*=266)	**M**	**SD**	**ΔM (T2-T1)**	**t**	**p-value**
T2 Ease	3.38	.84	-0.09	-2.07	.039
T1 Ease	3.47	.81			
T2 Affiliation	4.08	.71	-0.12	-2.16	.031
T1 Affiliation	4.20	.83			
T2 Autonomy	3.34	.72	-0.04	-.76	.446
T1 Autonomy	3.38	.75			
T2 Cohesiveness	4.09	.57	-0.06	-1.60	.120
T1 Cohesiveness	4.15	.65			
T2 Teacher Support	3.64	.74	-0.01	-.21	.836
T1 Teacher Support	3.65	.85			
T2 Task orientation	3.94	.68	-0.23	-5.31	.000
T1 Task orientation	4.18	.68			
T2 Class Involvement	3.75	.63	-0.08	-1.98	.049
T1 Class Involvement	3.84	.67			
T2 Satisfaction	3.69	.77	-0.18	-3.19	.002
T1 Satisfaction	3.87	.86			
T2 Cultural tolerance	4.25	.68	-0.11	-2.28	.023
T1 Cultural tolerance	4.37	.68			
T2 Disability and CI tolerance	4.08	.76	-0.07	-1.35	.179
T1 Disability and CI tolerance	4.16	.79			

Change scores across transition: Significant reductions in perceptions of ease of classroom work (p = .039); degree of affiliation within classes (p = .031); degree of task-orientation across year level classes (p = .000); satisfaction with year level classes (p = .002); and tolerance to cultural diversity (p = .023) were identified following the transition into secondary level school.

Table 5.44 *Change in sample's profile of being bullied across transition*

		T2 students bully me		
	Category	Disagree	Can't decide	Agree
T1 students bully me	Disagree	115 (79.3%)	9 (6.2%)	21 (14.5%)
	Can't decide	13 (50.0%)	3 (11.5%)	10 (38.5%)
	Agree	40 (46.0%)	9 (10.3%)	38 (43.7%)

Change scores across transition There was only a fair agreement on students' report of the frequency of them being bullied before and after transition into secondary level school (Kappa coefficient = .26). In secondary school, 6.2% of the students who disagreed to being bullied in primary school were indecisive about being bullied, while 14.8% agreed to being bullied. Of the students who agreed to being bullied in primary school, 46% disagreed to being bullied and 10.3% were indecisive about being bullied in secondary school. Fifty percent of those who were indecisive about being bullied at T1 disagreed to being bullied at T2, while 38.5% agreed to being bullied at T2.

Table 5.45 *Change in sample's profile of bullying other students across transition*

		T2 I bully students		
	Category	Disagree	Can't decide	Agree
T1 I bully students	Disagree	187 (90.3%)	8 (3.9%)	12 (5.8%)
	Can't decide	15 (65.2%)	4 (17.4%)	4 (17.4%)
	Agree	20 (66.7%)	4 (13.3%)	6(20.0%)

Change scores across transition There was only as fair agreement (Kappa coefficient = .21) on students' report of the frequency of bullying others before and after transition into secondary school. In secondary school, 3.9% of the students who disagreed to bullying others in primary school were indecisive about bullying others, while 5.8% agreed being a bully in secondary school. Of the students who agreed bullying others in primary school, 66.7% disagreed being a bully while13.3% were

indecisive about being a bully in secondary school. From the indecisive about being a bully in primary school group category, 65.2 % disagreed to bullying their mates at T2, while 17.4% agreed to bully other students at T2.

5.4.3.4 Perceived teacher-efficacy

Table 5.46 *Perceived teacher efficacy at T1*

Measure	N	M	SD	Range
T1 Teacher efficacy	48	166.93	25.48	95-209

T1 profile: Table 5.46 provides an overview of the mean self-efficacy scores of the teachers' that were involved in the study. Overall, teachers' were optimistic about their ability in contributing towards students' achievements when at primary level school.

Group differences at T1: Independent sample *t*-tests and one-way ANOVA analyses were undertaken to identify the contribution of gender, health status, and SES-level of household on perceived teacher efficacy (Appendix I).

Gender*:* At, T1, no difference in perceived teacher efficacy as a function of the gender of the student taught was identified.

Health status: Univariate analysis undertaken at T1 failed to identify any differences in perceived teacher efficacy as a function of the health status of the student taught.

Household income level*:* The SES-level of students' students' household also made a major contribution to the variance in perceived teacher efficacy $F(2, 353) = 4.87$, $p = .006$. Hochberg's post-hoc analyses identified that teachers who taught students high-SES families ($M = 170.89$, $SD = 24.43$) held a higher sense of efficacy than those who taught mid-SES household students ($M = 159.71$, $SD = 25.71$). Teachers who taught students from low-SES families reported a sense of self-efficacy between these values ($M = 164.48$, $SD = 29.01$).

5.4.3.5 Teacher's Opinion Relative to Integration of Students with Disabilities and/or Chronic Illness

Table 5.47 *Teachers' Opinion Relative to Integration of Students with Disabilities and/or Chronic Illness at T1*

Measure	N	M	SD	Range
T1 attitude to integrating students with disability	48	77.54	9.27	59-108
T1 attitude to integrating students with chronic illness	46	78.28	8.64	59-106

T1 profile: Table 5.47, provides an overview of the mean attitude of the involved teachers to the integration of students with disabilities and chronic illness. Overall, the primary level teachers who were involved in the study were quite positive in their attitude to integration.

Group differences at T1: Independent sample *t*-tests and one-way ANOVA analyses were undertaken to identify the contribution of gender, health status, and SES-level of household on teachers' opinion to integration of students with disabilities and/or chronic illness (Appendix I).

Gender*:* At T1, differences in mean opinion of the involved teachers to integration of students with disabilities, as a function of the gender of the student, were identified. Teachers who taught girls reported a more positive attitude (M = 77.96, SD = 8.49) when compared to those who taught boys (M = 75.40, SD = 9.84). No difference in mean opinion of the involved teachers to integration of students with a CI, as a function of the gender of the student, was identified.

Health status: No differences in mean opinion of the involved teachers to integration of students with a disability/CI, as a function of the health status of the student, were identified.

SES-level of household: At T1, differences in mean opinion of the involved teachers to integration of students with disabilities/CI, as a function of the SES- level of students' household, were identified. Teachers who taught students from low-SES groups had a more positive attitude to integration when compared to those who taught the mid-SES and high-SES groups.

5.4.3.6 Parents' perceptions of general invitations for involvement offered by their child's school

Table 5.48 *Parent perception of invitations for involvement from child's school at T1*

Measure (*N* = 395)	N	M	SD	Range
T1 parental perception of invitations for involvement from their child's school	395	30.53	4.23445	16-36

T1 profile: Table 5.48 provides an overview of the sample's perception of invitations for involvement from child's school at T1

Group differences at T1: Independent sample *t*-tests and one-way ANOVA analyses were undertaken to identify the contribution of gender, health status, and SES-level of household, on parent perception of invitations for involvement from child's school (Appendix I).

Gender: No differences in parent perception of invitations for involvement from their child's primary school, as a function of child's gender, were identified.

Health status: No differences in parent perception of invitations for involvement from their child's primary school, as a function of child's health status, were identified.

SES-level of household: No group differences in parental perception of invitations for involvement from their child's primary school, as a function of household income level, were identified.

Table 5.49 *Change in parent perception of invitations for involvement from child's school across transition*

Measure (*N* = 266)	**M**	**SD**	**ΔM (T2-T1)**	**t**	**p-value**
T2 Invitations for involvement from child's school	29.42	4.16	-0.94	-2.96	.003
T1 Invitations for involvement from child's school	30.37	4.53			

Change scores across transition: Parents reported a significant reduction in general invitations for involvement offered by their child's secondary school $t(265) = -2.96$, $p = .003$. Less requests for participation from secondary level schools was reported ($T_2M = 29.42$, $T_2SD = 4.16$) ($T_1M = 30.37$, $T_1SD = 4.53$).

5.4.4 Peer-group factors

5.4.4.1 Perception of social support from friends and a special person in one's life

Table 5.50 *Perception of social support from a special person in one's life and from one's friends at T1*

Measure (*N* = 395)	**M**	**SD**	**Range**
T1 Social support from a special person	5.72	1.25	1-6
T1 Social support from friends	5.52	1.33	1-6

T1 profile: The mean and standard deviation of perceived social support from key sources such as one's close friends, and a special person in one's life when enrolled in the final year of primary education is presented in the Table 5.50.

Group differences at T1: Independent sample *t*-tests and one-way ANOVA analyses were undertaken to explicate the contribution of gender, health status, and SES-level of household, on students' perceived social support from their friends and a special person in their life (Appendix J).

Gender*:* Girls reported significantly higher levels of support from friends $t(395) = -2.93$, $p = .004$ and a special person in their life $t(395) = -3.86$, $p = .000$.

Health status: Students' health status moderated the amount of social support received from friends $t(395) = 2.448$, $p = 0.015$. Typically developing students reported receiving higher levels of support from friends ($M = 5.60$, $SD = 1.34$) than those with a disability/chronic illness ($M = 5.21$, $SD = 1.24$).

SES-level of household: One-way ANOVA testing failed to identify any noteworthy pattern of variation in support received as a function of the SES-level of students' household.

Table 5.51 *Change in perception of social support from a special person in one's life and from one's friends across transition*

Measure (*N*=266)	**M**	**SD**	**ΔM (T2-T1)**	**t**	**p-value**
T2 Social support from a special person	5.67	1.15	-0.13	-1.75	.081
T1 Social support from a special person	5.80	1.15			
T2 Social support from friends	5.55	1.24	0.00	0.06	.948
T1 Social support from friends	5.55	1.24			

Change scores across transition: Perceptions of social support received from a special person in their life and friends remained stable across transition.

5.4.4.2 Peer-group pro-social influence

Table 5.52 *T1 perception of importance that one's peer group placed on pro-social values*

Measure (*N* = 395)	M	SD	Range
T1 Peer group pro-social values	16.88	3.19	7-21

T1 profile: A summary score of the total importance that one's peer group placed on academia, extracurricular activity participation, and appropriate behavioural repertoire is presented in Table 5.52. Overall the students enrolled in the study belonged to pro-social peer groups. This is an artefact of the category of students whose parents agree to be involved in research.

Group differences at T1: Independent sample *t*-tests and one-way ANOVA analyses were undertaken to explicate the contribution of gender, health status, and SES-level of household on students' perception of the importance that their peer group placed on pro-social values (Appendix J).

Gender*:* Girls were identified to belong to a different type of peer-group than boys $t(393) = -2.430$, $p = .016$. Predominantly, the cliques that girls belonged to ($M = 17.25$, $SD = 2.89$) placed significantly higher premium on issues such as attending class regularly, scholastic success, academic expectations, participation in extracurricular activities at school and appropriate behaviour at school when compared to boys' peer-groups ($M = 16.47$, $SD = 3.46$).

Health status: The health status of the student failed to moderate the type of peer-group students belonged to.

SES-level of household: The SES-level of students' household failed to moderate the type of peer-group one belonged to.

Table 5.53 *Change in perception of social support from a special person in one's life and from one's friends across transition*

Measure (*N* = 266)	**M**	**SD**	**ΔM (T2-T1)**	**t**	**p-value**
T2 Peer group pro-social values	16.34	3.18	-0.55	-2.63	.009
T1 Peer group pro-social values	16.89	3.09			

Change scores across transition: A change in peer group type was identified across secondary school transition, $t(266) = -2.632$, $p = .09$. In secondary school students were found to belong to peer-groups that held less pro-social values.

5.4.5 Adjustment outcomes

5.4.5.1 Academic competence

Table 5.54 *Pre-transition perception of academic competence*

Outcome (N=395)	M	SD	Range
T1 Academic competence	2.84	0.71	1-5

T1 profile: The mean scholastic competence score is presented in Table 5.54. At T1, students were found to display a positive perception of academic competence.

Group differences at T1: Independent sample t-tests and one-way ANOVA analyses were undertaken to explicate the contribution of gender, health status, and SES-level of household on student perceived academic competence (Appendix K).

Gender*:* No differences in academic competence as a function of students' gender were identified.

Health status: The health status of participants was identified to significantly contribute to differences in perceived academic competence $t(393) = 5.27$, $p = .000$. Mostly, typically developing students perceived themselves to be more academically competent ($M = 2.74$, $SD = 0.70$) than their counterparts with a disability/and ill health condition ($M = 2.50$, $SD = 0.67$).

SES-level of household: Group differences in competence in academia $F(2, 383) = 8.89$, $p = .000$ were identified. Hochberg's post-hoc comparisons of the three groups indicated that the high-SES income level group ($M = 3.02$, $SD = 0.69$) reported significantly higher scholastic competence rating than both the mid-SES group ($M = 2.80$, $SD = 0.69$) ($p = .023$), as well as the low-SES group ($M = 2.49$, $SD = 0.81$) ($p = .000$). The mean scholastic competence of the low-income group was significantly lower than the mid-level income group as well ($p = .032$).

Table 5.55 *Change in perceived academic competence across transition*

Outcome (*N* = 266)	**M**	**SD**	**ΔM (T2-T1)**	**t**	**p-value**
T2 Academic competence	2.93	0.664	0.042	1.16	.248
T1 Academic competence	2.89	0.71			

Change scores across transition: Change in academic competence score was not statistically significant across transition.

5.4.5.2 Emotional and behavioural difficulties

Table 5.56 *Parental report of child's emotional and behavioural difficulties at T1*

Outcome (*N* = 395)	M	SD	Range
T1 Emotional problems	1.85	1.98	0-9
T1 Conduct problems	.87	1.22	0-6
T1 Hyperactivity	2.56	2.25	0-10
T1 Peer problems	1.41	1.78	0-9
T1 Pre-social behaviour	8.45	1.63	2-10
T1 Total difficulties	6.69	5.42	0-25

T1 profile: Participants' mean scores on emotional, conduct problems, hyperactivity/inattention, peer relationship problems, pro-social behaviour, and total emotional and behavioural difficulties, when enrolled in the final year of primary school, have been presented in Table 5.56.

Group differences at T1: Independent sample *t*-tests and one-way ANOVA analyses were undertaken to explicate the contribution of gender, health status, and SES-level of household on parents' perception of their child's emotional and behavioural difficulties prior to transition (Appendix K).

Gender*:* Prior to the entry into secondary school, noteworthy differences in students emotional and behavioural well-being scores, as a function of students' gender, were reported by parents $t(393) = 2.94$, $p = .003$. Boys were reported to have more emotional and behavioural problems ($M = 7.54$, $SD = 5.90$) than girls ($M = 5.93$, $SD = 4.83$). Scrutiny of the sub-scale scores identified boys to display higher scores in the conduct problem category $t(393) = 2.72$, $p = .007$ and hyperactivity domain $t(395) = 5.18$, $p = .000$.

Health status: Health status of the student was also identified as a significant determinant of difference in emotional and behavioural problems $t(393) = -6.638$, $p = .000$. Students with a disability/and or a chronic ill health condition ($M = 10.49$, $SD = 6.40$) were recognized to have significantly higher total problem scores than their typically-developing contemporaries ($M = 5.62$, $SD = 4.58$). Remarkable sub-group differences in each of the subscales were recognized. Overall, those with a disability/chronic ill health condition were reported with higher problem scores across each significant domain.

SES-level of household*:* The income-bracket of the individual's household substantially influenced emotional and behavioural problems at T1, $F(2, 283) = 8.48$, $p = .000$. Hochberg's post-hoc analysis identified higher total emotional and behavioural problem scores for students from the low-SES households ($M = 9.68$, $SD = 6.55$) when compared to those from mid-SES ($M = 6.79$, $SD = 5.40$) ($p = .006$) and high-SES families ($M = 5.64$, $SD = 4.73$) ($p = .000$). Although group differences between the mid-SES and high-SES family were not statistically significant; belonging to a high-SES family was identified to afford the individual a distinctive advantage. Scrutiny into the subscale scores identified statistically significant differences in parental report of emotional, hyperactive, peer problem and pro-social difficulties amongst the sub-groups; with those from low-SES households constantly disadvantaged.

Table 5.57 *Change in students' emotional and behavioural profile across transition*

Outcome (*N* = 266)	**M**	**SD**	**ΔM (T2-T1)**	**t**	**p-value**
T2 Emotional problems	1.64	1.77	-0.25	-2.49	.013
T1 Emotional problems	1.89	2.00			
T2 Conduct problems	1.00	1.32	0.11	1.68	.094
T1 Conduct problems	.90	1.27			
T2 Hyperactivity	2.97	2.42	0.33	3.83	.000
T1 Hyperactivity	2.64	2.28			
T2 Peer problems	1.50	1.72	0.03	0.40	.686
T1 Peer problems	1.46	1.89			
T2 Pro-social behaviour	7.90	1.88	-0.37	-3.89	.000
T1 Pro-social behaviour	8.27	1.70			
T2 Total difficulties	7.11	5.22	0.23	1.01	.313
T1 Total difficulties	6.88	5.55			

Change scores across transition: Across secondary school transition, a statistically significant increase in student hyperactivity scores when in secondary school $t(265) = 3.83$, $p = .000$, and decline in emotional problems ($p = .013$) and lowered pro-social behaviour ($p = .000$) were reported by parents.

Although a higher overall difficulties score was observed at T2; the change in score was not statistically significant.

5.4.5.3 Overall sense of self-worth

Table 5.58 *Pre-transition perception of self-worth*

Outcome (*N* = 395)	**M**	**SD**	**Range**
T1 Self-worth	3.30	0.62	1-5

T1 profile: Prior to transition, students were found to display a positive overall sense of self-worth as presented in Table 5.58.

Group differences at T1: Independent sample *t*-tests and one-way ANOVA analyses were undertaken to explicate the contribution of gender, health status, and SES-level of household on students' overall self-worth prior to transition (Appendix K).

Gender*:* No differences in self-worth as a function of one's gender were identified.

Health status: The health status of participants was identified to significantly contribute to differences in self-report self-worth $t(393) = 2.00$, $p = 0.047$. Mostly, typically developing students were found to report a higher sense of overall self-worth ($M = 3.33$, $SD = 0.61$) than their counterparts with a disability/and ill health condition ($M = 3.18$, $SD = 0.64$). These results should be viewed with caution because of the low level of significance.

SES-level of household: Group differences in overall sense of self–worth $F(2, 383) = 3.04$, $p = .049$ due to the income level of one's household were identified. Belonging to a high-income family was identified to be a significant advantage ($p = .043$); with students from high-income households ($M = 3.39$, $SD = 0.60$) reporting significantly superior self-worth ratings than the mid-range income group ($M = 3.23$, $SD = 0.63$).

Table 5.59 *Change in perceived self-worth across transition*

Outcome (*N* = 266)	**M**	**SD**	**ΔM (T2-T1)**	**t**	**p-value**
T2 Self-worth	3.28	.57	-0.00	-0.13	.900
T1 Self-worth	3.28	.64			

Change scores across transition: Self-worth remained stable across transition.

5.4.5.4 Belongingness in school

Table 5.60 *T1 perception of belongingness in school*

Outcome (*N* = 395)	M	SD	Range
T1 Belongingness in school	3.88	0.70	1-5

T1 profile: At T1cross-section as displayed in Table 5.60, the sample reported an overall high sense of belongingness in primary school

Group differences at T1: Independent sample *t*-tests and one-way ANOVA analyses were undertaken to explicate the contribution of gender, health status, and SES-level of household on students' perception of school belongingness prior to transition (Appendix K).

Gender: Belongingness in primary school did vary as a function of students' gender.

Health status: At T1, no significant differences in school belongingness as a function of students' health status were identified.

SES-level of household*:* One-way ANOVA analysis identified no significant group differences in belongingness in primary school based on students the SES-level**.**

Table 5.61 *Change in perceived self-worth across transition*

Outcome (*N* = 266)	M	SD	ΔM (T2-T1)	t	p-value
T2 Belongingness in school	3.84	0.64	0.06	-1.32	.188
T1 Belongingness in school	3.90	0.70			

Change scores across transition: Overall sense of belongingness in school was identified to be stable across transition.

5.4.5.5 Loneliness and social dissatisfaction in school

Table 5.62 *Loneliness and social dissatisfaction in school*

Outcome (*N* = 395)	M	SD	Range
T1 Loneliness and social dissatisfaction in school	27.6	10.46	15-67

T1 profile: Table provides a snapshot student perception of loneliness and social dissatisfaction scores when enrolled in the final year of primary school.

Group differences at T1: Independent sample t-tests and one-way ANOVA analyses were undertaken to clarify the contribution of gender, health status, and SES-level of household on students' perception of loneliness and social dissatisfaction in school prior to transition (Appendix K).

Gender*:* Perception of loneliness and social dissatisfaction in primary school did not vary as a function of students' gender.

Health status: Perception of loneliness and social dissatisfaction in primary school did not vary as a function of students' health status, $t(393) = -3.80$, $p = .000$. Students with a disability and or chronic ill health condition reported to be lonelier and socially more dissatisfied ($M = 31.60$, $SD = 11.27$) than their typically developing counterparts ($M = 26.53$, $SD = 9.95$).

SES-level of household: Household income level was identified as an important determinant of loneliness and social dissatisfaction $F(2, 383) = 3.47$, $p = .032$. Individuals from the lower income level families ($M = 30.42$, $SD = 13.59$) reported a higher level of loneliness than wealthy students ($M = 25.86$, $SD = 8.70$)**.**

Table 5.63 *Change in report of loneliness and social dissatisfaction in school across transition*

Outcome (*N* = 266)	**M**	**SD**	**ΔM (T2-T1)**	**t**	**p-value**
T2 Loneliness and social dissatisfaction in school	26.78	9.02	-0.91	-1.50	.135
T1 Loneliness and social dissatisfaction in school	27.69	10.58			

Change scores across transition: No significant differences in the sample's loneliness profile across the secondary school transition were noted.

5.4.5.6 Participation at school

Table 5.64 *Pre-transition report of availability of opportunities for participation, and frequency of participation in creative, civic and social leisure pursuits*

Outcome	N	M	SD	Range
T1 Availability of opportunities for participation	255	11.15	2.14	2-14
T1 Social leisure activity participation	250	28.95	6.55	9-42
T1 Civic activity participation	264	10.99	4.15	4-24
T1 Creative activity participation	264	8.02	3.48	3-18

T1 profile: Table 5.64 provides an overview of the mean activities available to the sample.

Group differences at T1: Independent sample *t*-tests and one-way ANOVA analyses were undertaken to elucidate the contribution of gender, health status, and SES-level of household on students' perception of participation in school activities prior to transition (Appendix K).

Gender*:* Univariate testing identified that the sample varied in terms of perceived opportunity for participation $t(253) = -2.31$, $p = .021$. Girls reported access to more activities ($M = 11.45$, $SD=1.95$) than boys ($M = 10.82$, $SD = 2.31$). Gender differences in the frequency of engagement in civic pursuits $t(262)=-2.75$, $p=.006$, and creative explorations $t(262) = -3.47$, $p = 0.001$ were also identified.

Health status: No variations in opportunities for participation as a function of students' health status were identified. The health status of the student also failed to make a considerable contribution in moderating participation scores across social-leisure, civic and creative participatory domains.

SES-level of household*:* Income level of students' household influenced the frequency of engagement in creative pursuits $F(2, 262) = 3.282$, $p = .039$ in primary school. Difference in creative participation between students from affluent households ($M = 8.81$, $SD = 3.83$) and mid-range households ($M = 7.70$, $SD = 3.24$) ($p = .054$) nearly reached significance. While the mean for the low-SES group was even lower (further from the high-SES group), the number of students in this group was small, so the difference between the low and high-SES groups was not statistically significant.

Change scores across transition:

Table 5.65 *Change in availability of opportunities for participation, and sample's participation profile across transition*

Outcome (N = 266)	**M**	**SD**	**ΔM (T2-T1)**	**t**	**p-value**
T2Availability of opportunities for participation	12.04	2.00	0.80	6.40	.000
T1 Availability of opportunities for participation	11.24	2.02			
T2 Social leisure participation	28.04	5.95	-1.05	-3.45	.001
T1 Social leisure participation	29.01	6.31			
T2 Civic participation	11.30	4.34	0.36	1.52	.128
T1 Civic participation	10.95	4.08			
T2 Creative pursuits	9.85	3.47	1.83	8.57	.000
T1 Creative pursuits	8.01	3.38			

Change scores across time identified statistically significant increase in the opportunities afforded for participation in secondary school; $t(213) = -6.40$, $p = .000$ ($T2M = 12.04$, $T_2SD = 2.00$) ($T_1M = 11.24$, $T_1SD = 2.01$).

An increase in participation in creative pursuits was identified for the entire sample $t(266) = 8.57$, $p = 0.000$. The frequency of participation in social-leisure opportunities however declined across time $t(266) = -3.45$, $p = .001$. Across

secondary school transition, no significant change in frequency of participation in civic-pursuits at school was identified.

5.5 SUMMARY OF THE CHAPTER

This chapter provided a description of the characteristics of the sample that took part in the study across the primary-secondary school transition.

The seven key findings of this chapter were:

1. At T1, group differences due to students' gender, health status and SES-level across many personal factors, contextual factors, as well as adjustment components were found;
2. Change in personal and contextual factors across transition identified a reduction in various measures following entry into secondary school, but not all change scores were statistically significant;
3. No significant changes in academic competence, emotional and behavioural difficulties, school belonging and loneliness and social dissatisfaction in school subsequent to secondary school transition were identified;
4. Perceived self-worth remained stable across transition;
5. The sample was afforded significantly more opportunities for participation in school extra-curricular activities in secondary school;
6. Subsequent to secondary school transition, a significant increase in frequency of participation in creative pursuits and reduction in social-leisure activity participation were identified. The change in the frequency of participation in civic-pursuits across transition was not statistically significant;
7. Although systematic changes in mean scores were identified for some predictors and adjustment outcomes, it cannot be ascertained whether the changes were due to transition, as measurement errors of the scales were not available. As in the case of the SSRS 4-week test-retest reliability study (Chapter 4), statistically significant systematic errors do not necessary represent a true change. These findings highlight the importance of consideration of measures of sensitivity such as the measurement error or other indices of clinical relevance whilst discussing change scores.

Impact of study findings on further analyses undertaken in the thesis: The main aim of this thesis was to determine the predictors of student adjustment before and

after secondary school transition, which could be generalised across all mainstream students. Analyses undertaken in this chapter identified the existence of group differences across various adjustment outcomes, and personal and contextual factors. As a consequence of these findings, students' gender, health status and SES-background were controlled for at the very onset of subsequent regression analyses. These models are presented in Chapter 6.

Chapter 6 Predictors of Student Adjustment Outcomes

6.1 INTRODUCTION

The overall aim of the study was to determine the personal and contextual factors that affect adjustment outcomes of all students in a mainstream setting, including those with and without disability/chronic illness and social disadvantage, as they negotiate the transition from primary to secondary school. In order to attend to the study aim, the following six objectives were addressed:

- ***Objective 1***: To determine the pre-transition (T1)[18] personal and contextual factors that predict concurrent[19] adjustment outcomes of students in primary school (at T1);
- ***Objective 2***: To determine the pre-transition (T1) personal and contextual factors that predict student adjustment outcomes longitudinally[20] in secondary school (at T2) [21];
- ***Objective 3***: To determine whether the factors found to be significantly associated with T1 adjustment outcomes (objective 1) retain their association when evaluated in secondary school (at T2), using T2 equivalent[22] factors and adjustment outcomes. This model is referred to as the T1 replica model;

[18] Pre-transition (T1) is used to refer to the final year of primary school, and involves Year 7 for schools that follow the traditional K-7 system, or Year 6 for schools that follow the K-12 system with middle school.

[19] Concurrent is used to refer to occurrences at the same point in time. For example, to refer to T1 factors predicting T1 outcomes, or to refer to T2 factors predicting T2 outcomes.

[20] In the longitudinal model, T1 factors are used to predict T2 outcomes. The terms longitudinal, across-time and prospectively have been used interchangeably in this thesis.

[21] Post-transition (T2) is used to refer to the first year of secondary school, and involves Year 8 for schools that follow the traditional K-7 toYear8-10/12 system, or Year 7 for schools that follow the K-12 system with middle school.

[22] Equivalent T2 factors include post-transition/secondary level factors that are matched to those in the T1 model. They have also been referred to as corresponding T2 factors.

- ***Objective 4***: To determine if there are personal and contextual factors unique[23] to secondary school that predict concurrent adjustment outcomes of students in secondary school (at T2);
- ***Objective 5***: If unique factors are identified in objective 4, to determine whether the unique T2 factors predict concurrent adjustment outcomes at T2, better than the T1 replica model (Objective 3);
- ***Objective 6***: After controlling for primary school (T1) adjustment outcomes, to determine whether the unique T2 factors identified in objective 4, predict concurrent adjustment outcomes at T2, better than the T1 replica model (Objective 3).

Based on the literature, student adjustment in this study was operationalised in terms of:

1. academic competence;
2. emotional and behavioural difficulties;
3. sense of self-worth;
4. belongingness in school;
5. loneliness and social dissatisfaction in school; and
6. participation in school extra-curricular activities (e.g. social-leisure, civic, and creative pursuits)

The results in this chapter are presented in the order of adjustment outcomes as defined in this thesis. The six study objectives have been addressed in relation to each adjustment component.

[23] Unique T2 is used to refer to factors exclusive to secondary school.

6.2 PREDICTORS OF PERCEIVED ACADEMIC COMPETENCE

6.2.1 Objective 1: To determine the pre-transition (T1) personal and contextual factors that predict concurrent academic competence of students in primary school (at T1).

A three-step procedure as outlined in Section 3.9.2 of the methodology was undertaken. Results of the hierarchical linear regression analysis undertaken are presented in this section. The order of entry of predictors into the model was guided by previous research on the major sources of variance in student outcomes at school (Hattie, 1999). Findings of the five-block model were as follows.

Block 1: When gender, health status and SES-level of students' household were added in Block1, only 10.4 % of the variance in student perceived academic competence at T1 was accounted for $F(4, 299) = 8.72$, $p = .000$.

Block 2: The addition of personal factors into the model improved the models' predictive power dramatically (R^2 change = .33), enabling it to explain 41.5% of the variance in T1 academic competence. The increment in the predictive power of the model was significant (F change for R^2 change = 22.148, p =.000).

Block 3: With the addition of family factors in Block3, the predictive power of the model increased further (R^2 change = 0.050). The model was capable of explaining 46.5% of variance in T1 academic competence. The increment in the predictive power of the model was significant (F change for R^2 change = 9.036, p =.000).

Block 4: School/classroom factors when added in Block 4 enabled the model to account for 56.5% of the variance in perceived academic competence at T1. An improvement in the predictive power of the model was witnessed (R^2 change = .09), with a corresponding (F change for R^2 change = 12.970, p = .000).

Block 5: Finally, with the addition of peer-group factors in Block 5, the model retained its ability to explain 56.5% of the variance in T1 academic competence. There was no improvement in the predictive power of the model (R^2 change = .00). This suggests that peer group factors could not significantly explain any additional variance in academic competence, than that accounted for by Block 4 factors.

The following section presents the factors that contributed to the final model, grouped in terms of the context to which they belong (Refer Table 6.1).

Table 6.1 *Predictors of academic competence*

Outcome* Academic Competence (Reverse)	**Predictors**	**Obj 1: T1 model R^2 = 56.5%**	**Obj 2: Longitudinal T1 model R^2 = 37.5%**	**Obj 3 T1 replica model using T2 equivalent factors R^2 = 54.5%**	**Obj 4: Unique T2 model R^2 = 58.9%**	**Obj 5: Unique T2 after control of Obj 3 R^2 = 61%**	**Obj 6: Unique T2 after control of Obj 3 and previous adjustment R^2 = 69%**
Block1: Control factors	Boy Vs. girl	NS	-.134 (.040)	NS	NS	NS	NS
	Typical Vs. presence of disability/CI	NS	NS	NS	NS	NS	NS
	Mid-SES Vs. Low SES-level	NS	NS	NS	NS	NS	NS
	Mid-SES Vs. High SES-level	NS	NS	NS	NS	NS	.09 (.05)

*Table is positively coded for ease of interpretation Standardized Beta values and corresponding levels of significance are presented

NS = Non-significant

Table 6.1 *continued*

Outcome* Academic Competence (Reverse)	**Predictors**	**Obj 1: T1 model R^2 = 56.5%**	**Obj 2: Longitudinal T1 model R^2 = 37.5%**	**Obj 3 T1 replica model using T2 equivalent factors R^2 = 54.5%**	**Obj 4: Unique T2 model R^2 = 58.9%**	**Obj 5: Unique T2 after control of Obj 3 R^2 = 61%**	**Obj 6: Unique T2 after control of Obj 3 and previous adjustment R^2 = 69%**
Control of previous adjustment only in objective 6	T1 Reverse academic competence^	NA	NA	NA	NA	NA	.40 (.000)
	T1 log10 Emotional and behavioural problems	NA	NA	NA	NA	NA	NS
	T1 Reverse self-worth	NA	NA	NA	NA	NA	NS
	T1 Reverse belong in school	NA	NA	NA	NA	NA	NS
	T1 Reverse social-leisure participation	NA	NA	NA	NA	NA	NS
	T1 log10 creative activity participation	NA	NA	NA	NA	NA	NS
	T1log10 civic activity participation	NA	NA	NA	NA	NA	NS

*Table is positively coded for ease of interpretation Standardized Beta values and corresponding levels of significance are presented

^ Factor has been positively coded for ease of interpretation

NS = Non-significant; NA = Not-applicable. Used to refer to factors that did not meet criteria for inclusion into the model

Table 6.1 *continued*

Outcome* Academic Competence (Reverse)	**Predictors**	**Obj 1: T1 model R^2 = 56.5%**	**Obj 2: Longitudinal T1 model R^2 = 37.5%**	**Obj 3 T1 replica model using T2 equivalent factors R^2 = 54.5%**	**Obj 4: Unique T2 model R^2 = 58.9%**	**Obj 5: Unique T2 after control of Obj 3 R^2 = 61%**	**Obj 6: Unique T2 after control of Obj 3 and previous adjustment R^2 = 69%**
Block 2: Personal factors	Social acceptance competence	NS	NS	NS	NA	NS	NS
	Mid 33percentile Vs. Low-33 percentile close friendship competence	NS	NS	NS	NA	-.099 (.050)	NS
	Cooperation frequency	.107 (.033)	NS	.195 (.001)	.155 (.002)	.157 (.004)	.15 (.003)
	Mid 25-75percentile Vs. High-Q Physical appearance competence	.111 (.011)	NS	NS	NA	NS	NS
	Non-productive coping	-.155 (.000)	NS	-.115 (.020)	-.130 (.005)	-.140 (.004)	-.129 (.004)
	Mid 25-75percentile Vs. Low-Q effort motivational orientation	-.087 (.049)	-.147 (.032)	NS	NA	NS	NS
	TAFE/University Vs. Up to year 12 completion expectation by student	NS	NS	NS	NA	NS	NS

*Table is positively coded for ease of interpretation Standardized Beta values and corresponding levels of significance are presented

NS = Non-significant; NA = Not-applicable. Used to refer to factors that did not meet criteria for inclusion into the model

Table 6.1 *continued*

Outcome* Academic Competence (Reverse)	**Predictors**	**Obj 1: T1 model R^2 = 56.5%**	**Obj 2: Longitudinal T1 model R^2 = 37.5%**	**Obj 3 T1 replica model using T2 equivalent factors R^2 = 54.5%**	**Obj 4: Unique T2 model R^2 = 58.9%**	**Obj 5: Unique T2 after control of Obj 3 R^2 = 61%**	**Obj 6: Unique T2 after control of Obj 3 and previous adjustment R^2 = 69%**
Block 3: Family factors	Social support from family	NS	NS	NS	NA	NS	NS
	Parental self-efficacy to help their child succeed in school	NS	NS	NS	NA	NS	NS
	Trade Vs. University expectation for child	.182 (.000)	.255(.001)	.193 (.000)	.205 (.000)	.189 (.000)	.129 (.007)

*Table is positively coded for ease of interpretation Standardized Beta values and corresponding levels of significance are presented

NS = Non-significant; NA = Not-applicable. Used to refer to factors that did not meet criteria for inclusion into the model

Table 6.1 *continued*

Outcome* Academic Competence (Reverse)	**Predictors**	**Obj 1: T1 model R^2 = 56.5%**	**Obj 2: Longitudinal T1 model R^2 = 37.5%**	**Obj 3 T1 replica model using T2 equivalent factors R^2 = 54.5%**	**Obj 4: Unique T2 model R^2 = 58.9%**	**Obj 5: Unique T2 after control of Obj 3 R^2 = 61%**	**Obj 6: Unique T2 after control of Obj 3 and previous adjustment R^2 = 69%**
	Mid 25-75 percentile Vs. Low-Q class ease	-.267 (.000)	-.195 (.009)	-.248 (.000)	-.185 (.000)	-.175 (.001)	-.121 (.009)
	Mid 25-75 percentile Vs. High-Q class ease	.135(.004)	NS	.265 (.000)	.262 (.000)	.254 (.000)	.165 (.001)
Block 4: School/ classroom factors	Class cohesiveness	NS	NS	NS	NA	NS	NS
	Mid 25-75 percentile Vs. High-Q class involvement	NS	NS	.107 (.042)	NA	NS	NS
	Yes Vs. No professional development to deal with students with CI	-.084 (.043)	NS	NS	NA	NA	NA

*Table is positively coded for ease of interpretation Standardized Beta values and corresponding levels of significance are presented

NS = Non-significant; NA = Not-applicable. Used to refer to factors that did not meet criteria for inclusion into the model

Table 6.1 *continued*

Outcome* Academic Competence (Reverse)	**Predictors**	**Obj 1: T1 model R^2 = 56.5%**	**Obj 2: Longitudinal T1 model R^2 = 37.5%**	**Obj 3 T1 replica model using T2 equivalent factors R^2 = 54.5%**	**Obj 4: Unique T2 model R^2 = 58.9%**	**Obj 5: Unique T2 after control of Obj 3 R^2 = 61%**	**Obj 6: Unique T2 after control of Obj 3 and previous adjustment R^2 = 69%**
Block 5: Peer-group factors	Mid 25-75 percentile Vs. Low-Q social support from a friend	NS	NS	NS	NA	.142 (.007)	.118 (.014)
	Mid 25-75 percentile Vs. Low-Q social support from a special person	NS	NS	NS	NA	NS	NS

*Table is positively coded for ease of interpretation Standardized Beta values and corresponding levels of significance are presented

NS=Non-significant; NA= Not-applicable. Used to refer to factors that did not meet criteria for inclusion into the model

Table 6.1 *continued*

Outcome* Academic Competence (Reverse)	**Predictors**	**Obj 1: T1 model R^2 = 56.5%**	**Obj 2: Longitudinal T1 model R^2 = 37.5%**	**Obj 3 T1 replica model using T2 equivalent factors R^2 = 54.5%**	**Obj 4: Unique T2 model R^2 = 58.9%**	**Obj 5: Unique T2 after control of Obj 3 R^2 = 61%**	**Obj 6: Unique T2 after control of Obj 3 and previous adjustment R^2 = 69%**
Block 6: Unique T2 factors	Social power motivation	NA	NA	NA	.134 (.005)	.14 (0.004)	.116 (.008)
	Mid 25-75 percentile Vs. High-Q effort motivational orientation	NA	NA	NA	NS	NS	NS
	Mid 25-75 percentile Vs. High-Q assertiveness frequency	NA	NA	NA	.077 (.089)	.085 (.075)	NS
	Mid 25-75 percentile Vs. Low-Q class task orientation	NA	NA	NA	-.214 (.000)	-.243 (.000)	-.234 (.000)
	Adequate Vs. Inadequate academic assistance	NA	NA	NA	-.115 (.010)	-.111 (.013)	-.097 (.018)
	Adequate Vs. Inadequate physical assistance	NA	NA	NA	NS	NS	NS

*Table is positively coded for ease of interpretation Standardized Beta values and corresponding levels of significance are presented

NS = Non-significant; NA = Not-applicable. Used to refer to factors that did not meet criteria for inclusion into the model

Control variables: No differences in academic competence at T1 as a function of gender, health status (presence/absence of disability/chronic illness) and SES-level of students' household-SES were identified.

Personal factors: Listed below are the four personal factors identified to significantly predict academic competence at T1

Competency in the area of physical appearance was found to be positively co-related with concurrent perception of academic competence (T1 high-quartile physical appearance, $\beta = 0.111$, $p = .011$). These findings further validate the importance early adolescents place on their external appearances, with a .111 standard deviation enhancement in academic competence predicted, with every standard deviation increase in the feeling that one was physically attractive.

The ability to connect cooperatively with others emerged as a significant asset (T1 cooperative social skill, $\beta = .107$, $p = .033$).

Low pursuit of a mastery goal orientation in primary level schooling was found to be associated with lower concurrent academic competence (T1 low-quartile effort motivation, $\beta = -.087$, $p = .049$).

Resorting to non-productive coping strategies (e.g. worrying, ignoring the problem at hand, and self-blame) was identified as a significant risk factor (T1 non-productive coping, $\beta = -.155$, $p = .000$). Academic competence could be predicted to fall by .155 standard deviation units with every standard deviation unit increase in the non-productive coping strategies resorted to.

Family factors: Students whose parents upheld high academic aspirations and expected them to secure at least a University degree (T1 university expectations, $\beta = .182$, $p = .000$) were found to be more confident about their academic accomplishments, when compared to those whose parents endorsed lower expectations (trade-level achievement).

School/classroom factors: The degree to which the student perceived classroom work to be easy was identified as a significant determinant of concurrent academic competence. High (T1 high-Q ease, β = .135, p = .004) and low (T1 low-Q ease, β = -.267, p = .000) perceptions of classroom ease were correlated with concurrent competence.

Students whose teachers did not receive any professional development in dealing with students with a chronic ill health condition reported lower concurrent academic competence (T1 no professional-development CI, β = - .084, p = .043), when compared to those whose teacher did attend a proficiency training course.

Peer-group factors: Peer-group factors failed to significantly contribute to the prediction of perceived academic competence in primary school.

6.2.2 Objective 2: To determine the pre-transition (T1) personal and contextual factors that predict academic competence of students longitudinally in secondary school (at T2).

Longitudinally, T1 factors accounted for 37.5% of the variance in perceived academic competence at T2, $F(21, 177) = 5.07$, $p = .000$. The following section presents the factors that contributed to the final model, grouped in terms of the context to which they belong. Please refer to Table 6.1 for standardized beta values.

Control variables: Across time, being a girl was identified as a significant risk factor (Girl, $\beta = -.134$, $p = .040$). A .134 standard deviation reduction in academic competence in secondary school could be predicted if one was female. Thus, pre-adolescent girls in Australia are an important group more predisposed to having a lower perception of their academic capability when they enter into the secondary school setting.

No significant differences in perceived academic competence as a function of students' health status, or SES-level of their household were identified.

Personal factors: A reduction in academic competence at the secondary level could be predicted as student's effort motivational orientation at T1 dipped from the mid-Q to low-Q grouping (T1 low-Q effort motivation, $\beta = -.147$, $p = .032$). These findings suggest that students, who place low value on applying effort, perseverance, and hard work to succeed whilst in primary school, are more likely to be in danger of having low academic competence in secondary school.

Family factors: The expectations that parents upheld for their children in the final year of primary school emerged as significant predictors of students' academic competence longitudinally (in secondary school). One could predict academic competence to increase by .255 standard deviation units if parents expected their children to obtain a university degree as opposed to trade-level certificate (T1 university expectations, $\beta = .255$, $p = .001$).

School/classroom factors: Students who experienced difficulties in class-room work in primary level were found to be more likely to have lower academic competence in secondary school (T1 low-Q class ease, β = -.195, p = .009).

Peer- group factors: These factors did not contribute significantly to the model.

Summary: As displayed in Table 6.1, in primary school, the T1 factors could predict 56.5% of the variance in concurrent academic competence (objective 1). Longitudinally, only two T1 student factors, one parent factor, and one classroom factor were able to account for 37.5% of the variance in perceived academic competence at T2. The loss of predictive power could be attributed to either a change in the identified T1 predictor factors across transition, or the contribution of other factors unique to T2 that predict concurrent adjustment in secondary school (at T2). The latter possibility has been examined in objective 4.

6.2.3 Objective 3: To determine whether the factors found to be significantly associated with T1 academic competence (objective 1) retain their association when evaluated in secondary school (at T2), using T2 equivalent personal and contextual factors and academic competence. This model is referred to as the T1 replica model.

The final regression model accounted for 54.5% of variance in students' academic competence at T2, $F(20, 238) = 14.24$, $p = .000$. The following section presents the factors that contributed to the final model, grouped in terms of the context to which they belong. Refer to Table 6.1 for specific standardized beta values.

Control variables: Similar to the T1 model findings, none of the control variables emerged as a significant determinants of perceived academic competence at T2.

Personal factors: Academic competence in secondary school could be predicted to increase by .195 standard deviation units with every standard deviation unit increase in the frequency of engagement cooperative encounters with one's peers (T2 cooperative social skill, $\beta = .195$, $p = .001$).

A .115 standard deviation reduction in perceived academic competence in secondary school could be predicted for every standard deviation unit increase in the non-productive coping strategies resorted to, in secondary school (T2 non-productive coping, $\beta = -.115$, $p = .020$).

Family factors: Similar to the findings in the T1 model (objective 1), parental expectations of academic success was identified as an important contributor of concurrent academic competence in secondary school (T2 university expectations, $\beta = .193$, $p = .000$).

School/classroom factors: Perception of both high (T2 high-Q class ease, $\beta = .265$, $p = .000$) and low classroom work ease (T2 low-Q class ease, $\beta = -.248$, $p = .000$) were identified to be correlated with concurrent academic capability in secondary school.

Additionally, students who were actively involved in classroom activities in secondary school were significantly more likely to identify themselves as being academically competent (T2 high-Q classroom involvement, $\beta = .107$, $p = .042$), when compared to their counterparts who reported mid-Q level involvement.

Peer-group factors: Similar to the findings in the T1 model, peer-group factors failed to make a significant contribution to the prediction of academic competence in secondary school.

Summary: This objective assessed the validity of the pre-transition model in secondary school, using post-transition equivalent factors. The final hierarchical linear regression model run was capable of accounting for 54.5% of the variance in students' academic competence at T2 ($F(20, 238) = 14.24$, $p = .000$). Whilst at T1, this model could predict 56.5 % of the variance in academic competence (see objective 1), when equivalent post-transition (T2) factors were used, its ability to predict academic competence in the same cohort decreased. This reduction in model adequacy, calls into question whether there are any additional factors, unique to T2, that are responsible for predicting academic competence in secondary school. Objectives 4 and 5 were set out to address this possibility.

6.2.4 Objective 4: To determine if there are personal and contextual factors unique to secondary school that predict concurrent academic competence of students in secondary school (at T2).

A series of stepwise linear regression analyses was undertaken in order to identify the personal and contextual factors that predict academic competence in secondary school. For the sake of brevity, the significant result of final stepwise regression analysis is presented below. As shown in the Table 6.1, the final model accounted for 58.9% of the variance in students' academic competence at T2, $F(13, 245) = 23.18$, $p = .000$.

The factors that contributed to the final model are listed below, grouped in terms of the context to which they belong.

Control variables: No differences in perceived academic competence at T2 as a function of students' gender, health status, or SES-level of their family were identified.

Personal factors: Three student factors were identified to statistically contribute towards the prediction of academic competence at T2.

Resorting to non-productive coping strategies at T2 (β = -.130, p= .005) such as worrying, ignoring the problem at hand, and self blame was identified as a positive marker of low perception of academic competence in secondary level school.

Academic competence was predicted to increase by 0.155 standard deviation units with every standard deviation unit increase in the frequency of cooperative engagements with one's peers (β = .155, p= .002).

Family factors: Students whose parents upheld high academic aspirations, and expected of them to secure a university degree at the least, defended a higher sense

of competence at T2, when compared to those whose parents endorsed lower expectations (β = .205, p = .000).

School/classroom factors: Similar to the findings in the T1 model, the degree to which the student perceived classroom work to be easy was identified as a significant determinant of concurrent academic competence. High (β = .262, p = .000) and low (β = -.185, p = .000) perceptions of classroom ease were correlated with concurrent competence.

No peer group factors were identified in stepwise regression to make a significant contribution towards concurrent academic competence at T2.

Unique to secondary school: Unique to the model was the contribution of students' motivational orientation on concurrent academic competence at T2. Academic competence was predicted to increase by .134 standard deviation units with every standard deviation increase in student's desire to be a leader and take charge of a group (β = .134, p=.005).

Three classroom factors unique to T2 were found to play an important role in predicting concurrent academic competence. They were: students' perception of the degree of task-orientation in the classrooms (β = -.214, p = .000); and parental perception of the inadequacy of academic (β = -.115, p = .010) assistance that their child received in secondary school.

Summary: Stepwise linear regression identified 4 personal and contextual factors that could predict academic competence at T2. They were social-power motivation; classroom task-orientation (lower-Q); and parental perception of inadequate physical and academic assistance offered to their child in secondary school. These findings suggest that there are distinctive personal and contextual factors, unique to T2 that influence academic competence. Objective 5 was thus set out to identify whether these unique factors could predict concurrent academic competence in school at T2 better than the T1 replica model (Objective 3).

6.2.5 Objective 5: If unique factors are identified in objective 4, to determine if the unique T2 personal and contextual factors predict concurrent academic competence at T2 better than the T1 replica model (Objective 3).

The unique post-transition factors (identified in objective 4) accounted for 61% of the variance in students' academic competence at T2, after control for objective 3 $F(26, 232) = 13.98$, $p = .000$. An improvement in the predictive power of the model, over objective 3 was witnessed (R^2 change = .07), with a corresponding (F change for R^2 change = 6.505, $p = .000$). The factors that contributed to the final model are listed below, grouped in terms of the context to which they belong (Table 6.1).

Control variables: Similar to the findings in objective 3, gender, health status, or SES-level of students' household did not significantly influence academic competence at T2.

Personal factors: In addition to the benefits of engagement in cooperative encounters with one's peers ($\beta = .157$, $p = .004$), and the unfavourable consequences of resorting to non-productive coping strategies whilst dealing with stressors ($\beta = -.140$, $p = .004$), and low-level ability to form close friendships ($\beta = -.099$, $p = .050$) emerged as a significant predictor of concurrent academic competence whilst in the secondary school setting. Those who perceived themselves to have low skill (low-Q group) in forming secure comradeship were more likely to have a lower academic competence, when compared to the mid-range skill category. These findings stress the importance of close-mateship in boosting students' perception of academic competence.

Family factors: Similar to objective 3, the expectation that parents' espouse for their children was identified as the sole significant contributor of student academic competence ($\beta = .189$, $p = .000$).

School/classroom factors: Perceptions of both high (β = .254, p = .000) and low classroom ease (β = -.175, p = .001) were each significantly correlated with concurrent academic competence.

Peer-group factors: In this model, receiving low-level social support from one's friends was found to be significantly positively associated with academic competence (β = .142, p = .007).

Unique post-transition predictors: Four factors unique to T2 (Objective 4) were included in this Block of the analysis. These included: social -power motivation, and two school-related factors namely, task-orientation (low-Q); and parental perception of inadequate academic assistance offered to their child in secondary school.

Of the personal factors only social-power motivation was found to make a significant contribution to the final model (β = .14, p = .004). Students driven by the desire to be a leader and take charge of a group were identified to have higher level academic competence at T2.

Student perception of task-goal organisation was identified as a significant contributor, with a .243 standard deviation fall in academic competence predicted as classrooms were perceived as more disorganised and unclear (or degree of organisation fell from the mid-range to the low-Q category) (β = -.243, p = .000).

Receiving inadequate academic support in secondary school (in terms of programs/services/or facilities both within and outside the classroom in addition to the standard program) when compared to the receipt of adequate support was associated with a reduction in academic competence (β = -.111, p = .013).

Summary: This objective built on objective 3, to identify whether the unique T2 factors could explain a greater amount of the variance in the outcome, than accounted for in objective 3. After control of objective 3, the unique post-transition factors (identified in objective 4. were capable of accounting for 61% of the variance

in students' academic competence at T2 (F (26, 232) = 13.98, p = .000). An improvement in the predictive power of the model was witnessed (R^2 change = .07), over the pre-transition replica model (objective 3), with a corresponding (F change for R^2 change = 6.505, p = .000).

6.2.6 Objective 6: After controlling for adjustment outcomes in primary school (at T1), to determine if the unique T2 factors identified in objective 4 predict concurrent academic competence at T2 better than the T1 replica model (Objective 3).

The final regression model accounted for 69% of variance in students' academic competence at T2, $F(33, 225) = 15.13$, $p = .000$. The following section presents the factors that contributed to the final model, grouped in terms of the context to which they belong. Refer to Table 6.1 for specific standardized beta values.

Control variables: Although no difference in student academic performance as a function of gender and health-status were identified, belonging to a high-SES family was identified as a significant asset when compared to the mid-range SES group. Academic performance at T2 could be predicted to increase by .09 standard deviation units as one's social status increased from the mid-SES to high-SES grouping.

Contribution of Previous adjustment factors: Perceived academic competence at T1 was found to be positively associated with perceived academic competence at T2 ($\beta = .40$, $p = .000$). Other components of T1 adjustment failed to significantly predict T2 academic performance

Contribution of personal and contextual factors: When previous adjustment variables were taken into account in the regression, individuals' perception of their ability to form close friendships did not emerge as a significant predictor of academic competence at T2. With the exception of this factor all other personal and contextual factors identified to impact on T2 academic performance in objective 5 held their significance. Kindly refer to Table 6.1 for specifics.

Summary: After accounting for primary school adjustment, objective 6 was set out to determine whether the unique T2 factors could explain a greater amount of variance in the outcome, than that accounted for in objective 3. The final model was able to predict 69% of the variance in students' academic competence at T2.

Concluding summary on academic competence models:

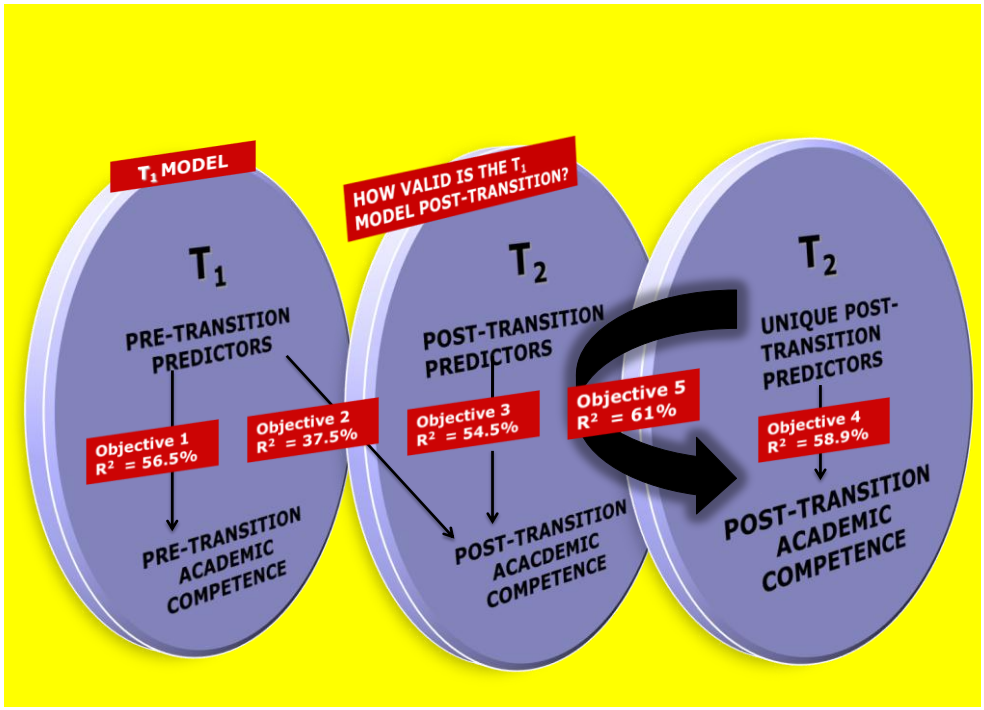


Figure 6.1 *Prediction of academic competence: Objectives 1-5*

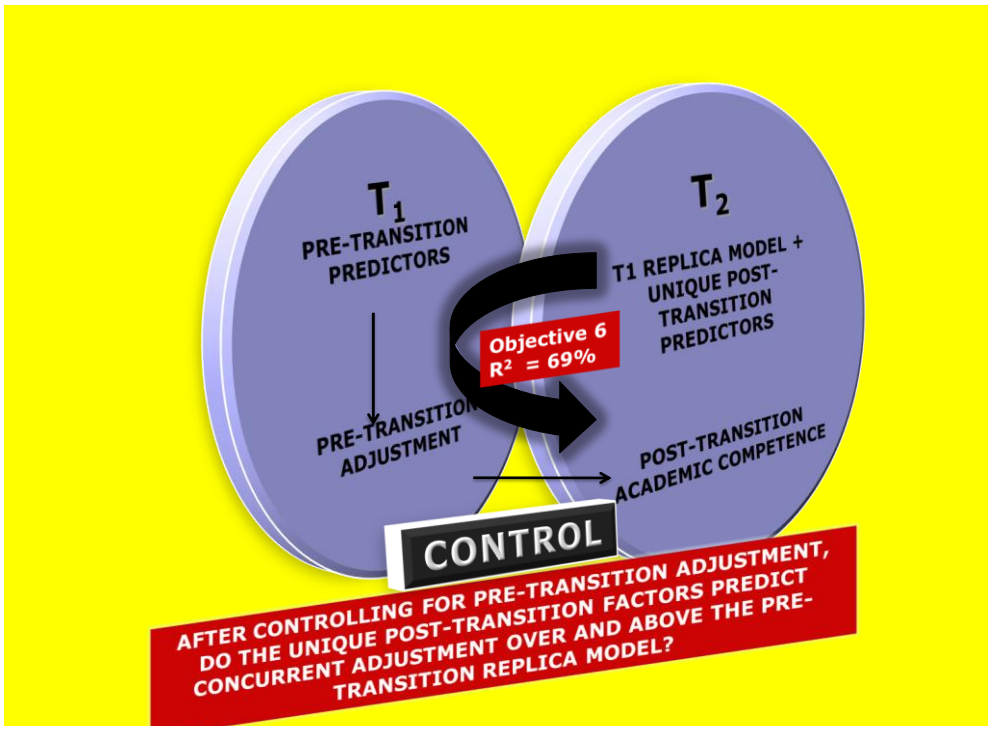


Figure 6.2 *Prediction of academic competence: objective 6*

Multivariate regression analysis that adjusted for group differences due to gender, health status and social disadvantage, revealed that at T1, the model of personal, family, school, and peer-group factors (objective 1) accounted for 56.5% of the variation in concurrent academic competence. Across time, the T1 model (objective 2) explained 37.5% of the variation in perceived academic competence at T2. Replication of the T1 model in secondary school by using comparable T2 factors permitted 54.5% of the variance in students' academic competence at T2 to be accounted for (objective 3). Further scrutiny, using stepwise linear regression identified five factors unique to secondary school that could predict concurrent academic competence at T2 (objective 4). When the unique T2 factors were regressed after controlling for the T1 replica model (objective 3), 61% of the variance in academic competence at T2 could be accounted for (objective 5). The improvement of the model (objective 5) over the T1 replica model (objective 3) was significant $\Delta R^2 = .066$ and its corresponding change in F (ΔF) = 6.505 at $p = .000$ values of significance. Thus, in secondary school (T2), distinctive factors were found to contribute to the prediction of concurrent academic competence on top of the T1 replica model. As shown in Table 6.1 and displayed in Figure 6.2, nearly all the factors identified in objective 5 were found to hold their own in predicting T2 academic performance in objective 6, even after T1adjustment was controlled for in the second block of the analysis. The final model accounted for 69% of the variance in students' academic competence at T2.

6.3 PREDICTORS OF EMOTIONAL AND BEHAVIOURAL DIFFICULTIES

6.3.1 Objective 1: To determine the pre-transition (T1) personal and contextual factors that predict concurrent emotional and behavioural difficulties in students in primary school (at T1).

Findings of the five-block model were as follows.

Block 1: When gender, health status and SES-level of students' household were added in Block1, only 13.8 % of the variance in students' emotional and behavioural difficulties could be accounted, $F(4, 238) = 14.742$, $p = .000$.

Block 2: The addition of personal factors improved the model's predictive power (R^2 change = .15), enabling it to explain 28.6% of the variance in T1 emotional and behavioural difficulties. The increment in the predictive power of the model was significant (F change for R^2 change = 12.503, $p = .000$).

Block 3: With the addition of family factors in Block3, the predictive power of the model increased further (R^2 change = .108). The model was capable of explaining 39.4% of the variance in pre-transition emotional and behavioural difficulties. The increment in the predictive power of the model was significant (F change for R^2 change = 12.704, $p = .000$).

Block 4: School/classroom factors when added in Block 4 enabled the model to account for 43.6% of the variance in emotional and behavioural difficulties. An improvement in the predictive power of the model was witnessed (R^2 change = .042), with a corresponding (F change for R^2 change = 3.707, $p = .001$).

Block 5: Finally, with the addition of peer-group factors in Block 5, the model could explain 43.9% of the variance in T1 emotional and behavioural difficulties. There was no significant improvement in the predictive power of the model (R^2 change = .003. This suggests that peer group factors could not significantly

explain any additional variance in emotional and behavioural difficulties, than that accounted for by Block 4 factors.

The final model explained 44% of the variance in students' emotional and behavioural difficulties at T1, $F(23, 349) = 11.88$, $p = .000$. The factors that contributed to the final model are listed below, grouped in terms of the context to which they belong. Refer to Table 6.2.

Table 6.2 *Predictors of emotional and behavioural difficulties*

Log Emotional and behavioural difficulties (more difficulties= worse emotional and behavioural wellbeing)	**Predictors**	**Obj 1: T1 model R^2 = 44%**	**Obj 2: Longitudinal T1 model R^2 = 41%**	**Obj 3 T1 replica model using T2 equivalent factors R^2 = 46.7%**	**Obj 4: Unique T2 model R^2 = 45.7%**	**Obj 5: Unique T2 after control of Obj 3 R^2 = 49.5%**	**Obj 6: Unique T2 after control of Obj 3 and previous adjustment R^2 = 63%**
	Boy Vs. girl	NS	NS	NS	NS	NS	NS
Block1: Control	Typical Vs. presence of disability/CI	.166 (.000)	.168 (.004)	.178 (.002)	.210 (.000)	.187 (.001)	NS
factors	Mid-SES Vs. Low SES-level	NS	NS	NS	NS	NS	NS
	Mid-SES Vs. High SES-level	NS	NS	NS	-.098 (.047)	NS	NS

Standardized Beta values and corresponding levels of significance are presented

NS = Non-significant

Table 6.2 *continued*

Log Emotional and behavioural difficulties (more difficulties= worse emotional and behavioural wellbeing)	**Predictors**	**Obj 1: T1 model R^2 = 44%**	**Obj 2: Longitudinal T1 model R^2 = 41%**	**Obj 3 T1 replica model using T2 equivalent factors R^2 = 46.7%**	**Obj 4: Unique T2 model R^2 = 45.7%**	**Obj 5: Unique T2 after control of Obj 3 R^2 = 49.5%**	**Obj 6: Unique T2 after control of Obj 3 and previous adjustment R^2 = 63%**
Control of previous adjustment only for objective 6	T1 log10 Emotional and behavioural difficulties	NA	NA	NA	NA	NA	.445 (.000)
	T1 Reverse academic competence	NA	NA	NA	NA	NA	NS
	T1 Reverse self-worth	NA	NA	NA	NA	NA	NS
	T1 Reverse belong in school	NA	NA	NA	NA	NA	NS
	T1 Reverse social-leisure participation	NA	NA	NA	NA	NA	NS
	T1 log10 creative activity participation	NA	NA	NA	NA	NA	NS
	T1log10 civic activity participation	NA	NA	NA	NA	NA	NS

Standardized Beta values and corresponding levels of significance are presented

NS = Non-significant; NA = Not-applicable. Used to refer to factors that did not meet criteria for inclusion into the model

Table 6.2 *continued*

Log Emotional and behavioural difficulties (more difficulties= worse emotional and behavioural wellbeing)	**Predictors**	**Obj 1: T1 model R2 = 44%**	**Obj 2: Longitudinal T1 model R2 = 41%**	**Obj 3 T1 replica model using T2 equivalent factors R2 = 46.7%**	**Obj 4: Unique T2 model R2 = 45.7%**	**Obj 5: Unique T2 after control of Obj 3 R2 = 49.5%**	**Obj 6: Unique T2 after control of Obj 3 and previous adjustment R2 = 63%**
Block 2: Personal factors	Social acceptance competence	-.113 (.031)	NS	NS	NA	NS	NS
	Cooperative social skills	NS	NS	-.117 (.051)	NA	NS	NS
	Mid 25-75 per Vs. Low-Q assertion social skills	-.105 (.028)	NS	NS	NA	NS	NS
	Cope by solving the difficulties	NS	NS	NS	NA	NS	NS
	Social concern motivational orientation	NS	NS	NS	NA	NS	NS
	Mid 33 percentile Vs. High 33 percentile worrying about impending transition	NS	NS	NS	NA	NS	NS

Standardized Beta values and corresponding levels of significance are presented

NS = Non-significant; NA = Not-applicable. Used to refer to factors that did not meet criteria for inclusion into the model

Table 6.2 *continued*

Log Emotional and behavioural difficulties (more difficulties= worse emotional and behavioural wellbeing)	**Predictors**	**Obj 1: T1 model R2 = 44%**	**Obj 2: Longitudinal T1 model R2 = 41%**	**Obj 3 T1 replica model using T2 equivalent factors R2 = 46.7%**	**Obj 4: Unique T2 model R2 = 45.7%**	**Obj 5: Unique T2 after control of Obj 3 R2 = 49.5%**	**Obj 6: Unique T2 after control of Obj 3 and previous adjustment R2 = 63%**
Block 3: Family factors	Family functioning	NS	NS	.123 (.027)	NA	.112 (.042)	NS
	Parental self-efficacy to help their child	-.208 (.000)	-.188 (.004)	-.269 (.000)	-.389 (.000)	-.280 (.000)	-.165 (.003)
	Mid 25-75 percentile Vs. Low-Q School-Based Involvement (SBI)	.110 (.014)	.122 (.037)	NS	NA	NS	NS
	Home-School Communication (HSC)	NS	NS	.194 (.000)	.175 (.001)	.162 (.003)	.127 (.009)
	Trade Vs. University expectation for child	-.096 (.038)	NS	NS	NA	NS	NS

Standardized Beta values and corresponding levels of significance are presented

NS = Non-significant; NA = Not-applicable. Used to refer to factors that did not meet criteria for inclusion into the model

Table 6.2 *continued*

Log Emotional and behavioural difficulties (more difficulties= worse emotional and behavioural wellbeing)	**Predictors**	**Obj 1: T1 model R^2 = 44%**	**Obj 2: Longitudinal T1 model R^2 = 41%**	**Obj 3 T1 replica model using T2 equivalent factors R^2 = 46.7%**	**Obj 4: Unique T2 model R^2 = 45.7%**	**Obj 5: Unique T2 after control of Obj 3 R^2 = 49.5%**	**Obj 6: Unique T2 after control of Obj 3 and previous adjustment R^2 = 63%**
Block 4: School/classroom factors	Class affiliation	NS	NS	NS	NA	NS	NS
	Mid 25-75 percentile Vs. Low-Q Class cohesiveness	NS	NS	NS	NA	NS	NS
	Mid 25-75 percentile Vs. High-Q Class cohesiveness	NS	NS	NS	NA	NS	NS
	Mid 25-75 percentile Vs. Low-Q Teach social support	NS	NS	NS	NA	NS	NS
	No Vs. Yes academic assistance	.090 (.033)	.114 (.031)	NS	NA	NS	NS
	Adequate Vs. Inadequate academic assistance	.111 (.008)	NS	NS	NA	NS	NS
	Not suspended Vs. Yes history of being suspended in primary school	NS	NS	NS	NA	NS	NS

Standardized Beta values and corresponding levels of significance are presented

NS = Non-significant; NA= Not-applicable. Used to refer to factors that did not meet criteria for inclusion into the model

Table 6.2 *continued*

Log Emotional and behavioural difficulties (more difficulties= worse emotional and behavioural wellbeing)	**Predictors**	**Obj 1: T1 model R^2 = 44%**	**Obj 2: Longitudinal T1 model R^2 = 41%**	**Obj 3 T1 replica model using T2 equivalent factors R^2 = 46.7%**	**Obj 4: Unique T2 model R^2 = 45.7%**	**Obj 5: Unique T2 after control of Obj 3 R^2 = 49.5%**	**Obj 6: Unique T2 after control of Obj 3 and previous adjustment R^2 = 63%**
Block 5: Peer-group factor	Social support from friends	NS	NS	NS	NA	NS	NS
Block 6: Unique T2 factors	Competence in making close friendships	NA	NA	NA	-.154 (.003)	NS	NS
	Non-productive coping	NA	NA	NA	.127 (.018)	.098 (.078)	NS
	Disagree Vs Reports of being bullied	NA	NA	NA	.151 (.003)	.124 (.025)	NS

Standardized Beta values and corresponding levels of significance are presented

NS = Non-significant; NA = Not-applicable. Used to refer to factors that did not meet criteria for inclusion into the model

Control variables: Students' health status emerged as the sole significant contributor of concurrent emotional and behavioural difficulties at T1 (T1Disability/CI, β = .166, p= .000). Students with a disability or chronic ill health condition were found to be .166 standard deviation units more likely to exhibit difficulties in emotional and behavioural domain than their typically developing peers.

No differences in emotional and behavioural difficulties as a function of students' gender or SES-level of their household were identified.

Personal factors: Perceiving oneself to be well accepted by peers was identified as a significant protective factor (T1Social acceptance, β = -.113, p= .031). The ability to assert oneself was identified as a risk factor (T1Assertion freq low-quartile, β = -.105, p= .028), with emotional and behavioural difficulties predicted to fall by .105 standard deviation units if a student moved from the mid-range assertion category to the lower-Q grouping.

Family factors: Students whose parents professed greater efficacy in helping them in their schooling at T1 were less likely to be reported with emotional and behavioural difficulties (T1Parental self-efficacy, β = -.208, p= .000).

Children of parents whose school-based involvement (SBI) was in the low-quartile category were more likely to display emotional and behavioural difficulties than those whose parents reported mid-range SBI (T1 low-Q SBI, β = .11, p = .014).

The level of academic aspirations that one's parents reported emerged as a significant determinant of concurrent behavioural well- being. Emotional and behavioural difficulties at T1 could be predicted to fall by .096 standard deviation units as parental expectations of academic success increased from trade level to university level hope (T1 university expectations, β = -.096, p= .038).

School/classroom factors: Students identified by a parent to be receiving academic assistance in the final year of primary school were more likely to display emotional and behavioural difficulties, when compared to their counterparts who did not receive any academic support (T1 academic assistance, β = .090, p= .033).

Additionally, the receipt of inadequate academic assistance also emerged as a significant risk factor for concomitant difficulties (T1 insufficient academic assistance, β = .111, p= .008). This finding suggests that those whose parents identify as receiving inadequate academic support also have unmet emotional and behavioural needs.

Peer group factors failed to make a statistically significant contribution to the model of emotional and behavioural difficulties at T1.

6.3.2 Objective 2: To determine the pre-transition (T1) personal and contextual factors that predict emotional and behavioural difficulties in students longitudinally in secondary school (at T2).

Longitudinally, pre-transition accounted for 41% of the variance in students' emotional and behavioural difficulties at T2, $F(23, 230) = 6.87$, $p = .000$. The following section presents the factors that contributed to the final model grouped in terms of the context to which they belong. Refer to Table 6.2 for specific standardized beta values.

Control variables: The disability/CI status of the student in primary school was identified as the sole significant predictor of emotional and behavioural difficulties a year later (T1Disability/CI, $\beta = .168$, $p = .004$).

Students' gender and the SES-level of their household each failed to predict emotional and behavioural difficulties longitudinally.

Personal factors: T1 personal factors failed to significantly predict T2 emotional and behavioural difficulties longitudinally.

Family factors: Those whose parents professed greater efficacy in helping them in their schooling at T1, were less likely to be reported with emotional and behavioural difficulties at T2 (T1 Parental SE, $\beta = -.188$, $p = .004$).

Additionally, students whose parents reported low school-based involvement (SBI) with their primary school (at T1) (T1low-Q SBI) were more likely to have emotional and behavioural difficulties at T2, when compared to those whose parents' reported average-level SBI (T1 low-quartile SBI, $\beta = .122$, $p = .037$).

School/classroom factors: Longitudinally, students who were reported to be receiving academic assistance at T1 were .114 standard deviation units more likely to display emotional and behavioural difficulties in secondary school,

when compared to their counterparts who did not receive any additional academic support at T1 (T1acadassist, $\beta = .114$, $p = .031$).

Peer-group factors: Peer factors failed to influence emotional and behavioural difficulties longitudinally.

Summary: As displayed in Table 6.2, in primary school, the T1 factors could predict 44% of the variance in concurrent emotional and behavioural difficulties (objective 1). Longitudinally, only two family factors (i.e., parental self-efficacy to help their child succeed in school, and parental level of SBI at T1), and one classroom factor (i.e., the receipt of academic assistance at T1) were able to account for 41% of the variance in emotional and behavioural difficulties at T2.

6.3.3 Objective 3: To determine whether the factors found to be significantly associated with T1 emotional and behavioural difficulties in students(objective 1) retain their association when evaluated in secondary school (at T2), using T2 equivalent personal and contextual factors and outcome. This model is referred to as the T1 replica model.

The final model accounted for 46.7% of the variance in students' emotional and behavioural difficulties at T2, $F(23, 230) = 8.77$, $p = .000$. Refer to Table 6.2 for specific standardized beta values.

Control variables: Similar to the T1 model, students with a disability or chronic ill health condition were more likely to be reported with emotional and behavioural difficulties at T2 (T2Disability/CI, $\beta = .178$, $p = .002$). No differences in emotional and behavioural difficulties at T2 due to students' gender or the SES-level of their household were identified.

Personal factors: Emotional and behavioural difficulties at T2 displayed a borderline trend to fall by .117 standard deviation units with every standard deviation unit increase in the frequency of engagement in cooperative activities (T2Totcoopfreq, $\beta = -.117$, $p = .051$).

Family factors: Specifically, three key family factors significantly predicted emotional and behavioural difficulties at T2.

Students from families that that experienced more difficulties in functioning were more likely to display behavioural and emotional difficulties at T2 (T2 Family functioning, $\beta = .123$, $p = .027$).

Those whose parents professed greater efficacy in helping them in their schooling were less likely to have concurrent emotional and behavioural difficulties (T2 Parental SE, $\beta = -.269$, $p = .000$).

Additionally, parental report of higher communication with students' secondary schools was identified as a positive marker of concurrent student emotional and behavioural difficulties (T2 Parental HSC, $\beta = .194$, $p = .000$).

No school /classroom and peer-group variables predicted emotional and behavioural difficulties at T2.

Summary: This objective assessed the validity of the pre-transition model in secondary school, using post-transition equivalent factors. The final hierarchical linear regression model could account for 46.7% of the variance in students' emotional and behavioural difficulties at T2. At T1, this model could predict 44% of the variance in students' emotional and behavioural difficulties (objective 1). Although there was an increase in the predictive power of the model, we were interested in finding out whether there were any additional factors, unique to T2, which could account for even more variance in self-worth at that point in time. Objectives 4 and 5 were set out to address this possibility.

6.3.4 Objective 4: To determine if there are personal and contextual factors unique to secondary school that predict concurrent emotional and behavioural difficulties in students in secondary school (at T2).

The final model accounted for 45.7% of the variance in students' emotional and behavioural difficulties at T2, $F(9, 243) = 22.74$, $p = .000$. The following section presents the factors that contributed to the final model, grouped in terms of the context to which they belong. Refer to Table 6.1 for specific standardized beta values.

Control variables: When compared to their typically developing counterparts, students with disability or chronic ill health conditions were more likely to have concurrent emotional and behavioural difficulties at T2 (Disability/CI, $\beta = .210$, $p = .000$).

No differences in reported emotional and behavioural difficulties in students as a function of gender were identified. Stepwise regression analyses revealed that at T2, students from high-SES households as opposed to the mid-SES households were less likely to have concurrent emotional and behavioural difficulties (T2 High-SES, $\beta = -.098$, $p = .047$).

Personal factors: Personal factors that were found to be important predictors of emotional and behavioural outcomes in primary school, failed to hold predictive power in the stepwise model.

Family context factors: Parents who professed greater efficacy in helping their children in their schooling (T2Parental SE, $\beta = -.389$, $p = .000$) and higher home-school communication (HSC) (T2HSC, $\beta = .175$, $p = .002$) were less likely to have children with emotional and behavioural difficulties.

School/classroom factors: School/classroom factors that emerged as important predictors of emotional and behavioural outcomes in primary school, failed to hold predictive power at T2.

Peer group factors: No peer-group variable emerged as significant predictors in stepwise regression analyses.

Unique T2 factors: Two personal and one school/classroom factor were identified to significantly predict T2 emotional and behavioural difficulties.

Unique T2 Student/personal factors: At T2, acknowledging oneself to be highly competent in making close friendships was identified as a significant protective factor against emotional and behavioural difficulties (T2 Competent in close friendships, β = -.154, p = .003).

Additionally, resorting to high levels of non-productive coping strategies (T2 non-productive coping, β = .127, p = .02) was identified as a risk factor.

Unique T2 school/classroom factor: Students who reported to be bullied at T2 were more likely to have concurrent emotional and behavioural difficulties (T2 yes bullied, β = .151, p = .003).

Summary: Stepwise linear regression identified 2-personal (close friendship competence and non-productive coping) and one contextual factor (being bullied) that could predict emotional and behavioural difficulties at T2. These findings suggest that there are distinctive personal and contextual factors, unique to T2 that influence student behaviour. Objective 5 was thus set out to identify whether these unique factors could predict concurrent emotional and behavioural difficulties at T2 better than the T1 replica model (Objective 3).

6.3.5 Objective 5: If unique factors are identified in objective 4, to determine whether the unique T2 personal and contextual factors predict concurrent emotional and behavioural difficulties in students at T2 better than the T1 replica model (Objective 3).

The final model accounted for 49.5% of the variance in students' emotional and behavioural difficulties at T2, $F(26, 226) = 8.51$, $p = .000$. Refer to Table 6.2 for specific standardized beta values.

The factors that contributed to the final model are listed below, grouped in terms of the context to which they belong.

Control variables: Students' health status significantly contributed to concurrent emotional and behavioural difficulties at T2. When compared to their typically developing counterparts, students with a disability or chronic ill health condition were more likely to have concurrent emotional and behavioural difficulties (T2 Disability/CI, $\beta = .187$, $p = .001$).

Gender and the SES-level of students' household each failed to significantly predict emotional and behavioural difficulties at T2.

Personal factors: Personal factors failed to predict emotional and behavioural difficulties at T2.

Family factors: Similar to the finings in objective 3, parental self-efficacy (T2Parental SE, $\beta = -.280$, $p = .000$), family functioning (T2 Family functioning, $\beta = .112$, $p = .042$), and parental report of the level of home-school communication (HSC) (T2HSC, $\beta = .162$, $p = .003$) continued to significantly predict emotional and behavioural difficulties in students, even after factors unique to T2 were included in the model.

School/classroom and peer-group factors: As identified in objective 3, school/classroom or peer-group variables did not contribute to the model.

Unique T2 predictors: Emotional and behavioural difficulties could be predicted to increase if students reported to being bullied in secondary school (T2yesbullyme, $\beta = .124$, $p = .025$).

Summary: After controlling for objective 3, the unique post-transition factors (identified in objective 4) accounted for 49.5% of variance in students' emotional and behavioural difficulties at T2. An improvement in the predictive power of the model was witnessed (R^2 change = .028), over the pre-transition replica model (objective 3), with a corresponding F change for R^2 change = 4.129, $p = .007$.

6.3.6 Objective 6: After controlling for primary school (T1) adjustment outcomes, to determine whether the unique T2 factors identified in objective 4 predict concurrent emotional and behavioural difficulties in students at T2, better than the T1 replica model (Objective 3).

The final regression model accounted for 63% of the variance in students' emotional and behavioural difficulties at T2, $F(33, 219) = 11.264$, $p = .000$. Refer to Table 6.2 for specific standardized beta values.

Control variables: When adjustment outcomes in primary school were considered in the regression model, no group differences in emotional and behavioural difficulties due to students' gender, health status, or SES-level of their household were identified.

Contribution of Previous adjustment factors: The presence of emotional and behavioural difficulties at T1 predicted difficulties at T2 ($\beta = 0.445$, $p = 0.000$). Other components of primary school adjustment such as academic competence, self-worth, school belonging, and participation in social-leisure, creative and civic pursuits each failed to significantly predict post-transition emotional and behavioural difficulties.

No personal, school/classroom, peer group and unique T2 factors predicted emotional and behavioural difficulties at T2, after primary school adjustment outcomes were accounted for in the analysis.

Family factors: When student adjustment outcomes in primary school were taken into account in the regression model, parental self-efficacy for helping their children succeed in secondary school and parental report of the level of HSC predicted emotional and behavioural difficulties at T2. Refer to Table 6.2, for specifics.

Summary: After accounting for primary school adjustment, objective 6 was set out to determine whether the unique T2 factors could explain a greater amount of variance in the outcome, than that accounted for in objective 3. The final model accounted for 63% of the variance in students' emotional and behavioural difficulties at T2.

Concluding summary of models on emotional and behavioural difficulties:

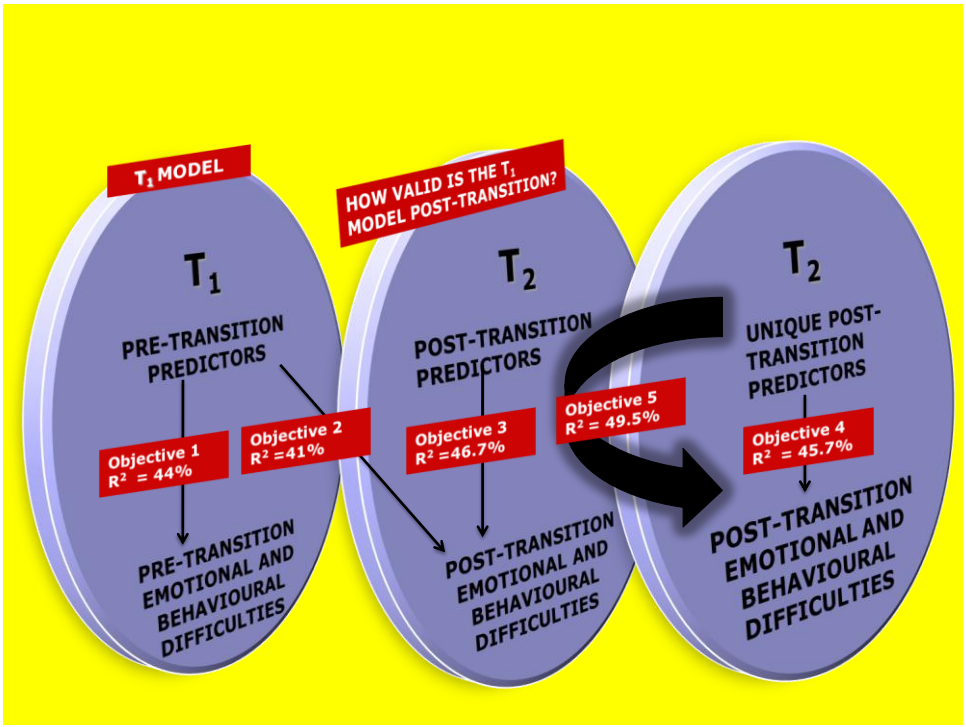


Figure 6.3 *Prediction of emotional and behavioural difficulties: Objectives 1-5*

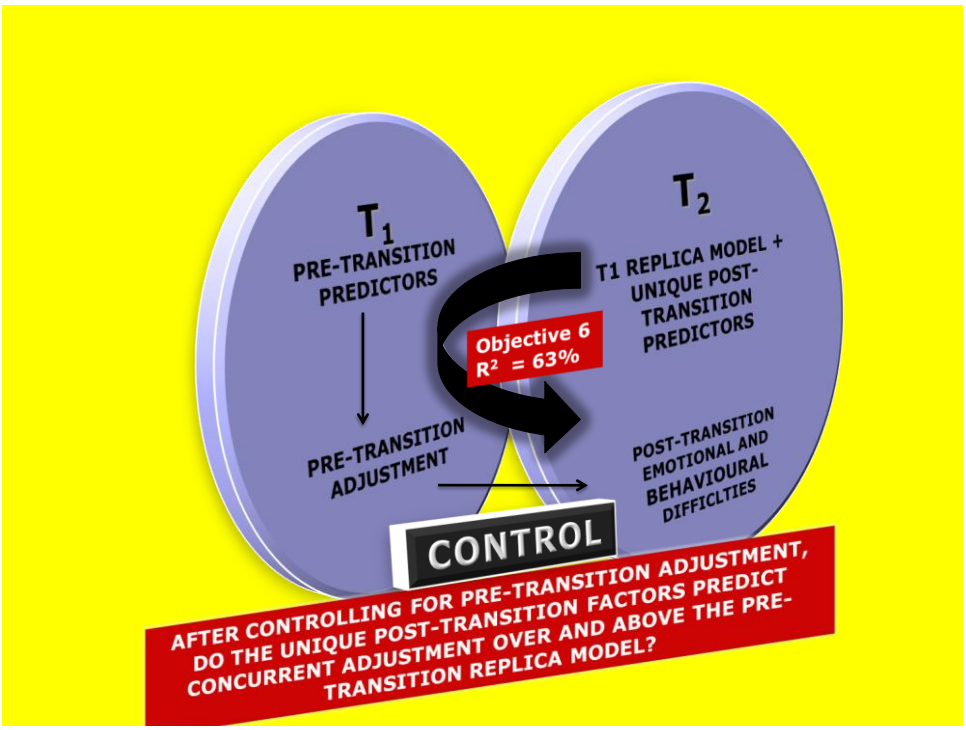


Figure 6.4 *Prediction of emotional and behavioural difficulties: Objective 6*

Multivariate regression analysis that adjusted for group differences due to gender, health status and social disadvantage, revealed that at T1, the model of personal, family, school, and peer-group factors (objective 1) could explain 44% of the variation in concurrent student emotional and behavioural difficulties (objective 1) $F(23, 349) = 11.88$, $p = .000$. Across time, T1 factors explained 41% of the variance in T2 emotional and behavioural difficulties (objective 2) ($F(23, 230) = 6.87$, $p = .000$). Replication of the T1 model in secondary school by using T2 equivalent factors (objective 3) permitted 46.7%, $F(23, 230) = 8.77$, $p = .000$) of the variance in T2 emotional and behavioural difficulties to be accounted for. Further scrutiny using stepwise linear regression identified factors unique to secondary school that could predict concurrent emotional and behavioural difficulties (objective 4). When these unique T2 factors were regressed, after controlling for the T1 replica model (objective 3), 50% of the variance in T2 emotional and behavioural difficulties was accounted for, $F(26, 226) = 8.51$, $p = .000$). The improvement in the predictive power of the model (objective 5) over the T1 replica model (objective 3), was significant $\Delta R^2 = .028$ and its corresponding change in F (ΔF) = 4.129 at $p = .007$ level of significance. Thus, in secondary school, unique factors contribute to the prediction of concurrent emotional and behavioural difficulties and explain a greater amount of variability in the outcome ($R^2 = 49.5\%$) than the T1 replica model.

When adjustment in primary school (T1) was accounted for in subsequent analyses (objective 6), pre-transition level of emotional and behavioural difficulties, the level of parental self-efficacy in helping their children succeed in secondary school and level of home-school communication were the only factors that predicted emotional and behavioural difficulties in students in secondary school. The final model explained 63% of the variance in emotional and behavioural difficulties at T2.

6.4 PREDICTORS OF SELF-WORTH

6.4.1 Objective 1: To determine the pre-transition (T1) personal and contextual factors that predict concurrent self-worth in students in primary school (at T1).

The final hierarchical model explained 59.8% of the variance in self-worth at T1, $F(22, 363) = 24.51$, $p = .000$.

Findings of the five-block model were as follows.

Block 1: When gender, health status and SES-level of students' household were added in Block1, only 3.4 % of the variance in student perceived self-worth was accounted for $F(4, 381) = 3.308$, $p = .011$.

Block 2: The addition of personal factors into the model improved the models predictive power dramatically (R^2 change = .55), enabling it to explain 58.2% of the variance in self-worth. The increment in the predictive power of the model was significant (F change for R^2 change = 48.749, p =.000).

Block 3: With the addition of family factors in Block 3, the predictive power of the model increased further (R^2 change = 0.002). The model was capable of explaining 58.4% of the variance in self-worth. The increment in the predictive power of the model was significant (F change for R^2 change = 0.841, p =.432).

Block 4: School/classroom factors when added in Block 4 enabled the model to account for 59.7% of the variance in self-worth. An improvement in the predictive power of the model was witnessed (R^2 change = .012), with a corresponding F change for R^2 change = 3.733, $p = .011$.

Block 5: Finally, with the addition of peer-group factors in Block 5, the model retained its ability to explain 59.8% of the variance in self-worth. There was no improvement in the predictive power of the model (R^2 change = .001). This

suggests that peer group factors could not significantly explain any additional variance in self-worth, than that accounted for by Block 4 factors.

For the sake of brevity, factors that contributed to the final model are listed below, grouped in terms of the context to which they belong (Table 6.3).

Table 6.3 *Predictors of self-worth*

Outcome* Self-worth (Reverse)	**Predictors**	**Obj 1: T1 model R^2 = 59.8%**	**Obj 2: Longitudinal T1 model R^2 = 27.3%**	**Obj 3 T1 replica model using T2 equivalent factors R^2 = 60.8%**	**Obj 4: Unique T2 model R^2 = 62.5%**	**Obj 5: Unique T2 after control of Obj 3 R^2 = 63.81%**	**Obj 6: Unique T2 after control of Obj 3 and previous adjustment R^2 = 66%**
Block1: Control factors	Boy Vs. girl	NS	NS	NS	-.081 (.066)	NS	NS
	Typical Vs. presence of disability/CI	NS	NS	NS	NS	NS	NS
	Mid-SES Vs. Low SES-level	NS	NS	NS	NS	NS	NS
	Mid-SES Vs. High SES-level	NS	NS	NS	NS	NS	NS

*Table is positively coded for ease of interpretation Standardized Beta values and corresponding levels of significance are presented

NS = Non-significant

Table 6.3 *continued*

Outcome* Self-worth (Reverse)	**Predictors**	**Obj 1: T1 model R^2 = 59.8%**	**Obj 2: Longitudinal T1 model R^2 = 27.3%**	**Obj 3 T1 replica model using T2 equivalent factors R^2 = 60.8%**	**Obj 4: Unique T2 model R^2 = 62.5%**	**Obj 5: Unique T2 after control of Obj 3 R^2 = 63.81%**	**Obj 6: Unique T2 after control of Obj 3 and previous adjustment R^2 = 66%**
Control of previous adjustment only for objective 6	T1 Reverse self-worth^	NA	NA	NA	NA	NA	.124 (.020)
	T1 log10 Emotional and behavioural difficulties	NA	NA	NA	NA	NA	NS
	T1 Reverse academic competence	NA	NA	NA	NA	NA	NS
	T1 Reverse belong in school	NA	NA	NA	NA	NA	NS
	T1 log10 creative activity participation	NA	NA	NA	NA	NA	NS
	T1log10 civic activity participation	NA	NA	NA	NA	NA	NS
	T1 Reverse social-leisure participation	NA	NA	NA	NA	NA	NS

*Table is positively coded for ease of interpretation Standardized Beta values and corresponding levels of significance are presented

^ Factor has been positively coded for ease of interpretation

NS = Non-significant; NA = Not-applicable. Used to refer to factors that did not meet criteria for inclusion into the model

Table 6.3 *continued*

Outcome* Self-worth (Reverse)	**Predictors**	**Obj 1: T1 model R^2 = 59.8%**	**Obj 2: Longitudinal T1 model R^2 = 27.3%**	**Obj 3 T1 replica model using T2 equivalent factors R^2 = 60.8%**	**Obj 4: Unique T2 model R^2 = 62.5%**	**Obj 5: Unique T2 after control of Obj 3 R^2 = 63.81%**	**Obj 6: Unique T2 after control of Obj 3 and previous adjustment R^2 = 66%**
	Mid 25-75percentile Vs. Low-Q Physical appearance competence	-.268 (.000)	NS	-.289 (.000)	-.279 (.000)	-.260 (.000)	-.225 (.000)
	Mid 25-75percentile Vs. High-Q Physical appearance competence	.242(.000)	.188 (.004)	.265 (.000)	.261 (.000)	.258 (.000)	.236 (.000)
	Social acceptance competence	.207(.000)	NS	.117 (.042)	.108 (.040)	.112 (.044)	.121 (.032)
	Close friendship competence	.173(.000)	.241(.003)	.119 (.036)	.119 (.025)	.138 (.014)	.124 (.029)
Block 2: Personal factors	Mid 25-75percentile Vs. Low-Q Behavioural conduct competence	NS	NS	-.106 (.026)	-.116 (.008)	-.107 (.021)	-.107 (.022)
	Assertion social skill	-.130 (.003)	NS	NS	NA	NS	NS
	Self-control social skill	NS	NS	NS	NA	NS	NS
	Coping by solving the problem	.107 (.023)	NS	NS	NA	NS	NS
	Non-productive coping	-.086 (.027)	NS	-.159 (.001)	-.157 (.000)	-.148 (.001)	-.151 (.002)
	Mid 25-75percentile Vs. High-Q social power motivation	.073(.046)	NS	NS	NA	NS	NS

*Table is positively coded for ease of interpretation Standardized Beta values and corresponding levels of significance are presented

NS = Non-significant; NA = Not-applicable. Used to refer to factors that did not meet criteria for inclusion into the model

Table 6.3 *continued*

Outcome* Self-worth (Reverse)	**Predictors**	**Obj 1: T1 model R^2 = 59.8%**	**Obj 2: Longitudinal T1 model R^2 = 27.3%**	**Obj 3 T1 replica model using T2 equivalent factors R^2 = 60.8%**	**Obj 4: Unique T2 model R^2 = 62.5%**	**Obj 5: Unique T2 after control of Obj 3 R^2 = 63.81%**	**Obj 6: Unique T2 after control of Obj 3 and previous adjustment R^2 = 66%**
Block 3: Family factors	Social support from family	NS	NS	NS	NA	NS	NS
	Parental self-efficacy to help their child succeed in school	NS	NS	NS	NA	NS	NS
Block 4: School/classroom factors	Classroom cohesiveness	NS	NS	NS	NA	NS	NS
	Classroom affiliation	NS	NS	.137 (.019)	.133 (.010)	.120 (.036)	.116 (.043)
	Autonomy afforded in classroom	.115(.004)	NS	NS	NA	NS	NS

*Table is positively coded for ease of interpretation Standardized Beta values and corresponding levels of significance are presented

NS = Non-significant; NA = Not-applicable. Used to refer to factors that did not meet criteria for inclusion into the model

Table 6.3 *continued*

Outcome* Self-worth (Reverse)	**Predictors**	**Obj 1: T1 model R^2 = 59.8%**	**Obj 2: Longitudinal T1 model R^2 = 27.3%**	**Obj 3 T1 replica model using T2 equivalent factors R^2 = 60.8%**	**Obj 4: Unique T2 model R^2 = 62.5%**	**Obj 5: Unique T2 after control of Obj 3 R^2 = 63.81%**	**Obj 6: Unique T2 after control of Obj 3 and previous adjustment R^2 = 66%**
Block 5: Peer-group factor	Social support from friends	NS	NS	-.140 (.045)	NA	NS	NS
	Social support from a special person	NS	NS	NS	NA	NS	NS
	Influence of pro-social peer group values	NS	NS	NS	NA	NS	NS
Block 6: Unique T2 factors	Mid 25-75percentile Vs. High-Q behavioural conduct competence	NA	NA	NA	.158(.000)	.167 (.000)	.181 (.000)
	Task motivational orientation	NA	NA	NA	.114(.014)	.119 (.019)	.112 (.029)

*Table is positively coded for ease of interpretation Standardized Beta values and corresponding levels of significance are presented

NS = Non-significant; NA = Not-applicable. Used to refer to factors that did not meet criteria for inclusion into the model

Control variables: At T1, the model of self-worth could be generalised to all mainstream students, irrespective of their gender, health status, or the SES-level of their household.

Personal factors: When assessed at T1, perceived competence in the area of physical appearance emerged as an important predictor of concurrent self-worth. A .268 standard deviation reduction in self-worth was predicted if students had low-level physical appearance competence as opposed to mid-range level competence (T1 low-Q physical appearance competence, β = -.268, p= .00). Conversely, students' self-worth was believed to increase by 0.242 standard deviation units if they held high physical appearance competence as opposed to the mid-range competence grouping (T1 high-Q physical appearance competence, β = .242, p= .000).

In addition to how one looked, self-worth was also found to be predicted by several social determinants, such as: students' perception of how socially accepted they were amongst their peers; perception of their ability to form close friendships; and the ability to assert themselves in social situations.

Perceiving oneself to be socially accepted by one's peers (T1 social acceptance competence, β = .207, p = .000) as well as perceiving oneself to be competent in forging close friendships (T1 close friendship competence, β = .173, p = .000) were each identified as strong assets.

Students who reported frequent use of assertive techniques in social engagements with others also reported lower self-worth (T1 assertion SS, β = -.130, p = .003).

The ability to cope with stressors in general was found to influence self-worth in primary school. Resorting to non-productive coping strategies such as worrying, ignoring the problem or self-blame in primary school were identified as significant risk factors (T1Non-productive coping, β = -.086, p = .027).

Alternatively, being equipped with adaptive coping strategies such as solving the problem was identified as strength, bolstering students' sense of self-worth (T1Solve the problem coping, $\beta = .107$, $p = .023$).

Finally, students' motivational orientation was also found to contribute to their sense of self-worth. Those who were highly motivated by the desire to obtain social-power and be in charge of charge of a group or be its leader were found to hold a higher sense of self-worth (T1 high-quartile social-power motivation, $\beta = .073$, $p = .046$). Caution is warranted while interpreting these findings due to the low confidence level of significance.

Self-perceptions of one's behavioural repertoire and self-control social skills failed to predict self-worth at T1.

Family factors: Family factors failed to make statistically contribute to the prediction of self-worth at T1.

School/classroom factors: Belonging to primary-level classrooms that afforded students with the autonomy to engage in decision-making processes was found to significantly augment concurrent self-worth. These findings substantiate the advantages of self-governance on overall self-worth (T1 class autonomy, $\beta = .115$, $p = .004$). Although classroom cohesiveness and affiliation met criteria for inclusion into the model at T1; they failed to predict self-worth.

Peer-group factors: Peer-group factors failed to predict self-worth at T1.

6.4.2 Objective 2: To determine the pre-transition (T1) personal and contextual factors that predict self-worth in students longitudinally in secondary school (at T2).

Longitudinally, T1factors could predict 27.3% of the variance in self-worth, 6-months after students settled into secondary school $F(22, 241) = 4.12$, $p = .000$. The factors that contributed to the final model are listed below, grouped in terms of the context to which they belong (Table 6.3).

Control variables: No group differences in self-worth could be predicted longitudinally.

Personal factors: Only two personal factors held their validity in predicting self-worth longitudinally. Similar to the T1 findings, perceived competence in the area of physical appearance emerged as a critical predictor of T2 self-worth, with an increase in self-worth predicted if students considered themselves to be good looking (T1 upper- quartile physical appearance competence, $\beta = .188$, $p = .004$).

Students who perceived themselves to be able to forge close friendships in primary school reported higher self-worth at T2 (T1 close friendship competence, $\beta = .241$, $p = .003$).

Family, school/classroom, and peer-group factors: Pre-transition factors failed to significantly predict self-worth longitudinally.

Summary: As displayed in Table 6.3, T1 factors could predict 59.8% of the variance in self-worth when students were in primary school (objective 1). Longitudinally, T1factors could account for 27.3% of the variance in self-worth in the same student cohort at T2. The loss of predictive power of the model could be attributed to either a change in the identified T1 predictors across transition (as tested in the univariate change score section of Results 1 and also addressed in the discussion), or the contribution of unique personal and contextual factors

that predict concurrent adjustment at T2. The latter possibility has been examined in objective 4.

6.4.3 Objective 3: To determine whether the factors found to be significantly associated with students' self-worth at T1 (objective 1) retain their association when evaluated in secondary school (at T2), using T2 equivalent personal and contextual factors and outcome. This model is referred to as the T1 replica model.

The T1 replica model was capable of accounting for 60.8% of variance in self-worth in the same cohort of students, 6-months after they settled in secondary school, $F(22, 240) = 16.92$, $p = .000$. The factors that contributed to the final model are listed below, grouped in terms of the context to which they belong. Refer to Table 6.3 for specific standardized beta values.

Control variables: Similar to the T1 presentation, no group differences in self-worth at T2 were identified.

Personal factors: Factors that held true at T1, also held their own at T2. These include: perception of oneself as being physically attractive; ability to forge close friendships; and being accepted by peers. Similar to the T1 findings, concurrent perception of competence in the area of physical appearance emerged as an important predictor of self-worth at T2.

Students' self-worth could be predicted to increase if they considered themselves be extremely good looking (T2 high-Q physical appearance competence, $\beta = .27$, $p = .000$). Low physical appearance competence was identified as a risk factor (T2 low-Q physical appearance competence, $\beta = -.29$, $p = .000$), with a reduction in self-worth predicted as students moved from the mid-range to the low-quartile competent category.

In addition to how one looked, competence in forging close friendships predicted self-worth (T2 close friendship competence, $\beta = .12$, $p = .036$).

Students' perception of how well they behaved in social situations in secondary school also influenced their self-worth (T2 low-Q behaviour conduct, β = -.106, p = .026). A drop in overall self-worth was predicted if students' perceived their behavioural conduct to be in the lower quartile category as opposed to the mid-range behavioural conduct group.

The ability to cope with stressors in secondary school was associated with self-worth. Students who frequently resorted to non-productive coping strategies were at risk of reporting lower self-worth in secondary school (T2 Non-productive coping, β = -.159, p = .001).

Family factors: Family factors failed to predict self-worth in secondary school.

School/classroom factors: Perception of high degree of affiliation in secondary level classrooms was positively associated with self-worth (β = .14, p = .02).

Peer-group factors: Similar to the T1 model, acknowledging the receipt of high-level of social support from one's peers in secondary school was associated with a lower sense of self-worth (β = -.140, p = .050).

Summary: This objective assessed the validity of the pre-transition model in secondary school, using post-transition equivalent factors. At T1, the pre-transition model could predict 59.8% of the variance in concurrent perception of self-worth at T1 (see objective 1). When equivalent post-transition (T2) factors were used, its ability to predict self-worth in the same cohort at T2 increased to 60.8%. Although there was an increase in the predictive power of the model, we were interested in finding out whether there were any additional factors, unique to T2, which could account for even more variance in self-worth at that point in time. Objectives 4 and 5 were set out to address this possibility.

6.4.4 Objective 4: To determine if there are personal and contextual factors unique to secondary school that predict concurrent self-worth in students in secondary school (at T2).

The stepwise regression model explained 62.5% of the variance in students' self-worth at T2 $F(13, 241) = 30.96$, $p = .000$. Listed are the significant contributors to the model grouped on the basis of the context to which they belong (Table 6.3).

Control variables: Similar to the T1 presentation, none of the control variables predicted self-worth at T2.

Personal factors: Factors that held true in the T1 model, also held their own at T2. Self-worth was predicted to increase if students held high physical appearance competence (T1 high-Q physical appearance competence, $\beta = .261$, $p = .000$). Low physical competence emerged as a negative predictor of self-worth, (T2 low-Q physical appearance competence, $\beta = -.279$, $p = .00$).

In addition to how one looked, self-worth at T2 was predicted by students' perception of their ability to forge close friendships (T2 close friendship competence, $\beta = .119$, $p = .025$).

Students' perception of how well they behaved in social situations influenced their self-worth at T2. A reduction in overall self-worth could be predicted if students' had low behavioural conduct competence as opposed to the mid-range competence (T1 low-Q behaviour conduct, $\beta = -.116$, $p = .008$).

Frequent resort to non-productive coping strategies was identified as a risk factor for self-worth (T2Non-productive coping, $\beta = -.157$, $p = .000$).

Family and peer factors: Family and peer-group factors could not predict self worth at T2.

School/classroom factors: The stepwise model identified perception of high level affiliation in secondary year level classrooms to be positively associated with self-worth (β = .133, p = .010).

Unique T2 factors:

Personal T2 factors: Unique to the T2 model was the influence of two personal factors namely exceptionally high-quality behaviour, and task-motivation on overall sense of self-worth.

Students with better organisational skills (task-motivators) reported a higher sense of self-worth (T2 task-motivation, β = .114, p = .014).

An increase in overall self-worth could be predicted if students felt their behavioural conduct was in the high quartile category as opposed to the mid-range conduct group (T2 high-Q behavioural conduct competence, β = .158, p = .000).

In summary: Stepwise linear regression identified 2-personal factors (i.e., perception of exceptionally high-quality behaviour competence and task-motivational orientation) that were associated with concurrent self-worth at T2. These findings suggest that there are distinctive personal factors, unique to T2 that influence self-worth. Objective 5 was thus set out to identify whether these unique factors could predict concurrent self-worth at T2 better than the T1 replica model (Objective 3).

6.4.5 Objective 5: If unique factors are identified in objective 4, to determine whether the unique T2 personal and contextual factors predict concurrent self-worth in students at T2 better than the T1 replica model (Objective 3).

The final model accounted for 63.81% of the variance in students' self-worth at T2 (F (24, 238) = 17.47, p = .000). The improvement in the predictive power of the model over Objective 3 (Block 5), was statistically significant at p = .030 level of significance. Refer to Table 6.3 for specific standardized beta values.

All the factors that were identified to predict self-worth in Objective 3 retained their predictive power in this model, with the exception of perception of high-level social support from one's peers.

In addition to objective 3 factors, two personal factors namely: perception of high-quality behavioural conduct (T2 high-Q behavioural conduct competence, β = .167, p = .000), and task-motivational orientation (T2 task-motivation, β = .119, p = .019) predicted self-worth at T2.

Summary: This objective built on objective 3, to identify whether the unique T2 factors could explain a greater amount of variance in the outcome. After controlling for objective 3, the unique post-transition factors (identified in objective 4. were capable of accounting for 63.81% of the variance in students' self-worth at T2. An improvement in the predictive power of the model was witnessed (R^2 change = .03), over the pre-transition replica model (objective 3), with a corresponding (F change for R^2 change = 9.838, p = .000).

6.4.6 Objective 6: After controlling for primary school (T1) adjustment outcomes, to determine whether the unique T2 factors if identified in objective 4, predict concurrent self-worth in students at T2, better than the T1 replica model (Objective 3).

The final regression model accounted for 66% of the variance in students' self-worth at T2, $F(31, 231) = 13.936$, $p = .000$. Listed are the significant contributors to the model grouped on the basis of the context to which they belong. Refer to Table 6.3 for specific standardized beta values.

Control variables: After controlling for primary school adjustment outcomes, no differences in perceived self-worth at T2 as a function of gender, health status, or SES-level of students' household were identified.

Contribution of Previous adjustment factors: T1 self-worth was found to be significantly positively associated with self-worth at T2 ($\beta = .124$, $p = .020$). Other components of T1 adjustment failed to predict self-worth at T2.

When previous adjustment variables were taken into account in the regression, all personal and contextual factors identified to influence self-worth in objective 5, held their significance. Please refer to Table 6.3 for specific standardised beta values.

Summary: After accounting for primary school adjustment, objective 6 was set out to determine whether the unique T2 factors could explain a greater amount of variance in the outcome, than that accounted for in objective 3. The final model was able to predict 66% of the variance in students' self-worth at T2.

Concluding summary of self-worth models:

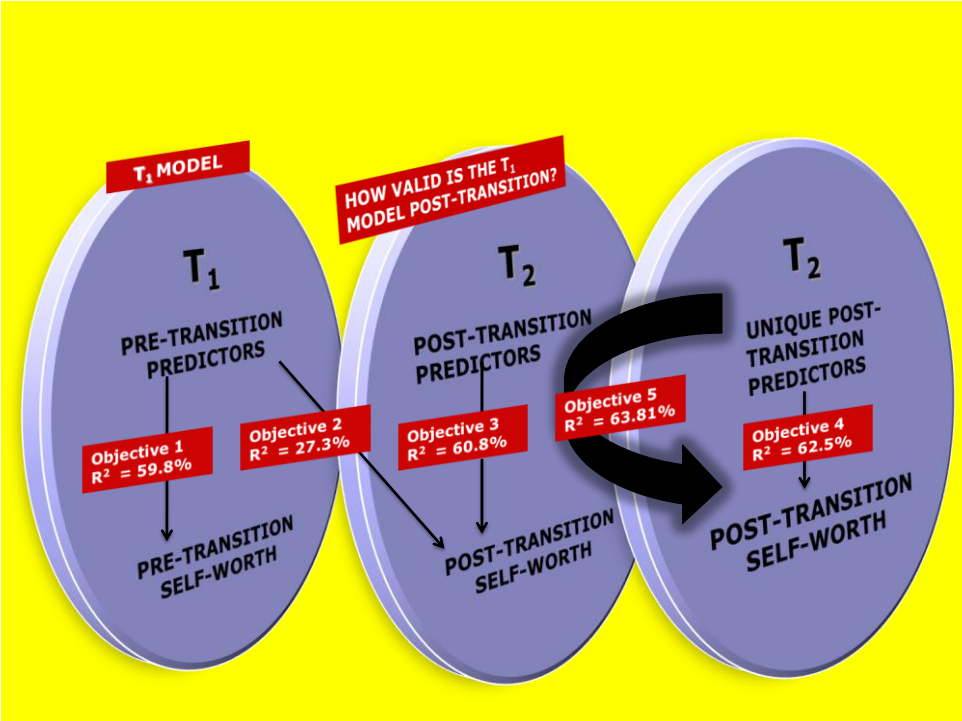


Figure 6.5 *Prediction of self-worth: Objectives 1-5*

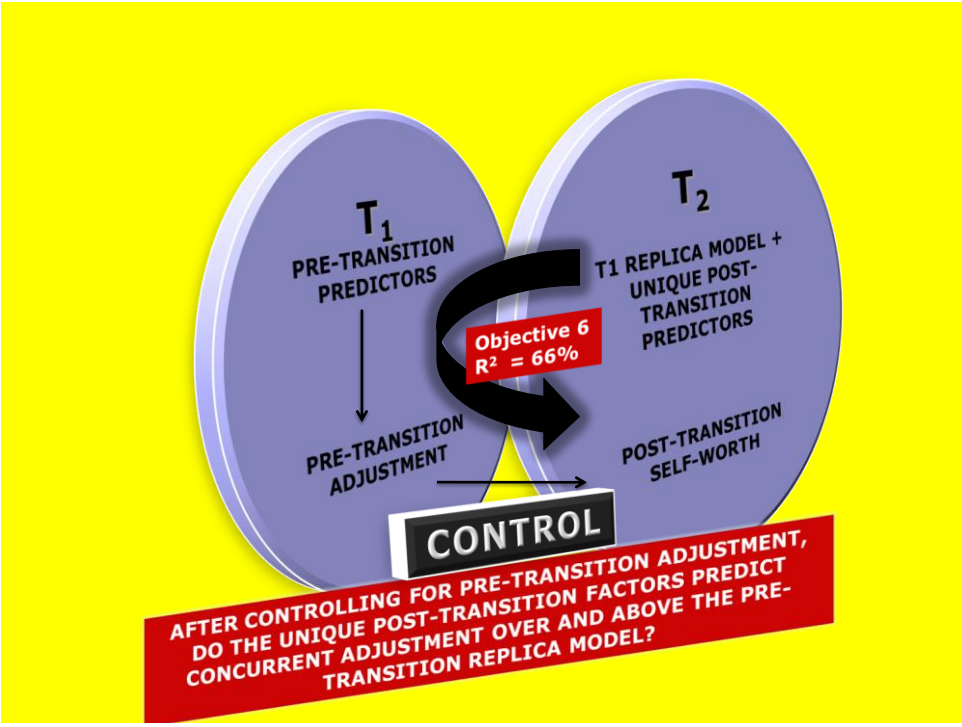


Figure 6.6 *Prediction of self-worth: Objective 6*

Multivariate regression analysis that accommodated for group differences due to gender, health status, and SES-level of students' household, revealed that at T1, the model of personal, family, school, and peer-group factors (objective 1) accounted for 59.8% of the variance in concurrent perception of self-worth at T1, $F(22, 363) = 24.51$, $p = .000$. Across time, the T1 model could explain only 27.3% of the variance in self-worth of the same cohort of students, 6-months after they settled into secondary school, $F(22, 241) = 4.12$, $p = .000$. Replication of the T1 model in secondary school with comparable T2 factors (objective 3) allowed 60.8% of the variance in self-worth at T2 to be accounted for, $F(22, 240) = 16.92$, $p = .000$. Further scrutiny using stepwise linear regression identified 2-personal factors, unique to secondary school, that could predict concurrent self-worth at T2 (objective 4). When these unique T2 factors were regressed on top of the T1 replica model, 63.81% of the variance in student self-worth at T2 could be explained (objective 5). The improvement in the predictive power of the objective 5 model over the T1 replica model (objective 3) was significant $\Delta R^2 = .030$, with a corresponding change in F (ΔF) = 9.838 at $p = .000$ level of significance. Thus, in secondary school, distinctive factors were found to contribute to the prediction of concurrent self-worth on top of the T1 replica model.

As seen in Table 6.3 and Figure 6.6, when adjustment outcomes in primary school were considered in subsequent analyses (i.e., in objective 6), T2 factors accounted for 63% of the variance in students' self-worth at T2.

6.5 PREDICTORS OF BELONGINGNESS IN SCHOOL

6.5.1 Objective 1: to determine the T1 personal and contextual factors that predict concurrent belongingness in school at T1

Findings of the five-block hierarchical model were as follows.

Block 1: Students' gender, health status and SES-level of their household accounted for 2.7 % of the variance in belongingness in primary school $F(4, 368) = 2.544$, $p = .004$.

Block 2: The addition of personal factors into the model improved the models predictive power dramatically (R^2 change = .52), enabling it to explain 53.6% of the variance in school belongingness at T1. The increment in the predictive power of the model was significant (F change for R^2 change = 35.56, $p = .000$).

Block 3: With the addition of family factors in Block 3, the predictive power of the model increased further (R^2 change = 0.031). The model was capable of accounting for 56.7% of the variance in school belonging at T1. The increment in the predictive power of the model was significant (F change for R^2 change = 5.012, $p = .000$).

Block 4: School/classroom factors when added in Block 4 enabled the model to explain 68.1% of the variance in the outcome. An improvement in the predictive power of the model was witnessed (R^2 change = 0.114), with a corresponding (F change for R^2 change = 17.617, $p = .000$).

Block 5: Finally, with the addition of peer-group factors in Block 5, the model could explain 68.7% of the variance in school belonging at T1. There was no improvement in the predictive power of the model (R^2 change = .007). This suggests that peer group factors could not significantly explain any additional variance in primary school belongingness, than that accounted for by Block 4 factors.

The final hierarchical model was capable of accounting for 68.7% of the variance in school belonging at T1, $F(32, 340) = 23.35$, $p = .000$.

The factors that contributed to the final model are listed below, grouped in terms of the context to which they belong. Kindly refer to Table 6.4.

Table 6.4 *Predictors of belongingness in school*

Outcome* Belongingness in school (Reverse)	**Predictors**	**Obj 1: T1 model R^2 = 68.7%**	**Obj 2: Longitudinal T1 model R^2 = 29.7%**	**Obj 3 T1 replica model using T2 equivalent factors R^2 = 61.9%**	**Obj 4: Unique T2 model R^2 = 61.7%**	**Obj 5: Unique T2 after control of Obj 3 R^2 = 65%**	**Obj 6: Unique T2 after control of Obj 3 and previous adjustment R^2 = 66%**
	Boy Vs. girl	NS	NS	NS	NS	NS	NS
Block1: Control	Typical Vs. presence of disability/CI	.093 (.006)	NS	NS	NS	NS	NS
factors	Mid-SES Vs. Low SES-level	NS	-.132 (.030)	NS	NS	NS	NS
	Mid-SES Vs. High SES-level	NS	NS	NS	NS	NS	NS

*Table is positively coded for ease of interpretation Standardized Beta values and corresponding levels of significance are presented

NS = Non-significant

Table 6.4 *continued*

Outcome* Belongingness in school (Reverse)	**Predictors**	**Obj 1: T1 model R^2 = 68.7%**	**Obj 2: Longitudinal T1 model R^2 = 29.7%**	**Obj 3 T1 replica model using T2 equivalent factors R^2 = 61.9%**	**Obj 4: Unique T2 model R^2 = 61.7%**	**Obj 5: Unique T2 after control of Obj 3 R^2 = 65%**	**Obj 6: Unique T2 after control of Obj 3 and previous adjustment R^2 = 66%**
Control of previous adjustment only for objective 6	T1 Reverse belong in school ^	NA	NA	NA	NA	NA	.130 (.000)
	T1 Reverse academic competence	NA	NA	NA	NA	NA	NS
	T1 log10 Emotional and behavioural problems	NA	NA	NA	NA	NA	NS
	T1 Reverse self-worth	NA	NA	NA	NA	NA	NS
	T1 log10 creative activity participation	NA	NA	NA	NA	NA	NS
	T1log10 civic activity participation	NA	NA	NA	NA	NA	NS
	T1 Reverse social-leisure participation	NA	NA	NA	NA	NA	NS

*Table is positively coded for ease of interpretation Standardized Beta values and corresponding levels of significance are presented

^ Factor has been positively coded for ease of interpretation

NS = Non-significant; NA = Not-applicable. Used to refer to factors that did not meet criteria for inclusion into the model

Table 6.4 *continued*

Outcome* Belongingness in school (Reverse)	**Predictors**	**Obj 1: T1 model R^2 = 68.7%**	**Obj 2: Longitudinal T1 model R^2 = 29.7%**	**Obj 3 T1 replica model using T2equivalent factors R^2 = 61.9%**	**Obj 4: Unique T2 model R^2 = 61.7%**	**Obj 5: Unique T2 after control of Obj 3 R^2 = 65%**	**Obj 6: Unique T2 after control of Obj 3 and previous adjustment R^2 = 66%**
	Social acceptance competence	.142 (.001)	NS	.136 (.027)	.205 (0.000)	.114 (.046)	.116 (.046)
	Close friendships competence	NS	NS	NS	NA	NA	NA
	Physical appearance competence	.078 (.029)	NS	NS	NA	NS	NS
	Mid 25-75percentile Vs. Low-Q coping by solving the problem	NS	NS	NS	NA	NS	NS
	Mid 25-75percentile Vs. High-Q coping by solving the problem	NS	NS	NS	NA	NS	NS
Block 2: Personal factors	Non-productive coping	-.169 (.000)	-.128(.006)	-.189 (.000)	-.174 (.000)	-.171 (.001)	-.156 (.003)
	Cooperative social skills	NS	-.156(.032)	NS	NA	NS	NS
	Effort motivational orientation	NS	NS	NS	-.174 (.001)	NS	NS
	Affiliation motivational orientation	.074(.042)	.167(.016)	NS	NA	NS	NS
	Mid 25-75percentile Vs. High-Q social concern motivational orientation	NS	NS	NS	NA	NS	NS
	Mid 33 per Vs. High-33 per worrying about impending transition	-.075 (.021)	NS	NS	NA	NS	NS

Table 6.4 *continued*

Outcome* Belongingness in school (Reverse)	**Predictors**	**Obj 1: T1 model R^2 = 68.7%**	**Obj 2: Longitudinal T1 model R^2 = 29.7%**	**Obj 3 T1 replica model using T2equivalent factors R^2 = 61.9%**	**Obj 4: Unique T2 model R^2 = 61.7%**	**Obj 5: Unique T2 after control of Obj 3 R^2 = 65%**	**Obj 6: Unique T2 after control of Obj 3 and previous adjustment R^2 = 66%**
Block 3: Family factors	Social support from family	NS	NS	NS	NA	NS	NS
	Parental self-efficacy to help their child succeed in school	NS	NS	NS	NA	NS	NS
	Mid 25-75percentile Vs. Low-Q school-based involvement (SBI)	NS	-.178 (.006)	NS	NA	NS	NS
	Trade Vs. University expectation for child	.076(.034)	NS	NS	NA	NS	NS

*Table is positively coded for ease of interpretation Standardized Beta values and corresponding levels of significance are presented

NS=Non-significant; NA= Not-applicable. Used to refer to factors that did not meet criteria for inclusion into the model

Table 6.4 *continued*

Outcome* Belongingness in school (Reverse)	**Predictors**	**Obj 1: T1 model R^2 = 68.7%**	**Obj 2: Longitudinal T1 model R^2 = 29.7%**	**Obj 3 T1 replica model using T2equivalent factors R^2 = 61.9%**	**Obj 4: Unique T2 model R^2 = 61.7%**	**Obj 5: Unique T2 after control of Obj 3 R^2 = 65%**	**Obj 6: Unique T2 after control of Obj 3 and previous adjustment R^2 = 66%**
Block 4: School/classroom factors	Mid 25-75percentile Vs. Low-Q Classroom task-orientation	NS	NS	NS	NA	NS	NS
	Mid 25-75percentile Vs. High-Q classroom cohesiveness	NS	NS	NS	NA	NS	NS
	Mid 25-75percentile Vs. Low-Q classroom affiliation	-.111 (.007)	NS	-.127 (.021)	-.126 (.010)	-.110 (.039)	-.112 (.036)
	Classroom involvement	.143 (.001)	NS	NS	NA	NS	NS
	Satisfaction with classes	.165 (.000)	NS	.197 (.002)	.212 (.000)	.167 (.007)	.147 (.019)
	Disagree Vs Agree to being bullied	NS	NS	NS	NA	NS	NS
	Cultural tolerance in class	.115(.002)	NS	NS	NA	NS	NS
	Mid 25-75percentile Vs. Low-Q Parent perception of invitations for involvement from child's school (PPI)	NS	NS	NS	NA	NS	NS

*Table is positively coded for ease of interpretation Standardized Beta values and corresponding levels of significance are presented

NS = Non-significant; NA = Not-applicable. Used to refer to factors that did not meet criteria for inclusion into the model

Table 6.4 *continued*

Outcome* Belongingness in school (Reverse)	**Predictors**	**Obj 1: T1 model R^2 = 68.7%**	**Obj 2: Longitudinal T1 model R^2 = 29.7%**	**Obj 3 T1 replica model using T2equivalent factors R^2 = 61.9%**	**Obj 4: Unique T2 model R^2 = 61.7%**	**Obj 5: Unique T2 after control of Obj 3 R^2 = 65%**	**Obj 6: Unique T2 after control of Obj 3 and previous adjustment R^2 = 66%**
Block 5: Peer-group factors	Mid 25-75percentile Vs. Low-Q social support from friends	NS	NS	NS	NA	NS	NS
	Mid 25-75percentile Vs. High-Q social support from friends	NS	NS	NS	NA	NS	NS
	Mid 25-75percentile Vs. Low-Q social support from a special person	NS	NS	NS	NA	NS	NS
	Mid 25-75percentile Vs. Low-Q pro-social peer group influence	NS	NS	NS	NA	NS	NS
	Mid 25-75percentile Vs. High-Q pro-social peer group influence	NS	NS	NS	NA	NS	NS

*Table is positively coded for ease of interpretation Standardized Beta values and corresponding levels of significance are presented

NS = Non-significant; NA = Not-applicable. Used to refer to factors that did not meet criteria for inclusion into the model

Table 6.4 *continued*

Outcome* Belongingness in school (Reverse)	**Predictors**	**Obj 1: T1 model R^2 = 68.7%**	**Obj 2: Longitudinal T1 model R^2 = 29.7%**	**Obj 3 T1 replica model using T2 equivalent factors R^2 = 61.9%**	**Obj 4: Unique T2 model R^2 = 61.7%**	**Obj 5: Unique T2 after control of Obj 3 R^2 = 65%**	**Obj 6: Unique T2 after control of Obj 3 and previous adjustment R^2 = 66%**
Block 6: Unique T2 factors	Mid 25-75percentile Vs. Low-Q social support from year level teachers	NA	NA	NA	-.115 (.012)	-.113 (.025)	-.100 (.05)
	Mid 25-75percentile Vs. High-Q task-orientation in classes	NA	NA	NA	.154 (.000)	.142 (.003)	.158 (.001)
	Disability and CI tolerance	NA	NA	NA	.133 (.002)	.133 (.023)	.124 (.036)
	TAFE/University Vs. Up to year 12 completion expectation held by teacher (as per student's perception)	NA	NA	NA	-.107 (.010)	NS	NS

*Table is positively coded for ease of interpretation Standardized Beta values and corresponding levels of significance are presented

NS = Non-significant; NA= Not-applicable. Used to refer to factors that did not meet criteria for inclusion into the model

Control variables: At T1, students with a disability/chronic illness was identified to be significantly positively associated with concurrent belongingness in school (Disability/CI, β = .093, p = .006). This suggests that at the primary school 'typically-developing' students were more at risk of reporting low belongingness in school.

The model of school belonging at T1 was found to hold true for all students irrespective of students' gender and the SES-level of their household.

Personal factors: Competency in the area of physical appearance (T1physical appearance, β = .078, p = .029) was positively predictive of concurrent belongingness.

Perceiving oneself to be socially accepted by one's peers served as a protective factor against belongingness (T1Social acceptance, β = .142, p = .001).

Reporting high levels of non-productive coping strategies such as worrying, ignoring the problem at hand self blame emerged as a significant risk factor (T1Non-productive coping, β = -.169, p = .000), increasing the possibility of low school belonging at T1.

Students' motivational orientation was also identified as a significant determinant of concurrent school belonging. Those who were motivated by desire to form attachments and membership with peers were more likely to feel as if they belonged in school. A .074 standard deviation rise in belongingness could be predicted with every standard deviation unit increase in one's affiliation motivation (T1affiliationmotiv, β = .074, p = .042).

Students who reported being extremely worried and anxious about the impending transition to secondary school, were more likely to report low belongingness in primary level, when compared to the mid-range worrisome group (T1highquartile worry, β = -.075, p = .021).

Family factors: Students whose parents upheld high academic aspirations reported a greater sense of attachment with their primary school, when compared to those whose parents endorsed lower expectations (T1uniexpectation, β = .076, p = .034). Belongingness in school could be predicted to increase by .076 standard deviation units as parental expectations of academic success increased from trade-level achievement to university degree expectation. Since, this is cross sectional presentation, we should not speculate on causality.

School/classroom factors: Perceptions of low-level affiliation with the classroom (T1low-Q class affiliation, β = -.111, p = .007) was identified as significant risk factor, thus highlighting the importance of classroom bonding in endorsing belongingness in the overall school-level context.

Students who were highly involved in class activities at T1 were less likely to report a low sense of belongingness in school at that point in time (T1class involvement, β = .143, p = .001). Perception of belongingness in primary school was predicted to increase by .143 standard deviation units with every standard deviation unit increase in classroom activity participation.

Satisfaction with one's primary level classes was identified as a significant contributor of concurrent belongingness. Students who felt safe, who were included in class activities, and were proud of being a member of the class, reported a greater sense of belonging to school (T1class satisfaction, β = .165, p = .000).

Those who perceived their primary school as being culturally pluralistic, by encouraging students from different cultural backgrounds to participate in important school activities and by laying importance for students of different cultures to mix with each other reported a greater sense of belongingness to the setting (T1cultural tolerance, β = .115, p = .002).

Peer-group factors: These factors were not found to make a significant contribution to the model of school belongingness at T1.

6.5.2 Objective 2: To determine the T1 personal and contextual factors that predict belongingness in school longitudinally at T2.

Longitudinally, T1 factors explained 29.7% the variance in belonging to secondary school, $F(32, 226) = 2.98$, $p = .000$. The factors that contributed to the final model are listed below, grouped in terms of the context to which they belong. Refer to Table 6.4 for specific standardized beta values.

Control variables: In the longitudinal model, students from low-SES income families were identified to be at significant risk for reporting low belongingness in secondary school (T1 low-Q income $\beta = -.132$, $p = 0.030$).

No group differences in belonging to secondary school due to students' gender or and health status were identified longitudinally.

Personal factors: Those who reported high affiliation motivational orientation at T1 were more likely to belong to secondary school (T1affiliationmotiv, $\beta = .167$, $p = .016$).

The ability to connect cooperatively with others at T1 was identified as significant protective factor longitudinally (T1 cooperative social skill, $\beta = .156$, $p = .032$).

Family factors: Students whose parents reported low involvement with their primary school (low-Q SBI) were more likely to report low belongingness in secondary school, when compared to their counterparts whose parents' reported average-level SBI (T1 low-Q SBI, $\beta = -.178$, $p = .006$).

No School/classroom and peer group factor were identified to predict belongingness in school longitudinally.

Summary: As displayed in Table 6.4, in the final year of primary school, T1 factors could predict 68.7% the variance in the concurrent school belongingness (objective 1). Longitudinally, only three T1 student factors (i.e., non-productive coping, affiliation motivational orientation, and cooperative social skills) and one parent factor (i.e., low-Q SBI) predicted 29.7% of the variance in belongingness in secondary school. The loss of predictive power could be attributed to either a change in the identified T1 predictor factors across transition (i.e., change in mean score over time), or the contribution of other factors unique to T2 that predict concurrent belongingness in secondary school. The latter possibility has been examined in objective 4.

6.5.3 Objective 3: To determine whether the factors found to be significantly associated with school belonging at T1 (objective 1) retain their association when evaluated at T2, using T2 equivalent personal and contextual factors and outcome. This model is referred to as the T1 replica model.

The final hierarchical model explained 61.9% of the variance in students' perception of belongingness in secondary school, $F(32, 222) = 11.28$, $p = .000$. The factors that contributed to the final model are listed below, grouped in terms of the context to which they belong. Refer to Table 6.4 for specific standardized beta values.

Control variables: The model of belongingness in secondary school held true for mainstream students, irrespective of their gender, health status, and SES-level of their household.

Personal factors: Similar to the findings at T1, students who reported high social acceptance competence post-transition were more likely to belong in school (T2Social acceptance, $\beta = .136$, $p = .027$).

Use of non-productive coping strategies (T2Non-productive coping, $\beta = -.189$, $p = .000$) was identified as a significant risk factor, increasing the possibility of low belonging in secondary school.

Family factors: Family factors failed to contribute towards the prediction of belongingness in secondary school.

School/classroom factors: Similar to the T1 model, students who reported low-level classroom affiliation in secondary school also reported low belonging in school (T2low-Q class affiliation, $\beta = -.127$, $p = .021$).

Satisfaction with one's secondary level classes was identified as a significant protective factor (T2class satisfaction, β = .197, p = .002). Those who felt safe, who were included in class activities, and were proud of being a member of class, reported a greater sense of belonging in school.

Peer-group factors: Similar to the T1 model, peer-group factors failed to predict belonging in secondary school.

Summary: This objective assessed the validity of the pre-transition model in secondary school, using post-transition equivalent factors. At T1, this model could predict 68.7% of the variance in primary school belonging (see objective 1). When equivalent post-transition (T2) factors were used, the ability of the model to predict belongingness in secondary school in the same cohort of students decreased to 61.9%. The reduction in the predictive power of the model calls into question whether there are any additional factors, unique to T2, responsible for predicting belongingness in school at that point in time. Objectives 4 and 5 were set out to address this possibility.

6.5.4 Objective 4: to determine if there are personal and contextual factors unique to T2 that predict concurrent belongingness in secondary school (at T2).

The final model accounted for 61.7% of the variance in students' perception of belongingness in secondary school $F(13, 245) = 30.38$, $p = .000$. Listed are the significant contributors to the model grouped on the basis of the context to which they belong. Refer to Table 6.4 for specific standardized beta values.

Control variables: Similar to the T1 model (i.e., in objective 1), control variables failed predict concurrent belongingness in secondary school.

Personal factors: Similar to T1 model, social acceptance competence (T2Social acceptance competence, $\beta = .205$, $p = .000$) and use of high levels non-productive coping strategies (T2 Non-Productive coping, $\beta = -.174$, $p = .000$) were associated with belongingness in secondary school.

The motivational orientation for schooling held by students post-transition was identified as a significant determinant of concurrent school belongingness. Those who valued effort and hard-work as a determinant of success, reported a higher level of belongingness in secondary school (T2effort motivation, $\beta = .174$, $p = .001$). Although this factor was included in the T1 model, it only emerged as a significant predictor of school belonging in secondary school.

Family factors: No family factors contributed towards the prediction of belonging in secondary school.

School/classroom factors: Perception of low-level classroom affiliation (T2 low-Q class affiliation, $\beta = -.126$, $p = .010$) and high-level classroom satisfaction (T2 high-Q class satisfaction, $\beta = .212$, $p = .000$) when compared to the mid-range student grouping, were each identified as significant predictors of concurrent belongingness in secondary school,

Unique T2 factors:

Belongingness in secondary school was predicted to increase by .154 standard deviation units as students' perception of classroom task-orientation increased from average level to high-quartile level orientation (T2 task orientation high-Q, β = .154, p = .000).

Low-level support from one's year level teachers in secondary school was negatively associated with school belongingness (T2 teacher support lower-Q, β = -.115, p = .012) when compared to students who reported mid-range level support from teachers.

Students who perceived their secondary school/classes to be more tolerant towards disability and chronic illness reported a higher feeling of belongingness in the setting (T2 disability and CI tolerance, β = .133, p = .002).

Those who perceived that their secondary year level teachers expected them to only complete schooling up to year 12 were more likely to report low belongingness (T2 up to year 12, β = -.107, p = .010), when compared to their counterparts who felt that their teachers expected them to study further at TAFE/University.

Peer-group factors: Stepwise regression did not identify any peer-group factors to predict concurrent belongingness in secondary school.

Summary: In summary, stepwise linear regression identified unique school/classroom factors that influenced belongingness in secondary school. Objective 5 was thus set out to identify whether these unique factors could predict concurrent belongingness in school at T2 better than the T1 replica model (Objective 3).

6.5.5 Objective 5: If unique factors are identified in objective 4, to determine whether the unique T2 factors can predict concurrent belongingness in school at T2 better than the T1 replica model (Objective 3).

After controlling for the T1 replica model (i.e., objective 3), the unique post-transition factors (identified in objective 4) were capable of accounting for 65% of the variance in perceived school belongingness at T2, $F(36, 218) = 11.235$, $p = .000$. An improvement in the predictive power of the model was witnessed (R^2 change = .035), with a corresponding (F change for R^2 change = 5.387, $p = .000$). Listed below are the factors that contributed to this model, grouped in terms of the context to which they belong. Refer to Table 6.4 for specific standardized beta values.

Control factors: Similar to objective 3, no differences in school belongingness in secondary school due to students' gender, health status, or SES level of their family were identified.

Personal factors: As observed in objective 3, social acceptance competence (T2 Social acceptance competence, $\beta = .114$, $p = .046$) and use of non-productive coping strategies (T2Non-productive coping, $\beta = -.171$, $p = .001$) were related to belongingness in secondary school.

Family factors: Similar to the findings in Objective 3, family factors did contribute to the prediction of belongingness in school at T2.

School/classroom factors: As identified in objective 3, perceptions of low-level classroom affiliation and high level satisfaction within one's secondary level classes were each identified as significant contributors of concurrent belongingness at T2. Kindly refer to Table 6.4 for further details.

Three classroom factors unique to the post-transition model were identified to make a statistically significant contribution towards the predictive model.

Students who reported their secondary level classrooms to be highly task organised were more likely to belong in school when compared to their counterparts who reported low level task goal orientations (T2 task orientation upper-quartile, β = .142, p = .003).

The extent to which students felt supported by their year level teachers was identified as a significant contributor towards concurrent belongingness (T2 teacher support lower-Q, β = -.113, p = .025). A fall in belongingness score could be predicted if a sense of being supported by one's year level teachers dropped from median level to lower-level support category.

Those who perceived schools to be more tolerant towards disability and chronic illness reported a greater feeling of belongingness in school (T2 disability and CI tolerance, β = .133, p = .023).

Peer-group factors: Peer group factors failed to predict belongingness in secondary school.

Summary: After controlling for objective 3, the unique post-transition factors (identified in objective 4) were capable of accounting for 65% of the variance in students' belongingness in secondary school. An improvement in the predictive power of the model over the T1 replica model (objective 3) was witnessed (R^2 change = .07), with a corresponding (F change for R^2 change = 6.505, p = .000).

6.5.6 Objective 6: After controlling for adjustment outcomes in primary school (at T1), to determine if unique T2 factors identified in objective 4, contribute to the prediction of concurrent belongingness at T2, better than the T1 replica model.

The final regression model accounted for 66% of the variance in concurrent belongingness at T2, $F(43, 211) = 9.669$, $p = .000$. The factors that contributed to the final model are listed below, grouped in terms of the context to which they belong. Refer to Table 6.5 for details.

Control variables: After control of previous adjustment, no differences in student belongingness in school at T2 as a function of gender, health status, and SES-level of family were identified.

Contribution of Previous adjustment factors: Pre-transition belongingness was found to be significantly positively associated belongingness at T2 ($\beta = .130$; $p = .023$). Other components of T1 adjustment failed to predict belongingness in secondary school

When previous adjustment variables were taken into account in the regression analysis, all personal and contextual factors identified to impact on school belongingness in objective 5 held their significance.

Summary: The final model that controlled for previous adjustment outcomes in primary school, could explain 66% of the variance in secondary school belonging.

Concluding summary of belongingness in school models:

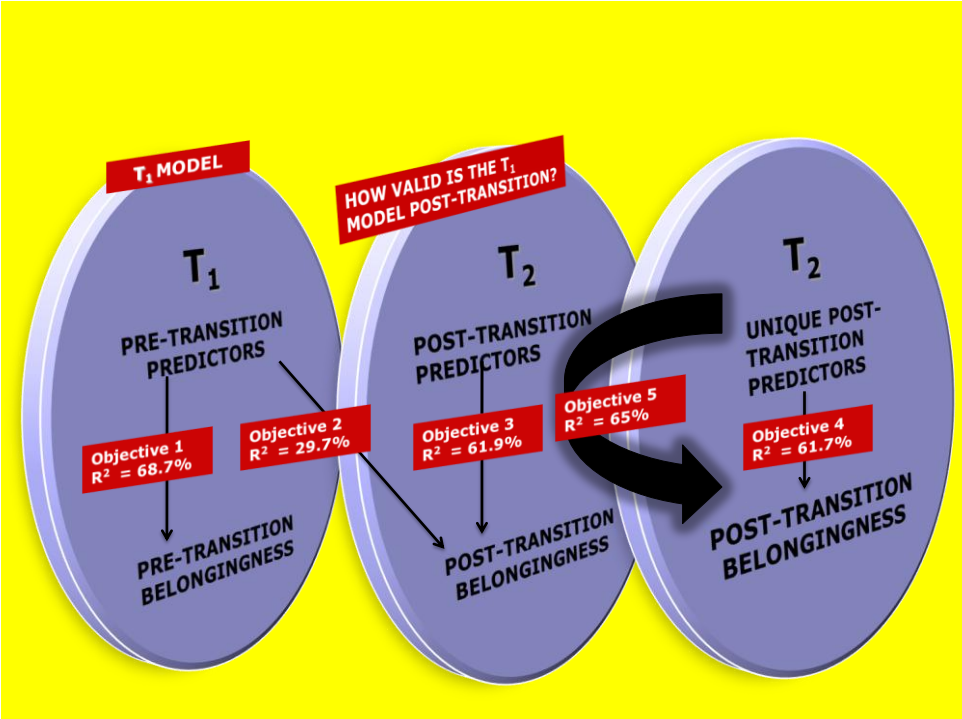


Figure 6.7 *Prediction of belongingness in school: Objectives 1-5*

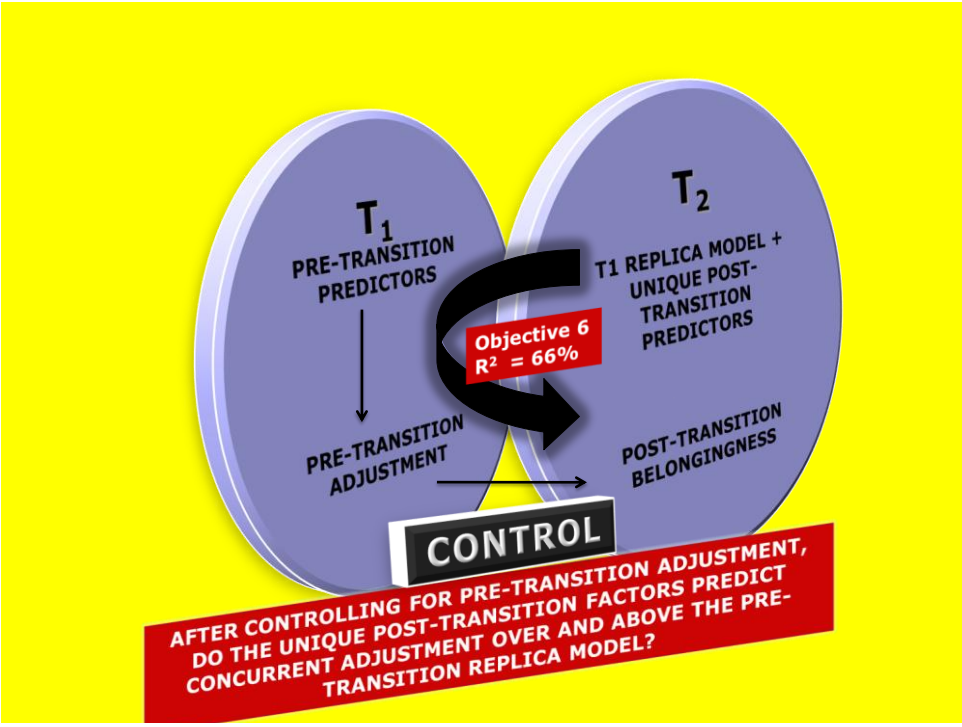


Figure 6.8 *Prediction of belongingness in school: Objective 6*

Linear regression analysis found that the final pre-transition model accounted for 68.7% the variance in concurrent perception of belongingness in the final year of primary school, $F(32, 340) = 23.35$, $p = .000$). Across time, pre-transition factors were capable of accounting for 29.7% the variance in student connectedness with secondary level school, $F(32, 226) = 2.98$, $p = .000$. Replication of the pre-transition model in secondary school with post-transition equivalent factors (objective 3) allowed 61.9% of the variance in students' perception of belongingness in secondary-school to be accounted for, $F(32, 222) = 11.28$, $p = .000$. Further scrutiny using stepwise linear regression identified four school factors unique to secondary school that could predict concurrent belongingness in secondary school (objective 4). When these unique T2 factors were regressed on top of the T1 replica model (objective 3), 61% of the variance in concurrent belongingness at T2 was accounted, $F(26, 232) = 13.98$, $p = .000$ (objective 5). The improvement of the model (objective 5) over the T1 replica model (objective 3) was significant $\Delta R^2 = .035$ and its corresponding change in F (ΔF) = 5.387 at $p = .000$ values of significance. Thus, in secondary school, unique post-transition (T2 factors) contribute to the prediction of concurrent belongingness in school, on top of the T1 replica model.

Even after prior adjustment outcomes at T1 were accounted for in objective 6, the final model predicted 66% of the variance in school belongingness at T2. All personal and contextual factors identified to impact on school belonging in objective 5 held their significance. These findings suggest that in secondary school, there exist factors that predict belongingness in school, even after prior adjustment outcomes in primary school are taken into account.

6.6 PREDICTORS OF LONELINESS AND SOCIAL DISSATISFACTION IN SCHOOL

6.6.1 Objective 1: To determine the T1 personal and contextual factors that predict concurrent loneliness and social dissatisfaction in students in primary school (at T1).

Findings of the five-block hierarchical model were as follows.

Block 1: When gender, health status and students' SES-background were added in Block1, only 5.1 % of the variance in students' perception of loneliness and social dissatisfaction in school was accounted for $F(4, 301) = 4.025$, $p = .003$.

Block 2: The addition of personal factors into the model improved the models predictive power dramatically (R^2 change = .534), enabling it to explain 58.5% of the variance in T1 loneliness and social dissatisfaction in school. The increment in the predictive power of the model was significant (F change for R^2 change = 37.396, $p = .000$).

Block 3: With the addition of family factors in Block 3, the predictive power of the model increased further (R^2 change = 0.015). The model was capable of explaining 59.9% of the variance in T1 loneliness and social dissatisfaction in school. The increment in the predictive power of the model was significant (F change for R^2 change = 2.627, $p = .035$).

Block 4: School/classroom factors when added in Block 4 accounted for 70% of the variance in loneliness and social dissatisfaction in school. An improvement in the predictive power of the model was witnessed (R^2 change = .100), with a corresponding (F change for R^2 change = 10.338, $p = .000$).

Block 5: Finally, with the addition of peer-group factors in Block 5, the model explained 70.5% of the variance in T1 loneliness and social dissatisfaction in

school. There was no significant improvement in the predictive power of the model (R^2 change = .005). This suggests that peer group factors could not significantly explain any additional variance in the outcome, than that accounted for by Block 4 factors.

The final hierarchical model explained 70.5% of the variance in students' perception of loneliness and social dissatisfaction in the final year of primary school, $F(31, 274) = 21.08$, $p = .000$.

The following section presents the factors that contributed to the final model, grouped in terms of the context to which they belong. Refer to Table 6.5.

Table 6.5 *Predictors of loneliness and social dissatisfaction in school*

Outcome: Log Loneliness and social dissatisfaction in school (higher score= more lonely)	**Predictors**	**Obj 1: T1 model R^2 = 70.5%**	**Obj 2: Longitudinal T1 model R^2 = 30%**	**Obj 3 T1 replica model using T2 equivalent factors R^2 = 52.6%**	**Obj 4: Unique T2 model R^2 = 54.2%**	**Obj 5: Unique T2 after control of Obj 3 R^2 = 58.1%**	**Obj 6: Unique T2 after control of Obj 3 and previous adjustment R^2 = 60%**
	Boy Vs. girl	NS	-.154 (.035)	NS	NS	NS	NS
Block1: Control factors	Typical Vs. presence of disability/CI	NS	NS	NS	NS	NS	NS
	Mid-SES Vs. Low SES-level	NS	NS	NS	NS	NS	NS
	Mid-SES Vs. High SES-level	NS	NS	NS	NS	NS	NS

Standardized Beta values and corresponding levels of significance are presented

NS = Non-significant

Table 6.5 *continued*

Outcome: Log Loneliness and social dissatisfaction in school (higher score= more lonely)	**Predictors**	**Obj 1: T1 model R^2 = 70.5%**	**Obj 2: Longitudinal T1 model R^2 = 30%**	**Obj 3 T1 replica model using T2 equivalent factors R^2 = 52.6%**	**Obj 4: Unique T2 model R^2 = 54.2%**	**Obj 5: Unique T2 after control of Obj 3 R^2 = 58.1%**	**Obj 6: Unique T2 after control of Obj 3 and previous adjustment R^2 = 60%**
Control of previous adjustment only for objective 6	T1Log loneliness and social dissatisfaction in school	NA	NA	NA	NA	NA	.150 (.024)
	T1 Reverse academic competence	NA	NA	NA	NA	NA	NS
	T1 log10 Emotional and behavioural problems	NA	NA	NA	NA	NA	NS
	T1 Reverse self-worth	NA	NA	NA	NA	NA	NS
	T1 log10 creative activity participation	NA	NA	NA	NA	NA	NS
	T1log10 civic activity participation	NA	NA	NA	NA	NA	NS
	T1 Reverse social-leisure participation	NA	NA	NA	NA	NA	NS

Standardized Beta values and corresponding levels of significance are presented

NS = Non-significant; NA = Not-applicable. Used to refer to factors that did not meet criteria for inclusion into the model

Table 6.5 *continued*

Outcome: Log Loneliness and social dissatisfaction in school (higher score= more lonely)	**Predictors**	**Obj 1: T1 model R^2 = 70.5%**	**Obj 2: Longitudinal T1 model R^2 = 30%**	**Obj 3 T1 replica model using T2 equivalent factors R^2 = 52.6%**	**Obj 4: Unique T2 model R^2 = 54.2%**	**Obj 5: Unique T2 after control of Obj 3 R^2 = 58.1%**	**Obj 6: Unique T2 after control of Obj 3 and previous adjustment R^2 = 60%**
	Mid 25-75 percentile Vs. Low-Q social acceptance competence	.158 (.000)	.191 (0.034)	.210 (.000)	.245 (.000)	.187 (.001)	.159 (.006)
	Mid 25-75 percentile Vs. High-Q social acceptance competence	-.126 (.002)	NS	NS	NA	NS	NS
Block 2: Personal factors	Mid 33 percentile Vs. Low-33percentile Close friendship competence	NS	NS	NS	NA	NS	NS
	Mid 33 percentile Vs. High-33percentile Close friendship competence	NS	NS	-.133 (.028)	NA	NS	NS
	Mid 25-75 percentile Vs. Low-Q coping by solving the problem	.145 (.001)	NS	.164 (.005)	.133 (.005)	.124 (.028)	.113 (.048)

Standardized Beta values and corresponding levels of significance are presented

NS = Non-significant; NA = Not-applicable. Used to refer to factors that did not meet criteria for inclusion into the model

Table 6.5 *continued*

Outcome: Log Loneliness and social dissatisfaction in school (higher score= more lonely)	**Predictors**	**Obj 1: T1 model R^2 = 70.5%**	**Obj 2: Longitudinal T1 model R^2 = 30%**	**Obj 3 T1 replica model using T2 equivalent factors R^2 = 52.6%**	**Obj 4: Unique T2 model R^2 = 54.2%**	**Obj 5: Unique T2 after control of Obj 3 R^2 = 58.1%**	**Obj 6: Unique T2 after control of Obj 3 and previous adjustment R^2 = 60%**
Block 2: Personal factors	Mid 25-75 percentile Vs. High-Q coping by solving the problem	NS	NS	NS	NA	NS	NS
	Non-productive coping	.182 (.000)	NS	NS	NA	NS	NS
	Mid 25-75 percentile Vs. Low-Q affiliation motivation	.086 (.025)	NS	NS	NA	NS	NS
	Mid 25-75 percentile Vs. High-Q affiliation motivational orientation	NS	-.153 (.045)	NS	NA	NS	NS
	University/TAFE Vs. Up to year 12 completion expectation	NS	NS	NS	NA	NS	NS

Standardized Beta values and corresponding levels of significance are presented

NS = Non-significant; NA = Not-applicable. Used to refer to factors that did not meet criteria for inclusion into the model

Table 6.5 *continued*

Outcome: Log Loneliness and social dissatisfaction in school (higher score= more lonely)	**Predictors**	**Obj 1: T1 model R^2 = 70.5%**	**Obj 2: Longitudinal T1 model R^2 = 30%**	**Obj 3 T1 replica model using T2 equivalent factors R^2 = 52.6%**	**Obj 4: Unique T2 model R^2 = 54.2%**	**Obj 5: Unique T2 after control of Obj 3 R^2 = 58.1%**	**Obj 6: Unique T2 after control of Obj 3 and previous adjustment R^2 = 60%**
Block 3: Family factors	TAFE Vs. No-post-school qualification for female parent	NS	NS	NS	NA	NS	NS
	Mid 25-75 percentile Vs. Low-Q social support from family	NS	NS	NS	NA	NS	NS
	Home-School Communication (HSC)	NS	NS	NS	NA	NS	NS
	Mid 25-75 percentile Vs. Low-Q School-Based Involvement (SBI)	NS	NS	NS	NA	NS	NS

Standardized Beta values and corresponding levels of significance are presented

NS = Non-significant; NA = Not-applicable. Used to refer to factors that did not meet criteria for inclusion into the model

Table 6.5 *continued*

Outcome: Log Loneliness and social dissatisfaction in school (higher score= more lonely)	**Predictors**	**Obj 1: T1 model R^2 = 70.5%**	**Obj 2: Longitudinal T1 model R^2 = 30%**	**Obj 3 T1 replica model using T2 equivalent factors R^2 = 52.6%**	**Obj 4: Unique T2 model R^2 = 54.2%**	**Obj 5: Unique T2 after control of Obj 3 R^2 = 58.1%**	**Obj 6: Unique T2 after control of Obj 3 and previous adjustment R^2 = 60%**
Block 4: School/classroom factors	Mid 25-75 percentile Vs. Low-Q Class affiliation	.161 (.000)	NS	.216 (.001)	NA	.184 (.002)	.172 (.004)
	Mid 25-75 percentile Vs. High-Q Class affiliation	-.107(.007)	NS	NS	-.118 (.016)	NS	NS
	Mid 25-75 percentile Vs. Low-Q Class student cohesiveness	NS	NS	.117 (0.050)	NA	NS	NS
	Mid 25-75 percentile Vs. High-Q Classroom involvement	-.091 (.022)	NS	-.124 (.039)	NA	NS	NS
	Ease of classroom work	NS	NS	NS	NA	NS	NS
	Disagree Vs Agree to being bullied	.165 (.000)	NS	.115 (.046)	NA	NS	NS
	Disagree Vs Indecisive about being bullied	.080 (.026)	NS	NS	NA	NS	NS
	Cultural tolerance	NS	NS	NS	NA	NS	NS
	Yes Vs. No professional development to deal with students with CI	NS	NS	NS	NA	NS	NS

Table 6.5*continued*

Outcome: Log Loneliness and social dissatisfaction in school (higher score= more lonely)	**Predictors**	**Obj 1: T1 model R^2 = 70.5%**	**Obj 2: Longitudinal T1 model R^2 = 30%**	**Obj 3 T1 replica model using T2 equivalent factors R^2 = 52.6%**	**Obj 4: Unique T2 model R^2 = 54.2%**	**Obj 5: Unique T2 after control of Obj 3 R^2 = 58.1%**	**Obj 6: Unique T2 after control of Obj 3 and previous adjustment R^2 = 60%**
Block 5: Peer-group factor	Mid 25-75 percentile Vs. Low-Q social support from friend	NS	NS	NS	NA	NS	NS
	Mid 25-75 percentile Vs. High-Q social support from friend	NS	NS	NS	-.118 (.01)	-.111 (.045)	NS
	Mid 25-75 percentile Vs. Low-Q social support from special person in one's life	NS	NS	NS	NA	NS	NS
	Influence of pro-social peer group values	NS	NS	NS	NA	NS	NS

Standardized Beta values and corresponding levels of significance are presented

NS = Non-significant; NA = Not-applicable. Used to refer to factors that did not meet criteria for inclusion into the model

Table 6.5 *continued*

Outcome: Log Loneliness and social dissatisfaction in school (higher score= more lonely)	**Predictors**	**Obj 1: T1 model R^2 = 70.5%**	**Obj 2: Longitudinal T1 model R^2 = 30%**	**Obj 3 T1 replica model using T2 equivalent factors R^2 = 52.6%**	**Obj 4: Unique T2 model R^2 = 54.2%**	**Obj 5: Unique T2 after control of Obj 3 R^2 = 58.1%**	**Obj 6: Unique T2 after control of Obj 3 and previous adjustment R^2 = 60%**
Block 6: Unique T2 factors	Mid 25-75 percentile Vs. Low-Q Assertiveness social skills	NA	NA	NA	.195 (.000)	.193 (.000)	.166 (.003)
	Mid 25-75 percentile Vs. High-Q Social power motivational orientation	NA	NA	NA	.135(.003)	.127 (.017)	.129 (.016)
	Classroom task-orientation	NA	NA	NA	-.197 (.000)	-.175 (.019)	-.159 (.034)
	Disagree Vs Indecisive about being a bully	NA	NA	NA	.109 (.016)	.NS	NS

Standardized Beta values and corresponding levels of significance are presented

NS = Non-significant; NA = Not-applicable. Used to refer to factors that did not meet criteria for inclusion into the model

Control variables: The model of loneliness and social dissatisfaction in primary school could be generalised applied to all mainstream students in the sample, irrespective of their gender, health status, or SES-background.

Personal factors: When compared to the mid-range grouping, perception of low social acceptance competence was identified emerged as a significant positive indicator of concurrent loneliness and social dissatisfaction (T1 Low-Q acceptance competence, β = .158, p = .000). Conversely, those who perceived themselves to be highly socially received by their peers were less likely to be lonely (T1 high-Q social acceptance competence, β = -.126p = .002).

The coping strategies adopted in primary school emerged as significant determinants of concurrent loneliness. Low use of adaptive coping strategies when compared to the mid-range cluster, (T1 Low-Q cope solve the problem, β = .145, p = .001), and frequent use of non-productive coping strategies were each identified as positive markers of loneliness and social dissatisfaction (T1 non-productive cope, β = .182, p = .000).

The motivational orientation upheld in primary school also made an appreciable contribution to the model, with those less motivated by desire to form attachment and membership with peers identified to be more likely to be lonely. A .086 standard deviation increase in loneliness and social dissatisfaction could be predicted if students' affiliation motivation reduced from the mid-range affiliation motivation cluster to the low-quartile grouping (T1low-Q affiliation motivation, β = .086, p = .025).

Although student factors such as perception of low and high competence in one's ability to form close friendships, frequency of use of adaptive coping strategies, and low expectations of academic success met criteria for inclusion into the model, they each failed to predict loneliness in primary school.

Family factors: Family factors failed to predict loneliness and social dissatisfaction in primary school.

School factors: Perceptions of low-(T1 low-Q class affiliation, β = .161, p = .000) and high-classroom affiliation (T1 high-Q class affiliation, β = -.107, p = .007) were identified as significant positive and negative predictors of concurrent loneliness and social dissatisfaction in primary school.

Additionally, those who were highly involved in classroom activities in primary school were less likely to be lonely, when compared to their counterparts who reported average level classroom involvement (T1 high-quartile class involvement, β = -.091, p = .022).

Unlike students who reported to not to being bullied in primary school, those who were both indecisive (T1 indecisive to being bullied, β = .080, p = .026) and agreed to being bullied (T1 agree to being bullied, β = .165, p = .000) were more likely to be lonely.

Peer-group factors: Peer-group factors failed to predict loneliness and social dissatisfaction in primary school.

6.6.2 Objective 2: To determine the T1 personal and contextual factors that predict loneliness and social dissatisfaction in students longitudinally in secondary school (at T2).

Longitudinally, primary level factors explained 30% of the variance in perception of loneliness and social dissatisfaction in the same cohort of students, 6-months after they settled into secondary school, $F(31, 164) = 2.51$, $p = .000$). The factors that contributed to the final model are listed below, grouped in terms of the context to which they belong. Refer to Table 6.5 for details.

Control variables: Gender of the student emerged as an important determinant of post-transition loneliness and social dissatisfaction in secondary school. A .154 standard deviation reduction in secondary school loneliness and social dissatisfaction in secondary school could be predicted longitudinally if was female (T1girl, $\beta = -.154$, $p = .035$). Based on the pre-transition model, these findings suggest that pre-adolescent boys in Australia are an important group more predisposed to be lonely in secondary school.

No group differences in loneliness and social dissatisfaction in secondary school due to students' health status and SES-background were identified.

Personal factors: When compared to students who reported mid-range social acceptance competence, primary students who perceived themselves to be poorly socially accepted by their peers were more likely to be lonely and socially dissatisfied longitudinally (T1 Low-Q social acceptance competence, $\beta = .191$, $p = .034$).

Students' motivational orientation in primary school was also identified as a significant marker of loneliness and social dissatisfaction longitudinally. Those who were highly motivated by desire to form attachment and membership with peers in primary school were less likely to be lonely in secondary school. A -.153 standard deviation reduction in loneliness and social dissatisfaction could be

predicted with a rise in person's affiliation motivation from the mid-range affiliation motivation cluster to the high quartile grouping (T1 high-quartile affiliation motivation, $\beta = -.153$, $p = .045$). Thus being highly driven by the desire to belong to a peer group was identified as a strong asset that protected the individual from being lonely a year later on. These findings should be viewed cautiously, given the low level of significance.

Family, school/classroom, and peer- group factors: These factors failed to significantly predict loneliness and social dissatisfaction in school longitudinally.

Summary: As displayed in Table 6.5, T1 factors predicted 70.5% the variance in concurrent loneliness and social dissatisfaction in primary school (objective 1). Longitudinally, only two T1 student factors (i.e., high-Q affiliation motivation, and low-Q social acceptance competence) continued to hold predictive validity and were able to account for 30% of the variance in T2 loneliness and social dissatisfaction in school. The loss of predictive power of the T1 factors longitudinally could be attributed to either a change in the identified T1 factors across transition, or the contribution of other factors unique to T2 that predict concurrent belongingness in secondary school (i.e., at T2). The latter possibility has been examined in objective 4.

6.6.3 Objective 3: To determine whether the factors found to be significantly associated with loneliness and social dissatisfaction at T1 (objective 1) retain their association when evaluated in secondary school (at T2), using T2 equivalent personal and contextual factors and outcome. This model is referred to as the T1 replica model.

In secondary school, the T1 replica model explained 52.6% of the variance in loneliness and social dissatisfaction in the same cohort of students in secondary school, $F(30, 200) = 7.39$, $p = .000$. The factors that contributed to the final model are listed below, grouped in terms of the context to which they belong. Refer to Table 6.5 for specific standardized beta values.

Control variables: In secondary school, no group differences in loneliness and social dissatisfaction due to students' gender, health status or SES-background level were identified.

Personal factors: Three personal factors corresponding to those identified to be associated with student loneliness and social dissatisfaction in primary school also hold true in secondary level.

Perception of low-level social acceptance (T2 Low-Q social acceptance, $\beta = .210$, $p = .000$) when compared to the mid-range grouping, emerged as a significant positive indicator of loneliness and social dissatisfaction in secondary school.

Perception of high competence in one's ability to form close friendships with one's peers merged as a significant protective factor against loneliness and social dissatisfaction in secondary school (T2 High 33-percentile close friendship competence, $\beta = -.133$, $p = .028$).

Students' ability to effectively cope with stress was identified as a protective factor against loneliness and social dissatisfaction in secondary school. When compared to the mid-range cluster, infrequent use of adaptive coping strategies

was a significant positive predictor of concurrent loneliness and social dissatisfaction (T1 Low-quartile cope solve problem, β = .164, p = .005).

Family factors: As identified in the T1 model, family factors failed to predict loneliness and social dissatisfaction in secondary school.

School/classroom factors: Similar to the T1 model, perception of low levels of affiliation in one's secondary level class-rooms was identified as a significant positive marker of concurrent loneliness and social dissatisfaction (T1 low-Q classroom affiliation, β = .216, p = .001).

Whilst at T1, class cohesiveness failed to statistically predict concurrent loneliness, in secondary school it made a significant contribution. Students who belonged to secondary level classes that had an overall low level of student cohesiveness were more likely to be lonely (T1 low-Q student cohesiveness, β = .117, p = .050).

Additionally, those who were highly involved in class activities were less likely to be lonely when compared to their counterparts who reported average level classroom involvement (T1 high-Q classroom involvement, β = -0.124, p = .039). Perception of loneliness and social dissatisfaction in secondary school could be predicted to fall by .124 standard deviation units as students' classroom involvement increased from the mid-range to high-quartile involvement category.

Students who reported to being bullied in secondary school were more likely to be lonely (T1 yes agree bullied, β = .115, p = .046). Caution is warranted while generalising this finding due to the low level of significance.

Since post-transition teacher data was not available, the association between having a home-room teacher who had not received any professional development

on dealing with students with disability/chronic ill health condition and loneliness and social dissatisfaction could not be assessed.

Peer-group factors: None of these factors made a significant contribution to the predictive model.

Summary: The pre-transition replica model could explain 52.6% of the variance in of the same cohort of mainstream students, 6-months after they settled into secondary school, $F(30, 200) = 7.39$, $p = .000$. Whilst at primary school, this model could predict 71% of the variance in loneliness, when post-transition equivalent factors were incorporated into the model, its predictive capacity in the same cohort decreased. This reduction in model adequacy, questions whether there are any additional factors, unique to secondary school, that are capable of predicting concurrent loneliness and social dissatisfaction in the setting. Objectives 4 and 5 were set out to that end.

6.6.4 Objective 4: To determine if there are personal and contextual factors unique to T2 that predict concurrent loneliness and social dissatisfaction in students at T2

The final stepwise regression model explained 54.2% of the variance in student loneliness and social dissatisfaction in secondary school, $F(13, 241) = 21.95$, $p = .000$. Refer to Table 6.5 for specific standardized beta values.

Control variables: In secondary school, no group differences in loneliness and social dissatisfaction due to students' gender, health status or SES-background level were identified.

Personal factors: Similar to the T1 model, perception of low-social acceptance competence (T2 Low-Q social acceptance competence, $\beta = .25$, $p = .000$) and low use of adaptive coping strategies were each identified to be positively associated with concurrent loneliness and social dissatisfaction at T2 (T2 Low-Q cope solve the problem, $\beta = .133$, $p = .005$).

Family factors: No family factors emerged as significant contributors in the stepwise regression procedure.

School/classroom factors: High-level class affiliation (T2 high-quartile class affiliation, $\beta = -.118$, $p = .016$) was identified as a significant negative predictor of concurrent loneliness and social dissatisfaction in school.

Peer-group factors: Unlike the findings in T1 model, receiving high-level social support from one's peers was negatively associated with loneliness and social dissatisfaction at T2 (T2 high–Q SS Friend, $\beta = -.118$, $p = .011$). This suggests that in secondary school the quality of social support from one's peer group seems to play a protective role against loneliness, above the family contribution.

Unique T2 predictors:

Unique Personal factors: Two personal factors emerged as significant predictors of loneliness in secondary school.

Low use of assertion frequency was found to be positively associated with concurrent loneliness and social dissatisfaction at T2 (T2 Low-Q assertion SS, β = .195, p = .005).

Students' motivational orientation was also identified as an important contributor of concurrent loneliness in secondary school. Being highly motivated by the desire to obtain social-power such as being in charge of a group or being its leader was identified as a risk factor (T2 high-Q social-power motivation, β = .135, p = .003).

Unique School factors: Unique to secondary school model, was the significant contribution classroom task-orientation on loneliness and social dissatisfaction in school. A reduction in loneliness and social dissatisfaction could be predicted with every unit increase in classroom task-orientation (T2 class task orientation, β = -.197, p = .000).

Additionally, at T2, students who were indecisive about being a bully were more likely to be lonely and socially dissatisfied when compared to students who were certain that they did not bully others (T2 indecisive about being a bully, β = .109, p = .016).

Summary: In summary, these findings suggest that there are distinctive personal and school/classroom contextual factors that influence loneliness and social dissatisfaction in secondary school. Objective 5 was set out to identify whether these unique factors could predict concurrent loneliness and social dissatisfaction in secondary school better than the T1 replica model (Objective 3).

6.6.5 Objective 5: If unique factors are identified in objective 4, to determine if the unique T2 factors could predict concurrent loneliness and social dissatisfaction in students at T2, better than the T1 replica model (Objective 3).

The final model explained 58.1% of students' loneliness and social dissatisfaction in secondary school, F (34, 196) = 8.00, p = .000. An improvement in the predictive power of the model over the T1 replica model was witnessed (R^2 change = .055), with a corresponding (F change for R^2 change = 6.478, p = .000). The factors that contributed to the final model (Block 6) are listed below, grouped in terms of the context to which they belong (Table 6.5).

Control variables: No group differences in loneliness and social dissatisfaction due to students' gender, health status or SES-background level were identified.

Personal factors: Similar to the findings of the previous models, perception of low-level social acceptance by others (T2 Low-Q social acceptance, β = .187, p = .001) and infrequent use of adaptive coping strategies while dealing with stressors (T2 Low-quartile cope solve the problem, β = .124, p = .028) were each identified to be positively predictive of concurrent loneliness and social dissatisfaction in school at T2.

Unique to the T2 model was the protective role of assertive social skills against loneliness, with low use of assertion frequency found to be positively associated with concurrent loneliness and social dissatisfaction (T2 Low-Q assertion social skill, β = .193, p = .000).

Being highly motivated by the desire to obtain social-power such as being in charge of a group or being the group leader was recognized as a risk factor. An increase in loneliness and social dissatisfaction in secondary school could be predicted as students' drive for social-power motivation increased from the mid-range to high-Q category (T2 high-Q social-power motivation, β = .127, p =

.017). Thus, in secondary school, students who were low on assertion and very highly driven by social-power motivation placed a student at risk of being lonely and socially dissatisfied.

Family factors: Parental factors failed to make a noteworthy contribution to the predictive model at T2.

School/classroom factors: Similar to the T1 model, perception of low-level affiliation within one's classrooms was identified as a significant predictor of concurrent loneliness and social dissatisfaction in school (T2 low-Q classroom affiliation, β = .184, p = .002).

Additionally, students' perception of the level of task-orientation in the year level classrooms was identified as an important protective factor against loneliness (T2 classroom task orientation, β = -.175, p = .019).

Peer-group factors: Unlike the findings at the T1 cross-section, receiving high level social support from one's peers was negatively associated with loneliness and social dissatisfaction (T2 high-Q SS Friend, β = -0.11, p = .045). This suggests that in secondary school the quality of social support from one's peer group seems to play a protective role against loneliness, above the family contribution. This findings should be viewed cautiously, given the low level of significance.

6.6.6 Objective 6: After accounting for adjustment outcomes in primary school (at T1), to determine if the unique T2 factors if identified in objective 4, contribute to the prediction of concurrent loneliness and social dissatisfaction at T2, better than the T1 replica model.

The final regression model accounted for 60% of the variance in loneliness and social dissatisfaction in secondary school, $F(41, 189) = 6.981$, $p = .000$. The factors that contributed to the final model are listed below, grouped in terms of the context to which they belong (Table 6.5).

Control variables: No differences in loneliness and social dissatisfaction in secondary school due to students' gender, health status, and SES-background were identified.

Contribution of Previous adjustment factors: Pre-transition loneliness and social dissatisfaction significantly predicted loneliness and social dissatisfaction in secondary school ($\beta = .15$, $p = .024$). Other components of T1 adjustment failed to predict loneliness in the setting.

When previous adjustment variables were taken into account in the regression analysis, nearly all personal and contextual factors identified to impact on school loneliness and social dissatisfaction in objective 5 held their significance (Table 6.5).

After controlling for primary level adjustment outcomes, the protective effects of receiving high-level support from one's friends in secondary school on loneliness and social dissatisfaction reduced to insignificance.

Summary: The final model was able to predict 60% of the variance in loneliness and social dissatisfaction in secondary school. Nearly all personal and contextual factors identified to impact on school loneliness and social dissatisfaction in objective 5 held their significance, with the exception of peer group factors.

Concluding summary* of *loneliness and social dissatisfaction in school models:

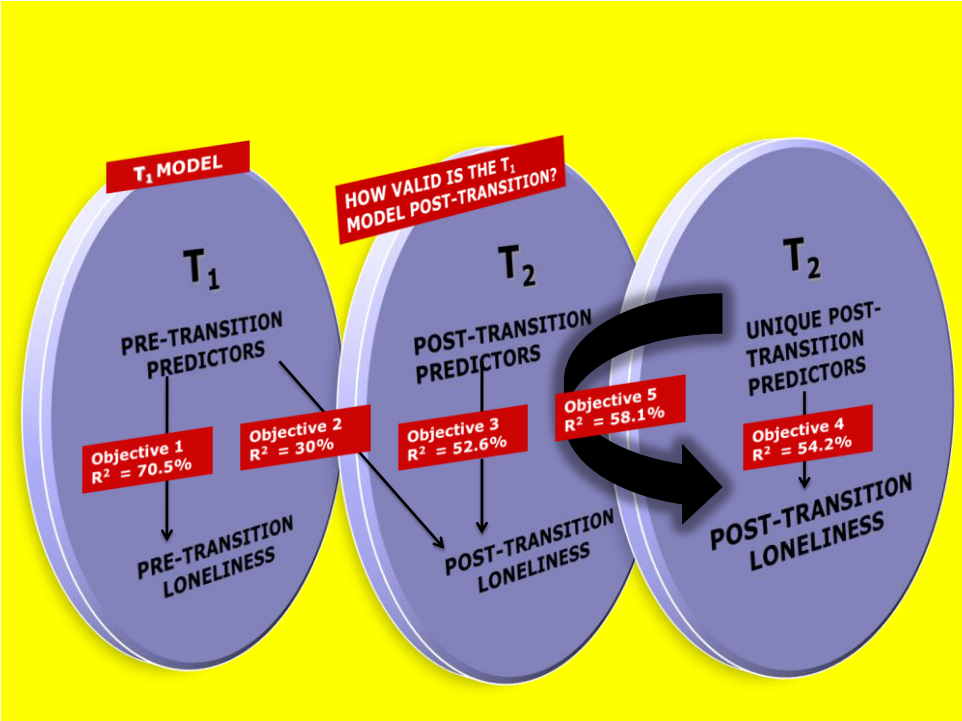


Figure 6.9 *Predictors of loneliness and social dissatisfaction in school*: *Objectives 1-5*

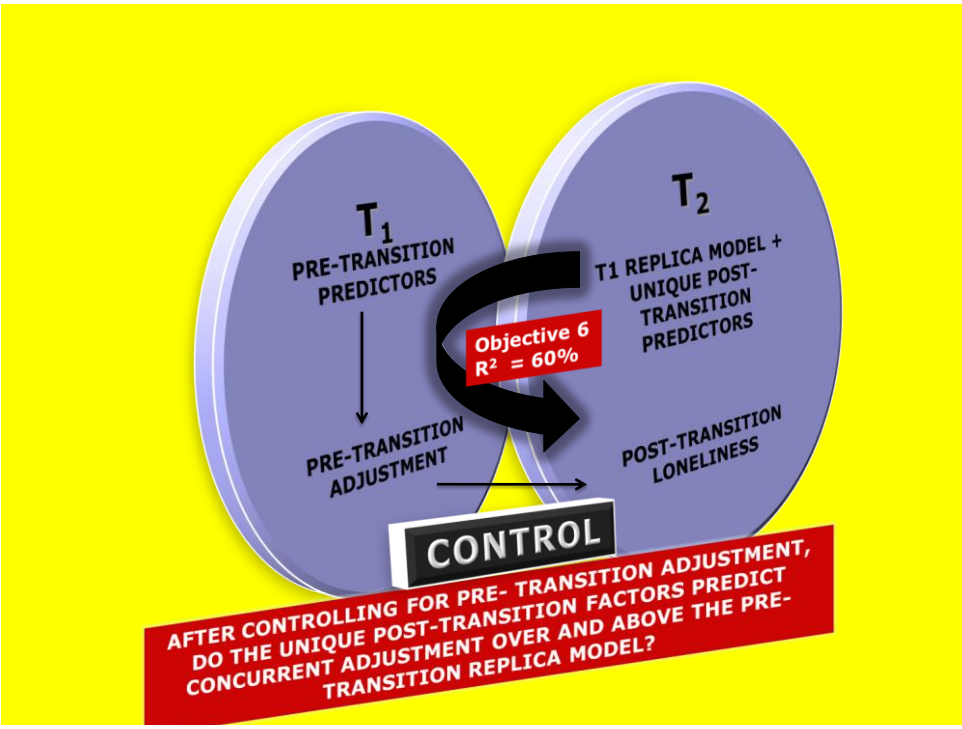


Figure 6.10 *Predictors of loneliness and social dissatisfaction in school: Objective 6*

Hierarchical linear regression analysis found that the final T1 model accounted for 71% of the variance in concurrent perception of loneliness and social dissatisfaction at T1, $F(31, 274) = 21.08$, $p = .000$. Across time, pre-transition factors (objective 2) could explain 30% of the variance in perception of loneliness and social dissatisfaction in the same cohort, approximately 6-months after they had settled into secondary school, $F(31, 164) = 2.51$, $p = .000$. Replication of the pre-transition model in secondary school with corresponding T2 factors (objective 3) permitted 52.6% of the variance in secondary school loneliness and social dissatisfaction to be accounted for, $F(30, 200) = 7.39$, $p = .000$. Further scrutiny using stepwise linear regression identified 2-personal and 2-school/classroom contextual factors, unique to secondary school that could predict concurrent loneliness and social dissatisfaction (objective 4). When these unique T2 factors were regressed on top of the T1 replica model (objective 3), 58.1% of the variance in students' loneliness and social dissatisfaction in secondary school could be accounted for (objective 5), $F (34, 196) = 8.00$, $p = .000$. The improvement of the model (objective 5) over the T1 replica model (objective 3) was significant $\Delta R^2 = .055$ and its corresponding change in F (ΔF) = 6.478 at $p = .000$ values of significance. Thus, at T2, unique factors contributed to the prediction of concurrent loneliness and social dissatisfaction on top of the T1 replica model.

As shown in Table 6.5 and Figure 6.10, after prior adjustment in primary school was accounted for in subsequent analyses, 60% of the variance in loneliness and social dissatisfaction in secondary school was explained. With the exception of one peer-group factor, all personal and contextual factors identified to predict loneliness and social dissatisfaction in objective 5 held their significance.

6.7 PREDICTORS OF PARTICIPATION IN SCHOOL EXTRA-CURRICULAR ACTIVITIES

Three components of participation have been discussed in the following section. The predictors of participation in school related social-leisure, civic, and creative activities have been presented in that order.

6.7.1 Participation in school social-leisure activities

6.7.1.1 Objective 1: To determine the T1 personal and contextual factors that predict concurrent participation in social-leisure activities in primary school (at T1).

Findings of the five-block hierarchical model were as follows.

Block 1: When students' gender, health status and SES-background were added in Block1, only 1.8 % of the variance in social-leisure participation at T1 was accounted for, $F(4, 182) = .849$, $p = .49$.

Block 2: The addition of personal factors into the model improved the models predictive power dramatically (R^2 change = .085), enabling it to explain 10.4% of the variance in T1 social-leisure activity participation. The increment in the predictive power of the model was significant (F change for R^2 change = 5.681, $p = .001$).

Block 3: With the addition of family factors in Block 3, the predictive power of the model increased further (R^2 change = .029). The model was capable of explaining 13.3% of the variance in T1 social-leisure activity participation. The increment in the predictive power of the model was significant (F change for R^2 change = 6.037, $p = .015$).

Block 4: School/classroom factors when added in Block 4 enabled the model to account for 22.2% of the variance in T1 social-leisure activity participation. An

improvement in the predictive power of the model was witnessed (R^2 change = .089), with a corresponding (F change for R^2 change = 6.669, p = .000).

Block 5: Finally, with the addition of peer-group factors in Block 5, the model retained its ability to explain 22.2% of the variance in T1 social-leisure activity participation. There was no improvement in the predictive power of the model was witnessed (R^2 change = .000). This suggests that peer group factors could not significantly explain additional variance in T1 social-leisure than that accounted for by Block 4 factors.

The final hierarchical model accounted for 22.2% the variance in the outcome, $F(12, 174) = 4.138$, p = .000. Factors that contributed to the final model are listed below, grouped in terms of the context to which they belong.

Table 6.6 *Predictors of social-leisure activity participation in school*

Outcome*Social-leisure activity participation (Reverse)	**Predictors**	**Obj 1: T1 model R^2 = 22.2%**	**Obj 2: Longitudinal T1 model R^2 = 15.5%**	**Obj 3 T1 replica model using T2 equivalent factors R^2 = 12.4%**	**Obj 4: Unique T2 model R^2 = 21.1%**	**Obj 5: Unique T2 after control of Obj 3 R^2 = 21.8%**	**Obj 6: Unique T2 after control of Obj 3 and previous adjustment R^2 = 56%**
Block1: Control factors	Boy Vs. girl	NS	NS	NS	NS	NS	NS
	Typical Vs. presence of disability/CI	NS	NS	NS	NS	NS	NS
	Mid-SES Vs. Low SES-level	NS	NS	NS	NS	NS	NS
	Mid-SES Vs. High SES-level	NS	NS	NS	NS	NS	NS

*Table is positively coded for ease of interpretation Standardized Beta values and corresponding levels of significance are presented

NS = Non-significant

Table 6.6 *continued*

Outcome*Social-leisure activity participation (Reverse)	**Predictors**	**Obj 1: T1 model R^2 = 22.2%**	**Obj 2: Longitudinal T1 model R^2 = 15.5%**	**Obj 3 T1 replica model using T2 equivalent factors R^2 = 12.4%**	**Obj 4: Unique T2 model R^2 = 21.1%**	**Obj 5: Unique T2 after control of Obj 3 R^2 = 21.8%**	**Obj 6: Unique T2 after control of Obj 3 and previous adjustment R^2 = 56%**
Control of previous adjustment only for objective 6	T1 Reverse social-leisure participation^	NA	NA	NA	NA	NA	.594 (.000)
	T1 Reverse belong in school	NA	NA	NA	NA	NA	NS
	T1 Reverse academic competence	NA	NA	NA	NA	NA	NS
	T1 log10 Emotional and behavioural problems	NA	NA	NA	NA	NA	NS
	T1 Reverse self-worth	NA	NA	NA	NA	NA	NS
	T1 log10 creative activity participation	NA	NA	NA	NA	NA	NS
	T1log10 civic activity participation	NA	NA	NA	NA	NA	NS

*Table is positively coded for ease of interpretation Standardized Beta values and corresponding levels of significance are presented

^ Factor has been positively coded for ease of interpretation

NS = Non-significant; NA= Not-applicable. Used to refer to factors that did not meet criteria for inclusion into the model

Table 6.6 *continued*

Outcome* Social-leisure activity participation (Reverse)	**Predictors**	**Obj 1: T1 model R^2 = 22.2%**	**Obj 2: Longitudinal T1 model R^2 = 15.5%**	**Obj 3 T1 replica model using T2 equivalent factors R^2 = 12.4%**	**Obj 4: Unique T2 model R^2 = 21.1%**	**Obj 5: Unique T2 after control of Obj 3 R^2 = 21.8%**	**Obj 6: Unique T2 after control of Obj 3 and previous adjustment R^2 = 56%**
Block 2: Personal factors	Physical appearance competence	NS	NS	NS	NS	NS	NS
	Athletic competence	NS	NS	.189 (.014)	.158 (.010)	.176 (.021)	.110 (.006)
	Empathy social skills	NS	.201 (.034)	NS	NA	NS	NS
Block 3: Family factors	Female parent Full time Vs. part-time employed	.134 (0.050)	NS	NS	NA	NS	NS

*Table is positively coded for ease of interpretation Standardized Beta values and corresponding levels of significance are presented

NS = Non-significant; NA = Not-applicable. Used to refer to factors that did not meet criteria for inclusion into the model

Table 6.6 *continued*

Outcome* Social-leisure activity participation (Reverse)	**Predictors**	**Obj 1: T1 model R2 = 22.2%**	**Obj 2: Longitudinal T1 model R2 = 15.5%**	**Obj 3 T1 replica model using T2 equivalent factors R2 = 12.4%**	**Obj 4: Unique T2 model R2 = 21.1%**	**Obj 5: Unique T2 after control of Obj 3 R2 = 21.8%**	**Obj 6: Unique T2 after control of Obj 3 and previous adjustment R2 = 56%**
	Social support from teachers	.189(.008)	NS	.191 (.019)	NA	NS	NS
	2.51-11 years experience in the same school Vs. 2.5 years and less exp. in	.213(.004)	.232(0.008)	NS	NA	NA	NA
Block 4: School/classroom factors	teaching in the same school						
	11-30 years experience in teaching in general Vs. 31 years and more experience in teaching	.205 (.004)	.181 (.036)	NS	NA	NA	NA

*Table is positively coded for ease of interpretation Standardized Beta values and corresponding levels of significance are presented

NS = Non-significant; NA = Not-applicable. Used to refer to factors that did not meet criteria for inclusion into the model

Table 6.6 *continued*

Outcome* Social-leisure activity participation (Reverse)	**Predictors**	**Obj 1: T1 model R^2 = 22.2%**	**Obj 2: Longitudinal T1 model R^2 = 15.5%**	**Obj 3 T1 replica model using T2 equivalent factors R^2 = 12.4%**	**Obj 4: Unique T2 model R^2 = 21.1%**	**Obj 5: Unique T2 after control of Obj 3 R^2 = 21.8%**	**Obj 6: Unique T2 after control of Obj 3 and previous adjustment R^2 = 56%**
Block 5: Peer-group factor	Social support from friends	NS	NS	NS	NA	NS	NS
Block 6: Unique T2 factors	Importance laid on empathy as a social skill	NA	NA	NA	.150 (.015)	NS	NS
	TAFE/University Vs. Up to year 12 completion expectation by student	NA	NA	NA	-.143 (.001)	-.144 (.039)	NS
	Original Vs. Blended family	NA	NA	NA	-.125 (.028)	-.124(.070)	NS
	Year level classroom satisfaction	NA	NA	NA	.135 (.003)	NS	NS
	Mid 25-75percentile Vs. Low-Q task-orientation in classes	NA	NA	NA	-.194 (.001)	-.183 (.012)	-.158 (.005)

*****Table is positively coded for ease of interpretation Standardized Beta values and corresponding levels of significance are presented

NS = Non-significant; NA = Not-applicable. Used to refer to factors that did not meet criteria for inclusion into the model

Control variables: At T1, no differences in social-leisure activity participation as a function of students' gender, health status or SES-background were identified.

Personal factors: Although the empathy level of the student and perception of athletic and physical appearance competence met criteria for inclusion into the model, they failed to predict social-leisure activity participation in primary school.

Family factors: Having a female parent who was working part-time as opposed to being in full-time employment was identified as a protective factor (T1 part-time female parent, $\beta = .134$, $p = .050$). Frequency of participation in social activities could be predicted to increase by .134 standard deviation units as one's parental employment status changed from the full-time to part-time category. Caution is warranted while generalising this finding due to the level of significance.

School/classroom factors: The amount of social support received from one's class-teacher was identified as a significant protective factor (T1 SS teacher, $\beta = .189$, $p = .008$).

The level of experience in teaching that student's primary level class-teachers' brought to the setting was found to positively influence concurrent participation in social-leisure pursuits (T1 more than 31 years Teacher experience in general, $\beta = .205$, $p = .004$).

Being taught by a teacher who had less than 2.5 years teaching experience in the same school was also an asset where social-leisure activity participation was concerned (T1 less than 2.5 years experience in same school, $\beta = .213$, $p = .004$).

Peer-group variables: Peer-group factors failed to predict social-leisure activity participation at T1.

6.7.1.2 Objective 2: To determine the T1 personal and contextual factors that predict participation in social-leisure activities longitudinally in secondary school (at T2).

Longitudinally, T1 factors accounted for 15.5% of the variance in social-leisure activity participation in secondary school $F(12, 141) = 2.15$, $p = .017$). Listed below are the factors that contributed to the final model, grouped in terms of the context to which they belong. Refer to Table 6.6 for specific standardized beta values.

Control variables: None of the control variables significantly influenced social-leisure activity participation longitudinally.

Personal factors: Students who displayed more thoughtfulness, understanding and empathy in social engagements at T1, were more likely to participate in social-leisure related activities at T2 (T1 empathy SS, $\beta = .201$, $p = .034$).

Family factors could not predict social-leisure activity participation over time.

School/classroom factors: The experience of students' primary school teacher influenced students' social-leisure participatory outcomes longitudinally. Being taught by both an extremely experienced teacher (T1 more than 31 years Teaching experience, $\beta = .181$, $p = .036$), and also one who has newly joined the school with less than 2.5 years experience (T1 less than 2.5 years experience in same school, $\beta = .232$, $p = .008$) were positive determinants of social-leisure activity participation longitudinally.

Summary: As displayed in Table 6.6, T1 factors predicted 22.2% of the variance in concurrent social-leisure activity participation in primary school (objective 1). Longitudinally, T1 factors could explain 15.5% of the variance in social-leisure activity participation in secondary school. The loss of predictive power of these factors over-time could be attributed to either a change in the identified factors

across transition (as tested in the univariate change score section of Chapter 5 and also addressed in the discussion), or the contribution of other factors unique to T2 that predict concurrent adjustment in secondary school (at T2). The latter possibility has been examined in objective 4.

6.7.1.3 Objective 3: To determine if the factors found to be significantly associated with social-leisure activity participation at T1 (objective 1) retain their association when evaluated in secondary school (at T2), using T2 equivalent personal and contextual factors and outcome. This model is referred to as the T1 replica model.

The final model accounted for 12.4% of the variance in social-leisure activity participation in secondary school, $F(10, 186) = 2.63$, $p = .000$. Listed below in their respective categories are the factors that contributed to the model (Table 6.6).

Control variables: Similar to the findings at T1, no difference in social-leisure activity participation as a function of student's gender, health status, or SES-level of their family were identified.

Personal factors: Students who perceived themselves to be highly competent in athletics in secondary school, were more likely to participate in social-leisure activities in school (T2 athletic competence, $\beta = .189$, $p = .014$).

Family factors: Family factors failed to predict social-leisure activity participation in secondary school.

School/classroom factors: The amount of social support received from one's year level teachers in secondary school was identified as an important asset (T2 SS teacher, $\beta = .191$, $p = .019$).

At T2, demographic information from teachers was not retrieved, hence no comments on the influence of teacher characteristics on student participation in secondary school can be made.

Peer-group variables failed to contribute significantly to the model.

Summary: Whilst at primary school, this model could predict 22.2% of the variance in social-leisure participation, when post-transition equivalent factors were used, the ability of the model to predict participation in the same cohort of students decreased to 12.4%. The observed reduction in model adequacy, calls into question whether there are any additional factors, which come into play in secondary school that predict the outcome at that point in time. Objectives 4 and 5 were set out to address this possibility..

6.7.1.4 Objective 4: To determine if there are personal and contextual factors unique to T2 that predict concurrent participation in social-leisure activities in secondary school (at T2).

A final stepwise linear regression model accounted for 21.1% of the variance in social-leisure activity participation at T2, $F(10, 253) = 6.77$, $p = .000$. Listed are the significant contributors to the model grouped in terms of the context to which they belong. Refer to Table 6.6 for specific standardized beta values.

Control variable: The model of social-leisure activity participation could be generalised to all mainstream students, irrespective of students' gender, health status, or SES-level of their household.

Personal factors: Similar to the T1 model, those who reported high athletic competence in secondary school were more likely participate in social-leisure activities in the setting (T2 athletic competence, $\beta = .158$, $p = .010$).

Family factors: Family factors identified to impact on student social-leisure activity participation in primary school failed to hold their own in secondary school.

School/classroom factors: None of the school factors identified to impact on social-leisure activity participation at T1 held their own at T2.

Unique T2 factors:

Unique Personal factors: Two additional personal factors emerged as important contributors of social-leisure activity participation at T2. Students who valued empathy as a social skill were more likely to take part in social-leisure activities in secondary school (T2 importance of empathy SS, $\beta = .150$, $p = .015$).

Conversely, a reduction in concurrent social-leisure activity participation in secondary school could be predicted as students' expectations of academic

success reduced from university/trade level achievement to 'until year level 12' expectation (T2 aspiration until year level 12, β = -.143, p = .015).

Unique T2 Family factors: Unique to T2 model, was the negative impact of belonging to a blended family. A 0.125 standard deviation unit reduction in participation in social-leisure activities was predicted if students were reported to belong to a blended family as opposed to an original-family with 2-biological parents (T2 blended family, β = -.125, p = .028).

Unique T2 School/classroom factors: In secondary school, those who were satisfied with their secondary level classes were more likely to take part in social-leisure pursuits at school (T2 class satisfaction, β = .135, p = .003).

Additionally, students who belonged to secondary level classes that were disorganised were less likely to participate in social-leisure pursuits. Attributes such as not being well aware of the goals of the class year, not being ready to start classes on time, being unclear about the demands of class assignments were found to be predictive of low social-leisure participation in school (T2 low-Q task organisation, β = -.194, p = .001).

In summary: Stepwise linear regression identified two unique personal factors (i.e. importance laid on the use of empathy in social engagements, and academic aspirations), one unique family factor (i.e. belonging to a blended family), and two unique classroom factors (i.e. satisfaction with one's secondary level classes, and belonging to low-level organised classrooms) that were associated with concurrent social-leisure participation in secondary school

These findings suggest that there are distinctive personal factors, unique to T2 that influence social-leisure activity participation in the setting. Accordingly, objective 5 was set out to identify whether these unique factors could predict concurrent participation at T2 better than the T1 replica model (Objective 3).

6.7.1.5 Objective 5: If unique factors were identified in objective 4, to determine whether the unique factors could predict concurrent social-leisure activity participation at T2 better than the T1 replica model (Objective 3).

The final hierarchical model accounted for 21.8% of the variance in social-leisure-related activity participation in secondary school, $F(15, 181) = 3.36$, $p = .000$. The factors that contributed to the final model are listed below, grouped in terms of the context to which they belong. Refer to Table 6.6 for specific standardized beta values.

Control variables: Similar to the findings in objective 4, the model of social-leisure activity participation in secondary school could be generalised to all mainstream students.

Personal factors: As identified in the preceding objective (objective4) perceiving oneself to be highly competent in athletics was a significant asset (T2 athletic competence, $\beta = .176$, $p = .021$).

Family factors: At T2, family factors failed to predict social-leisure activity participation.

School/class-room factors: The receipt of social support from one's year level teachers in secondary school was identified as an important contributor of concurrent social-leisure activity participation in objective 3. In this model, it failed to make a significant contribution, when unique T2 factors were included into the regression.

Peer-group factors: could not explain any additional variance in social-leisure activity participation in secondary school, than that accounted for by the preceding personal, family and school/classroom variables.

Unique post-transition factors: Listed are the unique post-transition factors (objective 4) that made a significant contribution.

Academic aspirations that students' held in the first year of secondary school were significantly predictive of concurrent social-leisure activity participation (T2 aspiration unto grade 12, β = -.144, p = .039). A .144 standard deviation unit reduction in participation in social-leisure activities was predicted as students' expectations of academic success reduced from university/trade level achievement to 'until grade 12' expectation.

Those who belonged to secondary level classrooms that had low-level task-orientations were less likely to take part in social-leisure pursuits (T2 low-quartile task organisation, β = -.183, p = .012).

Summary: This objective built on objective 3, to identify whether the unique T2 factors could explain a greater amount of the variance in the outcome, than accounted for by the T1 replica model. The newer model could explain a greater amount of the variance in social-leisure activity participation. An improvement in the predictive power of the model over the T1 replica model (objective 3) was witnessed (R^2 change = .094), with a corresponding (F change for R^2 change = 4.357, p = .001).

6.7.1.6 Objective 6: After controlling for primary school (T1) adjustment outcomes school, to determine if the unique T2 factors if identified in objective 4, contribute to the prediction of concurrent participation in social-leisure activities at T2, better than the T1 replica model.

The final model accounted for 56% of the variance in social-leisure activity participation in secondary school, $F(22, 174) = 10.241$, $p = .000$). The factors that contributed to the final model are listed below, grouped in terms of the context to which they belong. Refer to Table 6.6 for specific standardized beta values.

Control variables: After accounting for adjustment outcomes in primary school, no differences in social-leisure activity participation in secondary school due to students' gender, health status, or SES-background were identified.

Contribution of Previous adjustment factors: Social-leisure activity participation in primary school was positively associated with post-transition social-leisure activity participation ($\beta = .594$, $p = .000$). Other components of T1 adjustment failed to predict the outcome.

After accounting for primary school adjustment outcomes, students' perception of athletic competence and the level of task-orientation in their secondary level classrooms influenced social-leisure activity participation in secondary school. Kindly refer to Table 6.6 for specifics.

Contribution of Unique T2 factors: After accounting for primary school adjustment outcomes, unique T2 personal and contextual factors such as: value placed on empathy as a social skill; expectations of scholastic success, belonging to a blended family; and being satisfied with one's secondary year level classes failed to predict concurrent social-leisure activity participation in secondary school.

Summary: After accounting for primary school adjustment, objective 6 was set out to determine whether the unique T2 factors could explain a greater amount of variance in the outcome, than that accounted for in objective 3.The final model predicted 56% of the variance in social-leisure activity participation in secondary school.

Concluding summary of social-leisure activity participation models:

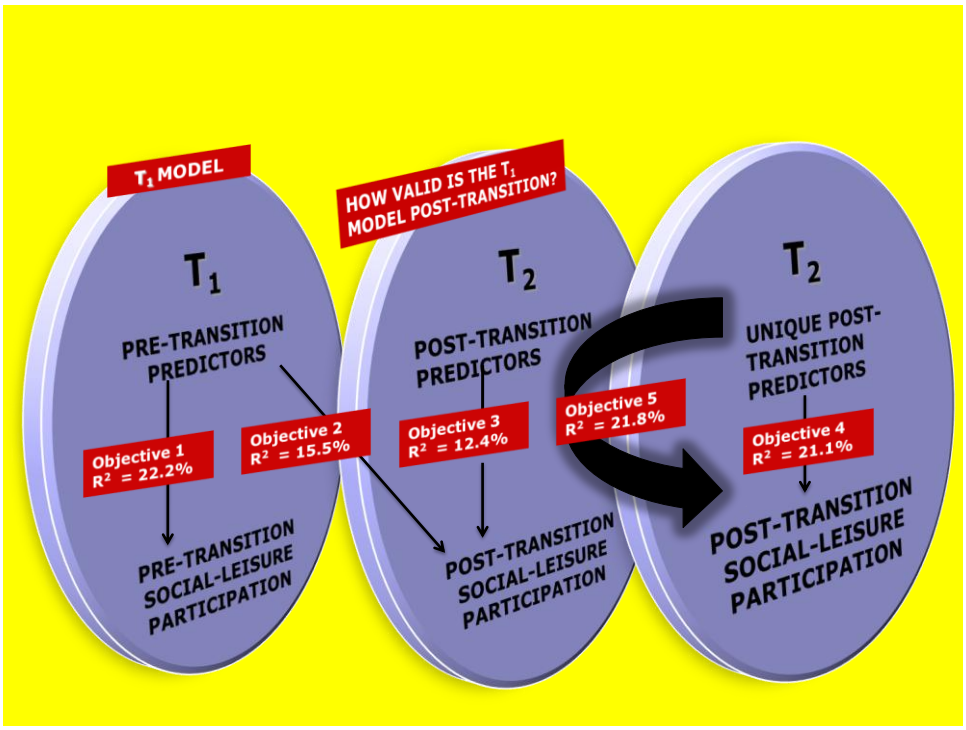


Figure 6.11 *Prediction of social-leisure activity participation: Objecives1-5*

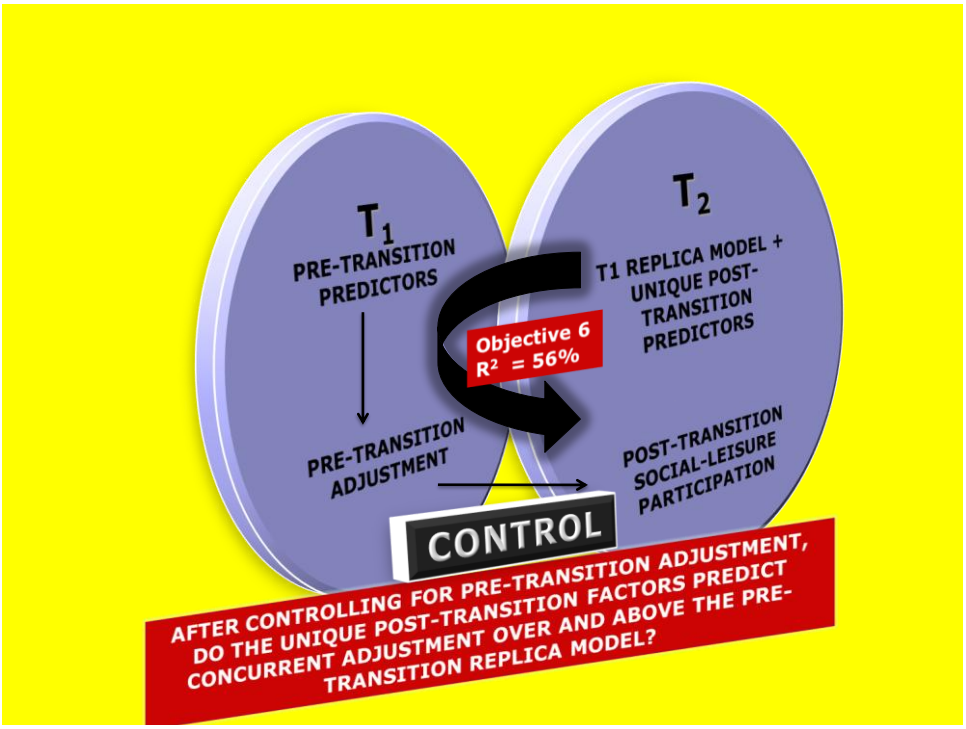


Figure 6.12 *Prediction of social-leisure activity participation: Objective 6*

Multivariate regression analysis that adjusted for group differences due to gender, health status and social disadvantage, revealed that at T1, the model of personal, family, school/classroom, and peer-group factors (objective 1) accounted for 22.2% of the variation in concurrent social-leisure activity participation in school. Longitudinally, the T1 model (objective 2) could explain 15.5% of the variation in social-leisure activity participation in secondary school. Replication of the T1 model in secondary school by using comparable T2 factors permitted 12.4% of the variance in social-leisure activity participation at T2 to be accounted for (objective 3). Further scrutiny, using stepwise linear regression identified five factors unique to secondary school that could predict concurrent social-leisure activity participation at T2 (objective 4). When these unique T2 factors were regressed on top of the T1 replica model (objective 3), 21.8% of the variance in students' social-leisure activity participation at T2 was accounted for (objective 5). The improvement of the model (objective 5) over the T1 replica model (objective 3) was significant $\Delta R^2 = .094$ and its corresponding change in $F (\Delta F) = 4.357$ at $p = .001$ values of significance. Thus, at T2, distinctive factors were found to contribute to the prediction of concurrent social-leisure activity participation on top of the T1 replica model.

When previous adjustment outcomes were controlled for in objective 6, fifty-six percent of the variance in social-leisure activity participation at T2 was accounted for. In addition to prior social-leisure activity participation, students' athletic competence and their perception of the level of task-orientation in their secondary level classes influenced social-leisure activity participation at T2. Other factors unique to T2 failed significant predict the outcome. This suggests that previous level of social-leisure activity participation overpowers the predictive significance of concurrent factors on social-leisure activity participation in secondary school.

6.7.2 Participation in school civic-related activities

6.7.2.1 Objective 1: To determine the T1 personal and contextual factors that predict concurrent participation in civic related activities in primary school (at T1).

Findings of the five-block hierarchical model were as follows.

Block 1: When gender, health status and SES-level of the household were added in Block1, only 3.8 % of the variance in civic related activity participation at T1 was accounted for, $F(4, 196) = .849$, $p = .110$.

Block 2: The addition of personal factors into the model improved the models predictive power dramatically (R^2 change = .059), enabling it to explain 9.7% of the variance in T1 civic related activity participation. The increment in the predictive power of the model was significant (F change for R^2 change = 6.369, $p = .002$).

Block 3: With the addition of family factors in Block 3, the predictive power of the model increased further (R^2 change = .023). The model was capable of explaining 12% of the variance in T1 civic related activity participation. The increment in the predictive power of the model was significant (F change for R^2 change = 5.066, $p = .026$).

Block 4: School/classroom factors when added in Block 4 enabled 22.3% of the variance in T1 civic related activity participation to be accounted. An improvement in the predictive power of the model was witnessed (R^2 change = .103), with a corresponding (F change for R^2 change = 6.250, $p = .000$).

Block 5: Finally, with the addition of peer-group factors in Block 5, the predictive power of the model retained its ability to explain 22.4% of the variance T1 civic related activity participation. There was no improvement in the predictive power of the model was witnessed (R^2 change = .0001), with a

corresponding (F change for R^2 change = 0.274, p = .601). This suggests that peer group factors could not explain additional variance in T1 civic related activities than that accounted for by Block 4.

The final model explained 22.4% the variance in civic related activity participation in primary school, $F(12, 188) = 4.52$, p = .000. The factors that contributed to the final model are listed below, grouped in terms of the context they to which they belong. Refer to Table 6.7 for specific standardized beta values.

Table 6.7 *Predictors of civic-related activity participation in school*

Outcome: Log Civic-related activity participation in school	**Predictors**	**Obj 1: T1 model R^2 = 22.4%**	**Obj 2: Longitudinal T1 model R^2 = 27.1%**	**Obj 3 T1 replica model using T2 equivalent factors R^2 = 19.5%**	**Obj 4: Unique T2 model R^2 = 21.1%**	**Obj 5: Unique T2 after control of Obj 3 R^2 = 23.3%**	**Obj 6: Unique T2 after control of Obj 3 and previous adjustment R^2 = 42%**
Block1: Control factors	Boy Vs. girl	NS	.201 (.004)	.196 (.005)	.162 (.012)	.205 (.003)	NS
	Typical Vs. presence of disability/CI	NS	NS	NS	NS	NS	.111 (.050)
	Mid-SES Vs. Low SES-level	NS	NS	NS	-.117 (.044)	-.125 (.035)	NS
	Mid-SES Vs. High SES-level	NS	.145 (.028)	NS	NS	NS	NS

Standardized Beta values and corresponding levels of significance are presented NS = Non-significant

Table 6.7 *continued*

Outcome: Log Civic-related activity participation in school	**Predictors**	**Obj 1: T1 model R^2 = 22.4%**	**Obj 2: Longitudinal T1 model R^2 = 27.1%**	**Obj 3 T1 replica model using T2 equivalent factors R^2 = 19.5%**	**Obj 4: Unique T2 model R^2 = 21.1%**	**Obj 5: Unique T2 after control of Obj 3 R^2 = 23.3%**	**Obj 6: Unique T2 after control of Obj 3 and previous adjustment R^2 = 42%**
	T1log10 civic activity participation	NA	NA	NA	NA	NA	.447 (.000)
	T1 Reverse belong in school	NA	NA	NA	NA	NA	.143 (.037)
Control of previous adjustment only for objective 6	T1 Reverse academic competence	NA	NA	NA	NA	NA	NS
	T1 log10 Emotional and behavioural problems	NA	NA	NA	NA	NA	NS
	T1 Reverse self-worth	NA	NA	NA	NA	NA	NS
	T1 Reverse social-leisure participation	NA	NA	NA	NA	NA	NS
	T1 log10 creative activity participation	NA	NA	NA	NA	NA	NS

Standardized Beta values and corresponding levels of significance are presented

NS = Non-significant; NA = Not-applicable. Used to refer to factors that did not meet criteria for inclusion into the model

Table 6.7 *continued*

Outcome: Civic-related activity participation in school	**Predictors**	**Obj 1: T1 model R^2 = 22.4%**	**Obj 2: Longitudinal T1 model R^2 = 27.1%**	**Obj 3 T1 replica model using T2 equivalent factors R^2 = 19.5%**	**Obj 4: Unique T2 model R^2 = 21.1%**	**Obj 5: Unique T2 after control of Obj 3 R^2 = 23.3%**	**Obj 6: Unique T2 after control of Obj 3 and previous adjustment R^2 = 42%**
Block 2: Personal factors	Empathy social skills	NS	.220 (.004)	.212 (.004)	.165 (.014)	.201 (.006)	.151 (.021)
	Social-power motivational orientation	.146 (.029)	.171 (.010)	NS		NS	NS
Block 3: Family factors	Male parent employed Vs. unemployed	.130 (.050)	NS	.154 (.008)	.166 (.004)	.166 (.004)	.116 (.024)
Block 4: School/classroom factors	Social support from class teacher	-.183 (.019)	NS	NS	NA	NS	NS
	11-30 years experience in teaching in general Vs. 31 years and more experience in teaching	.166 (.012)	NS	NS	NA	NS	NS
	Not suspended Vs. yes suspended in primary	-.139 (.037)	-.158 (.016)	NS	NA	NS	NS
	Class involvement	NS	.172 (.030)	NS	NA	NS	NS

Standardized Beta values and corresponding levels of significance are presented

NS = Non-significant; NA = Not-applicable. Used to refer to factors that did not meet criteria for inclusion into the model

Table 6.7 *continued*

Outcome: Civic-related activity participation in school	**Predictors**	**Obj 1: T1 model R^2 = 22.4%**	**Obj 2: Longitudinal T1 model R^2 = 27.1%**	**Obj 3 T1 replica model using T2 equivalent factors R^2 = 19.5%**	**Obj 4: Unique T2 model R^2 = 21.1%**	**Obj 5: Unique T2 after control of Obj 3 R^2 = 23.3%**	**Obj 6: Unique T2 after control of Obj 3 and previous adjustment R^2 = 42%**
Block 5: Peer-group factor	Social support from friends	NS	NS	NS	NA	NS	NS
Block 6: Unique T2 factors	Original Vs. Blended family	NA	NA	NA	-.134 (.019)	-.153 (.008)	-.098 (.041)
	Year level classroom satisfaction	NA	NA	NA	.167 (.005)	.158 (.030)	NS

Standardized Beta values and corresponding levels of significance are presented

NS = Non-significant; NA= Not-applicable. Used to refer to factors that did not meet criteria for inclusion into the model

Control variables: No group differences in civic activity participation in primary school due to students' gender, health status, or SES-background were identified.

Personal factors: Being highly motivated by the desire to obtain social-power, was positively associated with concurrent civic activity participation (T1 social-power motivation, $\beta = .146$, $p = .029$).

Family factors: Belonging to a household in which the male parent was unemployed, and at home, was associated with borderline increase in civic activity participation in primary school (T1 male parent unemployed, $\beta = .130$, $p = .050$).

School/classroom factors: Presenting with a history of being suspended in primary school emerged a significantly risk factor (T1 yes suspended, $\beta = -.139$, $p = .037$). A .139 standard deviation unit reduction in civic participation was predicted as the student moved from the 'not suspended' to the 'yes suspended in primary school' category.

The amount of social support received from one's class-teacher in primary school was positively associated with the frequency of participation in civic activities at school (T1 teacher support, $\beta = .183$, $p = .019$).

Being taught by a class-teacher who had a wealth of experience in teaching was found to be positively associated with concurrent participation in civic activities (T1 teacher 31 years experience in teaching, $\beta = .166$, $p = .012$).

Peer-group factors: Peer group factors failed to predict civic activity participation in primary school.

6.7.2.2 Objective 2: To determine the T1 personal and contextual factors that predict participation in civic related activities longitudinally in secondary school (at T2).

In the longitudinal model, pre-transition factors accounted for 27.1% of the variance in civic related activity participation of the same cohort of mainstream students in secondary school, $F(12, 184) = 5.71$, $p = .000$. The factors that contributed to the final model are listed below, grouped in terms of the context to which they belong (Table 6.7).

Control variables: Longitudinally, girls were more likely than boys to take part in civic activities post-transition (T1 girl, $\beta = .220$, $p = .004$).

No group differences in civic activity participation due to students' health status were observed.

Belonging to the high-SES household was found to be a significant asset longitudinally (T1 high-quartile family, $\beta = .145$, $p = .028$), with those from high-level households .145 standard deviation units more likely to take part in civic related activities in secondary school when compared to their counterparts from mid-SES households.

Personal factors: Primary students who were highly motivated by the desire to obtain social-power (T1 social power motivation, $\beta = .171$, $p = .010$) and who displayed empathy in social engagements (T1 empathy SS, $\beta = .220$, $p = .004$) were significantly more likely to be involved in civic-related activities in the secondary school.

Family variables: Family variables did not contribute to the predictive model longitudinally.

School /classroom factors: Students who reported a history of being suspended in primary school were less likely to be involved in civic-related activities post-transition (T1 yes suspended, β = -.158, p = .016).

Involvement in classroom activities in primary school increased the likelihood of involvement in civic related activities longitudinally (T1 class involvement, β = .172, p = .030).

Peer group factors: Peer group factors failed to influence civic activity participation longitudinally.

6.7.2.3 Objective 3: To determine if the factors found to be significantly associated with civic related activity participation at T1 (objective 1) retain their association when evaluated in secondary school (at T2), using T2 equivalent personal and contextual factors and outcome. This model is referred to as the T1 replica model.

The final hierarchical model accounted for 19.5% of the variance in civic related activity participation in secondary school, $F(11, 251) = 5.54$, $p = .000$. Whilst at primary school, this model could predict 22.4% of the variance in concurrent participation, its predictive power decreased in secondary level. Refer to Table 6.7 for specific standardized beta values.

Control variables: In secondary school, girls were more likely than boys to take part in civic related activities in school (T2 girl, $\beta = .196$, $p = .005$).

No significant group differences in civic related activity participation due to students' health status, or SES-level of their household were observed.

Personal factors: Students who displayed empathy in social engagements were more likely to participate in civic related activities post-transition (T2 empathy SS, $\beta = .212$, $p = .004$).

Family factors: Similar to the finding in the T1 model, belonging to a household in which the male parent was unemployed was associated with increased participation in civic-related activities in school (T2 male parent unemployed, $\beta = .154$, $p = .008$).

School/classroom and peer factors: Factors identified to be associated with civic related activity participation in primary school were unsuccessful in making a significant contribution in the T1 replica model.

Summary: This objective assessed the validity of the pre-transition model in secondary school, by using post-transition equivalent factors. Whilst at T1, the

pre-transition model could predict 22.4% the variance in civic related activity participation, the validity of this model post-transition by post-transition equivalent factors and outcome decreased. The observed reduction in model adequacy, calls into question whether there are any additional factors, which come into play in secondary school that predict the outcome at that point in time. Objectives 4 and 5 were set out to address this possibility.

6.7.2.4 Objective 4: To determine if there are personal and contextual factors unique to T2 that predict concurrent participation in civic related activities in secondary school (at T2).

A series of stepwise linear regression analyses were undertaken to identify the significant factors that could predict participation in civic related activities in secondary school. The final model was capable of accounting for 21.1% of the variance in students' civic-related activity participation at T2, $F(8, 254) = 8.51$, $p = .000$. Listed are the significant contributors to the model grouped on the basis of the context to which they belong (Table 6.7).

Control variables: Amongst the control variables, being a girl (T2 girl, $\beta = .162$, $p = .012$) was positively related with concurrent civic activity participation.

When compared to their contemporaries from mid-SES backgrounds, students from low-SES backgrounds (T2 low–SES, $\beta = -.117$, $p = .044$) were less likely to take part in civic related activities in secondary school.

Personal factors: As identified in the T1 model, students who frequently used empathy in social engagements with others were more likely to be involved in civic related activities in school (T2 empathy SS, $\beta = .165$, $p = .014$).

Family factors: Similar to the finding in the T1 model, belonging to a household in which the male parent was unemployed was associated with increased participation in civic related activities (T2 male parent unemployed, $\beta = .166$, $p = .004$).

School/classroom and peer-group factors: Factors identified to be associated with civic related activity participation at T1 were unsuccessful in making a significant contribution in secondary school.

Unique T2 factors: Unique to secondary school was the contribution of family type of student participation. A drop in civic activity participation in secondary school could be predicted if a student was found to belong to a 'blended family' as opposed to an 'original-family/2-parent family' (T2 blended family, β = -.134, p = 0.019).

Students who reported to be satisfied with their secondary school classes were more likely to take part in civic related (T2 class satisfaction, β = .167, p = .005).

Summary: Stepwise linear regression identified one family (i.e., belonging to a blended family) and one school/classroom factor (i.e., satisfaction with secondary level classes) unique to secondary school that predicted civic related activity participation in the setting. These findings suggest that there are distinctive personal and contextual factors, unique to T2 that influence participation. Objective 5 was thus set out to identify whether the identified unique factors could predict concurrent civic related activity participation in secondary school, better than the T1 replica model (Objective 3).

6.7.2.5 Objective 5: If unique factors were identified in objective 4, to determine whether the unique factors could predict concurrent civic related activity participation at T2 better than the T1 replica model (Objective 3).

The final model accounted for 23.3% of the variance in civic related activity participation in secondary school, $F(13, 249) = 5.80$, $p = .000$. The factors that contributed to the final model are listed below, grouped in terms of the context to which they belong (Table 6.7).

Control variables: Similar to the findings in objective 3, being female was found to be an asset (T2 girl, $\beta = .205$, $p = .003$).

Belonging to the low-quartile SES-background was found to be a significant risk factor, decreasing the possibility of civic related activity participation in school (T2 low-quartile income, $\beta = -.125$, $p = .035$).

No group differences in civic related activity participation due to students' health status were observed.

Personal factors: As identified in objective 3, frequent display of empathy in social engagements was identified as a significant asset (T2 empathy SS, $\beta = .201$, $p = .006$).

Family factors: Similar to the finding in objective 3, belonging to a household in which the male parent was unemployed and was at home, was associated with increased student participation in civic related activities (T2 male parent unemployed, $\beta = .166$, $p = .004$).

School/classroom factors identified to be associated with civic related activity participation in primary school were unsuccessful in making a significant contribution in this model.

Peer-group factors failed to predict the outcome.

Unique post-transition factors: Students who reported to be satisfied with their classes in secondary school were more likely to take part in civic related activities in school (T2 class satisfaction, $\beta = .158$, $p = .030$).

Additionally, students who belonged to a blended family were less likely to participate in civic related activities in secondary school (T2 blended family, $\beta = -.153$, $p = .008$).

Summary: This objective built on objective 3, to identify whether the unique T2 factors could explain a greater amount of the variance in the outcome, than accounted for in objective 3. An improvement in the predictive power of the model over the pre-transition replica model (objective 3), was witnessed (R^2 change = .037), with a corresponding (F change for R^2 change = 6.005, $p = .003$).

6.7.2.6 Objective 6: After controlling for primary school (T1) adjustment outcomes school, to determine if the unique T2 factors if identified in objective 4, contribute to the prediction of concurrent participation in civic-related activities at T2, better than the T1 replica model.

The final model explained 42% of the variance in civic related activity participation in secondary school, $F(20, 242) = 8.678$, $p = .000$. The factors that contributed to the final model are listed below, grouped in terms of the context to which they belong. Refer to Table 6.7 for specific standardized beta values.

Control variables: After controlling for previous adjustment outcomes in primary school, students with a disability/chronic illness were found to be more likely to participate in civic related activities in secondary school, than their typically developing counterparts (T2 Yes disability/CI, $\beta = .111$, $p = .050$).

No differences in civic related activity participation as a function of students' gender or SES-background were identified.

Contribution of Previous adjustment factors: Pre-transition civic related activity participation was significantly positively associated with civic related activity participation post-transition ($\beta = .447$, $p = .000$).

Additionally, those who reported lower belongingness in primary school were more likely to participate in civic related activities post-transition ($\beta = .143$, $p = .037$).

The remaining components of T1 adjustment failed to significantly contribute towards the prediction of civic-activity participation in secondary school

As shown in Table 6.7, when previous adjustment variables were taken into account in the regression analysis, personal (i.e., frequent display of empathy in

social engagements), family (i.e., belonging to a household in which the male parent was unemployed) and unique T2 factor (i.e., belonging to a blended family) that were found to predict civic related activity participation in objective 5 continued to predict the outcome.

Being satisfied with one's classes in secondary school however, failed to influence civic participation, once previous adjustment outcomes in primary school were accounted for in the model.

Summary: After accounting for primary school adjustment, objective 6 was set out to determine whether the unique T2 factors could explain a greater amount of variance in the outcome, than that accounted for in objective 3. The final model was able to predict 42% of the variance in civic related activity participation at T2.

Concluding summary of civic-related activity participation models:

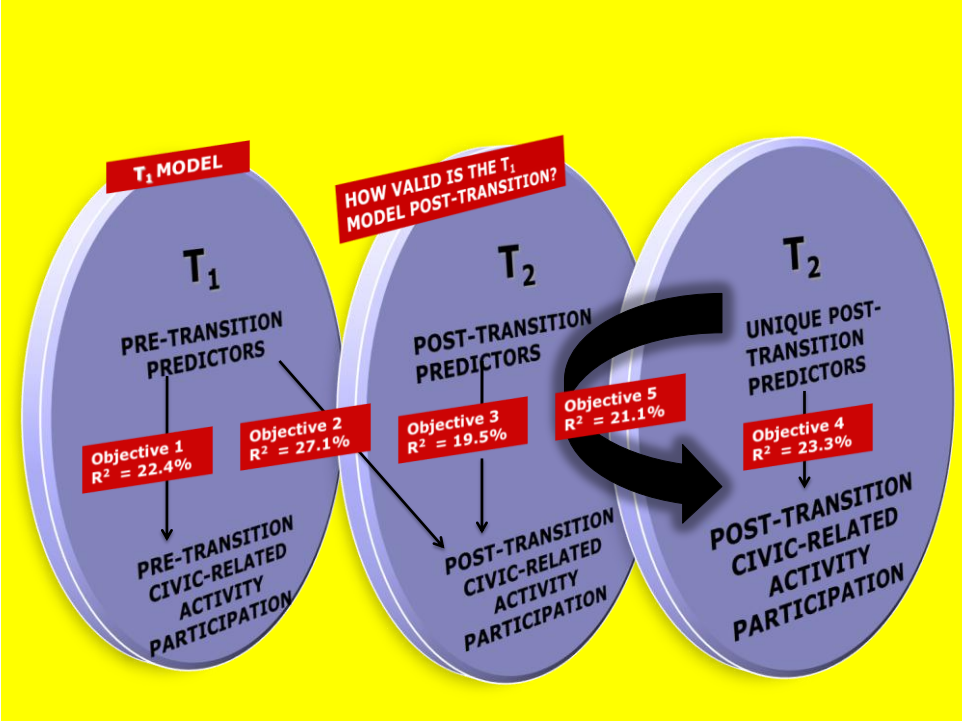


Figure 6.13 *Prediction of civic-related activity participation in school: Objectives 1-5*

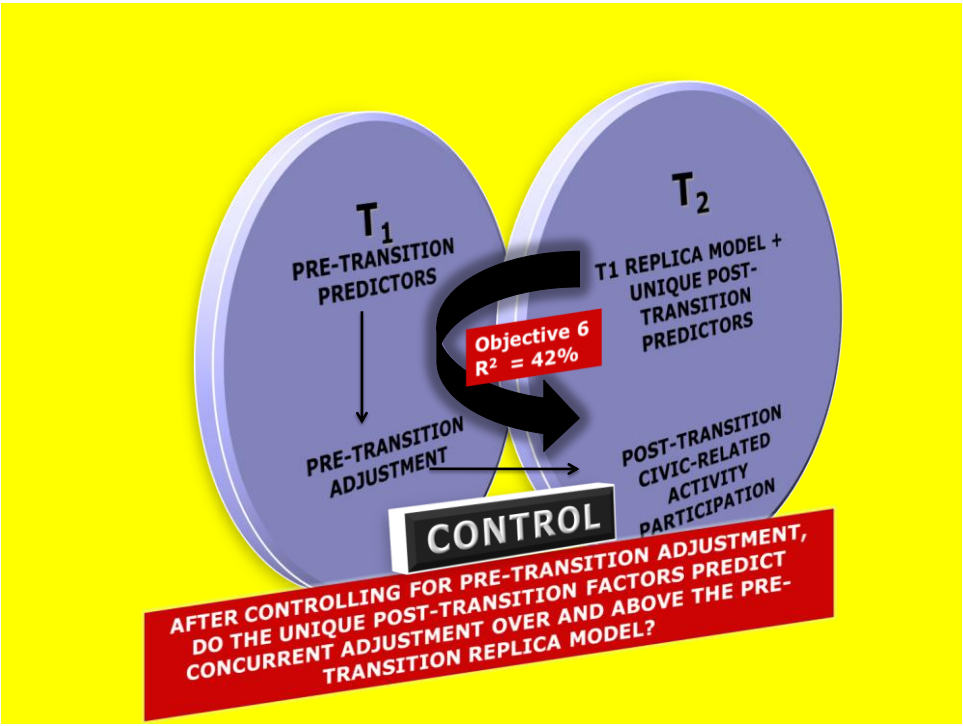


Figure 6.14 *Prediction of civic-related activity participation in school: Objective 6*

Multivariate regression analysis that adjusted for group differences due to gender, health status and social disadvantage, revealed that at T1, the model of personal, family, school, and peer-group factors (objective 1) accounted for 22.4% of the variation in concurrent civic activity participation at school. Across time, the T1 model (objective 2) could explain 27.1% of the variation civic activity participation at T2. Replication of the T1 model in secondary school by using comparable T2 factors permitted 19.5% of the variance in civic activity participation at T2 to be accounted for (objective 3). Further scrutiny, using stepwise linear regression identified five factors unique to secondary school that could predict concurrent civic activity participation at T2 (objective 4). When factors unique to T2 were regressed on top of the T1 replica model (objective 3), 23.3% of the variance in civic activity participation at T2 was explained (objective 5). The improvement of the model (objective 5) over the T1 replica model (objective 3) was significant $\Delta R^2 = .037$ and its corresponding change in F (ΔF) = 6.005 at $p = .003$ values of significance. Thus, in secondary school (T2), distinctive factors were found to contribute to the prediction of concurrent civic activity participation on top of the T1 replica model.

As shown in Table 6.7 and Figure 6.14, when adjustment in primary school was taken into account, personal (i.e., frequent display of empathy in social engagements), family (i.e., belonging to a household in which the male parent was unemployed) and a unique T2 factor (i.e., belonging to a blended family) found to predict civic-related activity participation at T2 in objective 5 held their own. Additionally, students who took part in civic-related activities in primary school, and those who reported low-belonging in primary school were found to be more likely to participate in civic related activities in secondary school.

6.7.3 Participation in creative activities in school

6.7.3.1 Objective 1: To determine the T1 personal and contextual factors that predict concurrent participation in creative activities in primary school (at T1).

Findings of the five-block hierarchical model were as follows.

Block 1: When gender, health status and SES-background were added in Block1, only 6.6 % of the variance in creative activity participation at T1 was accounted for, $F(4, 197) = .3.468$, $p = .0009$.

Block 2: The addition of personal factors into the model improved the models predictive power dramatically (R^2 change = .042), enabling it to explain 10.7% of the variance in T1 creative activity participation. The increment in the predictive power of the model was significant (F change for R^2 change = 4.552, $p = .012$).

Block 3: With the addition of family factors in Block3, the predictive power of the model increased further (R^2 change = .024). The model was capable of explaining 13.2% of the variance in T1 creative activity participation. The increment in the predictive power of the model was significant (F change for R^2 change = 5.390, $p = .021$).

Block 4: School/classroom factors when added in Block 4 enabled the model to account for 23.1% of the variance in T1 creative activity participation. An improvement in the predictive power of the model was witnessed (R^2 change = .024), with a corresponding (F change for R^2 change = 8.192, $p = .000$).

Block 5: Peer group factors did not meet the criteria for inclusion into the predictive model.

The final model accounted for 23.1% the variance in creative activity participation in primary school, $F(10, 191) = 5.72$, $p = .000$. The factors that contributed to the final model are listed below, grouped in terms of the context to which they belong. Refer to Table 6.8 for specific standardized beta values.

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Table 6.8 *Predictors of creative activity participation in school*

Outcome: Log creative activity participation in school	**Predictors**	**Obj 1: T1 model R^2 = 23.1%**	**Obj 2: Longitudinal T1 model R^2 = 16.5%**	**Obj 3 T1 replica model using T2 equivalent factors R^2 = 10.3%**	**Obj 4: Unique T2 model R^2 = 21%**	**Obj 5: Unique T2 after control of Obj 3 R^2 = 21.3%**	**Obj 6: Unique T2 after control of Obj 3 and previous adjustment R^2 = 42%**
Block1: Control factors	Boy Vs. girl	.277 (.000)	.205 (.003)	.186 (.003)	.214 (.001)	.204 (.001)	NS
	Typical Vs. presence of disability/CI	NS	NS	NS	NS	NS	NS
	Mid-SES Vs. Low SES-level	NS	NS	NS	NS	NS	NS
	Mid-SES Vs. High SES-level	NS	NS	NS	NS	NS	NS

Standardized Beta values and corresponding levels of significance are presented NS = Non-significant

Table 6.8 *continued*

Outcome: Log creative activity participation in school	**Predictors**	**Obj 1: T1 model R^2 = 23.1%**	**Obj 2: Longitudinal T1 model R^2 = 16.5%**	**Obj 3 T1 replica model using T2 equivalent factors R^2 = 10.3%**	**Obj 4: Unique T2 model R^2 = 21%**	**Obj 5: Unique T2 after control of Obj 3 R^2 = 21.3%**	**Obj 6: Unique T2 after control of Obj 3 and previous adjustment R^2 = 42%**
Control of previous adjustment only for objective 6	T1 log10 creative activity participation	NA	NA	NA	NA	NA	.407 (.000)
	T1 Reverse belong in school	NA	NA	NA	NA	NA	NS
	T1 Reverse academic comp	NA	NA	NA	NA	NA	NS
	T1 log10 Emotional and behavioural problems	NA	NA	NA	NA	NA	.130 (.039)
	T1 Reverse self-worth	NA	NA	NA	NA	NA	NS
	T1 Reverse social-leisure participation	NA	NA	NA	NA	NA	NS
	T1log10 civic activity participation	NA	NA	NA	NA	NA	.160 (.006)

Standardized Beta values and corresponding levels of significance are presented

NS = Non-significant; NA = Not-applicable. Used to refer to factors that did not meet criteria for inclusion into the model

Table 6.8 *continued*

Outcome: Log creative activity participation in school	**Predictors**	**Obj 1: T1 model R^2 = 23.1%**	**Obj 2: Longitudinal T1 model R^2 = 16.5%**	**Obj 3 T1 replica model using T2 equivalent factors R^2 = 10.3%**	**Obj 4: Unique T2 model R^2 = 21%**	**Obj 5: Unique T2 after control of Obj 3 R^2 = 21.3%**	**Obj 6: Unique T2 after control of Obj 3 and previous adjustment R^2 = 42%**
Block 2: Personal factors	TAFE/University Vs. Up to year 12 completion expectation held by teacher (as per student's perception)	NS	NS	-.137 (.028)	NA	NS	NS
	Mid 25-75percentile Vs. High Q praise-motivational orientation	.128 (.047)	.139 (.042)	NS	NA	NS	NS
Block 3: Family factors	Family functioning	NS	NS	NS	NA	NS	NS

Standardized Beta values and corresponding levels of significance are presented

NS = Non-significant; NA = Not-applicable. Used to refer to factors that did not meet criteria for inclusion into the model

Table 6.8 *continued*

Outcome: Log creative activity participation in school	**Predictors**	**Obj 1: T1 model R^2 = 23.1%**	**Obj 2: Longitudinal T1 model R^2 = 16.5%**	**Obj 3 T1 replica model using T2 equivalent factors R^2 = 10.3%**	**Obj 4: Unique T2 model R^2 = 21%**	**Obj 5: Unique T2 after control of Obj 3 R^2 = 21.3%**	**Obj 6: Unique T2 after control of Obj 3 and previous adjustment R^2 = 42%**
Bock 4: School/ Classroom factors	2.51-11 years experience in the same school Vs. 2.5 years and less exp. in teaching in the same school	.253 (.000)	NS	NA	NA	NA	NA
	11-30 years experience in teaching in general Vs. 31 years and more experience in teaching	.205 (.003)	NS	NA	NA	NA	NA
	Full-time Vs. part-time teacher	-.153 (.023)	-.232 (.001)	NA	NA	NA	NA
Peer group factors did not met criteria for inclusion into the models							

Standardized Beta values and corresponding levels of significance are presented

NS = Non-significant; NA = Not-applicable. Used to refer to factors that did not meet criteria for inclusion into the model

Table 6.8 *continued*

Outcome: Log creative activity participation in school	**Predictors**	**Obj 1: T1 model R^2 = 23.1%**	**Obj 2: Longitudinal T1 model R^2 = 16.5%**	**Obj 3 T1 replica model using T2 equivalent factors R^2 = 10.3%**	**Obj 4: Unique T2 model R^2 = 21%**	**Obj 5: Unique T2 after control of Obj 3 R^2 = 21.3%**	**Obj 6: Unique T2 after control of Obj 3 and previous adjustment R^2 = 42%**
Block 5: Unique T2 factors	Puberty reached in primary school Vs. Not reached puberty at T2	NA	NA	NA	-.146 (.017)	-.144 (.019)	NS
	Importance on assertion as a social skill	NA	NA	NA	.157 (.009)	.152 (.013)	NS
	Social-power motivational orientation	NA	NA	NA	.133 (.028)	.130 (.043)	NS
	Original Vs. Blended family	NA	NA	NA	-.170 (.003)	-.165 (.005)	-.143 (.007)
	Trade Vs. University expectation for child	NA	NA	NA	.128 (.040)	NS	.149 (.019)
	Social support from year level teachers	NA	NA	NA	.131 (.028)	.123 (.049)	.123 (.041)

Standardized Beta values and corresponding levels of significance are presented

NS = Non-significant; NA = Not-applicable. Used to refer to factors that did not meet criteria for inclusion into the model

Control variables: At T1, girls were more likely to participate in creative activities than boys (T1 girl, β = .277, p = .000).

The model of creative activity participation in primary school was found to hold true for mainstream students irrespective of gender and SES-level of students' household

Personal factors: Those who highly valued being praised and extolled by teacher, parents and friends when successful in their schoolwork (T1 high–Q praise motivation, β = .128, p = .047) were more likely to be involved in creative activities in primary school, when compared to their counterparts who held mid-level praise motivation.

Family factors: At T1, family variables failed to s predict creative-leisure activity participation in school.

School/classroom factors: Two variables related to teachers' experience level were found to predict creative activity participation in primary school.

Having both an extremely experienced class-teacher (T1 more than 31 years experience teacher, β = .205, p = .003), and also one who has newly joined the school with less than 2.5 years experience were identified as assets (T1 less than 2.5 years experience in same school teacher, β = .253, p = .000).

Furthermore, teacher's employment status was identified as a significant contributor of concurrent creative participation, with students who had a part-time teacher (T1 part-time teacher, β = -.153, p = .023) less likely to also be involved in creative proceedings in school.

6.7.3.2 Objective 2: To determine the T1 personal and contextual factors that predict participation in creative activities longitudinally in secondary school (at T2).

Longitudinally, T1 factors could account for 16.5% of the variance in creative activity participation in secondary school, $F(10, 185) = 3.66$, $p = .000$. The factors that contributed to the final model are listed below, grouped in terms of the context to which they belong. Refer to Table 6.8 for specific standardized beta values.

Control variables: Being a girl emerged as an asset longitudinally, increasing the likelihood of participation in creative pursuits in secondary school (T1 girl, $\beta = .205$, $p = .003$).

The health status and SES-level of students' household failed to significantly influence participation in creative activities at T2.

Personal factors: Similar to T1 findings, students who valued praise and recognition in primary school (T1 high-Q praise motivation, $\beta = .139$, $p = .042$) were more likely to participate in creative-related activities at T2.

Family factors: T1 family variables failed to predict creative activity participation at T2.

School/classroom factors: An unexpected finding was that the employment status of students' final year primary level teacher was a significant contributor of creative activity participation in secondary school. Students who were taught by part-time staff members in the final year of primary school were less likely to also be involved in creative proceedings, in secondary school (at T2) (T1 part-time teacher, $\beta = -.232$, $p = .001$).

Summary: As displayed in Table 6.8, T1 factors could predict 23.1% the variance in concurrent creative activity participation at T1 (objective 1). Longitudinally, only two T1 student factors (i.e., gender, praise motivation), and one T1 classroom factor (i.e., teacher part-time employment status) were able to account for 16.5% of the

variance in creative activities participation at T2. The reduced predictive power of the model could be attributed to either a change in the identified T1 factors across transition, or the contribution of other factors unique to T2 that predict concurrent participation in secondary school (at T2). The latter possibility has been examined in objective 4.

6.7.3.3 Objective 3: To determine if the factors found to be significantly associated with creative activity participation at T1 (objective 1) retain their association when evaluated in secondary school (at T2), using T2 equivalent personal and contextual factors and outcome. This model is referred to as the T1 replica model.

The final model accounted for 10.3% of the variance in creative activity participation in secondary school, $F(7, 255) = 4.16$, $p = .000$. The factors that contributed to the final model are listed below, grouped in terms of the context to which they belong. Refer to Table 6.8 for specific standardized beta values.

Control variables: Similar to the findings at the T1 model, girls were significantly more likely than boys to participate in creative activities in secondary school (T2 girl, $\beta = .186$, $p = .003$).

Students' health status and SES-background failed to influence creative activity participation in secondary school.

Personal factors: Students who perceived that their secondary year-level teachers were optimistic about their academic future were more likely to participate in creative activities in school, when compared to those who felt that their teachers did not believe a large amount in their scholarly potential (T2 teacher up to year 12 expectation, $\beta = -.137$, $p = .028$).

Family factors: Similar to the findings at T1, family variables failed to predict creative activity participation in secondary school.

School/classroom factors identified to be associated with participation in creative activities at T1 were unsuccessful in making a significant contribution in secondary school.

Summary: Whilst at T1, this model could predict 23.1% of the variance in creative activity participation in primary school, when T2 equivalent factors were employed

its ability to predict participation in the same cohort in secondary school decreased to 10.3%. The observed reduction in model adequacy, calls into question whether there are any additional factors, which come into play in secondary school that predict the outcome at that point in time. Objectives 4 and 5 were set out to address this possibility.

6.7.3.4 Objective 4: To determine if there are personal and contextual factors unique to T2 that predict concurrent participation in creative activities in secondary school (at T2).

A series of stepwise linear regression analyses was undertaken in order to identify the significant factors that could predict the outcome. The final model accounted for 21.0% of the variance in creative activity participation in secondary school, $F(10, 246) = 6.54$, $p = .000$. Listed in the following section, are the significant contributors to the model grouped on the basis of the context to which they belong. Refer to Table 6.8 for specific standardized beta values.

Control variables: Being a girl was the only statistically significant predictor of concurrent creative participation in the secondary school (T2 girl, $\beta = .214$, $p = .001$).

As in the other models, no group differences in creative activity participation due to students' health status and SES-background were identified.

Personal factors: Student factors identified to impact on creative-activity participation in primary school failed to hold their own in secondary school.

Family factors: Family factors identified to impact on creative-activity participation in primary school failed to hold their own in secondary school.

School/classroom factors: School/classroom factors identified to impact on student creative-activity participation in primary school failed to hold their own in secondary school.

Unique T2 factors:

Unique personal factors: Unique to T2 was the role that value placed on assertion and student's maturity played on creative engagements.

The importance laid on assertive social skills was identified as important contributor of participation in creative activities at T2 (T2 assertion SS, β = .157, p = .009). Students who were self-assured and valued behaviours such as: starting conversation with members of the opposite gender; making friends; and asking adults for help were more likely to be involved in creative activities.

The level of students' maturity was also identified as a significant contributor of creative activity participation in secondary, with students who had not yet attained puberty less likely to participate (T2 puberty not yet, β = -.146, p = .017).

Students driven by the desire to be a leader and take charge of a group more likely to participate in concurrent creative pursuits (T2 social power-motivational orientation, β = .133, p = .028).

Unique family factors: Belonging to a blended family household was identified as risk factor for creative activity participation in secondary school. A 0.170 standard deviation unit reduction in creative activity participation at T2 could be predicted if a student belonged to a blended family as opposed to an "original-family" (T2 blended family, β = -.170, p = .003).

The scholastic expectation that students' parents held for them was identified as a considerable asset, increasing the chances of concurrent creative activity participation in secondary school. A .128 standard deviation unit increase in creative activity participation could be predicted, as parents increased their expectation from trade-level attainment to university degree hope (T2 university expectation by parent, β = .128, p = .040).

Unique school/classroom factors: Students who perceived greater social support from their secondary year-level teachers were more likely to participate in creative activities at school (T2 teacher support, β = .131, p = .028)

In summary: Stepwise linear regression identified 3-personal, 2-family factors and 1-classroom factor, unique to T2, which predicted creative activity participation in secondary school. These findings suggest that there are distinctive personal and contextual factors, unique to T2 that influence creative activity participations at that point in time. Objective 5 was set out to identify whether these unique factors could predict concurrent creative activity participation in secondary school better than the T1 replica model (Objective 3).

6.7.3.5 Objective 5: If unique factors were identified in objective 4, to determine whether the unique factors could predict concurrent creative activity participation at T2 better than the T1 replica model (Objective 3).

The final model accounted for 21.3% of the variance in creative activity participation in secondary school, $F(13, 243) = 5.07$, $p = .000$. The factors that contributed to the final model are listed below, grouped in terms of the context to which they belong. Kindly refer to Table 6.8 for β values.

Control variables: Similar to the findings in objective 3, girls were more likely to participate in creative activities in secondary school (T2 girl, $\beta = .204$, $p = .001$).

No group differences in creative activity participation due to students' health status or SES-background were identified.

Personal factors: Unlike the findings in objective 3, students' perception of their year-level teachers' academic expectation failed to significantly predict the outcome.

Family and school/classroom factors: Similar to the findings in Objective 3, these factors were unsuccessful predicting creative activity participation in secondary school.

Unique T2 factors:

The level of students' maturity was identified as a significant contributor of creative participation in secondary school. Those who had not yet attained puberty in the secondary level were less likely to participate in creative activities (T2 puberty not yet, $\beta = -.144$, $p = .019$).

Adolescents driven by the desire to be a leader and take charge of a group more likely to participate in concurrent creative pursuits at the secondary school level (T2 social power-motivational orientation, $\beta = .130$, $p = .043$).

Students who valued assertion as a skill important for social success were more likely to participate in creative endeavours in high school (T2 assertion SS, β = .152, p = .009)

The likelihood of partaking in creative activities was found to reduce by 0.165 standard deviation units if students belonged to a "blended family" as opposed to an 'original-family' (T2 blended family, β = -.165, p = .005).

Social support received from one's school teachers in secondary level was identified as a significant asset (T2 teacher support, β = .123, p = .049). A .123 standard deviation increase in creative engagements at school level could be predicted with every standard deviation increase in perceived teacher support.

Summary: This objective built on objective 3, to identify whether the unique T2 factors could explain a greater amount of the variance in the outcome, than accounted for in objective 3. After controlling for objective 3, the unique post-transition factors (identified in objective 4) accounted for 21.3% of the variance in creative activity participation in secondary school. An improvement in the predictive power of the model was witnessed (R^2 change = .111), over the pre-transition replica model (objective 3), with a corresponding (F change for R^2 change = 5.700, p = .000).

6.7.3.6 Objective 6: After controlling for primary school (T1) adjustment outcomes school, to determine if the unique T2 factors if identified in objective 4, contribute to the prediction of concurrent participation in creative activities at T2, better than the T1 replica model.

The final model accounted for 42% of the variance in creative activity participation in secondary school, $F(20, 236) = 8.45$, $p = .000$. The factors that contributed to the final model are listed below, grouped in terms of the context to which they belong. Refer to Table 6.8 for specific standardized beta values.

Control variables: After accounting for previous adjustment in primary school, no group differences in creative activity participation in secondary school as a function of students' gender, health status, or SES-background were identified.

Contribution of Previous adjustment factors: Pre-transition creative activity participation was found to be significantly positively associated with participation in creative activities in secondary school ($\beta = .407$, $p = .000$).

Additionally, students who were reported with emotional and behavioural difficulties ($\beta = .130$, $p = .039$), and who reported frequent participation in civic-related activities ($\beta = .160$, $p = .006$) in primary school were more likely to participate in creative activities in secondary school.

The remaining components of primary level adjustment failed to significantly predict creative activity participation in secondary school

Personal and contextual factors: When previous adjustment variables were taken into account in the regression, similar to the findings in objective 5, none of the personal, family, school/classroom and peer-group factors contributed to the prediction of creative activity participation at T2.

As displayed in Table 6.8, only three of the unique post-transition factors namely belonging to a blended family (T2 blended family, β = -.143, p = .007), parental expectations of scholastic achievement (T2 University expectations, β = .149, p = .019) and social support from one's secondary school teachers (T2 teacher support, β = .123, p = .041) were identified as significant determinants of creative activity participation in secondary school.

The maturity level of the student, power-motivational orientation, and value placed on assertion as a social skill failed to significantly predict the outcome.

Summary: After accounting for primary school adjustment, objective 6 was set out to determine whether the unique T2 factors could explain a greater amount of variance in the outcome, than that accounted for in objective 3. The final model was able to predict 42% of the variance in civic activity participation in secondary school.

Concluding summary of creative activity participation models:

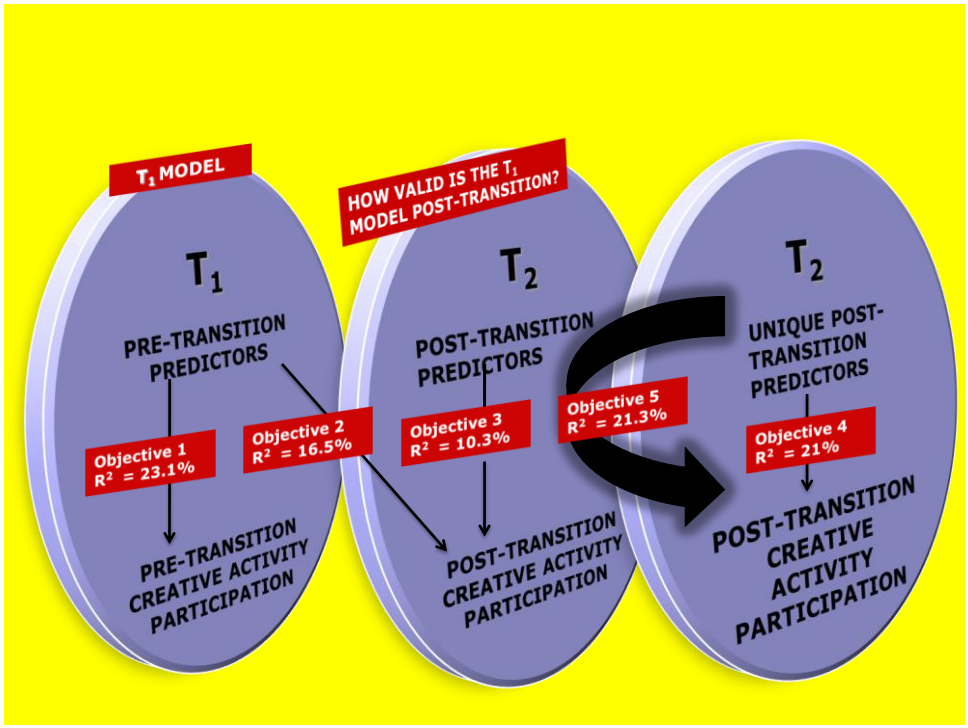

Figure 6.15 *Prediction of creative-activity participation in school: Objectives 1-5*

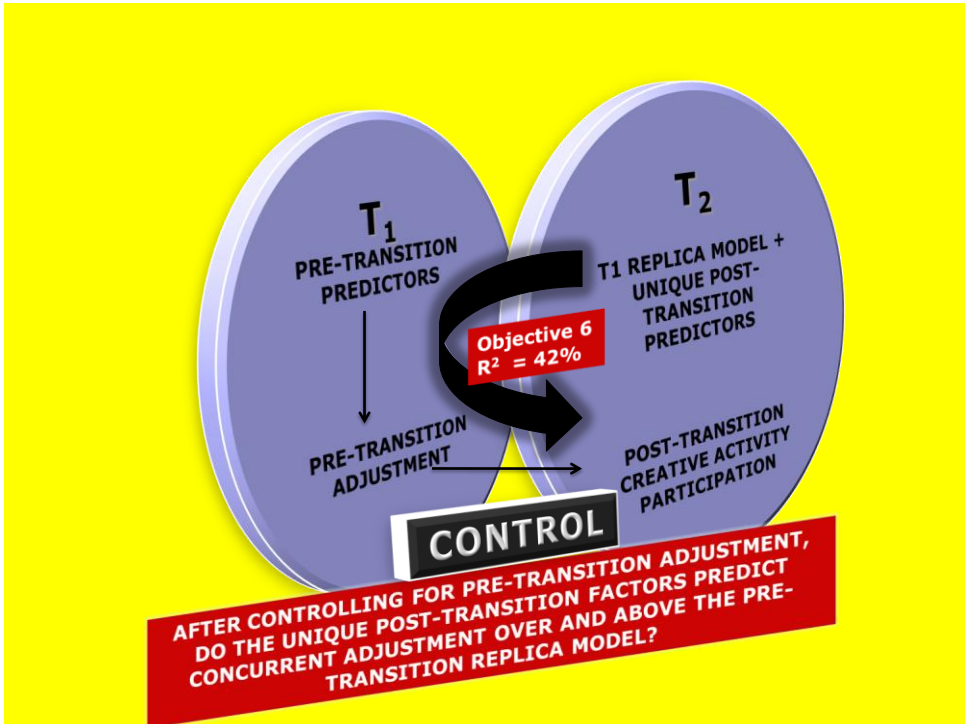

Figure 6.16 *Prediction of creative-activity participation in school: Objective 6*

Multivariate regression analysis that adjusted for group differences due to gender, health status and social disadvantage, revealed that at T1, the model of personal, family, school, and peer-group factors (objective 1) accounted for 23.1% of the variation in concurrent creative activity participation at school. Across time, the T1 model (objective 2) could explain 16.5% of the variation in creative activity participation at T2. Replication of the T1 model in secondary school by using comparable T2 factors permitted 10.3% of the variance in creative activity participation at T2 to be accounted for (objective 3). Further scrutiny, using stepwise linear regression identified five factors unique to secondary school that could predict concurrent creative activity participation (objective 4). When these unique T2 factors were entered into the regression model, after controlling for the T1 replica model, 21.3% of the variance in creative activity participation in secondary school could be explained (objective 5). The improvement of the model (objective 5) over the T1 replica model (objective 3) was significant $\Delta R^2 = .111$ and its corresponding change in F (ΔF) = 5.700 at $p = .000$ values of significance. Thus, in secondary school (T2), unique factors were found to predict concurrent creative activity participation.

As shown in Table 6.8, and Figure 6.16, when adjustment in primary school was taken into account in subsequent analysis, three of the unique post-transition factors namely belonging to a blended family, parental expectations of scholastic success, and social support received from one's secondary school teachers emerged as significant markers of creative activity participation in secondary school. Students who reported frequent participation in creative and civic related activities in primary school, and were reported to have emotional and behavioural difficulties in primary school, were more likely to participate in creative activities in secondary school. The final model accounted for 42% of the variance in creative activity participation in secondary school.

6.8 OVERALL SUMMARY OF THE CHAPTER

The findings of this chapter confirm four main issues:

1. At multivariate level, students' gender, health status and SES-background influenced adjustment outcomes to a varying degree, depending on:
   - the outcome under review;
   - the nature of the analysis: whether it was concurrent or over-time model; and
   - the concomitant personal and contextual factors considered in the analysis;
2. Combinations of personal and contextual factors predicted student adjustment outcomes in primary school (T1);
3. There exist factors unique to T2 that explain the variance in T2 adjustment outcomes, better than the T1 replica model;
4. Models that took into account the contribution of previous adjustment outcomes in primary school, the T1 replica model, and factors unique to secondary school, best explained adjustment outcomes in secondary school.

Chapter 7 Discussion and Implications

7.1 INTRODUCTION

This study originated from a concern about the dearth of longitudinal studies on the transition to secondary school of students with disabilities and/ or chronic illness. Additionally, there also exists a paucity of investigations on the factors that influence mainstream student adjustment in Australia. Given these limitations, a population-based approach was adopted wherein both typically developing students as well as students with a disability and/ or chronic illness were included in the study sample. Social-ecological and developmental systems theory guided the study, which recognized the interdependence of individual characteristics within changing personal, family, school, and peer-group contexts (Bronfenbrenner & Morris, 1998; Brooks-Gunn et al., 1985; J. S. Coleman & Hendry, 1999; J. R. Harris, 1998).

The overall aim of the study was to determine the personal and contextual factors that affect student adjustment outcomes as they negotiate the transition from primary to secondary school. In order to attend to the aim, six objectives were addressed. A longitudinal study design was employed, and cross-informant data from stakeholders (parents, teachers and students) were retrieved using psychometrically robust measures. Two cohorts of participants (those making the transition from primary to secondary school during the academic year 2006/2007, and 2007/2008) were followed. At pre-transition, data from 395 students from a representative range of 45 feeder primary schools were retrieved. Post-transition data from two hundred and sixty six participants from 81 secondary schools across metropolitan and regional Western Australia (WA) were collected.

It was the intention of the study to generalise the models of adjustment outcomes across all mainstream students. Accordingly, control factors (i.e., gender, health status, and SES-background) identified in research and substantiated in univariate analyses to moderate the influence of several predictors and adjustment outcomes were accounted for, at the onset of each model building process. The influence of the most reported personal and contextual factors identified to influence student adjustment outcomes in school were sequentially tested. The use of a longitudinal

study design permitted the undertaking of detailed model building analyses. Had a repeated cross-sectional design been used, we would not have been able to control for adjustment outcomes in primary school (Farrington, 1991). The body of evidence on the major sources of variance in student outcomes at school (Hattie, 1999) guided the entry of the predictors.

The four major findings of the analyses were:

1. At multivariate level, gender, health status, and household income influenced adjustment outcomes to a varying degree, depending on:
    - the adjustment outcome under review;
    - the timing of the analysis (whether it was before or after transition or across-time); and
    - the associated personal and contextual factors considered in the analysis;
2. Combinations of personal and contextual factors were found to predict student adjustment outcomes in primary school;
3. Longitudinally, primary level combinations of factors had reduced predictive power in explaining secondary school adjustment outcomes; and
4. Models that took into account the contribution of previous adjustment in primary school, the replica primary school model (primary school model with corresponding secondary level factors) and factors unique to secondary school, best explained adjustment outcomes in secondary school.

The following section discusses the study findings in relation to previous research works and how they translate into guiding practice.

7.2 INFLUENCE OF GENDER, HEALTH STATUS AND HOUSEHOLD INCOME LEVEL ON STUDENT ADJUSTMENT OUTCOMES IN PRIMARY AND SECONDARY SCHOOL

No significant group differences in student perceived academic competence, self-worth, loneliness and social dissatisfaction, social-leisure and civic-related activity participation, due to gender, health status, or SES-background were identified at pre-transition. Longitudinally, girls were more likely than boys to report lower academic competence in secondary school. When previous adjustment outcomes in primary school were considered while predicting academic competence in secondary school, the gender of the student did not account for any group variation. One proviso indicates caution with extrapolations in this finding which relates to male's tendency to over-estimate their performance on future academic tasks, while females generally underestimate their capabilities (Huston & Alvarez, 1990; Zusho & Pintrich, 2001).

No group differences in student adjustment outcomes due to the family SES were identified in primary school. In secondary school, belonging to a high-SES household emerged as a significant asset, with students from high-SES households reporting higher academic competence, even after adjustment outcomes in primary school were controlled. Support for the Family Investment Model (FIM) which proposed that families with greater economic resources were able to make significant investments in the development of their children, whereas more disadvantaged families were forced to invest in more immediate needs (Becker & Thomes, 1986; Bradley & Corwyn, 2002) is provided in these results. The cumulative benefits of family investment in several dimensions of support that foster academic development (e.g., learning materials in the home, provision of stimulating learning opportunities both directly and through advanced or specialized tutoring or training, family's standard of living, and residing in a location that fosters academic development) on self-perceived academic competence were evident only subsequent to the transition into secondary school. It is also possible that students from high-SES households

attend schools with higher mean-school SES[24], which are resourced with school climates that are more conducive and supportive of achievement and have fewer discipline problems (Lamb, 2007; Lauder & Hughes, 1999; OECD, 2005; Smart, Vassallo et al., 2003). There exists a need for schools to support the academic competence of students from low-and mid-range SES households, especially after they transition into secondary school. Support in the form of: social skills training (especially in cooperation); discouraging usage of non-productive coping strategies; providing students with leadership opportunities could be beneficial to help boost student academic competence in secondary school. Encouraging parents to have higher expectations of scholastic success; provision of academic support to those who find class work difficult so that they are discouraged to seek support from peers; and improving the task-orientation of secondary level classrooms should be encouraged in secondary school, since these factors were found to predict post-transition academic competence.

Students with a disability/chronic ill health condition reported a higher sense of school belonging than mainstream typically developing students, and were reported with more emotional and behavioural difficulties in primary school. It is possible that belongingness needs of students with a disability/chronic ill health condition are adequately taken care of in the WA primary school setting; or primary level students with a disability/chronic illness possibly downplay the significance of any social difficulties in order to allay their fears and concerns and cope within the setting (C. J. Patterson, Kupersmidt, & Griesler, 1990).

In secondary school, no group differences in self-worth, social-leisure activity participation, loneliness, and school belonging were identified, both before and after accounting for pre-transition adjustment outcomes. Similar to the findings in primary school and validating past research (Beitchman and Young, 1997; Cadman et al.,

[24] Mean school SES is used to refer to the composition of schools when measured solely by the SES of the students (as opposed to their race or ethnicity)

1987; Einfeld and Tonge, 1996), students with a disability/chronic illness were reported to have greater emotional and behavioural difficulties in secondary school, but only before pre-transition adjustment outcomes were considered. After accounting for primary level adjustment outcomes in subsequent analyses, no group variation in emotional and behavioural adjustment in secondary school, due to health status were observed. Past emotional and behavioural difficulties were thus found to predict future difficulties, reducing the statistical contribution of present health status (i.e., presence of disability/chronic illness). It could be possible that group differences in emotional and behavioural difficulties in students identified in primary school were due to the lack of control of prior adjustment outcomes. The strength of longitudinal methodology over cross-sectional design (in terms of controlling for previous adjustment outcomes) and the vulnerability of students reported with emotional and behavioural difficulties are elucidated in these results.

Children with learning disabilities who receive support in regular classes are reported to have lower academic self-concept than their peers without disabilities (Montgomery, 1994). Increased vulnerability to feelings of loneliness in students with learning disabilities and mental handicap have also been documented (Margalit & Levin-Alyagon, 1994; Pavri & Luftig, 2000). The evidence suggests that young people with chronic physical illness, developmental disorders, and learning disabilities are at an increased risk for poor mental health outcomes (Beitchman and Young, 1997; Cadman et al., 1987; Einfeld and Tonge, 1996). Several reasons such as difficulties in reading, processing social cues, developing social relationships, or the psychological impact of the ill health condition have been listed as possible contributing factors (Haager & Vaughn, 1995; Newman, 2004a). Although not all the listed factors were directly focussed on in the current study, the lack of any significant group differences in adjustment outcomes in secondary school due to the individual's health status, could be due to the diverse diagnostic groups (i.e. range of disability and chronic ill health categories) clustered into the disability/chronic illness category.

As reported in the results section of this thesis (Chapter 5), the majority of the students in the disability/chronic illness category were reported to have learning disabilities, or asthma, or ear/ hearing problems. Only 9.1% (n = 8) of the sample were identified with developmental disability such as cerebral palsy that poses limitation to physical mobility/function, or a condition that affects social-communication like Asperger's syndrome or autism (6.8%, n = 6). The inclusion criterion in this study permitted only students with disabilities and chronic illness enrolled in mainstream education for most of the time, to be eligible to participate. This limiting criterion could be responsible for students with more disability related physical, cognitive, social, and emotional restrictions to be excluded from the study (Bell & Dempsey, 2001). Statistically, it is also likely that combining the reports of a heterogeneous disability/chronic illness group, the majority of whom had less disability related limitations, could have reduced the severity of the reports (i.e., the central limit theorem) (Portney & Watkins, 2000). It is plausible that extension of the inclusion criterion to students from non-mainstream settings such as separate schools that cater to students with severe disabilities or students who were home schooled might have resulted in variations due to health status. The associated limited validity of proxy reports in that hypothetical situation cannot be disregarded (Portney & Watkins, 2000). Additionally, the study did not account for the confounding effect of disability severity and co-existing disability/chronic illness status on adjustment outcomes (Yeo & Sawyer, 2005). Study findings in this thesis are also a reflection of the differences in groups after consideration of a number of relevant factors (multivariate) and not in relation to one variable in question (univariate), as undertaken in the previous research on students with disabilities.

Supporting the findings of past research, being female (C. A. Flanagan, Bowes, Jonsson, Csapo, & Sheblanova, 1998; Smart, Sanson, Da Silva, & Toumbourou, 2003) and belonging to a low-SES household (Hauser et al., 1997) were found to significantly disadvantage civic activity participation in secondary school, but only before previous adjustment outcomes in primary school were considered. Females have more empathy and capacity to feel a greater level of compassion toward the

suffering of others in the community (Bowes, Chalmers, & Flanagan, 1996; Davis, 1994), and therefore are more likely to take part in civic activities. Parents' own involvement in community activities are reported to be a strong predictor of their children's involvement in similar activities (Bowes et al., 1996; Fletcher, Elder, & Mekos, 2000). The availability of opportunities for modelling altruistic behaviour, leadership roles, and community involvement have been cited as possible contributors in the manifestation of socially responsible thoughts and actions in children (J. L. Mahoney & Magnusson, 2001; Pancer & Pratt, 1999). Economic deprivation affects families' well-being through an increase in family stress, which in turn decreases ability to provide stability, adequate attention, supervision, and cognitive stimulation to children (Hauser et al., 1997). Any of the listed possibilities could explain why belonging to a low-SES household significantly disadvantaged civic activity participation in secondary school, but only before previous adjustment outcomes in primary school were considered.

When previous adjustment outcomes in primary school were taken into account in the analyses, no differences in civic-activity participation in secondary school due to gender or SES-background were identified. Instead, the health status of the student emerged as a significant predictor of civic participation, with those with a disability/ chronic illness reporting higher civic activity participation ($\beta = 0.111$, $p= 0.050$). Caution ought to be exercised while generalising these findings, given the level of significance. These results throw light on the trend of the relationships between gender, health status, economic disadvantage, and participation in civic related activities in early adolescence. These findings highlight the importance for schools to encourage civic activity participation (i.e., volunteering, community activities) in all students, especially in light of the evidence that prior adjustment outcomes play an important role in predicting future outcomes.

Pre-transition, concurrent and longitudinal group differences in creative activity participation due to student's gender were observed. Females consistently participated more frequently than their male counterparts in creative activities

(Eccles & Barber, 1999). No group differences in secondary-level creative activity participation were noted, after primary level adjustment outcomes were controlled in the analysis. In secondary school, creative activity participation was found to be most likely pursued by students who reported frequent participation in creative and civic activities in primary school, and those who were identified with more emotional and behavioural difficulties in primary school. Several reasons can be traced in the literature to explain these findings. Participation in creative extra-curricular pursuits (e.g., the arts, music, drama) has been linked over time to positive academic outcomes, higher creative abilities (i.e., expression, risk-taking and imagination) (Burton et al., 2000) and problem-solving skills (Winner & Cooper, 2000). It is reported to serve as a context for self-regulation, improving socially competent behaviours, and leadership skills (Larson, 2000). Creative pursuits are believed to offer students a forum for establishing supportive networks with peers and adults (Eccles & Templeton, 2002). Students are also provided with opportunities to define themselves, and belong to socially recognised and valued creative groups (Fredricks et al., 2002). For example the type of music that a student plays is associated with particular beliefs, values, images, and behaviours, and could help develop friendships based on shared tastes (O'Neill, 1997). Associations between creative activity participation and calming down, getting into the right mood, or venting strong emotions have also been reported in the literature (Sloboda & O'Neill, 2001). The listed reasons could explain why students reported with emotional and behavioural difficulties in primary school were more likely to pursue creative activities in secondary school. It is also possible that the gender differences in creative activity participation found in the cross-sectional analysis in primary school (objective 1) was a function of the failure to control prior adjustment outcomes. These results once again explicate the benefits of longitudinal methodology over cross-sectional design (in terms of controlling for previous adjustment outcomes).

7.3 PRIMARY LEVEL ADJUSTMENT OUTCOMES PLAY AN IMPORTANT ROLE IN PREDICTING SECONDARY LEVEL ADJUSTMENT OUTCOMES

Each adjustment outcome in primary school positively predicted its corresponding adjustment component in secondary school. The health promotion principles of prevention, early intervention, rehabilitation, and recovery as a whole of school approach (Department of Education and Training [DET], 2006) are validated in the results.

Combinations of adjustment outcomes in primary school predicted civic and creative activities participation in secondary school. For example, students with low sense of belonging in primary school were more likely to participate in civic activities in secondary school. Participation in structured civic activities is believed to expose students to norms and values of organized, collective action, and create network ties that integrate teens into normative society (Youniss et al., 1999; Youniss et al., 1997). Association of participation in organised activities with heightening school engagement and attendance, better academic performance, interpersonal competence, and high aspirations for the future have also been reported (B. L. Barber et al., 2001; Lamborn et al., 1992; J. L Mahoney et al., 2003). It is probable that taking part in civic activities in secondary school satisfies the need to belong of students' who report low belonging in primary school (Baumeister & Leary, 1995). Prospective population based studies are necessary to investigate the predictive value of civic and creative-activity participation on school belongingness as students move along the senior years of secondary school. These studies are essential especially in light of evidence that suggests increased disengagement and alienation that ultimately leads students to leave school often starts or is exacerbated during the middle school years (Juvonen et al., 2004).

Additionally, students who reported frequent participation in creative and civic activities, and were identified with more emotional and behavioural difficulties in primary school, were found more likely to participate in creative activities in secondary school. As discussed previously, it is possible that participation in creative

extra-curricular activities serves as a therapeutic medium for early adolescents reported with emotional and behavioural difficulties (Burton et al., 2000; Eccles & Templeton, 2002; Fredricks et al., 2002; Larson, 2000; O'Neill, 1997; Sloboda & O'Neill, 2001). Students who previously enjoyed social-leisure pursuits in primary school could be attracted to the norms and values of organized collective action, leadership skills (Freeman & Anderman, 2002; Larson, 2000), and supportive networks (Eccles & Templeton, 2002) that creative activities offer. Although speculative, qualitative studies are warranted to investigate adolescents' conceptualisation of the benefits of creative activity participation in secondary school.

The finding of this study also report no significant differences in student perceived academic competence, self-worth, school belonging, loneliness and social dissatisfaction, and civic activity participation in school were noted. The lack of significant differences in this study could be attributed to the transition trend observed in this study. A trend of increased enrolment in non-government schools in secondary school was observed in the results. It is possible that the academic, emotional-behavioural, social and creative and civic participatory needs of students are adequately met in secondary school setting in WA. In secondary school, the sample was afforded more opportunities for participation in extracurricular activities. Increased frequency of participation in creative pursuits and reduced participation in social-leisure pursuits were also found subsequent to the transition. The evidence suggests that creative activity participation is beneficial for academic outcomes, creative abilities (i.e., expression, risk-taking and imagination) (Burton et al., 2000), problem-solving (Winner & Cooper, 2000), self-regulation, socially competent behaviours, and leadership skills (Larson, 2000). Encouraging creative pursuits is important and should continue to be encouraged in secondary school. The reduction in social-leisure activity participation identified in this study is a cause for concern, especially since participation in social-leisure pursuits has been identified to be important in mediating belongingness in school (J. L. Mahoney & Cairns, 1997; McNeal, 1995). In light of the evidence that suggests that the process of

disengagement and alienation that ultimately leads to leaving school often starts during the early adolescent years of schooling, encouraging social-leisure activity participation in students in secondary school is important and should be encouraged in WA schools (Australian Curriculum Studies Association [ACSA], 1996; Hill & Rowe, 1998).

7.4 PERSONAL AND CONTEXTUAL FACTORS PREDICTING STUDENT ADJUSTMENT OUTCOMES IN PRIMARY AND SECONDARY SCHOOL

Discussions on the contribution of individual personal and contextual factors identified to predict student adjustment outcomes as they transition from primary to secondary school are presented in the following section.

7.4.1 Personal factors predicting adjustment outcomes

The contribution of competence (i.e., domains of social acceptance, ability to have close friendships, physical appearance); coping skills (i.e., problem solving and non-productive); social skills (i.e., assertion, cooperation, empathy); motivational orientations for schooling (i.e., pursuit of effort goals, social-power goals, social-affiliation goals, drive for praise); and the level of worry reported by the student prior to transition, on adjustment outcomes prior to and subsequent to the entry into secondary school have been elaborated upon in the following sub-sections.

Social acceptance and close friendship competence: In the current study, primary students who perceived themselves to be well accepted by their peers were less likely to be reported with emotional and behavioural difficulties, and more likely to report a higher sense of overall self-worth and higher belongingness in school. A non-linear relationship between social acceptance competence and loneliness and social dissatisfaction in primary school was identified. High-level social acceptance competence served as a significant protective factor against loneliness and social dissatisfaction in primary school, while low-level social acceptance competence was a significant risk factor. In spite of students' social acceptance competence being relatively stable across transition, pre-transition social acceptance competence failed to predict emotional and behavioural problems, self-worth, or school belonging longitudinally (i.e., in secondary school). Those with low-social acceptance competence in primary school were at significant risk for being lonely and socially dissatisfied in the secondary setting. No prospective benefits in having high social acceptance competence in primary school against loneliness in secondary school were found.

Similar to the findings in primary school, concurrent perception of social acceptance in secondary school was positively associated with self-worth and school belonging, even after adjustment outcomes in primary school were accounted for in the analyses. In secondary school, students with low-level social acceptance competence were lonelier and socially more dissatisfied in school, when compared to the mid-range cluster. Contrary to the findings in primary school, high-level social acceptance competence failed to statistically protect the student against loneliness in secondary school. It is possible that in secondary school, other personal and school factors (i.e., a low-level of assertiveness in social engagements, a high-level social power motivation, and perception of high-level classroom task-goal orientation) play an important role in predicting loneliness in the setting, overriding the statistical benefits of high social acceptance competence. Additionally, in secondary school, social acceptance competence failed to predict emotional and behavioural difficulties, once primary level adjustment outcomes were considered. Past emotional and behavioural difficulties were thus found to exert a powerful influence on future difficulties, overpowering the protective influence of concurrent social competence in secondary school. In addition to students' perception of social acceptance, perceiving oneself to be competent in forging close friendships was identified as an asset where self-worth was concerned, not only in primary and secondary school, but also longitudinally (i.e., in secondary school based on primary school report).

Findings of the study validate the decisive roles that social acceptance and close friendship competence play in early adolescence (Leary, 1957; Sullivan, 1953). Attention to the vulnerability of students who feel that their peers do not accept them, and who are reported with emotional and behavioural difficulties in primary school is highlighted in these findings (Asher et al., 1984; Kupersmidt et al., 1990; Ladd & Troop-Gordon, 2003; Parker & Asher, 1987). The results also substantiate the importance of being socially accepted in predicting self-worth (Harter, 1989) promoting the feelings of school belongingness (Asher et al., 1984) and allaying or coping effectively with feelings of loneliness and social dissatisfaction in school. It is possible that students with low social acceptance competence are extremely

submissive, and lack social skills to engage with peers (Hartup & Sancilio, 1986). Social skills and life skills training around social acceptance and forging friendships may be beneficial to help students make friends and boost their confidence, so that they feel empowered, happy, and comfortable in their own skin. The reasons why these students feel socially unaccepted need further exploration. Optimism training to help students identify and challenge negative thoughts about oneself that could contribute to depressive and anxiety symptoms can be beneficial (Beck, Rush, Shaw & Emery, 1979; C. Roberts, Ballantyne, & Van der Klift, 2002; R. Roberts et al., 2002).

Physical appearance competence: Analogous with previous research findings (Harter, 1989; Lenerz, Kucher, East, Lerner, & Lerner, 1987; Marsh, 1989), self-perception of one's physical appearance was found to predict concurrent self-worth, academic competence, and belonging in primary school. Non-linear relationships between physical appearance competence and self-worth and academic competence were identified. Those who perceived themselves to be not very good looking (i.e., low-quartile physical appearance competence group) reported lower self-worth in primary school than their counterparts who felt they were average lookers. High-level physical appearance competence was beneficial to self-worth not only in primary school, but also longitudinally (i.e., in secondary school).

In secondary school, high-level physical appearance competence continued to predict higher self-worth, even after primary level adjustment outcomes were considered. These findings highlight the concurrent benefits of high-level physical appearance competence on self-worth, and the prospective vulnerability of not meeting social expectations of what good-looking ought to be. Competence in one's physical appearance failed to predict belongingness in secondary school, in spite of students' perception of their physical appearance being relatively stable across transition. Thus, one can rule out change in physical appearance competence scores as a possible cause for the loss of statistical predictive influence. In secondary school, besides previous adjustment outcomes, other school factors (i.e., classroom task-

orientation, teacher support, perception of year level teachers' expectation of success, and perception of the setting's tolerance to disability and chronic illness) overpower the influence of perception of physical appearance competence on belongingness. In terms of implications, these findings highlight the need to provide students with support to help them analyse and deconstruct social body image ideals and media messages. Additionally, helping students compensate by valuing the character of the person and their unique strengths and abilities needs attention. The evidence suggests that prevention programs within schools have had some success in improving students' self-esteem, satisfaction with body image, and eating behaviours (O'Dea 1997; O'Dea and Abraham, 2000). There is a need for the continuation of empirically validated programs in early adolescence.

***Coping skills**:* Discussions on the contribution of problem-solving and non-productive coping on student adjustment outcomes have been addressed in the following sub-sections.

Problem solving coping: Coping skills are related to self-regulation in young people, and is a core component of healthy adaptation (Eisenberg et al., 1997). In this study, a non-linear relationship between problem-solving coping and loneliness and social dissatisfaction in school was observed. Students who used low-level problem-solving coping strategies in primary school (i.e., working at a problem while remaining optimistic, and being physically healthy, relaxed, and socially connected) were significantly lonelier and socially more dissatisfied in the setting, when compared to their counterparts who used average range problem-solving strategies to cope. Being equipped with high-level problem-solving coping capacity was associated with high concurrent self-worth, but could not protect the student against concurrent loneliness and social dissatisfaction in primary school. Evidence suggests that problem-solving coping is beneficial for academic and personal adjustment (Recklitis & Noam, 1999; Seiffe-Krenke, 1995; Steinar et al., 2002; Tolor & Fehon, 1987; Wilkinson, Walford & Espenes, 2000). In this study, the problem-solving coping ability of the sample was unsuccessful in predicting emotional and behavioural adjustment, academic

competence, school belonging, and extra-curricular activity participation, both before and after secondary school transition. Longitudinally, no significant associations between the level of problem-solving coping capacity held in primary school and loneliness and social dissatisfaction in secondary school were identified.
Similar to the findings in primary school, low-level problem-solving coping capability significantly predicted increased loneliness and social dissatisfaction in secondary school, even after primary level adjustment outcomes were considered. No statistical benefits for using high-level problem-solving coping against loneliness and social dissatisfaction and supporting self-worth were observed. A significant reduction in the sample's problem solving coping ability was noted subsequent to the secondary school transition. It is probable that either the reduction in mean problem-solving coping style or the influence of unique predictors in secondary school, overpowered the predictive validity of problem-solving ability on self-worth in the secondary setting.

Non-productive coping: In addition to students' ability to actively solve problems, the non-productive coping strategies adopted in primary school were found to bear ramifications on adjustment outcomes. Strategies such as worrying, ignoring the problem at hand, and self-blame posed significant risks in school not belonging, perceived loneliness and social dissatisfaction, low self-worth, and low academic competence in primary school. No significant longitudinal damaging effects for using non-productive coping strategies in primary school on adjustment outcomes in secondary school were noted. The concurrent use of non-productive coping strategies in secondary school continued to predict low school belonging, low self-worth, and low academic competence, even after primary level adjustment outcomes were considered in subsequent analyses. Unlike the findings in primary school, non-productive coping failed to predict loneliness in secondary school. This is an unexpected finding given that the sample's use of non-productive coping skills was relatively stable across transition. As identified in the analyses, unique factors come into play to predict student loneliness in secondary school, which could have overpowered the contribution of non-productive coping on loneliness. A noteworthy

finding was that in secondary school, non-productive coping predicted students' emotional and behavioural difficulties, but only before primary school adjustment outcomes were considered (objective 5). After consideration of prior adjustment outcomes in primary school, the predictive influence of non-productive coping on emotional and behavioural difficulties reduced to non-significance. These findings suggest that use of non-productive coping is a function of prior emotional and behavioural health. Pre-transition emotional and behavioural health exerts a dominant influence on future health, overriding the influence of concurrent coping ability.

In summary, with regards to coping and early adolescent adjustment, findings of this study highlight the importance of not only resourcing students with problem-solving coping skills, but also the value of focusing on the reduction of non-productive coping mechanisms, and thus help students to self-regulate (Eisenberg et al., 1997). Such a stance has been supported by researchers who viewed coping skills as one way to facilitate young peoples' resilience (Department of Education Victoria, 1998; Wyn et al., 2000). In WA, teaching students coping strategies for actively solving problems, dealing with negative emotions aroused by uncontrollable events, and seeking appropriate social support when faced with a variety of controllable and uncontrollable life stresses are incorporated into the Aussie Optimism program (C. Roberts et al., 2002; R. Roberts et al., 2002). Findings of this study support the continuation of such programs in early adolescence during the transition from primary to secondary school. Empirical validation for the benefits of coping by seeking social support on adjustment outcomes was not found in this study.

Social skills: Total social skills scores were not used to appraise the predictive significance of social skills on adjustment, for the fear of preclusion of the individual contribution of explicit social skill domains (Portney & Watkins, 2000). Of the four skill domains accessed (Gresham & Elliot, 1990), co-operation, assertion, and empathy predicted different adjustment outcomes to a varying degree before and

after transition. The following sub-section discusses the role of social skill domains on adjustment outcomes.

Assertion: A non-linear relationship between assertive social skills and emotional and behavioural difficulties was identified in the analysis. Low-level assertive behaviour in primary school (e.g., initiating behaviours, introducing oneself, responding to the actions of others) was associated with parental report of better emotional and behavioural health in students. Students who reported frequent use of assertion in primary school also reported a low sense of overall self-worth. The ability to assert oneself was found to be a risk factor in primary school. It is possible that students with a low overall self-worth are more inclined to be excessively assertive or even aggressive in social engagements, or parents possibly consider children who are less assertive as being easier to manage, as they are less likely to engage in overt behaviours. Since this is a cross-sectional finding, comment cannot be made on causality.

Longitudinally, primary level record of assertiveness failed to predict self-worth and emotional and behavioural difficulties (in secondary school). Subsequent to the transition to secondary school however, those who reported low-use of assertion were lonelier and socially more dissatisfied in school, even after accounting for pre-transition adjustment records. Unlike the pre-transition findings, assertiveness failed to influence students' self-worth and emotional and behavioural difficulties in secondary school, although students' mean frequency of use of assertion remained stable across transition.

The findings of this study found that the relationship between assertiveness and student adjustment outcomes before and after secondary school transition varies as a function of developmental and ecological timing when measured. In primary school, although students who were less assertive (i.e., low-quartile group) did not display emotional and behavioural difficulties, these students were more likely to be lonelier and socially more dissatisfied in secondary school. Study findings support previous

research on the negative consequences of too much or too little assertiveness on social (i.e., a high level of assertiveness worsens relationships) and instrumental (i.e., a low level of assertiveness limits goal achievement) outcomes (D. R. Ames & Flynn, 2007; Costa & McCrae, 1992; Graziano et al., 1996; Kelly et al., 1982; Wilson & Gallois, 1993). There is need for assertiveness training to assist early adolescents to express their opinions, and negotiate discussions with their parents and fellow students without becoming aggressive. Information packages on child development to enable parents and teachers to understand appropriate developmental milestones can be beneficial for increasing awareness of not only the difference between assertiveness and aggressive behaviour in children/adolescents, but the lack of appropriate social skills in children. Support for the implementation of assertiveness training for all students within universal classroom interventions at an early age, especially in light of the detrimental consequences that low-assertiveness has on loneliness and social dissatisfaction in secondary school is provided in these results. Currently in WA, assertiveness training is incorporated in the social component of the Aussie Optimism program (C. Roberts et al., 2002).

Cooperation: Concurrent use of cooperative social skills in primary and secondary school (e.g., helping others, sharing material, and complying with rules and directions) predicted higher academic competence in primary and secondary school respectively, and higher school belonging longitudinally. One can draw from the cooperative theory of social interdependence to explain these findings (D. Johnson & Johnson, 1998). Students who cooperate with others possibly come across as more trusting and friendly, have higher expectations of assistance, and give and receive greater support to others (Tjosvold, Hui, & Law, 1998). Accordingly, they are more likely to work together with their classmates to accomplish shared group learning goals, and are less likely to engage in competitive or individualistic goals. Such students are more likely to report a higher sense of academic competence, better quality interpersonal relationships, and psychological health (Johnson & Johnson, 1988). Findings of this study highlight the value of cooperative social skills in not

only promoting academic competence in early adolescence, but also in harnessing belonging in secondary school.

Empathy: Results of this study highlighted the benefits of displaying empathy in social situations in secondary school. Although students who reported frequent use of empathy in primary school were not identified to be statistically better adjusted at that point in time, they were found more likely to participate in structured civic activities (e.g., volunteering and community based programs) and social-leisure activities (e.g., organised sports, physical education, school newsletter) longitudinally in secondary school. It has been suggested that those who frequently display empathy in social engagements are also capable of feeling a greater level of compassion toward the pain and suffering of others in the community (Davis, 1994). Empathy has also been associated with social intelligence, hypothesized to be essential for cooperative human interactions (Baron-Cohen & Wheelwright, 2004), and believed to serve as a buffer for all forms of aggression in adolescence (Bandura, 1999; Jolliffe & Farrington, 2004). The positive benefits of displaying empathy on civic-related activity participation in secondary school continued, even after previous adjustment outcomes in primary school were considered in subsequent analyses. This is an important finding especially in light of evidence that suggests boredom, disenchantment and reduced activity participation occur during the secondary years of schooling (Australian Curriculum Studies Association [ACSA], 1996; Hargreaves et al., 1996; P. W. Hill & K. Rowe, 1998). Incorporating empathy and life-skills training in schools is likely to benefit civic and social-leisure activity participation in students and should continue to be integrated into social skills training courses in schools.

Motivational orientations for schooling: According to the goal theory of achievement motivation, goals provide a framework within which students can self regulate by interpreting, experiencing, and reacting to the achievement context, resulting in different patterns of affect, behaviour, and cognition (Maehr & Braskamp, 1986; McInerney, McInerney et al., 1997). Mastery, social-power, social-

power, and praise goal orientations were identified to influence adjustment outcomes to a varying degree prior to and subsequent to secondary school transition. The subsequent discussions address the following sub-section.

Mastery goal orientation: The empirical literature unanimously supports the assertion that the adaptive qualities of a mastery goal orientation are beneficial across cognitive, socio-emotional, and achievement outcomes (Kaplan & Middleton, 2002; Midgley et al., 2001). Positive associations between mastery orientation and adaptive motivational behaviours such as persistence with difficult tasks (Elliott & Dweck, 1998), engagement in deep cognitive processing such as thinking about how newly learned material relates to previous knowledge (C. Ames, 1992), and higher levels of academic self-efficacy and competence (E. M. Anderman et al., 1999; Midgley, Anderman, & Hicks, 1995) have been documented. In turn, these beliefs and behaviours are related to progress in learning and school achievement, and may lead to an understanding of more complex relationships (C. Ames, 1992).

Analysis identified a non-linear relationship between mastery goal orientation and academic competence. Students who pursued low-level effort goal orientations in primary school reported lower academic competence when compared to the mid-range group. Subsequent to the transition to secondary school, students as a group, were found to pursue fewer effort motivational goals. These findings concur with previous Australian research that reports a decline in mastery goal pursuits in early adolescence (Simpson & McInerney, 2002). Whilst the low-level effort driven group were projected to be disadvantaged academically in secondary school (based on the longitudinal model), reporting a low-effort drive in secondary school failed to statistically predict concurrent academic competence. Several arguments can be put forth to explain this finding. Firstly, the decline in effort motivation subsequent to secondary school transition could be responsible for the loss of the contribution of effort motivation in predicting academic competence in the setting. Additionally, in secondary school, other personal factors (e.g., social power motivational orientation, and assertiveness) and school/classroom factors (e.g., classroom task orientation, and

academic assistance) were found to predict academic competence. These factors could have overpowered the predictive contribution of low-level effort motivation. Theoretically, researchers have argued that the transition to a new developmentally inappropriate environment that is performance-oriented decreases students' effort goal pursuits (E. M. Anderman et al., 1999; Eccles & Midgley, 1989; Eccles & Wigfield, 2002). Others attribute the decline in effort goal pursuits to the emergence of a differentiated concept of ability around the same time as transition, with students who accept ability as a fixed trait, likely to self-sabotage through this belief and accordingly not apply effort in their learning endeavours (Butler, 1999; Nicholls, 1984; Stipek & Gralinski, 1996). These findings underscore the need for primary schools and parents to encourage motivational virtues such as hard work and perseverance to succeed in all students, as these motivational qualities play an important role in boosting academic competence.

Social-power goal orientation: Primary students, who were highly motivated by the desire to obtain social-power, and be in charge of a group or be its leader, were more likely to take part in civic activities both concurrently and longitudinally in secondary school. These students also reported a higher sense of overall self-worth in primary school. In secondary school, the drive for social-power motivation failed to predict civic activity-participation after pre-transition adjustment outcomes were considered. Analogous to research that reports a decline in leader pursuits in Australian adolescents across grades 7, 8, and 9 (Simpson & McInerney, 2002), a reduction in the sample's drive for social-power as a motivational factor to succeed in school was observed in this study across transition. The Big Fish in the Little Pond Effect(BFLPE) could explain the lower social-power motivation subsequent to the secondary school transition (Marsh & Hau, 2004a). This change could be responsible for the loss of the predictive power of social-power motivation on civic-activity participation in secondary school.

In secondary school, the drive for social-power as a motivational orientation to succeed in school influenced adjustment outcomes of loneliness and social

dissatisfaction and academic competence. It did not contribute towards the prediction of the adjustment component of school belongingness. Perception of loneliness in secondary school was found to increase as the person's drive for social power increased from the mid-range to high-quartile social power driven category, even after pre-transition adjustment outcomes were controlled. One can draw from two lines of research to explain this association. Organisational research on leadership would argue that students who are highly driven by social-power are highly assertive individuals (Graziano et al., 1996; Kipnis et al., 1980). Such persons are most likely to damage social relationships and reputations because they are more willing to engage in conflict and to use defensive tactics with others in their attempt to gain power and control. Assertive people often lack the ability to engage in social satisfying relationships, characteristic in adolescence (Bernstein & Watson, 1997) and therefore are more likely to be lonely and socially more dissatisfied in school. Others argue that being highly driven by social-power motivation could lead to students being perceived as bullies, because they are willing to use proactive measures to establish dominance and leadership in their peer group (Juvonen et al., 2003; Pellegrini et al., 1999). Although social-power driven students may enjoy social status among their peers, mainly because they challenge adult norms (Juvonen et al., 2003), they mainly form friendships with other students who are similar to them.

Social-power motivation positively influenced academic competence in secondary school, even after primary level adjustment outcomes were considered. The association of performance goals with the use of meta-cognitive strategies (Bouffard et al., 1995) could explain the likely association with academic competence. In summary, although students with social-power motivational orientation might report a higher academic competence in secondary school, they also run the risk of being lonely.

Methodologically, these findings are supportive of current evidence that suggest a curvilinear relationship of assertiveness and social-power to underlying tradeoffs

between social outcomes (a high level of assertiveness worsens relationships) and instrumental outcomes (a low level of assertiveness limits goal achievement) (D. R. Ames & Flynn, 2007). Findings of the study highlight the limitations of sole reliance on linear measures of statistical association that may be responsible for seriously underestimating the predictive value of many measures (Simonton, 1995). Provision of life/social skills training with an emphasis on leadership, volunteering and community-based programs in primary and secondary schools is necessary to provide early adolescents with skills to learn the art of balancing the social and instrumental outcomes of being a leader. This may not only help improve self-worth and civic-activity participation in primary school, but also help boost perception of academic competence and reduce feelings of being lonely and socially dissatisfied in secondary school.

Social affiliation goal orientation: Being social engenders feelings of belonging, although occasionally it can result in negative feelings of isolation or rejection (loneliness), if the need to belong is unfulfilled (Baumeister & Leary, 1995; McInerney, Marsh et al., 2003). Research on adolescent achievement motivation at school has identified social affiliation (i.e., dealing with perceived concern for friendships at school in their learning context), and social concern (i.e., dealing with perceived concern for other students' schoolwork and a willingness to offer help) goal pursuits to be important (McInerney, Marsh et al., 2003; McInerney, Simpson et al., 2003).

In this study, social affiliation orientation in primary school not only significantly predicted concurrent school belonging, but also increased belonging in secondary school. A non-linear relationship between social affiliation and loneliness in school was observed. Students who pursued low-level social affiliation goals were lonelier and socially more dissatisfied in primary school. The pursuit of high-quartile affiliation motivation protected the student against loneliness and social dissatisfaction longitudinally in secondary school. Despite the sample's drive for social affiliation motivation remaining relatively stable across transition, concurrent

affiliation motivation in secondary school failed to statistically influence school belonging and loneliness in secondary school, both before and after primary level adjustment outcomes were accounted for in the analyses. These findings suggest that social affiliation goals for schooling play an important role in predicting student adjustment outcomes only in primary school. In secondary school, primary level adjustment outcomes and unique personal and contextual factors reduce the statistical contribution of affiliation motivation on adjustment.

Praise motivational orientation: Evidence of the value of praise as a motivator in school is conflicting. A meta-analysis conducted by Deci, Koestner, and Ryan (1999) suggested that verbal rewards enhanced intrinsic motivation, especially when communicated as a source of information/feedback rather than administered as a form of control. Other researchers argue that that praising students was not related to improved performance or to gains in self-esteem. Instead, developmental changes in student's perceptions of their capability influenced the amount of effort they applied to succeed (Juvonen & Nishina, 1997).

As students' drive for praise as a motivator for schooling increased from mid-range to high-level category (i.e., upper-quartile), participation in creative activities in primary school and longitudinally in secondary school were found to increase. These findings support the value of praise as an enhancer of intrinsic motivation when communicated as a source of information/feedback rather than administered as a form of control from significant others such as the teacher (Deci, Koestner, & Ryan, 1999). Subsequent to the secondary school transition, a trend towards reduced drive for praise as a motivator to succeed at secondary school was identified ($p = 0.05$). This change score may be responsible for the loss of the predictive influence of praise on creative-activity participation in the secondary school setting. The competitive academic environment prevalent in most secondary school settings has been speculated to increase feelings of self-consciousness in students leading to espousal of relative ability goals (McInerney, 1995; McInerney, Roche et al., 1997; McInerney et al., 2001). The associated change in the direction and salience of

external evaluations such as grades and marks as criteria for evaluating success instead of praise, could also contribute to the loss of the predictive significance of praise on creative activity participation in secondary school. Moreover, in addition to previous adjustment outcomes, several family factors (e.g., family-type, parental expectations for scholastic success) and school factors (e.g., social support from secondary school level teachers) were found to influence creative activity participation in secondary school. These factors could have overpowered the predictive influence of the drive for praise on creative activity participation.

Worrying prior to transition: Pre-transition school belonging was found to vary as a function of how worried students were about the impending transition to secondary school. Australian government reports highlight several efforts such as: social events that encourage students from each side of the transition to meet and know each other; secondary school visits for primary students prior to relocation; orientation days; common assemblies; curriculum planning across primary and high schools in a cluster; appointing a transition coordinator to the secondary school staff, undertaken by schools to ease the transition to secondary school (Australian Capital Territory [ACT], 2005). These efforts usually take place during the last term of primary school. It is likely that those who report to be highly worried about the impending transition to secondary school require additional support to help problem solve and challenge negative thoughts about the future that can contribute to depressive and anxiety symptoms (Beck et al., 1979; Kendall, 2000). Attribution re-training to help students make more accurate and optimistic explanations for life events such as the impending transition to secondary school should continue to be provided in primary schools (C. Roberts et al., 2002; R. Roberts et al., 2002). Those who report to be worried prior to secondary school transition need to be included in training.

7.4.2 Personal factors unique to secondary school predicting adjustment outcomes

This study identified certain personal factors (i.e., perception of competence in the area of athletics and behavioural conduct, task-motivational orientation, and

expectation of scholastic success) that contributed to the prediction of adjustment outcomes only subsequent to the transition into secondary school. Discussions on the contribution of the listed factors on different adjustment outcomes are presented in the following section.

Athletic competence: Perceived athletic competence failed to influence social-leisure activity participation in primary school. Subsequent to the secondary school transition, being athletically competent emerged as a significant asset. It has been suggested that the focus on performance goals in secondary school, where being among the best in an environment that is more competitive and generally has more competitors, may limit students' participation and beliefs about their individual potential (Marsh & Hau, 2004b). Although univariate testing identified no systematic change in the sample's mean athletic competence score across transition, only those who perceived themselves to score highly along the athletic competence continuum were confident to frequently compete, and take part in social-leisure pursuits (e.g., organised sport, school newsletter, physical education, excursion etc) in secondary school. It is imperative that schools help promote a culture, where acceptance of persons' unique strengths and abilities is the norm, rather than appraisal of the quality of one's capacity. Such a school philosophy could help provide opportunity for all to engage in social-leisure activities to further develop skills, discover preferences, build confidence by associating self with others, and help structure athletic identity in a safe and collaborative school community (Feldman & Matjasko, 2005).

Behavioural conduct competence: According to the competence-importance discrepancy model (Harter, 1987), individuals' self-worth depends upon the extent to which they think of themselves as competent in areas they consider important or are deemed important by the close setting they associate with. In secondary school, students are expected to conform to strictly set behavioural norms laid down by the setting (cited in Ahola-Sidaway, 1988; Hargreaves et al., 1996). Thus, the realisation that one is deficient in an essential trait (e.g., the ability to behave appropriately)

would seemingly have an untoward effect on the overall value that the individual places on the self (i.e., one's self-worth). In this study, students who perceived themselves to score low in comparison to others in the manner in which they behaved (i.e., low-behavioural conduct competence) reported lowered self-worth. Equally, on the contrary, high-behavioural conduct competence supported high self-worth. The effects of students' perception of their behavioural conduct on self-worth were evident even after prior adjustment outcomes in primary school were accounted for in subsequent analyses. The vulnerability of those who feel that they do not have the ability to behave in a manner that they perceive to be appropriate in secondary school is highlighted in these results. Thus in terms of implications, these findings suggest that a possible way of improving students' self-worth in secondary school is by providing students with behavioural support so that they are aware of, and familiar with, deciphering between what is socially accepted/not accepted behaviour. Provision of assistance to self-regulate and control impulsive behaviour, so that students feel good about the way they behave and about themselves as people can be beneficial to overall adjustment.

Task-motivational orientation: In secondary school, the task goal orientations pursed by students significantly predicted overall sense of self-worth. Early adolescents who were interested in the task of learning for improving their understanding reported a superior sense of self-worth, even after adjustment outcomes in primary school were controlled. Those who pursue task goals are believed to be motivated to learn by the feelings of satisfaction and competence or actual intellectual development through application of the task (E. M. Anderman et al., 1998). A mastery or intrinsic focus qualifies both the context of the task and amount of commitment in the task that the person independently undertakes (C. Ames, 1992). Such individuals possibly possess better organisational skills, and use more efficient and logical methods in decision making when confronted with complex intellectual tasks, even if it required more effort (C. Ames, 1992). Accordingly, adolescents who are task driven are less likely to equate their failure to lack of intelligence and more likely to attribute failure to the lack of effort applied in

the given task (Stipek & Gralinski, 1996). It is possible that in the performance driven competitive secondary school environment (Marsh & Hau, 2004a, 2004b), task goal driven students are less intimidated by competition and have a stronger belief in their capability of achieving satisfactory outcomes. Although speculative, further empirical investigations are warranted to confirm this hypothesis.

Expectation of scholastic success and importance placed on empathy: Although personal expectation for scholastic success was included in the predictive models in primary school, it failed to predict adjustment outcomes in that setting. In secondary school, a reduction in the frequency of participation in social-leisure pursuits could be predicted, if students lowered their scholastic expectations (from 'university/trade level achievement' to 'up to grade 12' completion expectation). Expectations about personal capabilities have been found to determine behaviour and influence motivation, effort, and persistence regarding both the difficulty of the task and task-efficacy (Bandura, 1989). It is likely that those who expected themselves to achieve less academically, were not enthusiastic or confident enough to take part in social-leisure activities in secondary school. Additionally, students who placed greater importance on empathy as a social skill were more likely to engage in social-leisure pursuits in secondary school. The predictive power of these two factors (i.e., expectations of scholastic success and importance placed on empathy) on social-leisure activity participation in secondary school was reduced to non-significance when previous adjustment outcomes in primary school were considered in subsequent regression analyses. These findings suggest that pre-transition reports of social-leisure activity participation exert a dominant influence on future participation, overriding the concurrent value of students' expectations and empathy social skills.

In summary, as discussed in the preceding section, some unique personal factors influence student adjustment outcomes subsequent to secondary school transition. Some of these factors statistically overpowered the contribution of primary level factors, others continued to predict adjustment in secondary school even after

primary level adjustment outcomes were controlled, and still others failed to predict adjustment outcomes in secondary school once primary level adjustment outcomes are considered. The effects of personal factors on school adjustment outcomes in early adolescence were dependent on not only the developmental and ecological time when assessed, but also the contribution of the other personal and contextual factors accounted for in the analyses.

7.4.3 Family factors predicting adjustment outcomes

Student adjustment outcomes in primary school could not be predicted by the educational level of their parents, parents' occupations, family functioning, or perceived level of social support received from their family. Regression models revealed that family factors could not predict any additional variance in self-worth, loneliness and social dissatisfaction, or participation in creative activities in primary school than that accounted for by student factors.

The following section discusses the contribution of parental self-efficacy, the employment status of the male parent, parental expectations of scholastic success for their child, and the level of parental school-based involvement on adjustment outcomes (i.e., academic competence, school belonging, emotional and behavioural difficulties, and participation in social-leisure and civic activities) before and after secondary school transition .

Parental self-efficacy: High parental self-efficacy has been identified to be associated with the use of positive parenting strategies, persistence in demanding parenting situations, and a wide range of child socio-emotional, behavioural and academic outcomes in children and youth (Ardelt & Eccles, 2001; P. Coleman & Karraker, 1997; Jones & Prinz, 2005). The detrimental effects of low parental self-efficacy on student adjustment were evident in this study. Those whose parents reported low efficacy in helping them succeed in primary school were more likely to be reported with concurrent and prospective emotional and behavioural difficulties.

In secondary school, the detrimental effects of parental self-efficacy on student emotional and behavioural adjustment persisted, even after pre-transition adjustment outcomes were accounted for in subsequent analyses. It is likely that parents who reported greater confidence in their ability to help their children in schooling were more likely to use positive parenting strategies, display increased parental involvement, and are more resilient in handling and coping with their child's emotional and behavioural needs. Although, 53.4% (N = 142) of parents reported

attending a parent program aimed at assisting their child's transition to either middle or secondary school, the study findings failed to offer any evidence that attending such a program statistically benefitted student adjustment outcomes in secondary school. There is a need for schools to offer parents additional support in terms of information sessions, self-directed parent booklet/newsletter items to not only help them understand developmental changes in adolescence, but also offer parents knowledge and opportunities to learn skills on how to deal with challenging adolescent behaviours. These strategies could help improve parents' beliefs and confidence in their ability to make a difference in their child's learning (Hoover-Dempsey & Sandler, 1995, 1997).

Parents' employment status: Previous research has indicated that parents' own involvement in community activities is a strong predictor of their adolescents' involvement in similar activities (Fletcher et al., 2000; J. L. Mahoney & Magnusson, 2001). Factors such as availability of opportunities for modelling altruistic behaviour and community involvement, and better awareness of social-leisure opportunities have been cited as possible contributors in the manifestation of socially responsible thoughts and actions in children (J. L. Mahoney & Magnusson, 2001; Pancer & Pratt, 1999).Comparable findings were found in this study. Belonging to a household in which the male parent was unemployed and at home was associated with increased civic participation in children, both in primary and secondary school. Having a female parent who was working part-time as opposed to being in full-time employment, was found to predict increased social-leisure activity participation in primary school. It is probable that parents who are working in part-time employment or unemployed have the added time and opportunities to: engage in more hand-on tasks with their children; take them to or encourage them to participate in organised social-leisure activities; model the ethics of social responsibility, empathy, altruism, and of participation in volunteering activities (Fletcher et al., 2000; J. L. Mahoney & Magnusson, 2001).

Longitudinally, pre-transition family demographics failed to influence civic and social-leisure activity participation in secondary school. In terms of implications, these findings highlight the need for schools to encourage students to take part in additional civic related involvement opportunities (e.g., volunteering, fundraising, student council etc.) and social-leisure activities (e.g., physical education, organised sports, excursions, school newsletter, library) using a universal whole of school approach. Students who come from families where both parents are working full-time require additional encouragement for participation. Youth who actively participate in organised extra-curricular activities are less likely to report problems with alcohol and drugs (Youniss et al., 1990; Youniss et al., 1997), aggression, antisocial behaviours and crime (J. L. Mahoney, 2000). In view of this evidence, encouraging activity participation in schools is critical for the overall advancement of the community and nation (Black, 2007; King, 1999).

Parental expectations of scholastic success: The expectations of scholastic success that parents held for their children in primary school were found to predict academic competence, school belonging, and emotional and behavioural difficulties in their children. Emotional and behavioural problems could be predicted to fall as parental expectations of academic success increased from trade level to university level aspirations. These findings suggest that parents adopted higher expectations if they felt that their child had typical emotional and behavioural functioning, or students' emotional and behavioural repertoire caused parents to lower their academic optimism.

Pre-transition scholastic expectations held by parents were predictive of student perceived academic competence in secondary school. Across secondary school transition, parents overall displayed a trend of increased expectations for scholastic success. Concurrent parental expectations in secondary school however failed to influence students' emotional and behavioural health and reports of school belonging, both before and after adjustment outcomes in primary school were considered. The significant positive predictive influence of parental expectations of

scholastic success on student perceived academic competence and frequency of participation in creative activities in secondary school held strong, even after adjustment outcomes in primary school were accounted for in analyses. It is likely that parents of academically competent students hold higher expectations of scholarly success, or those whose parents expect more from them in school feel more empowered to succeed. Parental expectations lead children to set high standards for their education and to make greater demands on themselves from an early age that result in high achievement (Boocock, 1972). These findings corroborate research that reports parent expectations to be related to children's academic achievement (Entwisle & Baker, 1983; Entwisle & Hayduk, 1978; Singh et al., 1995), and have an even greater influence on children's achievement attitudes than previous performance (Parsons, Adler, & Kaczala, 1982). It seems that students internalise aspects of parental values and expectations as they form an image of themselves as a learner into their so-called educational self-schema (Desforges & Abouchaar, 2000). The motivational value of building an expectation for success in predicting not only superior school belonging in primary school, but also increased academic competence both before and after transition, and increased creative activity participation post-transition is supported in these findings. Encouraging parents to place higher expectations of scholastic success for their children is likely to benefit student adjustment in school.

School-based involvement by parents : Families' involvement in their children's schooling has been found to contribute to improved motivation to learn and academic self-confidence (Grolnick & Slowiaczek, 1994; Hoover-Dempsey et al., 2001), improved academic performance (J. D. Finn, 1998; Keith et al., 1998) and achievement on standardized tests (Sui-Chu & Willms, 1996), and better behaviour in school (Gonzalez, 2002). Higher school completion rates (Rumberger et al., 1990), and better defined educational expectations and plans about the future (Eccles et al., 1988; Trusty, 1999) have also been identified in students whose parents are involved in their education. In this study, non-linear relationships between parental school-based involvement and emotional and behavioural difficulties and school belonging

in students were observed. Those whose parents reported low school-based involvement in primary school were more likely to report low school belonging longitudinally (in secondary school), and be reported with both concurrent emotional and behavioural difficulties and longitudinal emotional and behavioural difficulties (in secondary school). A significant reduction in mean parental school-based involvement was noted subsequent to secondary school transition. This finding concurs with past evidence reports on reduced parental school-based involvement subsequent to secondary school transition (L. H. Anderson et al., 2000; Carnegie Council on Adolescent Development, 1989). It could be argued that the declined school-based involvement by parents is developmental in nature, as early adolescents' move towards increased autonomy and independence (Steinberg, 2002). No statistical associations between the level of parental school-based involvement in secondary school and student adjustment outcomes were found in this study, both before and after pre-transition adjustment outcomes were considered. It is likely that in secondary school, unique personal and contextual factors (as identified in chapter 6) overpower the influence of parental school-based involvement on student adjustment.

7.4.4 Family factors unique to secondary school predicting adjustment outcomes

Home-school communication: Whilst in primary school, low school-based involvement by parents was found to be associated with emotional and behavioural difficulties in students, in secondary school, higher levels of home-school communication were associated with higher concurrent emotional and behavioural difficulties. The negative effects of high home-school communication on students' emotional and behavioural health were evident even after pre-transition adjustment outcomes (i.e., including emotional and behavioural difficulties in primary school) were considered in the subsequent analysis, and despite a reduction in the mean level of parental home-school communication identified across transition (i.e., as identified in paired *t*-test analysis). Various explanations for these findings are available in the literature. Firstly, it is possible that parents of students who display behavioural and emotional difficulties in secondary school make more contact with

schools as they are worried about their child's emotions and behavioural health (Newman, 2004a). Secondly, in early adolescence, it is plausible that home-school communication is viewed as a sign of over-intrusion as the individual moves towards increased independence and autonomy (Steinberg, 2002). Students may display greater emotional and behavioural difficulties in rebellion to greater than average home-school communication. Since this is a cross-sectional finding and the current study has only two data collection points, one should refrain from speculating causality.

It appears that at different points across the primary-secondary school transition, different types of parental involvement play a role in influencing students' emotional and behavioural health. Encouraging parental attendance at conferences, phone contact with school is beneficial in primary school. In secondary school, authorities should pay more attention to students whose parents make very frequent contact with the school authorities (e.g., in terms of frequent contact with teachers or the principal for information, frequently talk to teachers about school routines/rules, frequently writes notes to teachers, or are very concerned about child's accomplishments). Children of these parents are more likely to be reported with higher than average emotional and behavioural difficulties.

Family functioning: There is evidence that the relationships that children have with other members of their family, particularly their parents, influence healthy development and psychological wellbeing (Shonkoff & Phillips, 2000). Patterns of family functioning characterised by conflict, disengagement, and disorganisation have been linked to externalizing and internalizing problem behaviours, reduced peer popularity and reduced self-concept in children (Bronstein, Clauson, Frankel Stoll, & Abrams, 1993). Some studies have documented that the level of conflict in the family is a better predictor of children's adjustment than family structure (Borrine et al., 1991; Forehand et al., 1986).

In the current study, although parental report of the functioning of the family as a unit met criteria for inclusion into the regression model in primary school, it only emerged as a predictor of emotional and behavioural difficulties in secondary school. In secondary school, early adolescents from families with higher reported difficulties in functioning (not necessary pathological) were more likely to be reported with behavioural and emotional difficulties. From a developmental perspective, one possible explanation for this finding is that factors such as organization in the home and a secure family base assume greater importance in influencing students' emotional and behavioural wellbeing during and subsequent to the ecological and developmental changes that occur in early adolescent transition to secondary school (Dubois et al., 1994; Simmons & Blyth, 1987). When previous adjustment outcomes in primary school were accounted for in subsequent analyses, the detrimental effects of family functioning on reported emotional and behavioural difficulties in children reduced to non-significance. These results suggest that families' reports of difficulties in functioning when a child is in secondary school is a function of prior emotional and behavioural health of the child. Pre-transition emotional and behavioural difficulties exert a dominant influence on future emotional and behavioural health, overpowering the influence of concurrent family functioning. Families who report their children to have emotional and behavioural difficulties in primary school are at risk to report difficulties in family functioning subsequent to their children's transition into secondary school.

Belonging to a blended family: Unique to the secondary school was the detrimental effect of belonging to a blended family on civic activity participation. Typically, the disruption of time, attention, and financial burdens complicate the blended family dynamics (National Association of Social Workers [NASW], 1995). Parents' own involvement in community activities has been identified to be strong predictor of their adolescents' involvement in school, or community-based extracurricular activities (J. L. Mahoney & Magnusson, 2001; Pancer & Pratt, 1999). It is probable that children in blended families have to compete for parental attention with their siblings, or change households regularly to stay with the non-custodial parent, or are

not afforded the attention or opportunities to reap the modelling effects of parental engagement in civic pursuits.

These study results highlight the need for children from blended families to be afforded with additional support, time, attention, and encouragement to take part in volunteering, fundraising events, or leadership roles in student council/prefect in secondary school. Students from blended families should be encouraged to participate in civic activities in school, especially since participation in civic pursuits is likely to inspire continued involvement in political and social causes in young adulthood (Fredricks & Eccles, 2006; Glanville, 1999).

In summary, some unique family factors influenced student adjustment outcomes in secondary school. Some of these factors statistically overpowered the contribution of primary level factors. Others continued to predict adjustment in secondary school even after primary level adjustment outcomes were controlled, and still others failed to predict adjustment outcomes in secondary school once primary level adjustment outcomes were considered. The effects of family factors on school adjustment outcomes in early adolescence were thus dependent on not only the developmental and ecological time when assessed, but also the contribution of the other personal and contextual factors accounted for in the analyses.

7.4.5 School/classroom factors predicting adjustment outcomes

The type of school sector accessed by the student (i.e., public, Catholic, independent), the organisational model supported by the participating school (i.e., primary/secondary school model, K-12 with middle school, K-12 without middle school), and the demographic characteristics of the teachers involved in the study (i.e., age, gender, educational level, training in teaching students with disability/chronic illness, years of experience in teaching students with disability/chronic illness, and professional development in inclusive teaching) each failed to predict early adolescent adjustment outcomes.

The change in the school sector accessed by the sample in this study across the primary-secondary school transition highlights parental preference in Western Australia to move their children away from public educational system in terms of the secondary school they chose to send their child to. A closer inspection of the transition profile of the 266 participants before and after transition clarifies this deduction. Forty-seven percent (n = 125) of the participants in this study received their primary education from the government sector. Twenty-four percent accessed independent school sector (n = 64) and 28.9% made avail of the Catholic (n = 77) educational sector in primary school. Post-transition, there was a reversal in school sectors accessed, with a majority of students entering into the independent school sector. The percentage of students who made avail of the government school educational sector for their secondary education dropped to 29.7% (n = 79).

A trend of increased enrolment in non-government schools has been identified in Australian studies (Lamb, 2007). This trend is believed to impact on the educational provision of students in Australia, and hypothesized to have the potential to further entrench social class differences in educational outcomes (Lamb et al., 2004). Speculation that this increased choice and competition are intensifying between-school differences within the government sector have also been put forth (Lamb, 2007). In this study, at pre-transition, a significant relationship between the type of school sector accessed in primary level and household SES-background was

observed. Predominantly, students from high-SES households, under-accessed government schools and were over-represented in independent/private schools. The independent/private school sector was under-represented by students from mid-range households. It is likely that parents are aware that the social composition of a school influences the academic achievement of their child (Organisation for Economic Cooperation and Development [OECD], 2005). It has been suggested that choice and social-class composition are mutually related, and are exacerbating the school separation of students by their SES-background (Lamb, 2007). The contribution of secondary level school and classroom factors on student adjustment outcomes could be an artefact of the philosophy underpinning the privatised education sector as portrayed in the public media. Future scientific scrutiny is warranted to clarify this speculation.

The following sections discuss school/classroom factors that predicted adjustment outcomes.

Classroom ease: When compared to the mid-range category, perceptions of classroom work as highly easy (i.e., upper-quartile classroom ease group), and exceedingly difficult (low-quartile classroom ease group) both before and after secondary school transition predicted corresponding academic competence. Longitudinally, students who found classroom work in primary school exceedingly difficult continued to report lower academic competence in secondary school, when compared to the mid-range grouping. Research on the difficulty of classroom work subsequent to secondary school transition is mixed. Some case investigations report classroom work to be easier and the workload lighter in secondary school (Green, 1997),while others report increased workload which was not necessarily challenging or as hard as expected (Kirkpatrick, 1997). Across the secondary school transition, students reported tests and assignments, homework and overall classroom work to be more difficult (i.e., there was reduced mean classroom work ease). These findings support the need for primary and secondary schools to provide academic support to students who find classroom work difficult, as these students have a predisposition to

also have lower academic competence. Those who find classroom work in primary school difficult (i.e. low-quartile classroom work ease category) need special attention, as they are vulnerable to lower academic competence longitudinally. From an equally opposite vantage point, perceiving classroom work in primary school as easy does not guarantee that the student will continue to maintain higher competence prospectively. It is the concurrent perception of classroom work ease that is an important indicator of academic competence.

Inadequate academic assistance: Offering students' satisfying academic, social, and physical needs support is an important factor in establishing positive relationships with students. It has been suggested that when teachers teach well and provide appropriate learning support, students are more likely to succeed instead of becoming frustrated and withdraw or play up in class (Evertson & Emmer, 1982). Academic support helps students to perform well thereby increasing their academic competence. In this study, parental report on the receipt of inadequate academic assistance in primary school predicted concurrent and prospective emotional and behavioural difficulties in students. Across the school transition, parents reported a slight agreement on the adequacy of resources and facilities offered by their child's schools to address their child's academic needs (Kappa coefficient = 0.13). Almost eighty-two percent of students who were identified to be receiving inadequate assistance in primary school were reported to be adequately assisted in secondary school. The receipt of inadequate academic assistance in secondary school failed to influence emotional and behavioural health of students, both before and after controlling for adjustment outcomes in primary school. It is likely that the academic needs of those who required assistance and displayed emotional and behavioural difficulties due to inadequate support in primary school were adequately met in secondary school.

Classroom autonomy: Learning environments that support autonomy provide students with a sense of personal control (B. K. Barber & Olsen, 2004; Connell, 1990; L. M. Deci & Ryan, 1985; R. M. Ryan & Deci, 2000). According to the

theories of attribution and control (Abramson, Seligman, & Teasdale, 1978) internal locus of control positively influences mental health and overall well-being (Lazarus, 1999). In the current sample, primary students who perceived that their classrooms afforded them greater autonomy to engage in decision-making processes reported significantly higher self-worth. No longitudinal benefits of belonging to autonomy-granting classrooms in primary school were noted. Across the transition, students perceived the mean level of classroom autonomy to be relatively stable. Classroom autonomy in secondary school failed to influence students' adjustment outcomes, both before and after pre-transition adjustment outcomes, were considered. These findings substantiate the value of affording early adolescents opportunities to have a say on how they use classroom time, choose assignments, or pace their work, in order to help boost their self-worth while in primary school. Study findings failed to substantiate the benefits of granting students autonomy in secondary level classrooms. It is probable that in secondary school, other personal factors (i.e., high-level behavioural conduct competence and task-motivational orientation) and prior adjustment outcomes (i.e., mainly primary level self-worth) exert a dominant influence on students' self-worth in secondary school, and overpower the statistical contribution of concurrent classroom autonomy.

Classroom affiliation: In addition to the need for autonomy, students experience the need to feel affiliated or connected to those who are part of their learning environment (Newman, 2000). This need to feel related to others is of central importance for the internalisation of values, behaviour, and engagement in communal tasks (Roeser et al., 2000; R. M. Ryan, Stiller, & Lynch, 1994). The satisfaction of this need results in individuals becoming affectively bonded with, and committed to, the school, and therefore inclined to identify with and behave in accordance with its expressed goals and values (M. Finn, 1989). Deprivation of this need of classroom affiliation was found to be associated with a variety of negative outcomes such as emotional distress, forms of psychopathology, increased stress, and health problems (Baumeister & Leary, 1995). Non-linear relationships between classroom affiliation and school belongingness and loneliness and social

dissatisfaction were observed in this study. Primary students who perceived their classrooms to score low in affiliation were more likely to report a low sense of belonging and a high sense of loneliness and social dissatisfaction in the setting, when compared to those who perceived their classrooms to have a mid-range affiliation level. Additionally, high-level classroom affiliation protected students against loneliness and social dissatisfaction in primary school, but could not statistically predict increased belongingness in school.

A significant reduction in the mean level of affiliation subsequent to the transition into secondary school was identified. Those who perceived their secondary level classrooms to be low in affiliation reported significantly lower belongingness and higher loneliness in the setting, when compared to those who perceived their classrooms to have mid-range affiliation. These effects were evident even after pre-transition adjustment outcomes were considered. Unlike the findings in primary school, high-level classroom affiliation failed to protect students against loneliness and social dissatisfaction in secondary school. Belonging to secondary level classrooms that scored higher on the affiliation continuum was associated with higher concurrent self-worth. Symbolic interactionists would argue that approval of significant others such as one's classmates is incorporated into the person's overall sense of worth (Harter, 1996). The detrimental effects of low-level classroom affiliation on student adjustment outcomes in school are highlighted in these findings. Promoting a classroom structure where all students feel safe, included in classroom activities, are helped to settle in, and are given a sense of ownership and pride to be a member of, is likely to not only support belongingness and minimise loneliness and social dissatisfaction in both primary and secondary school level, but also boost overall sense of self-worth.

Classroom involvement: Emotional bonds with teachers and schools affect student motivation, behaviour, and emotional well-being through the effect on student engagement during learning activities (R. M. Ryan & Deci, 2002). Attention, effort, persistence, interest, and enjoyment characterise activity involvement. In this way,

involved students are likely to be more concentrated, display less oppositional behaviour and show fewer symptoms of emotional problems such as anger and anxiety. Similarly, those who lack involvement are more likely to be disaffected, more passive, not try hard, and give up easily when faced with difficult tasks (Wellborn, 1991). Classroom activity involvement in this study emerged as a significant predictor of belonging in the primary school. A non-linear relationship between classroom involvement and loneliness and social dissatisfaction in primary school was identified. Students who reported high-level classroom involvement in primary school were less likely to be lonely and socially dissatisfied when compared to their counterparts who reported mid-range involvement. Longitudinally, those who were highly involved in primary school were predicted to be more likely to participate in civic-activities in secondary school.

A reduction in the mean level of classroom involvement was observed subsequent to secondary school transition. In secondary setting, concurrent level of classroom involvement failed to statistically predict school belonging, protect the student from loneliness and social dissatisfaction, or contribute towards the prediction of civic activity participation, both before and after primary school adjustment outcomes were considered in the analyses. In summary, in relation to classroom involvement, study findings suggest that encouraging students to problem solve, and discuss work with their fellow classmates may be beneficial in promoting school belonging and reducing loneliness only in primary school. The results of this study do not statistically endorse the validity of classroom involvement in promoting adjustment outcomes in secondary school.

Professional development on teaching students with chronic illness: In addition to classroom attributes, the quality of the classroom teacher is asserted as the most critical in-school influence on student achievement (Hattie, 1999, 2003; Rowe, 2003; Scheerens, 1993). Teacher education and professional development have significant effects on teacher quality. The relationships between the improvement of teacher quality and professional development as the means of achieving this improvement

becomes critical in light of the evidence of the impact of teacher quality on student outcomes. High quality professional development produces superior teaching in classrooms, which in turn, translates into higher levels of student achievement (Meiers & Ingvarson, 2005). In-service education about one disability category is reported to generalize to other types of disability (Campbell, Gilmore & Cuskelly, 2003). Additionally, improved attitudes to the inclusive education of children, and towards people with disabilities in general have been reported subsequent to professional development sessions. Post-professional development teachers reported higher willingness to use instructional strategies such as adaptations and modifications to facilitate subject matter learning, and accommodate students of varying learning capacity in the classroom (Bender et al., 1995).

In the current study, 80.3% (N = 49) of the involved teachers reported to have not attended professional development courses about teaching students with a chronic ill health condition. Being taught by a primary school teacher who did not receive any professional development was associated with lower concurrent academic competence in students. This is an alarming finding in light of the critical responsibility bequeath on teachers (Hattie, 1999, 2003; Rowe, 2003; Scheerens, 1993)

Australian research suggest that teachers are in favour of professional development session that are classroom-based, strategy-oriented, directly support their current needs, and involve learning from others' teachers'/professionals experience through networking, visiting and observation (Shaddock, 2007). An educational strategy called differentiation which includes instruction and processes that take into account varied learning styles and responds to individual student needs can be incorporated in the professional development sessions (Rief & Heimburge, 2006; Tomlinson, 2001) . Practical guides to empower teachers with skills to adapt teaching, content, assessment, organisation, groupings and student interactions, can be incorporated in professional development opportunities, so that the appropriate level of challenge and support is afforded to all students. The findings in this study highlight the need

for primary school to encourage teachers to undergo annual professional development, especially in light of the detrimental consequences of lowered academic competence on overall wellbeing of the individual (Roeser, Eccles, & Strobel, 1998). Comment cannot be made on the influence of teacher professional development on student outcomes in secondary school, as secondary school teachers declined to be involved in the study. Findings of the study suggest that having a primary level teacher, who did not receive professional development in dealing with students with a chronic ill health condition, did not bear any unfavourable longitudinal repercussions on student adjustment outcomes in secondary school.

Teacher support: Perceptions of teachers as being emotionally supportive and caring are vital for developing positive relationships between teachers and students. Such positive relationships could promote a feeling of relatedness or belongingness in students (Connell, 1990; Connell & Wellborn, 1991; E. L. Deci & Ryan, 2000; Resnick et al., 1997). When students feel supported by their teachers they are more likely to enjoy learning, motivated for academic success, display on-task behaviour and have fewer emotional problems (Bru et al., 1998; Fraser & Fisher, 1982; Goodenow, 1993a; Moos, 1979; Roeser & Eccles, 1998, 2000). Findings give weight to the value of teacher support on student adjustment outcomes. The level of social support received from one's class-teacher in primary school was a significant predictor of social-leisure and civic activity participation in the setting.

Conflicting evidence exists on the effects of transition to secondary school on teacher-student relationship. In secondary school students are believed to lose familiar teachers, coaches, advisors, and routines (Hargreaves et al., 1996). Consequently, students in these settings report to receive less individualized attention from teachers (Newman et al., 2000). Case studies in Australia suggest that after spending some time in the secondary school the majority of students felt they were enjoying the variety of subjects and teachers (Kirkpatrick, 1993, 1997). In this study, the sample's perception of teacher support remained stable across transition. It was only in secondary setting that teacher support significantly predicted belonging in

secondary school. However, a non-linear relationship between teacher support and school belongingness was identified. Students were vulnerable to low belonging in secondary school if perception of support from teachers dropped from the mid-range level to low-level support category. These effects were evident after prior adjustment outcomes in primary school were controlled in the analyses. Perceived support from teachers in secondary school was also found to positively influence the frequency students participated in creative-activities in secondary school.

It is probable that in the primary school, teachers who take interest in, care for, help and support students instil in students the value of helping and supporting others. This makes these students more likely to engage in social and civic activities in school. In secondary school, being supported by one's year level teachers affords students the opportunity and encouragement needed to participate in creative-activities. Students who report low-level support from their teachers in secondary school are a vulnerable sub-group, as they are at risk of having low belonging to secondary school. Thus, across the secondary school transition, concurrent level of support from one's year level teachers influences different adjustment outcomes.

Teacher experience: Most studies investigating the contribution of teacher experience on student outcomes have been indeterminate (Hanushek, 1992); with the determinate findings both positive (R. F. Ferguson & Ladd, 1996) and negative (Ehrenberg & Brewer, 1994; Kiesling, 1984). In this study, class teachers' level of experience in teaching was found to influence student participation in social-leisure and civic activities in primary school. In comparison to teachers who had 2.5-31 years experience, the wealth of experience and life skills of veteran teachers with more than 31 years experience, and the enthusiasm, innovation, and zest of a novice instructor with less than 2.5 years teaching experience in the same school were each identified as assets. Longitudinally, the experience of students' primary-level teachers significantly predicted participation in social-leisure pursuits but not civic pursuits.

Employment status of students' primary-level class teacher: Creative activity participation serves as a context for self-regulation and improving socially competent behaviours (i.e., cooperation, assertion, empathy, and self-control), and leadership skills (Larson, 2000). Students are provided with opportunities to establish supportive networks with peers and adults (Eccles & Templeton, 2002), define themselves, and belong to socially recognised and valued groups (Fredricks et al., 2002). Associations between participation in creative pursuits such as music and creating, enhancing, sustaining, and changing subjective, cognitive, bodily, and self-conceptual states such as calming down, getting into the right mood, or venting strong emotions are also reported (Sloboda & O'Neill, 2001). Participation in creative extra-curricular pursuits (e.g., the arts, music) have been linked over time to positive academic outcomes, higher creative abilities (i.e., expression, risk-taking and imagination) (Burton et al., 2000) and problem-solving skills (Winner & Cooper, 2000).

In this study, the employment status of students' primary-level class teacher was identified as a significant risk factor for reduced concurrent creative-activity participation, and reduced creative-activity participation across-time (in secondary school). Students who were taught by a part-time teacher in the final year of primary school were found less likely to be involved in creative activities at that point in school. Perhaps teachers', who work part-time, are hard-pressed for time and find it difficult to afford students the support, encouragement, or even the margin of flexibility that is needed to promote and sustain their participation in creative pursuits. Being deprived of the opportunity to take part in creative pursuits in primary level makes these students hesitant to explore their creative talents longitudinally. In light of the evidence, that supports the therapeutic benefits of creative activity participation on student adjustment outcomes, these findings draw attention to the need for additional creative support for students who are taught by part-time staff in primary school.

Satisfaction in class: A sense of satisfaction and safety in one's class and school is theorised to impact on students' academic, behavioural, socio-emotional, and physical well-being (Felner et al., 2001; National Research Council, 1993). Support for this stance is provided in this study where in those who felt safe, happy, satisfied with class work, and looked forward to coming to class were more likely to report a greater sense of belonging in primary school. Classroom satisfaction in primary school failed to influence loneliness and social dissatisfaction in the setting. A significant reduction in the sample's mean classroom satisfaction score across transition was identified ($p = .002$). In high school, being satisfied with one's classrooms continued to predict school belonging, even after primary level adjustment outcomes were controlled. These findings highlight the grave responsibility laid on teachers in primary and secondary schools to ensure that all students are satisfied in class.

Suspension from school: Participation in structured school activities exposes students to norms and values of organized, collective action, and creates network ties that integrate teens into normative society (Youniss et al., 1999; Youniss et al., 1997). Youth are introduced to political ideas to which they might not have been exposed, and are offered the opportunity to learn interpersonal and leadership skills that are likely to inspire continued involvement in civic causes until young adulthood (Glanville, 1999). Low rates of school failure and drop-out (J. L. Mahoney & Cairns, 1997; McNeal, 1995), and good school achievement consequential to activity participation have been also reported (Eccles & Barber, 1999; J. L Mahoney et al., 2003).

In the present investigation, having a history of being suspended in primary school, predicted lower concurrent civic-activity participation, and was projected to bear negative repercussions on civic participation in secondary school. An exploration of the sample's suspension profile across transition, identified that in secondary school, 75% of the students (i.e., 3 of the 4 students) who reported to be suspended in primary school were not suspended. Approximately 2.3% of students (6 of the 262

students) who did not have a suspension record in primary school were suspended since the entry into secondary school. These results are not methodologically robust to be generalised because of the small numbers of participants in the suspended category (Portney & Watkins, 2000). They however suggest that there appears to be very slight agreement between the pre- and post-transition suspension profile of the sample (Kappa coefficient = 0.17). The concurrent vulnerability of early adolescents who present with a history of being suspended in primary school in terms of poorer civic activity participation is highlighted in these findings.

Reports of being bullied: Longitudinal studies provide support for the view that being bullied by one's peers is a significant causal factor in lowered health and wellbeing, and that these effects can be long lasting. The tendency to bully others at school has been found to predict subsequent antisocial and violent behaviour (Rigby, 2003). In the current study, those who both reported to being bullied and were indecisive about being bullied in primary school, were more likely to also be lonely and socially dissatisfied in the setting. Reports of being bullied in primary school did not contribute to the prediction of school belonging and emotional and behavioural difficulties. These results give weight to the value of empirical based whole-school bullying intervention programs such as the Friendly Schools and Families program (Cross & Erceg, 2002) that focus on improving parent-child communication, social skills building, and offering strategies for managing bullying both at school and in the family.

An initial increase in bullying has been reported subsequent to the secondary school transition (Smith, Madsen, & Moody, 1999). Rapid hormonal changes associated with puberty, and disruptions in peer affiliations due to the transition into a new school setting are believed to afford students opportunities for bullying, possibly in order to establish peer hierarchies (Pellegrini & Bartini, 2000; Rigby, 2002). Post-transition data in this investigation was collected six-months after students made the transition into secondary school. As reported in the results section (Chapter 5), a trend of reduced bullying in secondary school was identified. In spite of this trend of reduced bullying, concurrent reports of being bullied in the secondary school were

found to predict emotional and behavioural difficulties, but only before adjustment outcomes in primary school, were considered. When adjustment in primary school were taken into account in the regression model, the influence of being bullied in secondary school on emotional and behavioural difficulties was not significant. These findings throw further light on the benefits of longitudinal investigations over cross-sectional studies. "Being-bullied" in secondary school is a function of prior emotional and behavioural difficulties. It could be speculated that students who report emotional and behavioural difficulties in primary level are more likely to be bullied in secondary school. Further longitudinal research with more than two data collection points is warranted to corroborate this speculation. It is likely that the trend of reduced bullying observed in this study could be either due to the timing of data collection (i.e., post-transition data was collected 6-months after transition into secondary school after peer hierarchies are established and students are beginning to fit into their peer groups), or a function of the transition trend displayed in the study (i.e., shift from public education to privatised sector).

7.4.6 School/classroom factors unique to secondary school predicting adjustment outcomes

The contribution of students' perception of task-goal orientation and tolerance towards students with disability and chronic illness displayed by their secondary year level classes were found to predict different adjustment outcomes in secondary school. The following section elaborates on the contribution of these factors on student adjustment.

Classroom task-goal orientation: The evidence suggests that emphasis on task goals in the classroom is associated with positive affect in students (L. H. Anderman, 1999a), better coping with academic difficulty, and a greater sense of well-being (Kaplan & Maehr, 1999). In this study, a non-linear relationship between perception of task-orientation in secondary level classrooms and school belonging was observed. Belongingness in secondary school was predicted to increase as perception of the task-orientation of one's secondary level classrooms increased from average

level to high-level task orientation, even after adjustment outcomes in primary school were taken in to account. Low-level task-orientated classrooms were however not predictive of worse school belonging.

Linear relationships between perception of classroom task-orientations and loneliness and social dissatisfaction and social-leisure activity participation in secondary school were observed. Higher task-oriented classrooms were protective against loneliness and predicted higher social-leisure activity participation. It has been hypothesised that task-oriented settings enhance self-determination and sense of self-regulation amongst students by providing choice over the types of task to engage in; how to manage time; whether to work with a partner or independently; and, how to present information for evaluation (Evertson & Harris, 1992). The realisation that one is capable of regulating oneself in a new school setting may help nurture a feeling of belongingness and membership in the setting, decreasing the sense of loneliness, and enable students to explore supplementary social leisure areas in school. These study findings support the wealth of research that highlights the value of task-orientated settings to help establish order, consistency, and clear expectations among students (Carnegie Council on Adolescent Development, 1995).

Tolerance towards students with disability/chronic illness: Support for, and sensitivity to student diversity is an important dimension of the social climate of educational settings that impact on student adjustment (Felner & Felner, 1989; Gottfredson & Gottfredson, 1985). Validity to this premise was found in this study. Student who perceived their secondary school to be more accepting of individual differences due to health status reported higher belonging in school. Although the sample's perception of their schools' tolerance to disability/chronic illness remained stable across transition, it was only in secondary school that this factor influenced school belonging, even after previous adjustment outcomes in primary school were controlled. These findings highlight the importance for secondary schools to ensure that all students irrespective of their health status are well included in the setting (Gale & Cronin, 1998).

In summary, some school/classroom factors unique to secondary school influenced student adjustment outcomes in the setting, even after pre-transition adjustment outcomes were controlled. Attention to the factors is important to ensure that all students are well adjusted in secondary school.

7.4.7 Peer group factors predicting adjustment outcomes

The peer group has been identified as a powerful and persuasive force effecting change in adolescence (J. R. Harris, 1998). In all the hierarchical regression models run in primary school, peer group factors (i.e., students' perception of social support from peers and a special person in one's life and peer group influences) failed to explain any additional variance in students' adjustment outcomes more than that accounted for by personal, family and school variables.

In secondary school, however, receiving low-level social support from one's friends was positively associated with academic competence. These effects existed after previous adjustment outcomes in primary school were considered in subsequent analyses. It is possible that in early adolescence, frequently seeking help; counting on peers when things go wrong; sharing one's joys and sorrows; and talking about one's problems are looked upon as signs of dependency. Seeking high level support from one's friends for academic reasons in secondary school perhaps lowers the recipient's perception of ability and capacity (Butler, 1999). Not only the level of support received, but also who the giver of that support was, influenced the association between social support and academic competence. Future research should review the type and nature of support, and how support is construed in early adolescence.

7.5 CONCLUSION

This chapter discussed the predictors of student adjustment outcomes as they made the transition from primary to secondary school and how these findings translate into guiding practice. Despite the significant associations between belongingness in school and loneliness and social dissatisfaction (as identified in the results section), some distinctive factors exclusively predicted each outcome. Studies in the future should further examine the difference between "loneliness and social dissatisfaction in school", and "school belonging", and how each of these constructs are conceptualised by adolescents.

Most of the predictors of student adjustment can be modified to promote positive adjustment outcomes. The results reinforce the ongoing need for comprehensive, whole-school, universal prevention programs such as the Aussie Optimism program (C. Roberts et al., 2002) and the Friendly Schools programs (Cross & Erceg, 2002) which are nested within a Health Promoting School approach (World Health Organisation [WHO], 1996). The recognized predictors of early adolescent adjustment could be incorporated within the existing interventions that address problems of concern to them (i.e., depression and anxiety, bullying) and the other school adjustment outcomes of academic competence, self-worth, school belonging, loneliness and social dissatisfaction, and participation in social, civic, and creative activities. This could lead to the development of comprehensive population strategies combining universal and targeted strategies in multiple domains (e.g., child, family, school and peer-group).

Chapter 8 Strengths and Limitations, Future Research, and Conclusion

8.1 INTRODUCTION

This chapter provides an overview of the strengths and limitations of the study, and discusses areas for future research. The strengths of this study included the use of domain scores, undertaking of reliability analysis of the SSRS measure, design, sample power, data analyses, and systematic structure of objectives used. The heterogeneity of disability/chronic illness sub-group, under-representation of low-SES sub-group, and properties of some of the measurement tools, and the number of predictors used in the study posed limitations to the findings. This section describes and justifies these issues.

8.1.1 Using domain scores to assess social skills and establishing the test-retest reliability of the Social Skills Rating System (SSRS)

In this study, social skills were assessed by the most comprehensive and psychometrically robust of the available measures used to appraise children and adolescents' social behaviours (Bracken, Keith, & Walker, 1994 ; Demaray & Ruffalo, 1995; Merrell & Gimpel, 1998), namely the Social Skills Rating System (SSRS) (Gresham & Elliot, 1990). Instead of using parent and teachers as informants to appraise social skills, the student self-report form was used. Although adult ratings can offer useful information, the accuracy of adult reports could potentially be distorted by factors such as reporting biases (e.g., middle-class bias) and depression (Youngstrom, Izard, & Ackerman, 1999; Youngstrom, Loeber, & Stouthamer-Loeber, 2000). The individual alone occupies a unique position to convey his or her own perceptions and behaviours across different situations (e.g., the home, school, peer-group), and hence can provide valuable information (Achenbach, McConaughy, & Howell, 1987; Loeber, Green, & Lahey, 1990). Additionally, empirical investigations support the contention that the individual's perception and cognition is the most important predictor of one's behaviour (Corradini, 1988).

This study did not use total social skills scores to appraise the predictive significance of social skills on adjustment outcomes, since total scores would have precluded the

contribution of explicit social skill domains (Portney & Watkins, 2000). The use of subscale scores made it possible to appraise the contribution of the frequency of use and the importance students placed on social skill domains of empathy, cooperation, assertion and self-control (Gresham & Elliot, 1990).

Prior to using domain scores in the main transition study, statistical analyses were undertaken to ascertain whether the secondary-level social skills self-report form reliably assessed social skills in a sample of year 7 Australian students. This is the first study that has explored the stability of the SSRS self-report secondary level form, despite the fact that the measure has been promoted by the Australian Council of Educational Research and used by the Australian Institute of Family Studies, in the Pathways from infancy to adolescence: Australian Temperament Project (Prior et al., 2000). The measurement errors of the SSRS subscale and total scores were calculated using the Bland and Altman limits of agreement criteria, a method that has been identified as the gold standard for analyses involving statistical agreement for variables measured on a continuous scale across the medical literature (Bland & Altman, 1986). Analyses revealed that the SSRS self report form reliably assessed social skills over a 4-week period in a sample of year 7 students. The measurement error presented in this study will make it possible for clinicians to identify changes in student perceived social skills that are indicative of a true change in skills. This is an example of one of the many meticulous efforts undertaken in this study to ensure that methodological rigor was upheld.

8.1.2 Factors, design, data analyses, and systematic structure of study objectives

The factors considered in the study, study design employed to undertake the study, and methods used to analyse the data were suitable and relevant to the study aim and corresponding objectives. A detailed review of the literature was undertaken to ensure that the myriad of factors identified in past research studies to influence student adjustment outcomes in school were considered, and the most frequently identified included in the analyses. Systematic efforts were undertaken during successive analyses to ensure that each independent variable was reviewed

independently of the others, for each adjustment outcome in question (i.e., use simple linear regression (SLR) and stepwise regression). This ensured that the factors that incorporated in the study were directly relevant to the contemporary Australian context, whilst maintaining statistical power.

Efforts were undertaken to use psychometrically validated scales to measure both outcomes and independent variables. While different scales were used to measure the factors (i.e., independent factors and outcomes), and statistical checks were undertaken to avoid multicollinearity, there is the possibility that the correlations found between variables merely reflected the lack of mutual exclusivity between the sub-scales.

The study objectives were systematically structured so that predictors were added based on theoretical as well as empirical evidence. Although the validity of baseline (i.e., the pre-transition models) were fair to moderate across all adjustment components in secondary school, efforts were undertaken to ensure that factors unique to secondary school were recognized. In secondary school in addition to checking the stability and continuity of the predictive power of pre-transition factors (i.e., by using corresponding post-transition factors to build the model), factors unique to secondary school were identified using systematic statistical techniques for each adjustment outcome. Furthermore, in secondary school, the validity of these primary level equivalent and unique secondary level factors in predicting adjustment outcomes was appraised, after accommodating for primary level adjustment. Such detailed model building procedures maximised the probability that contextually relevant factors unique to secondary school were identified.

A longitudinal study design and the use of two cohorts of students ensured that a sample representative of students in Western Australia (WA), who negotiated the secondary transition during academic years 2006/2007 and 2007/2008 were recruited in the study. As discussed in the recruitment section, systematic efforts were undertaken to approach schools across all educational districts in metropolitan Perth

and major centres of WA. While longitudinal studies are not as reliable as randomised controlled studies, they are preferred to cross-sectional studies, since they involve fewer statistical problems and generally produce more reliable answers (Farrington, 1991). The use of a longitudinal study design permitted the undertaking of detailed model building analyses. Had a repeated cross-sectional design been used, we would not have been able to control for adjustment outcomes in primary school. Student's gender, health status, and SES-level have been identified in developmental and transition literature to influence student adjustment in school. Instead of coming out with separate analyses based on these control factors, dummy variables were formulated, such that they had interpretable coefficients suitable for regression analyses (Meyers et al., 2006). In this thesis, models were run for each objective and outcome that accommodated for group differences at the very onset of analyses. Such a strategy ensured that the power of the study was maintained, and minimised the need for Type 1 error corrections (Bonferroni's correction) to be made.

Additionally, since many personal and contextual factors (i.e., independent variables) deviated from normality, assumptions of whether the linear trend of a given predicted variable was distributed evenly across each independent variable, and absence of heteroskedasticity were checked for each factor and adjustment outcome (Field, 2006; Tabachnick & Fidell, 2001). Quartile groupings were created for independent variables when the assumption of linearity of the independent variable was violated. Accordingly, the regression coefficient measured how belonging to a quartile affected adjustment outcomes different from others (Despa, 2007). This novel methodology enabled the assessment of protective and risk domains specific for a given adjustment outcome.

8.1.3 Recruitment and power

Comprehensive recruitment efforts despite the finite financial and human resources were undertaken. Two cohorts of participants (those making the transition from primary to secondary school during the academic year 2006/2007, and 2007/2008) were followed in order to ensure a sufficient sample size and not compromise the

power of the study. Schools listed in the educational districts of metropolitan Perth and major centres in Western Australia (WA) were approached to ensure inclusion of a representative sample of mainstream students. Community organisations and hospital school services that offer services to students with disabilities and chronic illness and their families across WA, were approached to ensure all potential students with a disability and chronic ill health condition were accessed. Systematic recruitment efforts enabled a reasonable size subgroup of students with disabilities and chronic illness, representing 22% (n = 87) of the mainstream cohorts in WA that moved from primary to secondary school during the academic years 2006/2007 and 2007/2008 to be recruited into the study, at pre-transition. Post-transition students with disabilities/chronic illness represented 25.9% (n = 69) of the student cohort. National, population based studies from Western countries however shows that 20-30% of teenagers (aged 12-18 years) have a chronic illness, defined as one that lasts longer than six months (AIHW, 2006). Thus the sample of students with disabilities/chronic illness recruited into the study was representative of population estimates of school children with disabilities/chronic illness in Western Australia.

As described in section 3.4, the sample size of 287 students was adequate (80% power to detect a moderate effect size of 0.1) due to 35 IV's (NCSS, 1996). Based on these estimates, the sample size in this study was large enough to enable statistical judgments (i.e., the detection of predictors) that are accurate and reliable.

8.1.4 Heterogeneity of disability/chronic illness group, under-representation of low-SES group, and psychometric properties of scales used

The study used parental self-reports to identify the sub-group of students with disability/chronic illness. This decision was based on evidence that suggests that parents of children ages 6 to 12 years are reliable informants to classify their children's disability (e.g., gross motor function), with high agreement and reliability between parents' and the clinicians' reports documented (McDowell, Kerr, & Parkes, 2007).

Only students with disabilities and chronic illness enrolled in mainstream education for most of the time were eligible to take part in this study. With this limiting inclusion criterion, it is possible that students who had more disability related physical, cognitive, social, and emotional restrictions were excluded (Bell & Dempsey, 2001).

It is acknowledged that the heterogeneity of the sample of students with disability/chronic illness could have added confounding variables to the study, in particular, the inclusion of children with and without comorbidity, and combining different types of disabilities and chronic illness' into one group. Although the study intended on undertaking sub-group analyses on the 4 general categories of disability/chronic illness (Table 5.2), the analysis would have been statistically underpowered for the limited sample in each category. Future analysis needs to be conducted to determine the effects of disability/chronic illness severity and comorbidity on student adjustment.

The inclusion of transition issues into the IEP plans of students with disability were not explored in the study due to the confidentiality issues surrounding the retrieval of student information from the school system in WA. Whilst the study could have benefitted from IEP information, parents were asked to report on the attendance of transition planning sessions, and/or transition related activities and report on the receipt of and adequacy of physical, emotional, and social support offered by the school to their child. The listed factors however failed to significantly predict adjustment outcomes for students as identified in the multivariate models (Chapter 6).

Including families belonging to low-SES populations in research is very challenging. This population is often over-surveyed and reluctant to participate as they feel that their participation will not make a difference, or because they do not see immediate outcomes that benefit them resulting from their cooperation (Kipke, 2008). Similar findings were found in this study, where in there was an under-representation of

students from low-SES families both before and after transition. Statistically, the small sample size of students from low-SES families could be responsible for the lack of any significant group differences due to family social disadvantage on student outcomes (with the exception of academic competence in secondary school). A 25.5% response rate might have resulted in selection bias, with those from lower SES school refusing to be involved in the study. Additionally, the sub-group of individuals from Indigenous and Torres Strait communities were not explicitly defined in this study due to the associated ethical issues. Further research is warranted to find out whether the study findings can be generalised to this sub-group of the Australian mainstream population.

Items from the National Survey of School Environments (Simeonsson et al., 2001), the School Microsystems subscale from the Involvement Microsystems Scale developed by (Seidman et al., 1995), and The Curriculum Framework of Western Australia (Council Curriculum, 1998) were incorporated into the questionnaire used to measure participation in school extra-curricular activities. This study appraised the face validity of the measure during the trial study, and conducted exploratory factor analysis to examine the factor structure of the measure on the pre-transition sample. The measure was found to have a 3-factor solution with social-leisure, civic and creative domains accounting for 41.7% of the variance. This is another example of the rigorous analyses undertaken in this study.

The scale on bullying was based on student report of bullying others and being bullied by others in school and the scale on cultural/disability tolerance was based on previously validated scales (Felner et al., 1985; Gottfredson & Gottfredson, 1985; Pellegrini & Bartini, 2000; Rigby, 2002). As outlined in appendix C (p. 630) physical, verbal, social and electronic modes of bullying were addressed in the single item question. Use of a single item could have precluded the relative importance of either component of bullying. The validity of the remainder of the adapted scales used in the study (most of which were single item scales) was assessed in the trial study as outlined in Section 3.11. Perhaps the use of better validated forms on

bullying, cultural/disability tolerance, expectations of schooling could have increased the robustness of the constructs.

As with all longitudinal designs, this study was faced with problems of attrition. The study reported an attrition rate of 32.65%. Hence, to minimize the possibility of a false positive error, no replacement of missing values was undertaken. Instead, paired sample t-tests and chi-square analyses were undertaken which identified that the participants who continued to be involved in the study did not differ in profile from those who discontinued involvement, on gender, health status, SES-level, and all adjustment outcomes. The findings of the paired sample t-tests and chi-square analyses provided statistical rationale for using the T1 sample as a reference group in subsequent analyses.

The reluctance of secondary level teachers to provide data did not permit one to comment on the role of teachers in secondary school. Workload issues were cited as the main reasons for not participating in the study. The non-participation of high school teachers in this study, calls for enquiry into whether associated issues of teacher stress and burnout impact on student adjustment outcomes in secondary school. Future research is required to further investigate this speculation.

With the exception of parental report on students' emotional and behavioural difficulties, all the adjustment outcomes were based on self-report. It is acknowledged that the use of self-report might not fully capture the processes at work in the lives of participants that a case study methodology would have (Rowlinson & Felner, 1988). Validation of self-report measures with teacher and/or parent reports, or other objective measures (e.g., grade-point average) of each adjustment outcome would have provided additional strength to the findings. The use of psychometrically robust measures in this study assured that the data retrieved was valid and reliable. Finally, we did not attempt to separate forms of internalizing and externalizing distress in our analyses. Understanding distinct pathways associated with each of these forms of distress warrants closer scrutiny in the future.

8.2 SUMMARY

Strengths of this study and its limitations are acknowledged, and the findings must be considered in the context of measurement tools and sample used. Whenever possible, measures were taken to reduce the identified drawbacks and increase robustness of the research. In light of these, directions for further research have been presented in the following section.

8.3 FUTURE RESEARCH

The findings of this research have provided preliminary evidence of personal and contextual factors that affect the adjustment of mainstream students, with and without disadvantage due to their health or social reasons, as they negotiate the transition from primary to secondary schooling in WA. It is critical that future research evaluates these factors in greater detail. Specifically, future research should:

1. Determine whether the factors identified to influence student adjustment outcomes in this study can be generalised to all students Australia-wide;
2. Identify the contribution of teacher-related factors on student outcomes in secondary school;
3. Investigate the interrelationship between the existing factors using methodologically robust analysis like structural equation modelling;
4. Undertake subgroup analysis to determine whether there exist group differences in student adjustment outcomes due to the type of disability and/ or chronic illness, severity of the health condition, and comorbidity;
5. Investigate: a) the support students with special educational needs and disabilities are receiving at school; b) how far students' Individual Education Plans (IEP) include transition issues in primary schools; and c) how primary schools prepare families to be supportive to their child and SEN students to cope with secondary school transition;
6. Investigate the longer term effect of factors on secondary school adjustment outcomes and identify whether there are any additional factors that influence adjustment outcomes in later years of schooling;
7. Person-centered research on patterns and progressions of academic, social-emotional, and participatory adjustment outcomes from childhood to adolescence will be beneficial to the design of next generation integrated preventative interventions and are warranted in the future;
8. The new 'transition age' is to be introduced in all non-government schools in WA and gradually phased into public schools i.e., one year earlier than currently occurs in WA schools. Future research is warranted to find out whether the factors identified to predict student adjustment outcomes in the study can be

generalised to students negotiating the secondary school transition one year earlier.

8.4 CONCLUSION

The early adolescent period in life has been described as a window of opportunity, for, prevention interventions launched at this point may prevent detrimental outcomes, and redirect young people so that they develop healthy lifestyles with lasting benefits (Carnegie Council on Adolescent Development, 1995; Hargreaves et al., 1996). Much of the research in early adolescence has been focussed on typically developing students. Students with disabilities or chronic illness have been excluded from cohort and cross-sectional investigations. This longitudinal study has identified the personal and contextual factors that impact on adjustment outcomes of all mainstream students, and presented the contribution of gender, health condition, and social disadvantage on student adjustment outcomes. Most of the predictors of student adjustment are modifiable and can be improved to promote adjustment. Action is required to ensure that addressing the needs of all students becomes the expected practice for students within regular schools. Future longitudinal research that tracks mainstream students along the educational continuum is required to identify whether there are any additional personal and contextual factors that take on prominence in the later years of school.

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Appendices

Appendix A Ethical clearance

Figure A 1: *Curtin University Human Research Ethics Committee Clearance*

memorandum

Curtin University of Technolog

To	A/Professor Anne Passmore, Occuaptional Therapy
From	Dr Stephan Millett, Executive Officer, Human Research Ethics Committee
Subject	Revised Protocol Approval **HR 194/2005**
Date	1 March 2006
Copy	Sharmila Maria Agnella Vaz, Occuaptional Therapy Graduate Studies Officer, Division of Health Sciences

Office of Research and Development

Human Research Ethics Committee

TELEPHONE 9266 2784
FACSIMILE 9266 3793
EMAIL L.Teasdale@curtin.edu.au

Thank you for addressing the concerns raised by the Human Research Ethics Committee (HREC) for the project titled "*Investigating Transition To Secondary School For Young Adolescents With And Without Disabilities Or Chronic Illness: A Longitudinal Study*".

Your response has been reviewed by members of the HREC reviewing panel who have recommended that your application be **APPROVED**. Please note response from review panel:

- All points have been addressed clearly and comprehensively. Sorry about the Masters/PhD misunderstanding. Best wishes for the project.

- You are authorised to commence your research as stated in your proposal.
- The approval number for your project is **HR 194/2005**. *Please quote this number in any future correspondence.*
- Approval of this project is for a period of twelve months **1/03/2006** to **1/03/2007**.

If you are a Higher Degree by Research student, data collection must not begin before your Application for Candidacy is approved by your Divisional Graduate Studies Committee.

Applicants should note the following:

- It is the policy of the HREC to conduct random audits on a percentage of approved projects. These audits may be conducted at any time after the project starts. In cases where the HREC considers that there may be a risk of adverse events, or where participants may be especially vulnerable, the HREC may request the chief investigator to provide an outcomes report, including information on follow-up of participants.
- All recommendations for approval are referred to the next meeting of the HREC for ratification. In the event the Committee does not ratify the recommendation, or would like further information, you will be notified. **The next meeting of the HREC is on 4/04/2006.**

The attached **FORM B** is to be completed and returned as soon as possible to the Secretary, HREC, C/- Office of Research & Development:

- When the project has finished, or
- If at any time during the twelve months changes/amendments occur, or
- If a serious or unexpected adverse event occurs.

An application for renewal may be made with a Form B three years running, after which a new application form (Form A), providing comprehensive details, must be submitted.

Please find attached your protocol details together with the application form/cover sheet.

Teasdale

pp **Dr Stephan Millett**
Executive Officer
Human Research Ethics Committee

Please Note: The following standard statement must be included in the information sheet to participants:
This study has been approved by the Curtin University Human Research Ethics Committee. If needed, verification of approval can be obtained either by writing to the Curtin University Human Research Ethics Committee, c/- Office of Research and Development, Curtin University of Technology, GPO Box U1987, Perth, 6845 or by telephoning 08 9266 2784.

Figure A 2: *DET endorsement*

Author name Lynne Day
Branch Inclusive Education Standards
Date 29 March 2006

Ms Sharmila Vaz
s.vaz@postgrad.curtin.edu.au

Dear Ms Vaz

Thank you for your email received Wednesday 29 March 2006 in which you seek ethics approval from the Department of Education and Training for your doctoral study on transition into secondary schooling.

Transition planning for students with disabilities has been identified by the Department of Education and Training as a high priority in 2006. I am pleased to provide approval to conduct this research project in the identified public schools. It will however, be up to the individual school staff and parents to make the final decision about whether or not they are prepared to participate in the survey.

I wish you well with your research.

Yours sincerely

JOHN BRIGG
MANAGER, INCLUSIVE EDUCATION
INCLUSIVE EDUCATION STANDARDS

30 March 2006

Figure A 3: *CEO endorsement*

DIRECTOR

Catholic Education Office of Western Australia

28 March 2006

Ms Sharmila Vaz
School of Occupational Therapy
Curtin University of Technology
GPO Box U1987
PERTH WA 6485

Dear Ms Vaz

RE: REQUEST TO CONDUCT RESEARCH IN CATHOLIC SCHOOLS IN THE ARCHDIOCESE OF PERTH

I am writing with regard to your proposal outlining your research study investigating the transition to secondary school for young adolescents with and without disabilities or chronic illness.

I am pleased to give in principle support for your proposed research and for you to contact schools as outlined in your proposal, however it is the decision of the individual principal with regards to the school's participation in the survey.

I would like to request that, at the completion of the project, a copy of research findings be forwarded to the Catholic Education Office of WA.

The contact person at the Catholic Education Office of WA is Desirée Grzenda-Day. She can be contacted at grzendaday.desiree@cathednet.wa.edu.au or (08) 9212 9373.

I wish you all the best with your research.

Yours sincerely

Ron Dullard

Ron Dullard

50 Ruislip Street, Leederville WA 6007 • PO Box 198, Leederville WA 6903 • Telephone (08) 9212 9202 • Fax (08) 9212 9203
Email: dullard.ron@cathednet.wa.edu.au • Website: www.ceo.wa.edu.au

Appendix B Information sheets and consent forms

Figure B 1: *Principal information sheet and consent form*

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PRINCIPAL INFORMATION SHEET

"Investigating transition to secondary school for young adolescents with and without disabilities or chronic illness: A longitudinal study"

What is the research about?

This project will help us better understand factors that affect students moving successfully from the last year in primary school into either high school or middle school in Western Australia. We are also interested in understanding factors that affect school transition of students who have a disability or chronic illness.

Why is this research important?

By examining different patterns of adaptation associated with high/middle school transition, this longitudinal study will help identify students at risk and help develop a framework based on evidence. Prevention strategies for young adolescents both with and without disabilities or chronic illness, entering into the secondary school system across person-environment contexts of interaction will also be outlined. It is anticipated that the findings of this project will have direct implications for policy and practice relating to transition into the secondary school educational system in WA and beyond.

What would your involvement be?

Participation in this study will involve the following:

1. Your approval to circulate a questionnaire in Semester 2, 2006 requesting parents of students with and without disabilities or chronic illness, studying in the final year in primary school to participate in the study
2. Your approval to approach grade 6/7 class teachers in Semester 2, 2006 to fill up questionnaires requesting information about their current school, current class, students in their class, and views about teaching. The General teacher questionnaire will take up only 10-minutes to be completed and will have to be filled up only once by each participating teacher.
3. Your approval to approach consenting students to fill out questionnaires on how they manage, things that motivate them, their social support and social skills.

What are your rights?

No information obtained as part of these questionnaires will be disclosed and no participant will be identified in any way. No educational agency will be able to access participants' comments. All results will be described only in terms of groups. Complete anonymity will be maintained throughout the study; except by the researchers to follow-up for the second round of questionnaires.

You are not obliged to participate in this study. You are free to withdraw from this study at any time without justification or prejudice.

What will be done with the information collected?

All the information will be stored in a locked room at the Centre for Research into Disability and Society at Curtin University of Technology. At the end of this project information collected will be presented in the form of a thesis and will be published in scholarly journals or information documents for service providers and consumers.

The opinions and experiences of the identified stakeholders are an important source of information. We request your help and encourage you to take part.

The Disability Services Commission, the Department of Education and Training, the Association of Independent Schools and the Catholic Education Office of Western Australia have endorsed this study

This study has also obtained funding from Heathway

If you are willing to participate in this project, kindly complete the consent form and return in the replied paid envelope provided. If you feel uncomfortable signing the consent form, and would like to participate in the study we can audio tape your permission

If you have any questions or concerns now or at anytime about the study, you may contact us on the numbers or preferably on the email address listed below

- **Chief investigator: Ms. Sharmila Vaz**
  Phone: (08) 9266 3693 **Email: s.vaz@postgrad.curtin.edu.au**
  Fax: 9266 3636
  Mobile: 0431 325781

- **Supervisor: Associate Professor Anne Passmore**
  Phone: (08) 9266 3637

This *project will be carried out in a manner based on the principles set out by the National Health and Medical Research Council ethics guidelines. This study has been approved by the Curtin University Human Research Ethics Committee. If needed, verification can be obtained either by writing to the Curtin University Human Research Ethics Committee, C/- Office of Research and Development, Curtin University of Technology, GPO Box U1987, Perth 6845 or by telephoning 9266 2784.*

Thank you for your valued time and assistance

Figure B 1: *Principal information sheet and consent form*

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University of Technology

PRINCIPAL CONSENT FORM

Please complete the following form if you agree to participate in this study.

See also the attached information sheet

1. _____
The undersigned PLEASE PRINT

Agree to participate in the research project entitled: Investigating transition to secondary school for young adolescents with and without disabilities or chronic illness: A longitudinal study.

I authorize school participation, approval for the researcher to contact grade 6/7 class teachers and students regarding participation in this project.

2. I acknowledge that I have read/ been read the information sheet. I acknowledge that the purpose of this project has fully explained to my satisfaction, and my consent is given freely.

3. I understand that the results of all testing will remain strictly confidential. I also understand that while the information gained through this study will be published, participants' will be not identified in these publications and personal results will not be divulged.

4. I understand that I am free to withdraw consent to participate without affecting my rights, those of my students' and teachers' or responsibilities of the researcher in any respect.

OR

☐ I do not consent to participate in this research. (Please complete the name and address details below as it will ensure that you are not contacted again regarding this research).

(Please tick)

Principal's Signature: _____ Date: _____

Witness signature: _____ Date: _____

School's name: _____

School's address: _____

Principal's name: _____

Principal's email address: _____

Relevant Teachers Names: _____

_____

Thank you for your cooperation.

Figure B 2: *Teacher information sheet and consent form*

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TEACHER INFORMATION SHEET

"Investigating transition to secondary school for young adolescents with and without disabilities or chronic illness: A longitudinal study"

What is the research about?

This project will help us better understand factors that affect students moving successfully from the final year of primary school into secondary school in Western Australia. We are also interested in understanding factors that affect school transition of students who have a disability or chronic illness. Students enrolled in the final year of primary school, and who transitioned into either middle school or high school in January 2007 are eligible to participate.

Why is this research important?

By examining different patterns of adaptation associated with high school transition, this longitudinal study will help identify students at risk and help develop a framework based on evidence. Prevention strategies for young adolescents both with and without disabilities or chronic illness, entering into the secondary school system across person-environment contexts of interaction will also be outlined. It is anticipated that the findings of this project will have direct implications for policy and practice relating to transition into the secondary educational system in WA and beyond.

What would your involvement be?

You will be involved in filling out questionnaires requesting information about your current school, your current class, students in your class and your views about teaching during either Semester 2, 2006. Filling up the first questionnaire titled Teacher Questionnaire-General will take a total of 10-minutes of your time. This questionnaire needs to be filled up only once.

What are your rights?

No information obtained as part of these questionnaires will be disclosed and no participant will be identified in any way. No educational agency will be able to access participants' comments. All results will be described only in terms of groups. Complete anonymity will be maintained throughout the study; except by the researchers to follow-up for the second round of questionnaires.

You are not obliged to participate in this study. You are free to withdraw from this study at any time without justification or prejudice.

What will be done with the information collected?

All the information will be stored in a locked room at the Centre for Research into Disability and Society at Curtin University of Technology. At the end of this project information collected will be presented in the form of a thesis and will be published in scholarly journals or information documents for service providers and consumers.

Your opinions and experiences are an important source of information. We request your help and encourage you to take part.

The Department of Education and Training, the Catholic Education Office, The Association of Independent Schools, and the Disability Services Commission of Western Australia support this study.

If you are willing to participate in this project, kindly complete the consent form and enclosed questionnaires and return in the replied paid envelope provided. If you feel uncomfortable signing the consent form, and would like to participate in the study we can audio tape your permission.

If you have any questions or concerns now or at anytime about the study, you may contact us on the numbers or preferably on the email address listed below

- **Chief investigator: Sharmila Vaz**
  Phone: (08) 9266 3693 **Email: s.vaz@postgrad.curtin.edu.au**
  Fax: (08) 9266 3636
  Mobile: 0431 325 781

- **Supervisor: Associate Professor Anne Passmore**
  Phone: (08) 9266 3637

This *project will be carried out in a manner based on the principles set out by the National Health and Medical Research Council ethics guidelines. This study has been approved by the Curtin University Human Research Ethics Committee. If needed, verification can be obtained either by writing to the Curtin University Human Research Ethics Committee, C/- Office of Research and Development, Curtin University of Technology, GPO Box U1987, Perth 6845 or by telephoning 9266 2784.*

Thank you for your valued time and assistance

Figure B 1: *Teacher information sheet and consent form*

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TEACHER CONSENT FORM

Please complete the following form if you agree to participate in this study.

See also the attached information sheet

1. _____

The undersigned PLEASE PRINT

Agree to participate in the research project entitled: Investigating transition to secondary school for young adolescents with and without disabilities or chronic illness: A longitudinal study.

2. I acknowledge that I have read/ been read the information sheet. I acknowledge that the purpose of this project has fully explained to my satisfaction, and my consent is given freely.

3. I understand that the results of all testing will remain strictly confidential. I also understand that while the information gained through this study might be published, I will not be identified in these publications, and my personal results will not be divulged.

4. I understand that I may withdraw consent to participate without affecting my rights or responsibilities of the researcher in any respect.

OR

☐ I do not consent to participate in this research. (Please complete the name and address details below as it will ensure that you are not contacted again regarding this research).

(Please tick)

Teacher's Signature: _____ Date: _____

Witness signature: _____ Date: _____

School's name: _____

Teacher's name: _____

Year level currently teaching: _____

Number of students in the class: _____

Teacher's Contact Phone Number: _____

Teacher's E-mail Address: _____

Thank you for your cooperation.

Figure B 3: *Parent information sheet and consent form*

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PARENT INFORMATION SHEET

"Investigating transition to secondary school for young adolescents with and without disabilities or chronic illness: A longitudinal study"

What is the research about?

This project will help us better understand factors that affect students moving successfully from the last year of primary school into either high school or middle school in Western Australia. We are also interested in understanding factors that affect school transition of students who have a disability or chronic illness.

Why is this research important?

The study will involve the largest sample size of secondary school transitioning students with and without disabilities or chronic illness ever tested empirically in Australia. This project will help identify students at risk and help develop a framework of transition based on evidence. It is anticipated that the findings of this project will have direct implications for policy and practice relating to transition into the secondary school educational system in WA and beyond.

What would your involvement be?

1. Completing a questionnaire in Semester 2, 2006 and Semester 1 or 2, 2007
These will provide valuable information on your family and yourself, your child and his/her current school, and your involvement in your child's education. It should take about 20-25 minutes to complete the questionnaire in Semester 2, 2006.
The follow-up questionnaire in Semester 1 or 2, 2007 will be shorter.

2. Providing consent for your child's classroom teacher to fill up questionnaires requesting information about their current school and class, their views about teaching, and assessments on students in their class

3. Providing consent for your child to fill in a questionnaire in Semester 1 or 2, 2006 and Semester 1 or 2, 2007
These will provide information on how students manage, things that motivate them, their social support, social skills, and participation in school activities

What are your rights?

No information obtained as part of these questionnaires will be disclosed and neither your name nor your child's name will be identified in any way. No educational agency will be able to access your comments. All results will be described only in terms of groups, and you and your child's anonymity will be maintained throughout the study, except by the researchers to follow-up for the second round of questionnaires.
You are not obliged to participate in this study. You are free to withdraw from this study at any time without justification or prejudice.

What will be done with the information collected?

All the information will be stored in a locked room at the Centre for Research into Disability and Society at Curtin University of Technology. At the end of this project information collected will be presented in the form of a thesis and will be published in scholarly journals or information documents for service providers and consumers.

The Department of Education and Training, the Catholic Education Office, The Association of Independent Schools, and the Disability Services Commission of Western Australia support this study.

Your child is eligible to participate in this study.

Your opinions and experiences are an important source of information.

We request your help and encourage you to take part.

If you are willing to participate in this project, kindly complete the consent form and return it Ms. Sharmila Vaz as soon as possible. If you feel uncomfortable signing the consent form, and would like to participate in the study we can audio tape your permission

If you have any questions or concerns now or at anytime about the study, you may contact us on the numbers or preferably on the email address listed below

- **Chief investigator: Ms. Sharmila Vaz**

PhD Candidate
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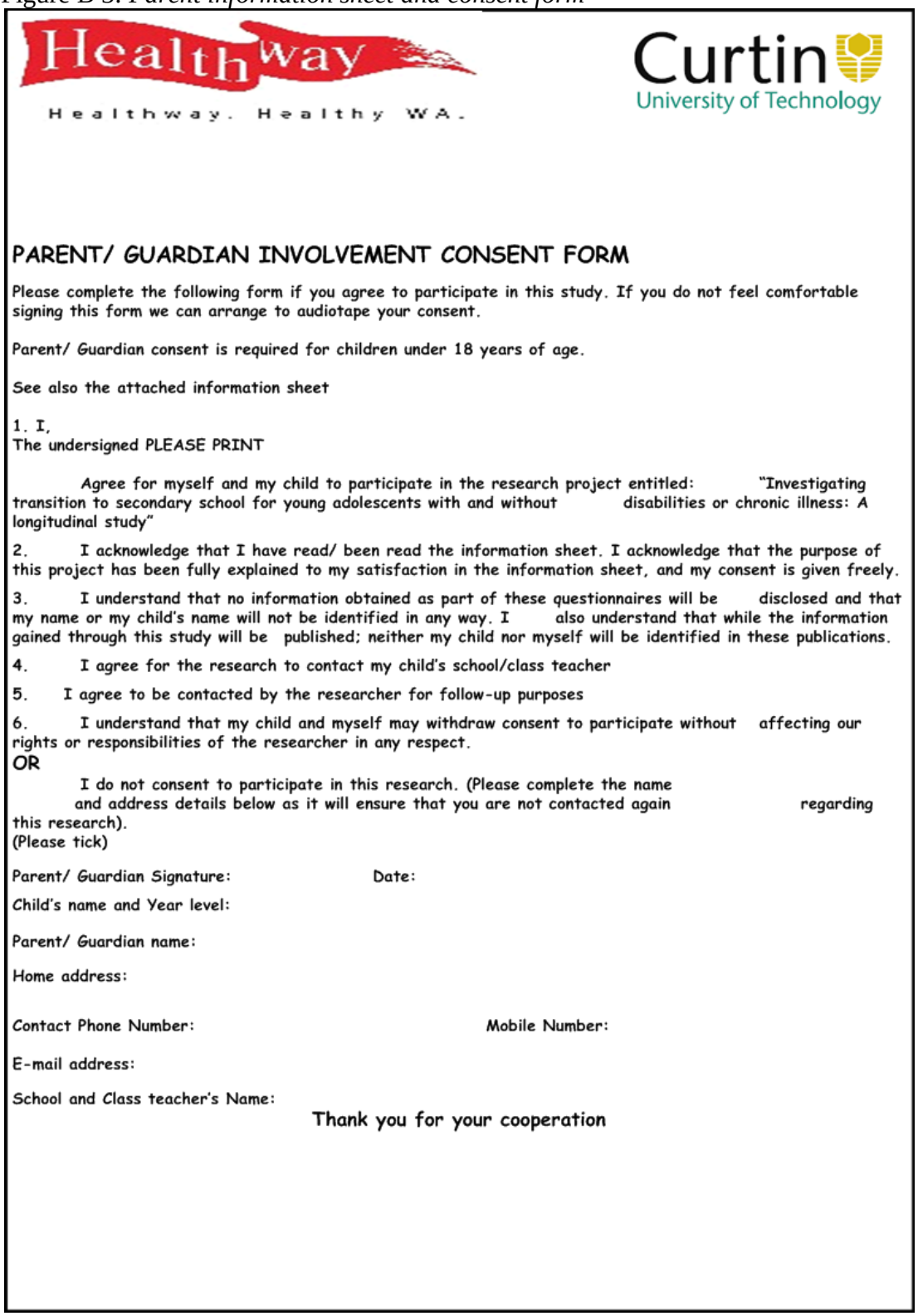
Fax: +61 8 9266 3636
Mob: 0431 325 781

- **Supervisor: Associate Professor Anne Passmore**
  Phone: (08) 9266 3637

This study has been approved by the Curtin University Human Research Ethics Committee. If needed, verification can be obtained either by writing to the Curtin University Human Research Ethics Committee, C/- Office of Research and Development, Curtin University of Technology, GPO Box U1987, Perth 6845 or by telephoning 9266 2784.

Thank you for your valued time and assistance

Figure B 3: *Parent information sheet and consent form*



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PARENT/ GUARDIAN INVOLVEMENT CONSENT FORM

Please complete the following form if you agree to participate in this study. If you do not feel comfortable signing this form we can arrange to audiotape your consent.

Parent/ Guardian consent is required for children under 18 years of age.

See also the attached information sheet

1. I,
The undersigned PLEASE PRINT

Agree for myself and my child to participate in the research project entitled: "Investigating transition to secondary school for young adolescents with and without disabilities or chronic illness: A longitudinal study"

2. I acknowledge that I have read/ been read the information sheet. I acknowledge that the purpose of this project has been fully explained to my satisfaction in the information sheet, and my consent is given freely.

3. I understand that no information obtained as part of these questionnaires will be disclosed and that my name or my child's name will not be identified in any way. I also understand that while the information gained through this study will be published; neither my child nor myself will be identified in these publications.

4. I agree for the research to contact my child's school/class teacher

5. I agree to be contacted by the researcher for follow-up purposes

6. I understand that my child and myself may withdraw consent to participate without affecting our rights or responsibilities of the researcher in any respect.

OR

I do not consent to participate in this research. (Please complete the name and address details below as it will ensure that you are not contacted again regarding this research).
(Please tick)

Parent/ Guardian Signature: Date:

Child's name and Year level:

Parent/ Guardian name:

Home address:

Contact Phone Number: Mobile Number:

E-mail address:

School and Class teacher's Name:

Thank you for your cooperation

Figure B 4: *Student information sheet and consent form*

Healthway. Healthy WA.

Curtin University of Technology

STUDENT INFORMATION SHEET

Investigating transition to secondary school for young adolescents with and without disabilities or chronic illness: A longitudinal study

What is the research about?
This project will help us understand the different things that affect students moving from year seven into high school.

What would your involvement be?
You will be involved in completing a questionnaire in Semester 1 or 2, 2006 and Semester 1 or 2, 2007. These will provide valuable information on how you manage, things that motivate you, your social support, your social skills, your views about school, and your participation in school activities.

What are your rights?
No information obtained as part of these questionnaires will be shown to anyone and your name will not be used in any way. Your school will not know of your personal comments. You are not forced to participate in this study. You are free to withdraw from this study at any time.

What will be done with the information collected?
All the information will be stored in a locked room at the Centre for Research into Disability and Society at Curtin University of Technology. Information from this research will be presented in the form of a thesis and will be published in scholarly journals or information documents for service providers.

Your parent/guardian, principal and teacher have given permission for this project to be conducted. You are eligible to participate in this study. Your opinions and experiences are an important source of information. We request your help and encourage you to take part.

If you are willing to take part in this project, please sign the attached consent form. If you feel uncomfortable signing the consent form, and would like to participate in the study we can audio tape your permission

If you have any questions or concerns now or at anytime about the study, you may contact us on the numbers listed below

- Chief investigator: Sharmila Vaz — Phone: (08) 9266 3693
- Supervisor Associate Professor Anne Passmore — Phone: (08) 9266 3637

Thank you for your valued time and assistance

Figure B 4: *Student information sheet and consent form*

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STUDENT INVOLVEMENT CONSENT FORM

Please complete the following form if you agree to participate in this study. If you do not feel comfortable signing this form we can arrange to audiotape your consent.

See also the attached information sheet

1. I,

The undersigned PLEASE PRINT

Agree to participate in the study titled: Investigating transition to secondary school for young adolescents with and without disabilities or chronic illness: A longitudinal study

2. I admit that I have read/ been read the information sheet. I accept that the purpose of this project has been fully explained to my satisfaction, and my permission is given freely.

3. I understand that the results of all testing will not to be made known. I understand that no information obtained as part of these questionnaires will be made known to others, and that my name will not be recognized in any way. I also understand that while the information gained through this study will be published; I will be not identified in these publications.

4. I agree to be contacted by the researcher for follow-up purposes

5. I understand I may withdraw from this study without affecting my rights or responsibilities of the researcher in any respect.

OR

We do not consent to participate in this research. (Please complete the name and address details below as it will ensure that you are not contacted again regarding this research). (Please tick)

Student's Signature: Date:

Student's name:

Parent/ Guardian name:

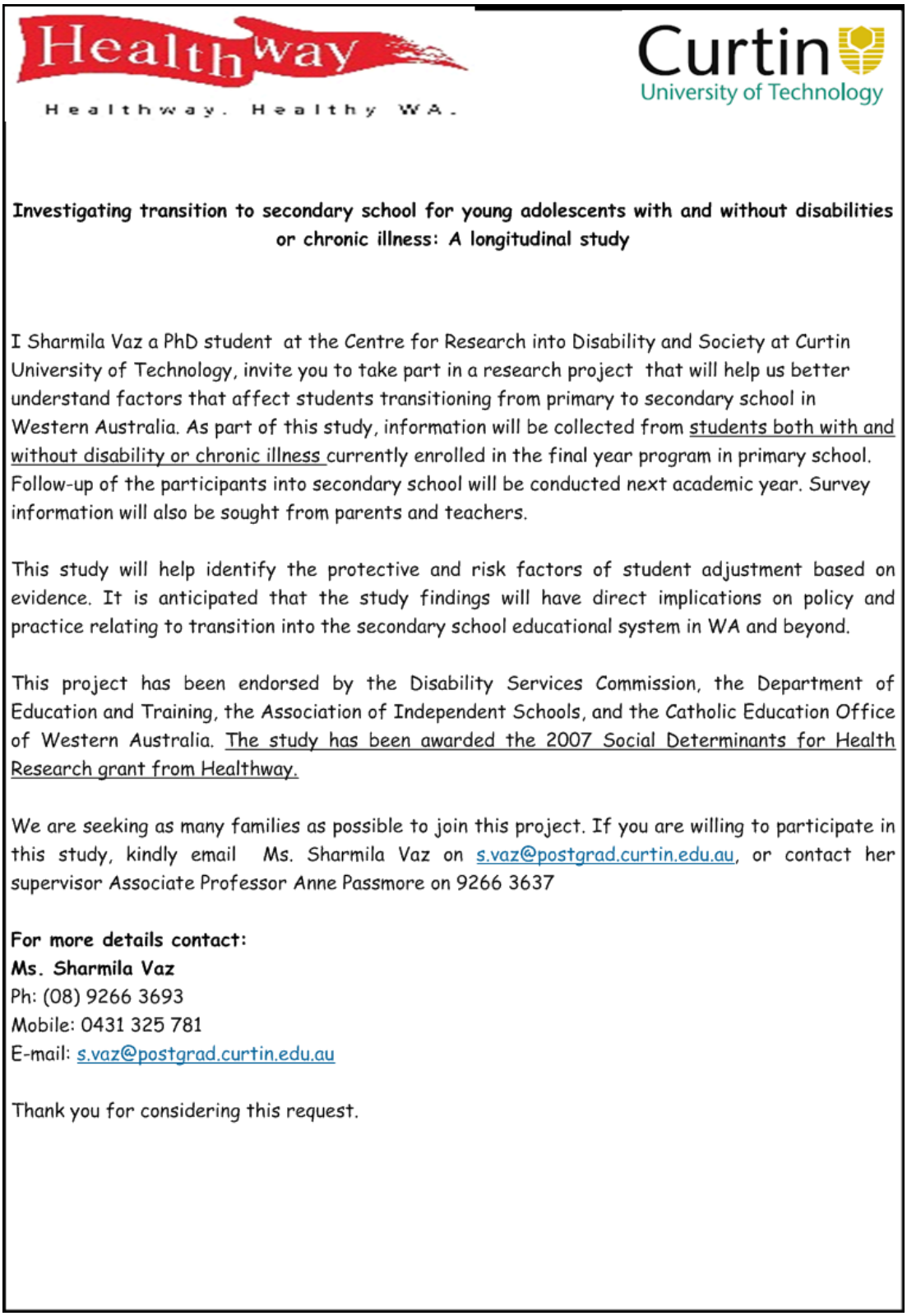
Home address:

Contact Phone Number:

Name of School and Class teacher:

Thank you for your cooperation

Figure B 5: *Advertisement for the study*



Healthway. Healthy WA.

Curtin University of Technology

Investigating transition to secondary school for young adolescents with and without disabilities or chronic illness: A longitudinal study

I Sharmila Vaz a PhD student at the Centre for Research into Disability and Society at Curtin University of Technology, invite you to take part in a research project that will help us better understand factors that affect students transitioning from primary to secondary school in Western Australia. As part of this study, information will be collected from students both with and without disability or chronic illness currently enrolled in the final year program in primary school. Follow-up of the participants into secondary school will be conducted next academic year. Survey information will also be sought from parents and teachers.

This study will help identify the protective and risk factors of student adjustment based on evidence. It is anticipated that the study findings will have direct implications on policy and practice relating to transition into the secondary school educational system in WA and beyond.

This project has been endorsed by the Disability Services Commission, the Department of Education and Training, the Association of Independent Schools, and the Catholic Education Office of Western Australia. The study has been awarded the 2007 Social Determinants for Health Research grant from Healthway.

We are seeking as many families as possible to join this project. If you are willing to participate in this study, kindly email Ms. Sharmila Vaz on s.vaz@postgrad.curtin.edu.au, or contact her supervisor Associate Professor Anne Passmore on 9266 3637

For more details contact:
Ms. Sharmila Vaz
Ph: (08) 9266 3693
Mobile: 0431 325 781
E-mail: s.vaz@postgrad.curtin.edu.au

Thank you for considering this request.

Figure B 6: *Letter to community organisations for the study*

Healthway. Healthy WA.

Curtin University of Technology

Dear

RE: Research project: "Investigating transition to secondary school for young adolescents with and without disabilities or chronic illness: A longitudinal study"

I am seeking support from the Autism Association of Western Australia in a research project that will help us better understand factors that affect students moving successfully from primary school into high school in Perth, Western Australia.

Support in the form of circulation of parent information sheets and consent forms to parents of grade 6/7 students with Cerebral Palsy and in the form of advertising for the study in the local area newsletters and on the website is sought.

The proposed research will involve the largest sample size of secondary school transitioning students with and without disabilities or chronic illness tested empirically in Australia. By examining different patterns of adaptation associated with high school transition, this longitudinal study will help identify factors that affect student adjustment as they move from primary to secondary school. Prevention strategies for young adolescents both with and without disabilities or chronic illness, entering into the secondary school system will also be outlined. It is anticipated that the findings of this study will have direct implications for policy and practice relating to transition into the secondary school educational system in WA and beyond, especially for students with disabilities or chronic illness.

This project has been endorsed by the Disability Services Commission, the Department of Education and Training, the Association of Independent Schools, and the Catholic Education Office of Western Australia. The study has been awarded the 2007 Social Determinants for Health Research grant from Healthway.

This project is being undertaken as part of the requirement of the Doctor of Philosophy program in the School of Occupational Therapy at Curtin University of Technology. Associate Professor Anne Passmore from the Centre for Research into Disability and Society will be supervising the study.

As part of this study, information will be collected from both students with and without disabilities or chronic illness, currently studying in either grades 6 or 7 who will be transitioning into either middle school or high school next year. Survey information will also be sought from parents and teachers.

If you have any questions, please call me on (08) 9266 3693 or contact my supervisor A/Prof Anne Passmore on (08) 9266 3637.
Thank you for considering this proposal.

Yours sincerely

Sharmila Vaz

This study has been approved by the Curtin University Human Research Ethics Committee, approval number **HR 194/2005**. *If needed, verification can be obtained either by writing to the Curtin University Human Research Ethics Committee, C/- Office of Research and Development, Curtin University of Technology, GPO Box U1987, Perth 6845 or by telephoning (08) 9266 2784.*

Figure B 7: *Website insert advertisement*

Website insert

Investigating transition to secondary school for young adolescents with and without disabilities or chronic illness: A longitudinal study

Parents of students with and without disabilities or chronic illness studying in the last year of primary school are invited to participate in a research project that will help us better understand factors that affect students moving successfully into high school. Survey information will also be sought from students, their parents and class teachers.

The study will help identify factors that affect student adjustment as they transition to secondary school. The research has been endorsed by the Disability Services Commission, the Department of Education and Training, the Catholic Education Office, and the Association of Independent Schools of Western Australia. It is anticipated that the findings of this study will have direct implications for policy and practice relating to transition into the secondary school educational system in WA and beyond, especially for students with disabilities or chronic illness.

If you would like to participate in this study, please contact Sharmila Vaz on 9266 3605
For more details contact:
Ms. Sharmila Vaz
Ph: (08) 9266 3693
Mobile: 0431325781
Email: s.vaz@postgrad.curtin.edu.au

Figure B 8: *List of community organisations contacted*

Activ Foundation Inc
Asthma Foundation of WA
Asperger's Syndrome Support Group (Inc)
Association for the Blind of WA
Autism Association of WA
Cancer Foundation of WA
Children's Leukemia & Cancer Research Foundation
Cystic Fibrosis Association
Development Disability Council
Disability Services Commission-Local Area Coordinators
Down Syndrome Association of WA
Fragile X Support Group of WA
Heart Kids WA
Juvenile Diabetes Foundation
Kalparrin
Kids Camps
Learning and Attentional Disorders Society (LADS)
Muscular Dystrophy Assoc WA
Parents & Friends of Cromane Association
Prader Willi Syndrome Association of WA
Princess Margaret Hospital for Children
Rocky Bay Inc
Senses Foundation Inc
Speech & Hearing Centre for Deaf Children WA
Spina Bifida Association
SOFTWA (Support Organisation for Trisomy and Related Disorders
The Centre for Cerebral Palsy
The Dyslexia Speld Foundation
The Hospital School Services
The Lupus Group of WA (Inc)
The Smith Family
Therapy Focus Inc
Tinnitus Association WA
Western Australian Deaf Society
WA Epilepsy Association
WA Tourette Syndrome
William Syndrome Association

Appendix C Student questionnaire

Curtin University of Technology

ID NUMBER: ☐ ☐ ☐ ☐ ☐

A LEAP INTO SECONDARY SCHOOL:

YOUNG ADOLESCENTS IN TRANSITION

STUDENT QUESTIONNAIRE

Healthway

Healthway. Healthy WA.

A LEAP INTO SECONDARY SCHOOL:

YOUNG ADOLESCENTS IN TRANSITION

To be completed by the student

Thank you for taking part in this study.

This questionnaire is designed to help us understand the things that affect students moving successfully from primary school to either secondary school or middle school.

THIS IS NOT A TEST

THERE ARE NO RIGHT OR WRONG ANSWERS.

IF YOU CHANGE YOUR ANSWER, BE SURE TO ERASE IT COMPLETELY.

ASK QUESTIONS IF YOU DO NOT KNOW WHAT TO DO.

WE ASSURE YOU THAT YOUR ANSWERS WILL BE KEPT CONFIDENTIAL

ABOUT YOU AND YOUR SCHOOL

1. Your name: ……

2. What gender are you?

1. ☐ **Boy**
2. ☐ **Girl**

3. We are interested in knowing what each of you is like.

Here is an example statement

	Really True For Me	Sort of True For Me		BUT		Sort of True For Me	Really True For Me
a)	☐	☒	Some teenagers like to go to movies in their spare time	BUT	Other teenagers would rather go to sports events	☐	☐

For each statement, you have to decide

- **Whether you are more like the teenager on the left side of the statement, or whether you are more like the teenager on the right side of the statement**
- **Then you have to decide whether that is sort of true for you, or really true for you.**

FOR EACH ROW YOU HAVE TO CHECK ONLY ONE BOX, WHICH BEST DESCRIBES YOU

WHAT I AM LIKE

	Really True For Me	Sort of True For Me		BUT		Sort of True For Me	Really True For Me
1	☐	☐	Some teenagers feel they are just as smart as others their age	BUT	Other teenagers aren't so sure and wonder if they are as smart	☐	☐
2	☐	☐	Some teenagers find it hard to make friends	BUT	For other teenagers it is pretty easy	☐	☐
3	☐	☐	Some teenagers do very well at all kinds of sports	BUT	Other teenager's don't feel that they are very good when it comes to sports	☐	☐
4	☐	☐	Some teenagers are not happy with the way they look	BUT	Other teenagers are happy with the way they look	☐	☐
5	☐	☐	Some teenagers usually do the right thing	BUT	Other teenagers often don't do what they know is right	☐	☐
6	☐	☐	Some teenagers are able to make really close friends	BUT	Other teenagers find it hard to make really close friends	☐	☐
7	☐	☐	Some teenagers are disappointed with themselves	BUT	Other teenagers are pretty pleased with themselves	☐	☐
8	☐	☐	Some teenagers are pretty slow in finishing their school work	BUT	Other teenagers can do their school work more quickly	☐	☐
9	☐	☐	Some teenagers have a lot of friends	BUT	Other teenagers don't have very many friends	☐	☐
10	☐	☐	Some teenagers think that they could do well at just about any new athletic activity	BUT	Other teenagers are afraid that might not well at a new athletic activity	☐	☐

		Sort of True For Me		BUT		Sort of True For Me	Really True For Me
11	☐	☐	Some teenagers wish their body was different	BUT	Other teenagers like their body the way it is	☐	☐
12	☐	☐	Some teenagers often get into trouble for the things they do	BUT	Other teenagers usually don't do things that get them into trouble	☐	☐
13	☐	☐	Some teenagers do have a close friend they can share secrets with	BUT	Other teenagers do not have a close friend they can share secrets with	☐	☐
14	☐	☐	Some teenagers don't like the way they are leading their life	BUT	Other teenagers do like the way they are leading their life	☐	☐
15	☐	☐	Some teenagers do very well at class work	BUT	Other teenagers don't do very well at their class work	☐	☐
16	☐	☐	Some teenagers are very hard to like	BUT	Other teenagers are really easy to like	☐	☐
17	☐	☐	Some teenagers feel that they are better than others their age at sports	BUT	Other teenagers don't feel they can play as well	☐	☐
18	☐	☐	Some teenagers wish their physical appearance was different	BUT	Other teenagers like their physical appearance the way it is	☐	☐
19	☐	☐	Some teenagers feel really good about the way they behave	BUT	Other teenagers don't feel that good about the way they often behave	☐	☐
20	☐	☐	Some teenagers wish they had a really close friend to share things with	BUT	Other teenagers do have a close friend to share things with	☐	☐

	Really True For Me	Sort of True For Me		BUT		Sort of True For Me	Really True For Me
21	☐	☐	Some teenagers are happy with themselves most of the time	BUT	Other teenagers are often not happy with themselves	☐	☐
22	☐	☐	Some teenagers have trouble figuring out the answers in school	BUT	Other teenagers almost always can figure out the answers	☐	☐
23	☐	☐	Some teenagers are popular with others their age	BUT	Other teenagers are not very popular	☐	☐
24	☐	☐	Some teenagers don't do well at new outdoor games	BUT	Other teenagers are good at new games right away	☐	☐
25	☐	☐	Some teenagers think they are good looking	BUT	Other teenagers think that they are not very good looking	☐	☐
26	☐	☐	Some teenagers do things they know they shouldn't do	BUT	Other teenagers hardly ever do things they know they shouldn't do	☐	☐
27	☐	☐	Some teenagers find it hard to make friends they can really trust	BUT	Other teenagers are able to make close friends they can really trust	☐	☐
28	☐	☐	Some teenagers like the kind of person they are	BUT	Other teenagers often wish they were someone else	☐	☐
29	☐	☐	Some teenagers feel that they are pretty intelligent	BUT	Other teenagers question whether they are intelligent	☐	☐
30	☐	☐	Some teenagers feel that they are socially accepted	BUT	Other teenagers wish that more people their age accepted them	☐	☐

	Really True For Me	Sort of True For Me		BUT		Sort of True For Me	Really True For Me
31	☐	☐	Some teenagers do not feel that they are very athletic	BUT	Other teenagers feel that they are very athletic	☐	☐
32	☐	☐	Some teenagers really like their looks	BUT	Other teenagers wish they looked different	☐	☐
33	☐	☐	Some teenagers usually act the way they know they are supposed to	BUT	Other teenagers often don't act the way they are supposed to	☐	☐
34	☐	☐	Some teenagers don't have a friend who is close enough to share really personal thoughts with	BUT	Other teenagers do have a close friend who they can share personal thoughts and feelings with	☐	☐
35	☐	☐	Some teenagers are happy being the way they are	BUT	Other teenagers wish they were different.	☐	☐

3.5a Do you have a learning difficulty or a disability?

1. ☐ No
2. ☐ Yes. Name the difficulty/disability……..

3.5b Do you have a chronic ill health condition (like asthma, diabetes, cystic fibrosis, haemophilia...)?

1. ☐ No
2. ☐ Yes. Name the chronic ill health condition……..

Please turn the page over…

4. Below are some statements about your social support from family, friends and the special person in your life.
For each statement, circle one number that best describes your attitudes or feelings.

		Very Strongly Disagree	Strongly Disagree	Mildly Disagree	Neutral	Mildly Agree	Strongly Agree	Very Strongly Agree
1	There is a special person who is around when I am in need	1	2	3	4	5	6	7
2	There is a special person with whom I can share my joys and sorrows	1	2	3	4	5	6	7
3	My family really tries to help me	1	2	3	4	5	6	7
4	I get emotional help and support I need from my family	1	2	3	4	5	6	7
5	I have a special person who is a real source of comfort to me	1	2	3	4	5	6	7
6	My friends really try to help me	1	2	3	4	5	6	7
7	I can count on my friends when things go wrong	1	2	3	4	5	6	7
8	I can talk about my problems with my family	1	2	3	4	5	6	7
9	I have friends with whom I can share my joy and sorrows	1	2	3	4	5	6	7
10	There is a special person in my life who cares about my feelings	1	2	3	4	5	6	7
11	My family is willing to help me make decisions	1	2	3	4	5	6	7
12	I can talk about my problems with my friends	1	2	3	4	5	6	7

Please turn over...

5. These questions are to find out what your class is actually like for you.

For each statement, draw a circle around one number that best describes what your class is like.

		Strongly Agree	Agree	Can't Decide	Disagree	Strongly Disagree
1	I find the work in my class easy	1	2	3	4	5
2	I find tests and assignments easy	1	2	3	4	5
3	New work is easy for me	1	2	3	4	5
4	I find homework easy	1	2	3	4	5
5	I belong to this class	1	2	3	4	5
6	I am safe in this class	1	2	3	4	5
7	I enjoy being a member of this class	1	2	3	4	5
8	I am included in class activities	1	2	3	4	5
9	I am proud to be a member of this class	1	2	3	4	5
10	I have a say in how my class time is used	1	2	3	4	5
11	I am given a choice of assignments	1	2	3	4	5
12	I work at my own pace	1	2	3	4	5
13	The teacher decides when I move on to a new topic	1	2	3	4	5
14	I have a say in deciding about activities I do	1	2	3	4	5
15	I help other class members who are having trouble with their work	1	2	3	4	5
16	I do favours for members of this class	1	2	3	4	5
17	The teacher takes a personal interest in me	1	2	3	4	5
18	The teacher helps me when I have trouble with work	1	2	3	4	5
19	The teacher moves about the class to talk to me	1	2	3	4	5

		Strongly Agree	Agree	Can't Decide	Disagree	Strongly Disagree
20	The teacher understands me	1	2	3	4	5
21	The teacher's questions help me to understand	1	2	3	4	5
22	I cooperate with other students when doing assignments	1	2	3	4	5
23	When I work in groups in this class, there is teamwork	1	2	3	4	5
24	I cooperate with other students on class activities	1	2	3	4	5
25	During group work, I do my share of the work	1	2	3	4	5
26	Class assignments are clear, so I know what to do					
27	I know the goals for this class	1	2	3	4	5
28	I am ready to start this class on time	1	2	3	4	5
29	I discuss ideas in class	1	2	3	4	5
30	My ideas an suggestions are used during class discussions	1	2	3	4	5
31	The teacher asks me questions	1	2	3	4	5
32	I explain my ideas to other students	1	2	3	4	5
33	I am asked to explain how to solve problems	1	2	3	4	5
34	Students discuss with me how to solve problems	1	2	3	4	5
35	Being in this class is enjoyable	1	2	3	4	5
36	This class is fun	1	2	3	4	5
37	Students are happy in this class	1	2	3	4	5
38	Students in this class are satisfied with their work	1	2	3	4	5
39	Students look forward to coming to this class	1	2	3	4	5
40	I like being in this class	1	2	3	4	5

		Strongly Agree	Agree	Can't Decide	Disagree	Strongly Disagree
41	Class teacher shows that it is important for students of different cultures in school to get along with each other	1	2	3	4	5
42	Class teacher shows that it is important for students with and without disability or chronic illness to get along with each other	1	2	3	4	5
43	Students of many different cultures are chosen to participate in important school activities	1	2	3	4	5
44	Students with disability or chronic illness are chosen to participate in important school activities	1	2	3	4	5
45	In the past 4 weeks at school I have been bullied by other students Circe what describes you best a) Physically? Examples: hit, kicked, pushed, slapped, spat on, or hurt in any physical way b) Verbally? Examples: said mean things to you, teased you, called you names, threatened you or tried to hurt your feelings c) Socially? Examples: left you out on purpose, refused to play with you, said bad things behind your back, got other students to not like you d) Electronically? Examples: used Internet, e-mail, phone or cellular phone text messages to threaten you or make you look bad	1	2	3	4	5
46	In the past 4 weeks at school I have bullied other students Circe what describes you best a) Physically? Examples: hit, kicked, pushed, slapped, spat on, or hurt in any physical way b) Verbally? Examples: said mean things to them, teased them, called them names, threatened them, or tried to hurt their feelings c) Socially? Examples: left them out on purpose, refused to play with them, said bad things behind their back, got other students to not like them; d) Electronically? Examples: used Internet, e-mail, phone or cellular phone text messages to threaten them or make them look bad	1	2	3	4	5

6. What motivates you at school?

For each statement, draw a circle around one number that best describes what motivates you.

		Strongly disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly agree
1	I need to know that I am getting somewhere with my schoolwork	1	2	3	4	5
2	I like to see that I am improving in my schoolwork	1	2	3	4	5
3	When I am improving in my schoolwork I try even harder	1	2	3	4	5
4	The harder the problem the harder I try	1	2	3	4	5
5	I work hard to try to understand new things at school	1	2	3	4	5
6	I am always trying to do better my schoolwork	1	2	3	4	5
7	I want to do well at school to be better than my classmates	1	2	3	4	5
8	I am only happy when I am one of the best in class	1	2	3	4	5
9	I work hard at school so that I well be put in charge of a group	1	2	3	4	5
10	It is very important for me to be a group leader	1	2	3	4	5
11	I try to work with friends as much as possible at school	1	2	3	4	5
12	I prefer to work with other people at school rather than alone	1	2	3	4	5
13	It is very important for students to help each other at school	1	2	3	4	5
14	I care about other people at school	1	2	3	4	5
15	It makes me unhappy if my friends aren't doing well at school	1	2	3	4	5
16	Praise from my teachers for my good schoolwork is important to me	1	2	3	4	5

		Strongly disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly agree
17	At school I work best when I am praised	1	2	3	4	5
18	Praise from my friends for good schoolwork is important to me	1	2	3	4	5
19	Praise from my parents for good schoolwork is important to me	1	2	3	4	5
20	Getting a reward for my good schoolwork is important to me	1	2	3	4	5
21	I work hard in class for rewards from the teacher	1	2	3	4	5
22	Getting merit certificates helps me work harder at school	1	2	3	4	5

7. For each statement, draw a circle around one number that best describes the friend group you belong to.

Among your friends, how important is it to….		Not Important	Important	Very Important
1	Attend class regularly	1	2	3
2	Study	1	2	3
3	Get good grades	1	2	3
4	Finish high school	1	2	3
5	Continue education past high school	1	2	3
6	Participate in school extracurricular activities	1	2	3
7	Behave well at school, both within and outside the classroom	1	2	3

8. How do you feel when you are in school?

For each statement circle one number that best describes your feelings.

		Always True	True most of the Time	Sometimes True	Hardly ever True	Not at all True
1	It's easy for me to make new friends at school	1	2	3	4	5
2	I have nobody to talk to	1	2	3	4	5
3	I am good at working with other children	1	2	3	4	5
4	It is hard for me to make friends	1	2	3	4	5
5	I like school	1	2	3	4	5
6	I have lots of friends	1	2	3	4	5
7	I feel alone	1	2	3	4	5
8	It's hard to get other kids to like me	1	2	3	4	5
9	I don't have anyone to play with	1	2	3	4	5
10	I get along with other kids	1	2	3	4	5
11	I feel left out of things	1	2	3	4	5
12	There is nobody i can go to when I need help	1	2	3	4	5
13	I don't get along with other children	1	2	3	4	5
14	I'm lonely	1	2	3	4	5
15	I am well liked by kids in my class	1	2	3	4	5
16	I don't have any friends	1	2	3	4	5

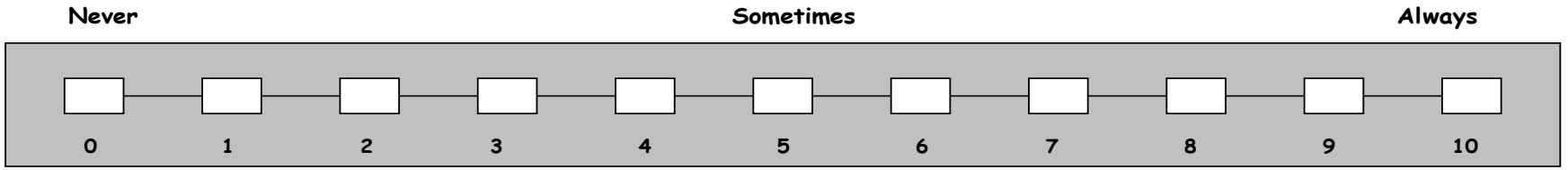
Continue

9. Below are statements about belonging to school

For each statement, draw a circle around one number that best describes what you feel.

		Not at all true	A Little True	Neutral	A Lot True	Completely True
1	I feel a real part of this school	1	2	3	4	5
2	People here notice when I'm good at something	1	2	3	4	5
3	It is hard for people like me to be accepted here	1	2	3	4	5
4	Other students in this school take my opinions seriously	1	2	3	4	5
5	Most teachers at this school are interested in me	1	2	3	4	5
6	Sometimes I feel as if I don't belong here	1	2	3	4	5
7	There's at least one teacher or other adult in this school I can talk to if I have a problem	1	2	3	4	5
8	People at this school are friendly to me	1	2	3	4	5
9	Teachers here are not interested in people like me	1	2	3	4	5
10	I am included in lots of activities at my school	1	2	3	4	5
11	I am treated with as much respect as other students	1	2	3	4	5
12	I feel very different from most other students here	1	2	3	4	5
13	I can really be myself at this school	1	2	3	4	5
14	The teachers here respect me	1	2	3	4	5
15	People here know I can do good work	1	2	3	4	5
16	I wish I were in a different school	1	2	3	4	5
17	I feel proud of belonging to this school	1	2	3	4	5
18	Other students here like me the way I am	1	2	3	4	5

10. How often do you feel you fit in at school? Please tick (√) only one box that applies best



11. How often do you worry about moving to secondary school?

Draw a circle around one number that best describes you

	Never	Rarely	Sometimes	Frequently	Always
How often do you worry about moving to secondary school?	1	2	3	4	5

12. What was the highest qualification you expect to achieve? *Please tick √ one box only*

1. ☐ **Up to year7**
2. ☐ **Up to year 10**
3. ☐ **Up to year 12**
4. ☐ **Complete TAFE/University**
5. ☐ **Other-Please specify**……

13. What was the highest qualification your parents/ guardians expect you to achieve? ***Please tick √ <u>one</u> box only***

1. ☐ **Up to year7**
2. ☐ **Up to year 10**
3. ☐ **Up to year 12**
4. ☐ **Complete TAFE/University**
5. ☐ **Other-Please specify**……

14. What was the highest qualification your class teacher expects you to achieve? *Please tick √ <u>one</u> box only*

1. ☐ **Up to year7**
2. ☐ **Up to year 10**
3. ☐ **Up to year 12**
4. ☐ **Complete TAFE/University**
5. ☐ **Other-Please specify**……

15. Was this questionnaire completed by an adult on this child's behalf?

1. ☐ **No**
2. ☐ **Yes**

16. Has someone helped you to complete your questionnaire?

1. ☐ **No**
2. ☐ **Yes, the Researcher**
3. ☐ **Yes, my Teacher**
4. ☐ **Yes, my Mum**
5. ☐ **Yes, my Dad**
6. ☐ **Yes, my older brother or sister**
7. ☐ **Other (Please specify)**……

17. Please fill in the Adolescent Coping Scale – (copyright protected questionnaire)

18. Please fill in the Social Skills Rating Scale - (copyright protected questionnaire)

Thank you for taking the time to complete this questionnaire

***Please return your completed questionnaire to the supervisor,**

or place it in the reply paid envelope and post it *

STUDENT NAME AND CODE NO: ……

19. Below are statements <u>comparing</u> the opportunities that were available to you in primary school (last year) and are available in secondary school (this year)

"<u>Available" means offered by the school with appropriate adaptations that make it possible for you to take part</u>

If Available, indicate how often you participated in each of the school activities by circling the appropriate number to the right of each statement

	Types of Activities	Availability of activities?			If Available, how often would/do you participate?					
		Yes Available	Not Available		Never	Very Rarely	Rarely	Occasionally	Very frequently	Always
1a	Academic based activities like peer support groups (available last year)	1	2		1	2	3	4	5	6
1b	Academic based activities like peer support groups (available this year)	1	2		1	2	3	4	5	6
2a	Computer classes(available last year)	1	2		1	2	3	4	5	6
2b	Computer classes (available this year)	1	2		1	2	3	4	5	6
3a	Library use (available last year)	1	2		1	2	3	4	5	6
3b	Library use (available this year)	1	2		1	2	3	4	5	6
4a	Student council/prefect (available last year)	1	2		1	2	3	4	5	6
4b	Student council/prefect (available this year)	1	2		1	2	3	4	5	6
5a	School newsletter(available last year)	1	2		1	2	3	4	5	6
5b	School newsletter (available this year)	1	2		1	2	3	4	5	6
6a	Physical education (available last year)	1	2		1	2	3	4	5	6
6b	Physical education (available this year)	1	2		1	2	3	4	5	6
7a	Playground games(available last year)	1	2		1	2	3	4	5	6
7b	Playground games (available this year)	1	2		1	2	3	4	5	6
8a	School sport factions/ organized sport (available last year)	1	2		1	2	3	4	5	6
8b	School sport factions/ organized sport (available this year)	1	2		1	2	3	4	5	6

	Types of Activities	Availability of activities?			If Available, how often would/do you participate?					
		Yes Available	Not Available		Never	Very Rarely	Rarely	Occasionally	Very frequently	Always
9a	School performing arts (dance/drama/music) (available last year)	1	2		1	2	3	4	5	6
9b	School performing arts (dance/drama/music) (available this year)	1	2		1	2	3	4	5	6
10a	School media (communicating with print, film, and electronic media) and/or visual arts (available last year)	1	2		1	2	3	4	5	6
10b	School media (communicating with print, film, and electronic media) and/or visual arts (available this year)	1	2		1	2	3	4	5	6
11a	After school programs (available last year)	1	2		1	2	3	4	5	6
11b	After school programs (available this year)	1	2		1	2	3	4	5	6
12a	School excursions/picnics/ trips/camps (available last year)	1	2		1	2	3	4	5	6
12b	School excursions/picnics/ trips/camps (available this year)	1	2		1	2	3	4	5	6
13a	Volunteering in school and/or out of school to help community (available last year)	1	2		1	2	3	4	5	6
13b	Volunteering in school and/or out of school to help community (available this year)	1	2		1	2	3	4	5	6
14a	School fundraising events/ charity/ collecting money for a social cause/missions (last year)	1	2		1	2	3	4	5	6
14b	School fundraising events/ charity/ collecting money for a social cause/missions (this year)	1	2		1	2	3	4	5	6

Appendix D Parent questionnaire

Curtin University of Technology

ID NUMBER: ☐ ☐ ☐ ☐ ☐

A LEAP INTO SECONDARY SCHOOL:

YOUNG ADOLESCENTS IN TRANSITION

Healthway. Healthy WA.

PARENT QUESTIONNAIRE

A LEAP INTO SECONDARY SCHOOL:

YOUNG ADOLESCENTS IN TRANSITION

To be completed by one parent/ guardian living in the home

Thank you for being involved in this study.

This questionnaire is designed to help us better understand various factors that affect students moving successfully from primary school into secondary school in Western Australia. We are also interested in understanding factors that affect school transition of students who have a disability or chronic illness.

It is anticipated that the findings of this study will have direct implications for policy and practice, relating to transition into the secondary school educational system in WA and beyond.

The questionnaire is divided into the following sections:

SECTION A: ABOUT YOUR FAMILY AND YOU

SECTION B: ABOUT YOUR CHILD WHO IS PARTICIPATING IN THE STUDY AND HIS/HER SCHOOL

SECTION C: ABOUT YOUR INVOLVEMENT IN THE EDUCATION OF YOUR CHILD AND YOUR CHILD'S BEHAVIOUR

WE ASSURE YOU THAT YOUR ANSWERS WILL BE KEPT CONFIDENTIAL

This study has been approved by the Curtin University Human Research Ethics Committee. If needed, verification can be obtained either by writing to the Curtin University Human Research Ethics Committee, C/- Office of Research and Development, Curtin University of Technology, GPO Box U1987, Perth 6845 or by telephoning 9266 2784.

SECTION A: ABOUT YOUR FAMILY AND YOU

Please tick (√) only one box that applies best

Q1. How would you describe your family?

1. ☐ **Original family (i.e. children living with biological and/or adoptive parents)**
2. ☐ **Step/blended family**
3. ☐ **One parent family**
4. ☐ **Extended family (i.e. children living with other family members)**
5. ☐ **Other (Please specify, or if combination of above)**……..

Q2. How many children less than 18 years of age live in your home (either full-time or some of the time)?

1. ☐ **One**
2. ☐ **Two**
3. ☐ **Three**
4. ☐ **Four**
5. ☐ **More than four**

Q3. What is the language spoken most commonly in your home?

1. ☐ **English**
2. ☐ **Language other than English. Please specify**…….

Q4. What is your postcode? ☐☐☐☐

Q5. What is the highest level of school education you obtained? Please tick (√) only one box that applies best

1. ☐ **Did not go to school**
2. ☐ **Primary school**
3. ☐ **Year 8**
4. ☐ **Year 9**
5. ☐ **Year 10**
6. ☐ **Year11**
7. ☐ **Year 12**

Q6. What is the highest qualification you obtained since leaving school?

1. ☐ **No post school certificate**
2. ☐ **Completed Trade/apprenticeship course**
3. ☐ **Completed Certificate from college/TAFE course**
4. ☐ **Completed Bachelors degree**
5. ☐ **Completed Postgraduate diploma/higher degree**
6. ☐ **Other (please specify)**…….

Continue…

Q7. What is the highest level of school education your partner has obtained? Please tick (√) only one box that applies best

1. ☐ **Did not go to school**
2. ☐ **Primary school**
3. ☐ **Year 8**
4. ☐ **Year 9**
5. ☐ **Year 10**
6. ☐ **Year11**
7. ☐ **Year 12**
8. ☐ **Not applicable**

Q8. What is the highest qualification your partner has obtained since leaving school?

1. ☐ **No post school certificate**
2. ☐ **Completed Trade/apprenticeship course**
3. ☐ **Completed Certificate from college/TAFE**
4. ☐ **Completed University Degree**
5. ☐ **Completed Postgraduate diploma/higher degree**
6. ☐ **Other (Please specify)**……..
7. ☐ **Not applicable**

Please turn the page…

Q12. What is your current occupation? Please tick (√) only one box that applies best

1. ☐ **Manager**
2. ☐ **Professional**
3. ☐ **Technician and/or Trades Worker**
4. ☐ **Community and/or Personal Service Worker**
5. ☐ **Clerical and/or Administrative Worker**
6. ☐ **Sales Worker**
7. ☐ **Machinery Operator and/or Driver**
8. ☐ **Labourer**

Q13. Is your partner currently in paid employment?

1. ☐ **No- Go to Q16**
2. ☐ **Yes-Go to Q14**
3. ☐ **Not applicable-Go to Q16**

Q14. How many hours a week does your partner work in paid employment?

1. ☐ **1-15 hours/week**
2. ☐ **16-19 hours/week**
3. ☐ **20-24 hours/week**
4. ☐ **25-29 hours/week**
5. ☐ **30-34 hours/week**
6. ☐ **35 hours/week or more**

Q9. Which income range best represents the combined weekly gross income of people who live in your household? Please tick (√) only one box that applies best

1. ☐ **Nil income**
2. ☐ **$ 1-299 per week ($1- $15, 548 per year)**
3. ☐ **$ 300-599 per week ($15,600- $31,148 per year)**
4. ☐ **$ 600-999 per week ($31,200-51,948 per year)**
5. ☐ **$ 1,000-1,399 per week ($52,000- $72,748 per year)**
6. ☐ **$ 1,400-1,999 per week ($72,800- $103,948 per year)**
7. ☐ **$ 2,000-2,499 per week ($104,000-129,948 per year)**
8. ☐ **$ 2,500 or more per week ($130,000 or more per year)**

Q10. Are you currently in paid employment?

1. ☐ **No-Go to Q 13**
2. ☐ **Yes-Go to Q 11**

Q11. How many hours a week do you work in paid employment?

1. ☐ **1-15 hours/week**
2. ☐ **16-19 hours/week**
3. ☐ **20-24 hours/week**
4. ☐ **25-29 hours/week**
5. ☐ **30-34 hours/week**
6. ☐ **35 hours/week or more**

Q15. What is your partner's current occupation? Please tick (√) only one box that applies best

1. ☐ **Manager**
2. ☐ **Professional**
3. ☐ **Technician and/or Trades Worker**
4. ☐ **Community and/or Personal Service Worker**
5. ☐ **Clerical and/or Administrative Worker**
6. ☐ **Sales Worker**
7. ☐ **Machinery Operator and/or Driver**
8. ☐ **Labourer**

Q16. Below are statements about your immediate family and family relationships

For each circle the category (1-4) that best describes your immediate family.

		Strongly Agree	Agree	Disagree	Strongly Disagree
1	Planning family activities is difficult because we misunderstand each other	1	2	3	4
2	In times of crisis we turn to each other for support	1	2	3	4
3	We cannot talk to each other about the sadness we feel	1	2	3	4
4	Individuals are accepted for what they are	1	2	3	4
5	We avoid discussing our fears and concerns	1	2	3	4
6	We express feelings to each other	1	2	3	4
7	There are lots of bad feelings in our family	1	2	3	4
8	We feel accepted for what we are	1	2	3	4
9	Making decisions is a problem for our family	1	2	3	4
10	We are able to make decisions about how to solve problems	1	2	3	4
11	We don't get along well together	1	2	3	4
12	We confide in each other	1	2	3	4

Continue…

Q17. Below are statements about your beliefs for helping your child succeed in school.

Please think about the current school year and indicate how much you agree or disagree with each of the following statements

		Disagree very strongly	Disagree	Disagree just a little	Agree just a little	Agree	Agree very strongly
1	I know how to help my child do well in school.	1	2	3	4	5	6
2	I don't know if I'm getting through to my child.	1	2	3	4	5	6
3	I don't know how to help my child make good grades in school.	1	2	3	4	5	6
4	I feel successful about my efforts to help my child learn.	1	2	3	4	5	6
5	Other children have more influence on my child's grades than I do.	1	2	3	4	5	6
6	I don't know how to help my child learn.	1	2	3	4	5	6
7	I make a significant difference in my child's school performance.	1	2	3	4	5	6

SECTION B: ABOUT YOUR CHILD WHO IS PARTICIPATING IN THIS STUDY AND HIS/HER SCHOOL

Q18. Name of your child participating in this study:……..……..

Q19. What is the date of birth, age (in years) and gender of your child?

A) Date of birth: ☐☐/☐☐/☐☐☐☐
DAY / MONTH/ YEAR

B) Age in years:……..

Q20. What is the gender of this child?

1. ☐ **Male**
2. ☐ **Female**

Please turn the page…

Q21. Your relationship to the child involved in this study? Please tick (√) only one box that applies best

1. ☐ **Mother (biological or adoptive)**
2. ☐ **Step-mother**
3. ☐ **Foster mother**
4. ☐ **Father (biological or adoptive)**
5. ☐ **Step-father**
6. ☐ **Foster father**
7. ☐ **Other (please specify):**……

Q22. Does your child have a disability?

1. ☐ **No**
2. ☐ **Yes- Name of the disability (medical diagnosis)**……

Q23. Does your child have a chronic illness?

1. ☐ **No**
2. ☐ **Yes- Name of the chronic illness (medical diagnosis)**……

Q24. In general, how would you rate the physical health (the health of his/her body) of your child?

Circle one number that best fits

Excellent	Very good	Good	Fair	Poor
1	2	3	4	5

Q25. In general, how would you rate the emotional health (whether he/she gets angry or sad or worries) of your child?

Circle one number that best fits

Excellent	Very good	Good	Fair	Poor
1	2	3	4	5

Q26. In general, how would you rate the social health (his/her relationship with family and friends) of your child?

Circle one number that best fits

Excellent	Very good	Good	Fair	Poor
1	2	3	4	5

Q27. In general, how would you rate the overall health of your child?

Circle one number that best fits

Excellent	Very good	Good	Fair	Poor
1	2	3	4	5

Q28. Over the course of the past two semesters, how often did a health problem cause your child to miss a day of school?

Circle one number that best fits

Never	Just a few times	About once a week	Almost everyday	Everyday
1	2	3	4	5

Q29. What kind of school does your child currently go to? Please tick (√) one box that applies best

1. ☐ **Regular School (Mainstream inclusive classroom)**
2. ☐ **Education support unit**
3. ☐ **Education support centre**
4. ☐ **Education support school**
5. ☐ **Other, Please specify (If combination of choices provided)**……...

Q30. The following addresses the assistance (in terms of programs/services/facilities) your child currently receives at school (both within and outside the classroom) outside the standard program, and the adequacy of the assistance offered to your child

A1. Does your child receive physical assistance at school (in terms of programs/services/facilities) both within and outside the classroom, outside the standard program, so that he/she can access and participate in school to his/her maximum capacity?

1. ☐ **No.**
2. ☐ **Yes.**

A2. Are the resources and facilities available at the current school sufficient to address your child's physical needs?

1. ☐ **No.**
2. ☐ **Yes.**

B1. Does your child receive <u>academic assistance</u> at school (in terms of programs/services/facilities) both within and outside the classroom <u>outside the standard program,</u> so that he/she can participate in school to his/her maximum capacity?

1. ☐ No.
2. ☐ Yes.

B2. Are the resources and facilities available at the current school sufficient to address your child's <u>academic needs</u>?

1. ☐ No.
2. ☐ Yes.

C1. Does your child receive <u>social assistance</u> at school (in terms of programs/services/facilities) both within and outside the classroom <u>outside the standard program</u>, so that he/she can participate in school to his/her maximum capacity?

1. ☐ No.
2. ☐ Yes.

C2. Are the resources and facilities available at the current school sufficient to address your child's <u>social needs</u>?

1. ☐ No.
2. ☐ Yes.

Q31. Does your child currently receive intervention (support) through community/disability agency/agencies?

1. ☐ No
2. ☐ Yes. If Yes, please specify which agency/agencies:.....

Q32. What type of services does your child currently receive? Please tick (√) only one box that applies best

1. ☐ **None**
2. ☐ **Occupational Therapy**
3. ☐ **Physiotherapy**
4. ☐ **Speech Pathology**
5. ☐ **Psychology**
6. ☐ **Other (please specify)**…….

……..

Q33. What year level is your child currently studying in?

1. ☐ **Year6**
2. ☐ **Year7**
3. ☐ **Year8**

Q34. How often does your child attend the current school?

1. ☐ **Full-time (5 full days per week)**
2. ☐ **Part-time. Please specify, how many days/week?**.....

Continue…

Q35. How long has your child been attending the current school excluding this year? Please tick (√) only one box that applies best

1. ☐ **1 year**
2. ☐ **2 years**
3. ☐ **3 years**
4. ☐ **4 years**
5. ☐ **5 or more years**

Q36. In total how many hours/week is your child usually left independent (without adult supervision) after school?.....hours

Q37. Has your child been held back in a particular class in primary school?

1. ☐ **No**
2. ☐ **Yes**

Q38. Has your child been suspended from school?

1. ☐ **No**
2. ☐ **Yes**

Continue…

Q39. Below are statements about your child's current school.

Please think about the current school year and indicate how much you agree or disagree with each of the following statements.

		Disagree very strongly	Disagree	Disagree just a little	Agree just a little	Agree	Agree very strongly
1	Teachers at this school are interested and cooperative when they discuss my child.	1	2	3	4	5	6
2	I feel welcome at this school.	1	2	3	4	5	6
3	Parent activities are scheduled at this school so that I can attend.	1	2	3	4	5	6
4	This school lets me know about meetings and special school events.	1	2	3	4	5	6
5	This school's staff contacts me promptly about any problems involving my child.	1	2	3	4	5	6
6	The teachers at this school keep me informed about my child's progress in school.	1	2	3	4	5	6

Continue…

Q40. What is the highest qualification you expect your child to achieve? Please tick (√) only one box that applies best

1. ☐ **Complete Primary school (Up to year7)**
2. ☐ **Complete middle secondary school (Up to year 10)**
3. ☐ **Complete Secondary school (Up to year12)**
4. ☐ **Trade/ apprenticeship**
5. ☐ **Certificate from college/ TAFE**
6. ☐ **Bachelors degree**
7. ☐ **Postgraduate diploma/ higher degree**
8. ☐ **Other-Please specify**…….

Q41. How often do you worry about your child transitioning from primary school to middle/ secondary school?

Draw a circle around one number that best fits

Never	Rarely	Sometimes	Frequently	Always
1	2	3	4	5

Q42. Are you planning on attending a parent program aimed at assisting your child transition to either middle or secondary school?

1. ☐ **No**
2. ☐ **Yes**
3. ☐ **Unsure**

Q43. Are you aware of any packages or resources available for transition planning?

1. ☐ No
2. ☐ Yes. If yes, list the package or resource you aware of:……

Q44. To which secondary/middle school do you intend sending your child?

Name and address of the Secondary/middle school:

a)…….

……..

b)……..

……..

Q45. Do you have older children studying in the same middle or secondary school?

1. ☐ No
2. ☐ Yes

Please turn the page…

SECTION C: ABOUT YOUR INVOLVEMENT IN THE EDUCATION OF YOUR CHILD PARTICIPATING IN THIS STUDY AND YOUR CHILD'S BEHAVIOUR

Q46. Below are statements about your involvement in your child's education.

For each circle one category that best describes your involvement.

		Rarely	Sometimes	Often	Always
1	Attend conferences with teacher	1	2	3	4
2	Contact teacher or principal to get information	1	2	3	4
3	Talk to teacher about daily school routine	1	2	3	4
4	Talk to teacher about classroom rules	1	2	3	4
5	Call teacher if concerned about something child said	1	2	3	4
6	Talk to teacher about child's relationship with peers/social skills	1	2	3	4
7	Write notes to teacher about child or activities	1	2	3	4
8	Talk to teacher about child's accomplishments	1	2	3	4
9	Talk to teacher about child's difficulties at school	1	2	3	4
10	Talk to teacher about work child should practice at home	1	2	3	4
11	Talk to teacher about personal matters if relevant to school	1	2	3	4
12	Talk to teacher or principal about disciplinary matters	1	2	3	4
13	Talk to teacher on telephone	1	2	3	4
14	Limit TV and video game playing watching	1	2	3	4
15	Review child's school work	1	2	3	4
16	Take child to library	1	2	3	4

		Rarely	Sometimes	Often	Always
17	Keep regular morning and bedtime schedule	1	2	3	4
18	Share stories with child about when in school	1	2	3	4
19	Take child to places in community to learn special things	1	2	3	4
20	Check that child has place to keep school materials	1	2	3	4
21	Read with child	1	2	3	4
22	Bring home learning materials	1	2	3	4
23	Maintain clear rules at home	1	2	3	4
24	Ask child about day at school	1	2	3	4
25	Child has chores at home	1	2	3	4
26	Do creative activities with child	1	2	3	4
27	Spend time working on mathematical skills	1	2	3	4
28	Help with homework	1	2	3	4
29	Talk to family and friends about child's school progress	1	2	3	4
30	Talk to child about how school helps parents/caregiver	1	2	3	4
31	Suggest activities or trips to teacher	1	2	3	4
32	Attend parent workshops or training at school	1	2	3	4
33	Take child to school	1	2	3	4
34	Volunteer in classroom	1	2	3	4
35	Participate in fundraising activities at school	1	2	3	4
36	Go on class trips	1	2	3	4
37	Arrange times for classmates to come play	1	2	3	4
38	Talk to parents about school meetings and events	1	2	3	4
		Rarely	Sometimes	Often	Always

		Rarely	Sometimes	Often	Always
39	Pick up child from school	1	2	3	4
40	Talk to school personnel about career counseling	1	2	3	4
41	Involved in parent support groups	1	2	3	4
42	Attend organized P & C or P & F meetings	1	2	3	4
43	Meet with families outside of school	1	2	3	4

Q47A. For each statement, please mark the box that best describes your child's behaviour over the last six months or this school year. It would help if you answered all items as best you can even if you are not absolutely certain.

		Not True	Somewhat True	Certainly True
1	Considerate of other people's feelings	☐	☐	☐
2	Restless, overactive, cannot stay still for long	☐	☐	☐
3	Often complains of headaches, stomach-aches or sickness	☐	☐	☐
4	Shares readily with other young people, for example pencils, books, food	☐	☐	☐
5	Often loses temper	☐	☐	☐
6	Would rather be alone than with other people	☐	☐	☐
7	Generally well behaved, usually does what adults request	☐	☐	☐

		Not True	Somewhat True	Certainly True
8	Many worries, often seems worried	☐	☐	☐
9	Helpful if someone is hurt, upset or feeling ill	☐	☐	☐
10	Constantly fidgeting or squirming	☐	☐	☐
11	Has at least one good friend	☐	☐	☐
12	Often fights with other children or bullies them	☐	☐	☐
13	Often unhappy, depressed or tearful	☐	☐	☐
14	Generally liked by other young people	☐	☐	☐
15	Easily distracted, concentration wanders	☐	☐	☐
16	Nervous in new situations, easily loses confidence	☐	☐	☐
17	Kind to younger children	☐	☐	☐
18	Often lies or cheats	☐	☐	☐
19	Picked on or bullied by other young people	☐	☐	☐
20	Often volunteers to help others (parents, teachers, children)	☐	☐	☐
21	Thinks things out before acting	☐	☐	☐
22	Steals from home, school or elsewhere	☐	☐	☐
23	Gets on better with adults than with other young people	☐	☐	☐

		Not True	Somewhat True	Certainly True
24	Many fears, easily scared	☐	☐	☐
25	Sees tasks through to the end, good attention span	☐	☐	☐

WE ASSURE YOU THAT YOUR ANSWERS WILL BE KEPT CONFIDENTIAL

***Kindly place your completed questionnaires in the stamped envelope provided, seal it and post it. ***

Please fill the attached contact card

Your name:……

Home address:……

……

Contact Phone Number:……

Mobile number …….

E-mail address:……

Appendix E Teacher questionnaire: General

Curtin University of Technology

ID NUMBER: ☐ ☐ ☐ ☐ ☐

A LEAP INTO SECONDARY SCHOOL:

YOUNG ADOLESCENTS IN TRANSITION

TEACHER QUESTIONNAIRE: GENERAL

Healthway. Healthy WA.

A LEAP INTO SECONDARY SCHOOL:

YOUNG ADOLESCENTS IN TRANSITION

To be completed by secondary school home teacher

Thank you for being involved in this study.

This questionnaire is designed to help us better understand factors that affect students moving successfully from primary school into secondary school in Western Australia. We are also interested in understanding factors that affect school transition of students who have a disability or chronic illness.

It is anticipated that the findings of this study will have direct implications for policy and practice relating to transition into the secondary school educational system in WA and beyond

The questionnaire involves information about your school, current class, and yourself.

THIS QUESTIONNAIRE NEEDS TO BE COMPLETED JUST ONCE BY EVERY PARTICIPATING TEACHER

WE ASSURE YOU THAT YOUR ANSWERS WILL BE KEPT CONFIDENTIAL

This study has been approved by the Curtin University Human Research Ethics Committee. If needed, verification can be obtained either by writing to the Curtin University Human Research Ethics Committee, C/- Office of Research and Development, Curtin University of Technology, GPO Box U1987, Perth 6845 or by telephoning 9266 2784.

ABOUT YOUR SCHOOL, CURRENT CLASS, AND YOURSELF

1. Type of school sector Please tick √ one box that best applies

1. ☐ **Government school**
2. ☐ **Catholic school**
3. ☐ **Independent private school**

2. Level of education offered in the school Please tick √ one box that best applies

1. ☐ **Primary school (K-7)**
2. ☐ **Secondary school (Grades 8-10/12)**
3. ☐ **K-12 system without the middle school organizational system.**

Please elaborate on the year levels that fall into each category……

……..

4. ☐ **K-12 with the middle school organizational system.**

Please elaborate on the year levels that fall into each category……

……..

5. ☐ **Other (Please specify)** ……..

3. Fill in the school's postcode: ☐☐☐☐

4. What is the composition of your current class? Please tick √ one box that best applies

1. ☐ **Year 6**
2. ☐ **Year 6/7**
3. ☐ **Year 7**
4. ☐ **Year 7/8**
5. ☐ **Year 8**
6. ☐ **Year 8/9**

5. Is your current class academically streamed?

1. ☐ **No**
2. ☐ **Yes**

6. Do students in your current class have one main teacher for most of the day?

1. ☐ **Yes**
2. ☐ **No, they usually have different subject teachers, all in different classrooms**
3. ☐ **No, we have the middle school system**

Please turn the page over…

7. Is your current class mixed gender?

1. ☐ **No**
2. ☐ **Yes**

8. How many students do you have in your current class? …….

9. How many students with disabilities do you have in your current class? ……

10. How many students with chronic illness do you have in your current class? ……..

11. Your gender

1. ☐ **Male**
2. ☐ **Female**

12. Your age: Please tick √ one box that best applies

1. ☐ **24 years and under**
2. ☐ **25-34 years**
3. ☐ **35-44 years**
4. ☐ **45-54 years**
5. ☐ **55 years and over**

13. Your employment status:

1. ☐ **Full-time**
2. ☐ **Part-time**

14. How many years of teaching experience you have excluding the current academic year? ……

15. For how many years of have you taught in this school excluding the current academic year?……..

16. What is the highest qualification you hold? Please tick √ one box that best applies

1. ☐ **Teaching certificate**
2. ☐ **Diploma**
3. ☐ **Degree in Education**
4. ☐ **Postgraduate Degree**
5. ☐ **Other (Please Specify)** ……

Please turn the page over…

17. The following questions address the training you have received with regard to inclusive education Please tick √ one box that best applies

1) Have you completed course/degree training on inclusive education or inclusive teaching practices?

1. ☐ No

2. ☐ Yes. If Yes, specify what training……

2) Have you completed postgraduate degree training on inclusive education or inclusive teaching practices?

1. ☐ No

2. ☐ Yes. If Yes, specify what training……

3) Have you undertaken special training for teaching students with disability?

1. ☐ No

2. ☐ Yes. If Yes, specify what training……

4) Have you undertaken special training for teaching students with chronic illness?

1. ☐ No

2. ☐ Yes. If Yes, specify what training……

5) Have you attended professional development sessions (in house, conference, etc) about inclusive education or inclusive teaching practices?

1. ☐ No

2. ☐ Yes. If Yes, how many hours/year ……..

6) Have you attended professional development sessions (in house, conference, etc) about teaching students with disability?

1. ☐ No
2. ☐ Yes. If Yes, how many hours/year ……..

7) Have you attended professional development sessions (in house, conference, etc) about teaching students with chronic illness?

1. ☐ No
2. ☐ Yes. If Yes, how many hours/year ……..

8) How many years of experience teaching a student with disability excluding this academic year do you have?

1. ☐ 0
2. ☐ 1-2
3. ☐ 3-4
4. ☐ 5 or more

9) How many years of years of experience teaching a student with chronic illness excluding this academic year do you have?

1. ☐ 0
2. ☐ 1-2
3. ☐ 3-4
4. ☐ 5 or more

Please turn over….

18. This questionnaire is designed to help us gain a better understanding of the kinds of things that create difficulties for teachers in their school activities. Please indicate your opinions about each of the statements below by circling the appropriate number.

		NOTHING		VERY LITTLE		SOME INFLUENCE		QUITE A BIT		A GREAT DEAL
1	How much can you influence the decisions that are made in the school?	1	2	3	4	5	6	7	8	9
2	How much can you express your views freely on important school matters?	1	2	3	4	5	6	7	8	9
3	How much can you do to get the instructional materials and equipment you need?	1	2	3	4	5	6	7	8	9
4	How much can you do to get through to the most difficult students?	1	2	3	4	5	6	7	8	9
5	How much can you do to promote learning when there is lack of support from the home?	1	2	3	4	5	6	7	8	9
6	How much can you do to keep students on task on difficult assignments?	1	2	3	4	5	6	7	8	9
7	How much can you do to motivate students who show low interest in schoolwork?	1	2	3	4	5	6	7	8	9
8	How much can you do to get students to work together?	1	2	3	4	5	6	7	8	9
9	How much can you do to overcome the influence of adverse social conditions on students' learning?	1	2	3	4	5	6	7	8	9
10	How much can you do to get children to do their homework?	1	2	3	4	5	6	7	8	9
11	How much can you do to get children to follow classroom rules?	1	2	3	4	5	6	7	8	9

		NOTHING		VERY LITTLE		SOME INFLUENCE		QUITE A BIT		A GREAT DEAL
12	How much can you do to control disruptive behaviour in the classroom?	1	2	3	4	5	6	7	8	9
13	How much can you do to prevent problem behaviour on the school grounds?	1	2	3	4	5	6	7	8	9
14	How much can you do to get parents to become involved in school activities?	1	2	3	4	5	6	7	8	9
15	How much can you do to assist parents in helping their children do well in school?	1	2	3	4	5	6	7	8	9
16	How much can you do to make parents feel comfortable coming to school?	1	2	3	4	5	6	7	8	9
17	How much can you do to get community groups involved in working with the school?	1	2	3	4	5	6	7	8	9
18	How much can you do to make the school a safe place?	1	2	3	4	5	6	7	8	9
19	How much can you do to make students enjoy coming to school?	1	2	3	4	5	6	7	8	9
20	How much can you do to get students to trust teachers?	1	2	3	4	5	6	7	8	9
21	How much can you help other teachers with their teaching skills?	1	2	3	4	5	6	7	8	9
22	How much can you do to enhance collaboration between teachers and the administration to make the school run effectively?	1	2	3	4	5	6	7	8	9
23	How much can you do to reduce school dropout?	1	2	3	4	5	6	7	8	9
24	How much can you do to reduce school absenteeism?	1	2	3	4	5	6	7	8	9
25	How much can you do to get students to believe they can do well in schoolwork?	1	2	3	4	5	6	7	8	9

19. Please indicate whether you agree or disagree to each statement by circling the appropriate number to the right of each statement.

PLEASE ANSWER ALL STATEMENTS

		Disagree very much	Disagree pretty much	Disagree a little	Agree a little	Agree pretty much	Agree very much
1	A. Most students with disabilities will make an adequate attempt to complete their assignments	-3	-2	-1	+1	+2	+3
	B. Most students with chronic illness will make an adequate attempt to complete their assignments	-3	-2	-1	+1	+2	+3
2	A. Integration of students with disabilities will necessitate extensive retraining of general classroom teachers	-3	-2	-1	+1	+2	+3
	B. Integration of students with chronic illness will necessitate extensive retraining of general classroom teachers	-3	-2	-1	+1	+2	+3
3	Integration offers mixed group interaction that will foster understanding and acceptance of difference among students	-3	-2	-1	+1	+2	+3
4	A. It is likely that the student with a disability will exhibit behaviour problems in a general classroom	-3	-2	-1	+1	+2	+3
	B. It is likely that the student with a chronic illness will exhibit behaviour problems in a general classroom	-3	-2	-1	+1	+2	+3
5	A. Students with disabilities can be best served in general classrooms	-3	-2	-1	+1	+2	+3
	B. Students with chronic illness can be best served in general classrooms	-3	-2	-1	+1	+2	+3

		Disagree very much	Disagree pretty much	Disagree a little	Agree a little	Agree pretty much	Agree very much
6	A. The extra attention students with disabilities require will be to the detriment of the other students	-3	-2	-1	+1	+2	+3
	B. The extra attention students with chronic illness require will be to the detriment of the other students	-3	-2	-1	+1	+2	+3
7	A. The challenge of being in a general classroom will promote the academic growth of the student with a disability	-3	-2	-1	+1	+2	+3
	B. The challenge of being in a general classroom will promote the academic growth of the student with a chronic illness	-3	-2	-1	+1	+2	+3
8	A. Integration of students with disabilities will require significant changes in general classroom procedures	-3	-2	-1	+1	+2	+3
	B. Integration of students with chronic illness will require significant changes in general classroom procedures	-3	-2	-1	+1	+2	+3
9	A. Increased freedom in the general classroom creates too much confusion for the student with a disability	-3	-2	-1	+1	+2	+3
	B. Increased freedom in the general classroom creates too much confusion for the student with a chronic illness	-3	-2	-1	+1	+2	+3
10	A. General-classroom teachers have the ability necessary to work with students with disabilities	-3	-2	-1	+1	+2	+3
	B. General-classroom teachers have the ability necessary to work with students with chronic illness	-3	-2	-1	+1	+2	+3

		Disagree very much	Disagree pretty much	Disagree a little	Agree a little	Agree pretty much	Agree very much
11	A. The presence of students with disabilities will not promote acceptance of difference on the part of students without disabilities	-3	-2	-1	+1	+2	+3
	B. The presence of students with chronic illness will not promote acceptance of difference on the part of students without chronic illness	-3	-2	-1	+1	+2	+3
12	A. The behaviour of students with disabilities will set a bad example for students with out disabilities	-3	-2	-1	+1	+2	+3
	B. The behaviour of students with chronic illness will set a bad example for students with out chronic illness	-3	-2	-1	+1	+2	+3
13	A. The student with a disability will probably develop academic skills more rapidly in a general classroom than in a special classroom	-3	-2	-1	+1	+2	+3
	B. The student with a chronic illness will probably develop academic skills more rapidly in a general classroom than in a special classroom	-3	-2	-1	+1	+2	+3
14	A. Integration of the student with a disability will not promote his or her social independence	-3	-2	-1	+1	+2	+3
	B. Integration of the student with a chronic illness will not promote his or her social independence	-3	-2	-1	+1	+2	+3

		Disagree very much	Disagree pretty much	Disagree a little	Agree a little	Agree pretty much	Agree very much
15	A. It is not more difficult to maintain order in a general classroom that contains a student with a disability than in one that does not contain a student with a disability	-3	-2	-1	+1	+2	+3
	B. It is not more difficult to maintain order in a general classroom that contains a student with a chronic illness than in one that does not contain a student with a chronic illness	-3	-2	-1	+1	+2	+3
16	A. Students with disabilities will not monopolize the general-classroom teacher's time	-3	-2	-1	+1	+2	+3
	B. Students with chronic illness will not monopolize the general-classroom teacher's time	-3	-2	-1	+1	+2	+3
17	A. The integration of students with disabilities can be beneficial for students without disabilities	-3	-2	-1	+1	+2	+3
	B. The integration of students with chronic illness can be beneficial for students without chronic illness	-3	-2	-1	+1	+2	+3
18	A. Students with disabilities are likely to create confusion in the general classroom	-3	-2	-1	+1	+2	+3
	B. Students with chronic illness are likely to create confusion in the general classroom	-3	-2	-1	+1	+2	+3

		Disagree very much	Disagree pretty much	Disagree a little	Agree a little	Agree pretty much	Agree very much
19	A. General-classroom teachers have sufficient training to teach students with disabilities	-3	-2	-1	+1	+2	+3
	B. General-classroom teachers have sufficient training to teach students with chronic illness	-3	-2	-1	+1	+2	+3
20	A. Integration will likely have a negative effect on the emotional development of the student with a disability	-3	-2	-1	+1	+2	+3
	B. Integration will likely have a negative effect on the emotional development of the student with a chronic illness	-3	-2	-1	+1	+2	+3
21	A. Students with disabilities should be given every opportunity to function in the general classroom where possible	-3	-2	-1	+1	+2	+3
	B. Students with chronic illness should be given every opportunity to function in the general classroom where possible	-3	-2	-1	+1	+2	+3
22	A. The classroom behaviour of the student with a disability generally does not require more patience from the teacher than does the classroom behaviour of the student without a disability	-3	-2	-1	+1	+2	+3
	B. The classroom behaviour of the student with a chronic illness generally does not require more patience from the teacher than does the classroom behaviour of the student without a chronic illness	-3	-2	-1	+1	+2	+3

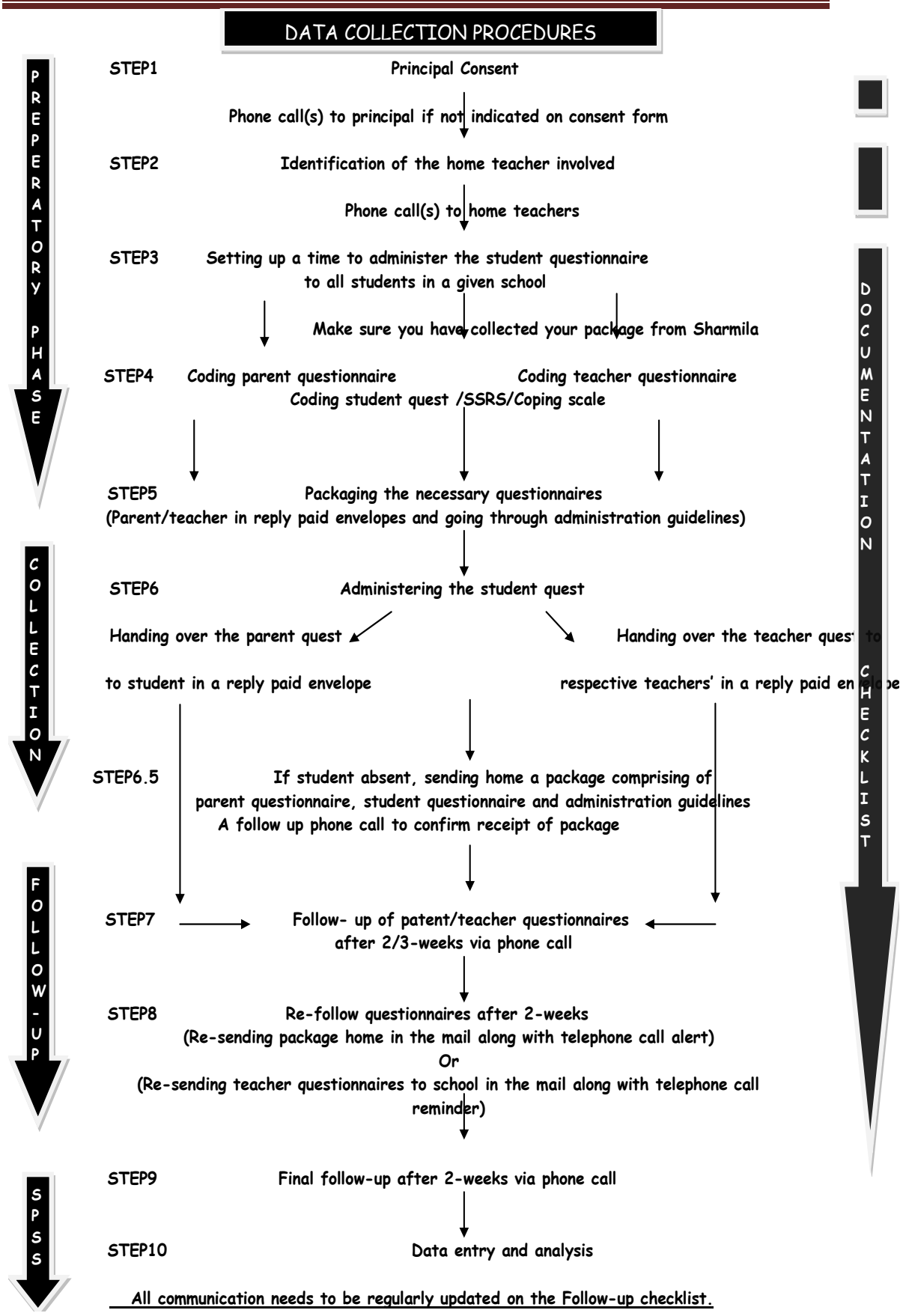
		Disagree very much	Disagree pretty much	Disagree a little	Agree a little	Agree pretty much	Agree very much
23	A. Teaching students with disabilities is better done by special rather than general classroom teachers	-3	-2	-1	+1	+2	+3
	B. Teaching students with chronic illness is better done by special rather than general classroom teachers	-3	-2	-1	+1	+2	+3
24	A. Placement in a special classroom has beneficial effects on the social and emotional development of the students with a disability	-3	-2	-1	+1	+2	+3
	B. Placement in a special classroom has beneficial effects on the social and emotional development of the students with a chronic illness	-3	-2	-1	+1	+2	+3
25	A. The student with a disability will not be socially isolated in the general classroom	-3	-2	-1	+1	+2	+3
	B. The student with a chronic illness will not be socially isolated in the general classroom	-3	-2	-1	+1	+2	+3

Thank you for taking the time to complete this questionnaire

***Kindly fill up the Student-Specific questionnaires**

Please place the completed questionnaires in the stamped envelope provided, seal it and post it

Appendix F Administration guidelines


DATA COLLECTION PROCEDURES
PREPERATORY PHASE
COLLECTION
FOLLOW-UP
SPSS
DOCUMENTATION CHECKLIST
STEP1
Principal Consent
Phone call(s) to principal if not indicated on consent form
STEP2
Identification of the home teacher involved
Phone call(s) to home teachers
STEP3
Setting up a time to administer the student questionnaire
to all students in a given school
Make sure you have collected your package from Sharmila
STEP4
Coding parent questionnaire
Coding teacher questionnaire
Coding student quest /SSRS/Coping scale
STEP5
Packaging the necessary questionnaires
(Parent/teacher in reply paid envelopes and going through administration guidelines)
STEP6
Administering the student quest
Handing over the parent quest
to student in a reply paid envelope
Handing over the teacher quest to
respective teachers' in a reply paid envelope
STEP6.5
If student absent, sending home a package comprising of
parent questionnaire, student questionnaire and administration guidelines
A follow up phone call to confirm receipt of package
STEP7
Follow- up of patent/teacher questionnaires
after 2/3-weeks via phone call
STEP8
Re-follow questionnaires after 2-weeks
(Re-sending package home in the mail along with telephone call alert)
Or
(Re-sending teacher questionnaires to school in the mail along with telephone call
reminder)
STEP9
Final follow-up after 2-weeks via phone call
STEP10
Data entry and analysis
All communication needs to be regularly updated on the Follow-up checklist.

PREPARATORY PHASE:

STEP1: Principal consent Completed by Sharmila

STEPS 2&3: Identification of home teacher and scheduling a time for data collection
THESE MAY INVOLVE A MINIMUM OF THREE OR MORE CALLS DEPENDING ON HOW CO-ORPERATIVE THE SCHOOL AUTHORITIES ARE

- Phone call to the year7/8 coordinator and identify the home teachers for each of the students
- Phone call to the identified year 7/8 co-coordinator or home teachers (whatever is relevant for a given school)
- Each phone call should include the following (Go through Information Sheet Provided):
    - Identification of self: 1st year master OT student from Curtin University and your role: assisting in follow up data collection for a longitudinal study on transition into secondary school;
    - This is the follow up stage of the study. One round of data collection has been completed when the students were in primary school
    - Report that the study has been endorsed by the principal , the Dept of Education, Catholic Ed Office and Dept of Education and Training;
    - State the commitment involved (what is covered in the questionnaire and tentative amount of class time that will be taken up),
- Note down the name of the home teacher alongside the student name in the follow-up checklist (helpful while coding the teacher questionnaires)
- Obtain consent from teachers involved
- Ask for a time to come and administer the questionnaires to the students.
- Phone call to confirm the time

STEP4: Questionnaire coding

The questionnaires are colour coded for ease of identification

Since this is longitudinal study, questionnaires retain the code numbers allocated to them in Phase1

The questionnaires should be coded on the top right hand core. Student name can be written adjacent to the code (for convenience during administration)???/

***Student questionnaire has 3 components**: All need to coded*

- The main student questionnaire booklet is printed on yellow paper with black font for strong contrast
- The Secondary Student level Social Skills Rating Form (SSRS): Original form – copyright protected
- The Adolescent Coping Scale (ACS): Original form (blue in colour) –copyright protected

Coding of each student questionnaire component is as follows:

- Id numbers to be allocated to each student are shown in the attached table.
- Student questionnaires to be coded as follows: **(phase number) sq (given id)**.
- Thus id number 2sq21 represents the second phase student questionnaire (sq) for id number 21.
- The questionnaires should be coded on the top right hand core. Student name can be written adjacent to the code (for convenience during administration)

Parent questionnaire: 1 main booklet printed on blue paper

- Corresponding parent questionnaire has the same id number as the student questionnaire (see attached table)
- Parent questionnaires to be coded as follows: **(phase number) pq (given id).**
- Thus id number 2pq21 represents the second phase parent questionnaire (pq) for id number 21.
- The questionnaire should be coded on the top right hand core. Student name can be written adjacent to the code (for convenience during administration)

Teacher questionnaire has 2 components:

- General teacher questionnaire printed on pink paper
- Student-specific teacher questionnaire on green paper

Coding of the teacher questionnaires is as follows: (This section calls for your attention!)
Teacher general questionnaire: This questionnaire is filled up once by the home room teacher and a single teacher can be the homeroom teacher for any number of students. Therefore, we will code this questionnaire by writing the relative student ids. Thus, for example a questionnaire coded as:
2sq25, 2sq26, 2sq27 represents the phase2 questionnaire for students with id numbers 25, 26 and 27.

Student-specific teacher questionnaire:

- Corresponding student-specific teacher questionnaire has the same id number as the student questionnaire (see attached table)
- Student-specific questionnaires to be coded as follows: **(phase number) sq (given id).**
- Thus id number 2sq21 represents the second phase student-specific questionnaire (sq) for id number 21. The term student-specific and student can be used interchangeably in this context.
- The questionnaires should be coded on the top right hand core. Student name can be written adjacent to the code (for convenience during administration)???/ You also need to fill in the student name and surname (Item 1 on page 1)

STEP5: Packaging the necessary questionnaires
The following package needs to be carried along while you go to a school:

- Coded student-questionnaires: All 3 components
- Coded parent questionnaires: Placed in reply-paid envelopes. It is a good idea to write down the respective code and student name on the cover flap. This will come hand while distributing the respective questionnaires to students
- Coded general and student-specific teacher questionnaires placed in a large reply paid envelope.
- You may need to read through the student, parent and teacher information sheets to get an idea of what is involved.
- Please go through the student questionnaire at least once before your first visit!!!
- Carry along student/home teacher coding list
- Sharmila and *Dr. Passmore's* contact details if teachers have any queries
-

Please arrive at the school on time, preferably 10-minutes in advance. I find to and fro step-by step direction printouts very handy. These can be accessed via www.whereis.com

DATA COLLECTION:

Step6: Questionnaire administration

Student questionnaire:

- Usually you will be allocated a classroom or a wet area to administer the questionnaire.
- As far as possible get the students evenly spread out.
- ***Impress the fact that:***
  - This is a follow-up questionnaire **shorter** than the one filled up last year;
  - It is not a test, it asks for your personal opinion about secondary school;
  - This questionnaire requires the student to be very honest and pen down what they feel;
  - As each of us is different, we each will have different opinions;
  - There are no correct or wrong answers;
  - No one will be told their answers-not their parent/teacher or principal;
  - Each student will be identified by a secret code number, besides the researchers, no one else knows the names attached to the assigned code number;
- Acknowledge that the questionnaire is long and will take 60-minutes to be completed
- Get the students to write down their names and get going…..
- Listed below are some areas that required further input during phase 1 of the study
  - **Go through Question 3 with the group**
    Question 3 is interested in knowing what each student is like
    For Example: (read through the example with the class)
    Some teenagers like to go for movies in their spare time BUT (emphasise)
    Others would rather go to sports events
    - They need to decide, "Whether they like Movies OR Sports?" (NOT BOTH)…Give them time to think…. (Ask whether they have made their decision?)
    - After they make the decision
    - They need to decide whether the chosen side of the statement (Movies or Sport) is Really True OR Sort of True for them…… AND then, they have to Tick "Only ONE BOX PER ROW"…
- I have observed that some students get confused and sometimes tick a box on either side of the statement. THIS IS INCORRECT!!!!
- ONLY ONE BOX HAS TO BE TICKED PER ROW
- It would be a good idea to go move along and see whether students are answering the items correctly. If need be, you might have to go over the procedure to some
- Allow students to proceed at their individual pace.

  - **Question4**: Although self explanatory, some students need to be reminded that items involve circling only one number.

  - **Question5:** Highlight the fact that the coding is **Reversed**
    - When students reach page 10 item 65 and 66, they need to circle the options that have happened to them over the past 4 weeks at school. There after they have to indicate whether they strongly agree or disagree about being bullied at school

  - **Question8:** The coding is Reversed

- After the students fill in the Yellow Booklet they also fill in The Adolescent Coping Scale and the Social Skills Rating Form

  - **The Adolescent Coping Scale** lists strategies that students resort to deal with their worries and concerns.
    - For Item 19 they need to list a strategy they use when they are worried, and thereafter circle a number to indicate how frequently they use the listed strategy

  - **The Social Skill Rating Scale** lists different skills possessed by students their age:
    - Students need to circle how often they do a particular behaviour and how important the behaviour is to them.

Before collecting a given student questionnaire, GO THROUGH THE QUETSIONNAIRE AND MAKE SURE THAT ALL PAGES AND ITEMS ARE COMPLETED.

Distribution of Parent questionnaire:

- Distribute the parent questionnaire to the respective students. Writing the id and respective student name has made this task easier for you…
- Request student to ask their parents to return the completed questionnaires in the reply paid envelope provided as soon as possible, within 2 weeks

Distribution of teacher questionnaires:

- **Personally deliver** the teacher package to the respective home teachers. Please leave behind Sharmila and Dr. Passmore's contact details
- Request teachers to return the completed questionnaires in the reply paid envelope provided as soon as possible, preferably within 2 weeks.

Step6.5: Dealing with student absence during administration

- Send home a package comprising of a letter outlining the administration guidelines, student questionnaires, and parent questionnaire to residence.
- Refer to document entitled 'Administration guidelines' for the required letter
- Follow up with a phone call to confirm receipt of package and request parent to get return the package as soon as possible (Refer to data file entitle Phase 2 follow-up) for contact information.

DATA ENTRY AND ANALYSIS

STEP 10: Entry of data into SPSS and running analysis

- You will be provided with a copy of a complete set up database, a related syntax file (in case the assessment to be reviewed has re-coding involved and the total score compilation syntax).
- Please do not make any modifications to the database given to you. If you have any difficulties or queries contact Sharmila on 0431 325 781
- At every stage maintain a copy of the file. Please ensure that you undertake the analysis on the copy and NOT ON THE ORIGINAL RAW DATA FILE.

Appendix G Personal factors by gender, health status and SES-level of household

G.1 PERCEIVED SELF-COMPETENCE

Table G 1*Group differences in perceived competence by gender at T1*

Competence domain	G	N	M	SD	t	p-value
T1 Social acceptance	boy	187	3.12	.67	.07	.944
	girl	208	3.11	.67		
T1 Athletic competence	boy	187	2.98	.73	3.35	.001
	girl	208	2.72	.79		
T1 Physical appearance	boy	187	2.96	.69	3.20	.002
	girl	208	2.73	.72		
T1 Behavioural conduct	boy	187	2.99	.69	-4.41	.000
	girl	208	3.28	.62		
T1 Close friendship	boy	187	3.18	.68		
	girl	208	3.33	.77	-2.00	.046

Table G 2 *Group differences in perceived competence by health status at T1*

Competence domain	Disability/CI	N	M	SD	t	p-value
T1 Social acceptance	No	308	3.20	.64	4.60	.000
	Yes	87	2.83	.70		
T1 Athletic competence	No	308	2.90	.75	2.80	.005
	Yes	87	2.63	.82		
T1 Physical appearance	No	308	2.85	.74	.44	.664
	Yes	87	2.81	.62		
T1 Behavioural conduct	No	308	3.17	.66	1.70	.089
	Yes	87	3.03	.72		
T1 Close friendship	No	308	3.36	.67	4.80	.000
	Yes	87	2.90	.83		

Table G 3 *Group differences in perceived competence by SES- level of household* at T1

Competence domain	SES-level	N	M	SD	F	P- value	Low Vs Mid	Low Vs High	Mid Vs High
T1 Social acceptance	Low-SES	38	2.94	.68	3.45	.033	ns	.062	ns
	Mid-SES	224	3.08	.68					
	High-SES	124	3.23	.64					
T1 Athletic competence	Low-SES	38	2.66	.81	1.24	.290	ns	ns	ns
	Mid-SES	224	2.84	.77					
	High-SES	124	2.88	.76					
T1 Physical appearance	Low-SES	38	2.80	.67	2.50	.084	ns	ns	ns
	Mid-SES	224	2.77	.73					
	High-SES	124	2.95	.69					
T1 Behavioural conduct	Low-SES	38	3.04	.75	4.06	.018	ns	ns	.019
	Mid-SES	224	3.06	.68					
	High-SES	124	3.26	.62					
T1 Close friendship	Low-SES	38	3.09	.83	2.42	.090	ns	ns	ns
	Mid-SES	224	3.23	.75					
	High-SES	124	3.36	.67					

G.2 COPING SKILLS

Table G 4 *Gender differences in copying styles at T1*

Coping type	Gender	N	M	SD	t	p-value
T1 Solving the problem	boy	187	23.60	3.90	.09	.925
	girl	208	23.56	3.77		
T1 Reference to others	boy	187	10.60	3.26	-2.30	.023
	girl	208	11.30	2.98		
T1 Non-productive	boy	187	24.52	6.17	.17	.864
	girl	208	24.41	6.60		

Table G 5 *Coping styles at T1 by health status*

Coping type	Disability/CI	N	M	SD	t	p-value
T1 Solving the problem	No	308	23.76	3.74	1.83	.067
	Yes	87	22.91	4.10		
T1 Reference to others	No	308	10.86	3.10	-1.04	.299
	Yes	87	11.26	3.21		
T1 Non-productive	No	308	24.24	6.40	-1.30	.200
	Yes	87	25.23	6.28		

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Table G 6 *Coping styles at T1 by income level of household*

Coping domain	SES-level	N	M	SD	F	P- value	Low Vs Mid	Low Vs High	Mid Vs. High
T1 Solving the problem	Low-SES	38	21.93	3.81	5.845	.003	ns	.003	ns
	Mid-SES	224	23.40	3.91					
	High-SES	124	24.25	3.44					
T1 Reference to others	Low-SES	38	10.55	2.87	.604	.547	.ns	ns	.806
	Mid-SES	224	11.05	3.27					
	High-SES	124	10.77	2.83					
T1 Non-productive	Low-SES	38	25.30	5.75	2.704	.068	.961	.247	.099
	Mid-SES	224	24.81	6.57					
	High-SES	124	23.30	6.10					

G.3 SOCIAL SKILLS

Table G 7 *Social skills differences of the sample by gender at T1*

Social skill domain	G	N	M	SD	t	p-value
T1 Total Social Skills Frequency	boy	187	53.98	11.64		
	girl	208	56.96	8.54	-2.87	.004
T1 Total Social Skills Importance	boy	187	48.40	12.85	-.17	.864
	girl	208	48.61	12.30		
T1 Assertion frequency	boy	187	12.82	3.72	1.05	.294
	girl	208	12.45	3.20		
T1 Empathy frequency	boy	187	14.35	3.58		
	girl	207	16.20	2.85	-5.62	.000
T1 Cooperation frequency	boy	187	14.50	3.25		
	girl	208	15.68	2.73	-3.85	.000
T1 Self -Control frequency	boy	187	12.31	3.70		
	girl	208	12.63	2.99	-.93	.354
T1 Assertion Importance	boy	187	11.23	3.90	2.32	.021
	girl	208	10.35	3.63		
T1 Empathy Importance	boy	187	12.37	3.78	-3.17	.002
	girl	207	13.56	3.70		
T1 Cooperation Importance	boy	187	12.64	3.50	-.53	.598
	girl	208	12.83	3.47		
T1 Self-Control Importance	boy	187	12.16	3.73	.76	.447
	girl	208	11.87	3.64		

Table G 8 *Social skills differences of the sample by health status at T1*

Social skill domain	Disability/CI	N	M	SD	t	p-value
T1 Total Social Skills	No	308	56.18	10.12	2.32	.021
Frequency	Yes	87	53.31	10.33		
T1 Total Social Skills	No	308	48.85	12.54	1.02	.310
Importance	Yes	87	47.30	12.59		
T1 Assertion frequency	No	308	12.93	3.44	3.30	.001
	Yes	87	11.55	3.29		
T1 Empathy frequency	No	308	15.43	3.31	1.19	.235
	Yes	86	14.94	3.46		
T1 Cooperation frequency	No	308	15.28	2.98	1.95	.052
	Yes	87	14.56	3.20		
T1 Self - Control	No	308	12.55	3.37	.79	.432
frequency	Yes	87	12.23	3.29		
T1 Assertion Importance	No	308	10.94	3.86	1.72	.086
	Yes	87	10.15	3.43		
T1 Empathy Importance	No	308	13.16	3.79	1.60	.111
	Yes	86	12.42	3.71		
T1 Cooperation	No	308	12.73	3.39	-.04	.967
Importance	Yes	87	12.75	3.82		
T1 Self-Control	No	308	12.02	3.69	.14	.888
Importance	Yes	87	11.96	3.64		

Table G 9 *Social skills differences of the sample by income level of household at T1*

Social skill domain	SES-level	N	M	SD	F	P- value	Low Vs Mid	Low Vs High	Mid Vs High
T1 Total Social skills	Low-SES	38	53.29	10.96	5.97	.003	ns	.040	.005
frequency	Mid-SES	224	54.33	10.48					
	High-SES	124	57.90	8.82					
T1 Total social skills	Low-SES	38	45.41	11.92	1.23	.292	ns	ns	ns
importance	Mid-SES	224	48.61	12.84					
	High-SES	124	48.93	11.96					

Table G 9 continued… *Social skills differences of the sample by income level of household at T1*

Social skill domain	SES-level	N	M	SD	F	P- value	Low Vs Mid	Low Vs High	Mid Vs High
T1 Assertion frequency	Low-SES	38	11.66	3.48	3.36	.036	ns	.054	ns
	Mid-SES	224	12.44	3.54					
	High-SES	124	13.17	3.25					
T1 Empathy frequency	Low-SES	38	14.53	3.58	2.44	.088	ns	ns	ns
	Mid-SES	223	15.15	3.47					
	High-SES	124	15.76	2.97					
T1 Cooperation frequency	Low-SES	38	14.71	2.98	7.39	.001	ns	ns	.001
	Mid-SES	224	14.66	3.13					
	High-SES	124	15.91	2.66					
T1 Self-control frequency	Low-SES	38	12.39	3.59	3.53	.030	ns	ns	0.025
	Mid-SES	224	12.07	3.41					
	High-SES	124	13.06	3.01					

Table G 9 continued…*Social skills differences of the sample by income level of household at T1*

Social skill domain	SES-level	N	M	SD	F	P- value	Low Vs Mid	Low Vs High	Mid Vs High
T1 Assertion importance	Low-SES	38	9.03	3.12	4.45	.012	.013	.017	ns
	Mid-SES	224	10.92	3.85					
	High-SES	124	10.96	3.71					
T1 Empathy importance	Low-SES	38	12.35	3.99	.75	.471	ns	ns	ns
	Mid-SES	223	12.94	3.69					
	High-SES	124	13.20	3.77					
T1 Cooperation	Low-SES	38	12.71	3.53	.03	.967	ns	ns	ns
importance	Mid-SES	224	12.65	3.57					
	High-SES	124	12.75	3.28					
T1 Self-control	Low-SES	38	11.31	3.78	.73	.484	ns	ns	ns
importance	Mid-SES	224	12.09	3.84					
	High-SES	124	12.01	3.32					

G.4 MOTIVATIONAL ORIENTATION FOR SCHOOLING

Table G 10 *Motivational orientation for schooling scores by gender at T1*

Motivational domain	G	N	M	SD	t	p-value
Task motivation	boy	187	3.96	1.02		
	girl	208	4.20	.83	-2.52	.012
Effort motivation	boy	187	3.92	.88	-1.92	.056
	girl	208	4.08	.85		
Competition motivation	boy	187	3.06	1.04	3.50	.001
	girl	208	2.71	.97		
Social power motivation	boy	187	3.02	1.11	4.02	.000
	girl	208	2.59	1.01		
Affiliation motivation	boy	187	3.87	1.03	-.24	.807
	girl	208	3.90	.95		
Social concern motivation	boy	187	3.85	.83		
	girl	208	4.01	.71	-2.01	.046
Praise motivation	boy	187	3.63	.90	-1.26	.207
	girl	208	3.73	.79		
Token motivation	boy	187	3.27	1.04		
	girl	208	3.33	.91	-.64	.520

Table G 11 *Motivational orientation scores of the sample by health status at T1*

Motivational domain	Disability/CI	N	M	SD	t	p-value
Task motivation	No	308	4.01	.94	.49	.622
	Yes	87	4.04	.90		
Effort motivation	No	308	4.00	.89	-.07	.945
	Yes	87	4.01	.77		
Competition motivation	No	308	2.88	1.05		
	Yes	87	2.86	.87	.20	.841
Social power motivation	No	308	2.80	1.12		
	Yes	87	2.76	.93	.32	.751
Affiliation motivation	No	308	3.89	1.01	.20	.838
	Yes	87	3.87	.93		
Social concern motivation	No	308	3.95	.79	.79	.426
	Yes	87	3.88	.73		
Praise motivation	No	308	3.67	.83	-.51	.612
	Yes	87	3.72	.91		
Token motivation	No	308	3.28	.96	-.88	.379
	Yes	87	3.38	1.02		

Table G 12 *T1 motivational orientation scores of the sample by income level of one's household*

Motivational domain	SES-level	N	M	SD	F	P- value	Low Vs Mid	Low Vs High	Mid Vs. High
Task motivation	Low-SES	38	4.13	.89	2.33	.099	ns	ns	ns
	Mid-SES	224	4.00	.97					
	High-SES	124	4.23	.84					
Effort motivation	Low-SES	38	4.01	.81	3.93	.021	ns	ns	.016
	Mid-SES	224	3.91	.89					
	High-SES	124	4.18	.79					
Competition motivation	Low-SES	38	3.12	1.00	1.19	.306	ns	ns	ns
	Mid-SES	224	2.85	1.02					
	High-SES	124	2.86	1.01					
Social-power motivation	Low-SES	38	2.71	1.20	.13	.877	ns	ns	ns
	Mid-SES	224	2.80	1.11					
	High-SES	124	2.81	1.02					

Table G12 continued…*T1 motivational orientation scores of the sample by income level of one's household*

Motivational domain	SES-level	N	M	SD	F	P- value	Low Vs Mid	Low Vs High	Mid Vs. High
Affiliation motivation	Low-SES	38	3.81	1.01	.74	.478	ns	ns	ns
	Mid-SES	224	3.85	1.02					
	High-SES	124	3.97	.92					
Social concern motivation	Low-SES	38	3.88	.74	2.07	.128	ns	ns	ns
	Mid-SES	224	3.88	.81					
	High-SES	124	4.05	.68					
Praise motivation	Low-SES	38	3.76	.63	1.21	.299	ns	ns	ns
	Mid-SES	224	3.62	.92					
	High-SES	124	3.76	.77					
Token motivation	Low-SES	38	3.49	.85	2.09	.125	ns	ns	ns
	Mid-SES	224	3.34	1.06					
	High-SES	124	3.17	.84					

G.5 EXPECTATIONS OF SCHOOLING: PERSONAL, PARENTAL, AND TEACHER EXPECTATIONS

Table G 14 *Expectations of schooling by health status, gender, and income level of household at T1*

Measure	Educational level	No Disability/CI	Yes Disability/CI	χ^2 p-value	Boy	Girl	χ^2 p-value	Low-SES	Mid-SES	High-SES	χ^2 p-value
T1 Personal expectations of schooling	Until Years 7-12	54 (17.9%)	28 (34.1%)	.001	48 (26.8%)	34 (16.6%)	.015	17(44.7%)	51 (23.1%)	12 (10.3%)	.000
	TAFE/University degree	248 (82.1%)	54 (65.9%)		131(73.2%)	171(83.4%)		21(55.3%)	17 (76.9%)	105(89.7%)	
T1 Perception of parental expectations	Until Years 7-12	79 (26.5%)	27 (33.8%)	.201	58 (32.4%)	48 (24.1%)	.074	17(45.9%)	57 (26.6%)	29 (24.6%)	.033
	TAFE/University degree	219 (73.5%)	53 (66.3%)		121(67.6%)	151(75.9%)		20(54.1%)	157 (73.4%)	89 (75.4%)	
T1 Perception of class – teacher's expectations	Until Years 7-12	97 (33.2%)	36 (46.8%)	.028	63 (36.4%)	70 (35.7%)	.889	23(63.9%)	77 (36.3%)	31 (27.4%)	.000
	TAFE/University degree	195 (66.8%)	41 (53.2%)		110(63.6%)	126(64.3%)		13(36.1%)	135(63.7%)	82 72.6%)	

G.6 WORRYING ABOUT TRANSITION TO SECONDARY SCHOOL: BEFORE AND AFTER TRANSITION

Table G 15 *Level of worry about the impending transition by gender, health status, and income level of household at T1*

Measure	Category	No Disability/CI	Yes Disability/CI	χ^2 p-value	Boy	Girl	χ^2 p-value	Low-SES	Mid-SES	High-SES	χ^2 p-value
T1 Worry about	Low-Q	168(54.5%)	36(41.4%)	.084	116(62.0%)	88(42.3%)	.000	15(39.5%)	118(52.7%)	65(52.4%)	.585
impending transition	Mid-Q	91(29.5%)	35(40.2%)		38(20.3%)	88(42.3%)		15(39.5%)	68(30.4%)	41(33.1%)	
	High-Q	49(15.9%)	16(18.4%)		33(17.6%)	32(15.4%)		8(21.1%)	38(17.0%)	18(14.5%)	

Appendix H Family factors by gender, health status and SES-level of household

H.1 FAMILY DEMOGRAPHICS

Table H 1 *Demographic characteristics of the families at T1 by gender, health status, and SES-level of household*

Measure	Category	No Disability/CI	Yes Disability/CI	χ^2 p-value	Boy	Girl	χ^2 p-value	Low-SES	Mid-SES	High-SES	χ^2 p-value
T1 Family type	Original	235 (76.3%)	60 (69.0%)	.636	136(72.7%)	159(76.4%)	.636	7(18.4%)	169(75.4%)	112(90.3%)	.000
	Blend/extended/ combination	29 (9.4%)	14 (16.1%)		23 (12.3%)	20 (9.6%)		5(13.2%)	27(12.1%)	11(8.9%)	
	Single parent	44 (14.3%)	13 (14.9%)		28 (15.0%)	29 (13.9%)		26(68.4%)	28(12.5%)	1 (.8%)	
T1 No of children	low33	191 (62.2%)	57 (65.5%)	.838	126(67.4%)	122(58.9%)	.223	28(73.7%)	134(60.1%)	82(66.1%)	.155
	mid33	83 (27.0%)	22 (25.3%)		44 (23.5%)	61 (29.5%)		9 (23.7%)	59 (26.5%)	33(26.6%)	
	high33	33 (10.7%)	8 (9.2%)		17 (9.1%)	24 (11.6%)		1 (2.6%)	30 (13.5%)	9 (7.3%)	
T1 Language predominantly spoken at home	English	287 (93.5%)	83 (96.5%)	.291	177(94.7%)	193(93.7%)	.685	30(78.9%)	211(95.0%)	121(97.6%)	.000
	Other than English	20 (6.5%)	3 (3.5%)		10 (5.3%)	13 (6.3%)		8 (21.1%)	11 (5.0%)	3 (2.4%)	

Table H 1 continued… *Demographic characteristics of the families at T1 by gender, health status, and SES-level of household*

Measure	Category	No Disability/CI	Yes Disability/CI	χ^2 p-value	Boy	Girl	χ^2 p-value	Low-SES	Mid-SES	High-SES	χ^2 p-value
T1Female parent qualification	No post - school	74(24.5%)	15(17.4%)	.343	44(24.2%)	45(21.8%)	.732	15(40.5%)	59(26.9%)	15(12.2%)	.000
	Apprentice/TAFE	120(39.7%)	35(40.7%)		74(40.7%)	81(39.3%)		15(40.5%)	96(43.8%)	38(30.9%)	
	University / Post–Graduate	108(35.8%)	36(41.9%)		64(35.2%)	80(38.8%)		7(18.9%)	64(29.2%)	70(56.9%)	
T1 Female parent employed	No	74(24.7%)	25(29.1%)	.410	46(24.9%)	53(26.4%)	.735	14(38.9%)	58(26.6%)	23(18.5%)	.035
	Yes	226(75.3%)	61(70.9%)		139(75.1%)	148(73.6%)		22(61.1%)	160(73.4%)	101(81.5%)	

Table H 1 continued… *Demographic characteristics of the families at T1 by gender, health status, and SES-level of household*

Measure	Category	No Disability/CI	Yes Disability/CI	χ^2 p-value	Boy	Girl	χ^2 p-value	Low-SES	Mid-SES	High-SES	χ^2 p-value
T1 Female employment type	Part - time	69(29.9%)	21(35.0%)	0.44	50(35.5%)	40(26.7%)	0.11	13(59.1%)	47(29.2%)	29(27.9%)	0.012
	Full time	162(70.1%)	39(65.0%)		91(64.5%)	110(73.3%)		9(40.9%)	114(70.8%)	75(72.1%)	
T1 Female parent employment title	Manager /Professional	122(54.2%)	34(55.7%)	.833	69(50%)	87(58.8%)	0.14	3(15.8%)	69(43.4%)	82(79.6%)	0.000
	Trade/Service /Admin/Sales	34(45.8%)	27(44.3%)		69(50%)	61(41.2%)		16(84.2%)	90(56.6%)	21(20.4%)	

Table H 1 continued… *Demographic characteristics of the families at T1 by gender, health status, and SES-level of household*

Measure	Category	No Disability/CI	Yes Disability/CI	χ^2 p-value	Boy	Girl	χ^2 p-value	Low-SES	Mid-SES	High-SES	χ^2 p-value
T1 Male parent qualification	No post - school	49(18.6%)	12(16.4%)	.750	36(22.9%)	25(13.9%)	.099	6(40.0%)	39(20.3%)	16 (13.1%)	.000
	Apprentice/TAFE	126(47.7%)	33(45.2%)		70(44.6%)	89(49.4%)		6(40.0%)	113(58.9%)	35(28.7%)	
	University / Post–Graduate	89(33.7%)	28(38.4%)		51(32.5%)	66(36.7%)		3(20.0%)	40(20.8%)	71(58.2%)	
T1 Male parent employed	No	20(6.5%)	3(3.4%)	.525	10(5.4%)	13(6.3%)	.802	7(18.4%)	8(3.6%)	8(6.5%)	.000
	Yes	247(80.5%)	71(81.6%)		149(80.1%)	169(81.3%)		79(18.4%)	191(85.7%)	112(90.3%)	
	Not applicable	40(13.0%)	13(14.9%)		27(14.5%)	26(12.5%)		24(63.2%)	24(10.8%)	4(3.2%)	

Table H 1 continued… *Demographic characteristics of the families at T1 by gender, health status, and SES-level of household*

Measure	Category	No Disability/CI	Yes Disability/CI	χ^2 p-value	Boy	Girl	χ^2 p-value	Low-SES	Mid-SES	High-SES	χ^2 p-value
T1 Male employment type	Part - time	5(2%)	1(1.4%)	0.73	3(2.0%)	3(1.8%)	.86	1(16.7%)	3(1.6%)	2(1.8%)	0.03
	Full time	241(98%)	70(98.6%)		144(98%)	167(98.2%)		5(83.3%)	187(98.4%)	111(98.2%)	
T1 Male parent employment title	Manager /Professional	132(60%)	38(62.3%)	0.75	71(55.5%)	99(64.7%)	.16	1(25%)	77(47.2%)	87(82.1%)	0.000
	Trade/Service /Admin/Sales	88(40%)	23(37.7%)		57(44.5%)	54(35.3%)		3(75%)	86(52.8%)	19(17.9%)	

H.2 PERCEIVED SOCIAL SUPPORT FROM ONE'S FAMILY

Table H 2 *Student perceived social support differences by gender at T1*

Measure	G	N	M	SD	t	p-value
T1 Social support from Family	boy	187	5.8603	1.29	-.28	.778
	girl	208	5.8954	1.19		

Table H 3 *Student perceived social support differences by health status at T1*

Measure	Disability/CI	N	M	SD	t	p-value
T1 Social support from Family	No	308	5.82	1.31		
	Yes	87	6.07	.92	-1.98	.049

Table H 4 *Student perceived social support differences by SES level of one's household at T1*

Measure	SES-level	N	M	SD	F	P-value	Low Vs Mid	Low Vs High	Mid Vs. High
T1 Social support from Family	Low-SES	38	5.78	1.40	.83	.438	ns	ns	ns
	Mid-SES	224	5.82	1.19					
	High-SES	124	5.98	1.30					

H.3 FAMILY FUNCTIONING

Table H 5 *Family functioning scores by gender at T1*

Measure	G	N	M	SD	t	p-value
T1 Family functioning	boy	187	1.60	.44	-.23	.814
	girl	208	1.61	.40		

Table H 6 *Pre-transition family functioning scores by health status*

Measure	Disability/CI	N	M	SD	t	p-value
T1 Family functioning	No	308	1.59	.41	-1.52	.128
	Yes	87	1.67	.45		

Table H 7 *Family functioning scores as a function of one's household income at T1*

Measure	Income level	SES-level	N	M	SD	F	P-value	Low Vs Mid	Low Vs High
T1 Family functioning	Low-SES	38	1.72	.46	4.12	.017	ns	.032	ns
	Mid-SES	224	1.63	.41					
	High-SES	124	1.53	.41					

H.4 PARENTAL EXPECTATIONS OF SCHOOLING FOR THEIR CHILD

Table H 8 *Parental expectations of schooling for their child by gender, health status, and income level of household at T1*

Measure	Category	No Disability/CI	Yes Disability/CI	χ^2 p-value	Boy	Girl	χ^2 p-value	Low-SES	Mid-SES	High-SES	χ^2 p-value
T1 Parental expectations of schooling for their child	Up to Years 7-12	34(11.4%)	25(29.4%)	.000	30(16.6%)	29(14.4%)	.015	11(31.4%)	39(17.8%)	9(7.6%)	.000
	TAFE/Trade	78(26.3%)	31(36.5%)		63(34.8%)	46(22.9%)		13(37.1%)	77(35.2%)	14(11.8%)	
	University/ Post-grad	185(62.3%)	29(34.1%)		88(48.6%)	126(62.7%)		11(31.4%)	103(47.0%)	96(80.7%)	

H.5 PARENTAL INVOLVEMENT IN THEIR CHILD'S EDUCATION

Table H 9 *Parental report of involvement in their child's schooling based on gender at T1*

Measure	G	N	Mean	SD	t	p-value
T1 Home-based involvement	boy	187	45.45	7.25	-.62	.538
	girl	208	45.88	6.63		
T1 Home-school communication	boy	187	25.46	8.14	1.13	.260
	girl	208	24.56	7.85		
T1 School-based involvement	boy	187	25.84	5.59	-.99	.109
	girl	208	26.83	6.67		

Table H 10 *Parental involvement in their child's schooling based on health status of student at T1*

Measure	Disability /CI	N	Mean	SD	t	p-value
T1 Home–based involvement	No	308	45.43	6.95	-1.30	.195
	Yes	87	46.52	6.81		
T1 Home-school communication	No	308	24.07	7.62	-4.40	.000
	Yes	87	28.24	8.46		
T1 School-based involvement	No	308	26.16	6.09	-1.17	.242
	Yes	87	27.05	6.54		

Table H 11 *Parental involvement in their child's schooling based on household income level at T1*

Measure	SES-level	N	Mean	SD	F	P- value	Low Vs Mid	Low Vs High	Mid Vs. High
T1 Home–based involvement	Low-SES	38	45.38	7.36	2.81	.0.042	ns	ns	.055
	Mid-SES	224	45.04	7.35					
	High-SES	124	46.87	5.88					
T1 Home-school communication	Low-SES	38	27.25	9.83	1.87	.156	ns	ns	ns
	Mid-SES	224	24.84	8.03					
	High-SES	124	24.42	7.23					
T1 School-based involvement	Low-SES	38	25.84	6.99	.57	.563	ns	ns	ns
	Mid-SES	224	26.17	6.19					
	High-SES	124	26.82	6.01					

H.6 PARENTS' BELIEFS ABOUT THEIR EFFICACY FOR HELPING THEIR CHILDREN SUCCEED IN SCHOOL

Table H 12 *Parental self efficacy for helping their child succeed at school by gender at T1*

Measure	G	N	M	SD	t	p-value
T1 Parental self-efficacy	boy	187	32.18	5.93		
	girl	208	33.01	5.23	-1.463	.142

Table H 13 *Parental self efficacy for helping their child succeed at school by health status at T1*

Measure	Disability/ CI	N	M	SD	t	p-value
T1 Parental self-efficacy	No	308	33.01	5.37		
	Yes	87	31.25	6.09	2.436	.016

Table H 14 *Parental self-efficacy for helping their child succeed at school by income level of one's household at T1*

Measure	SES-level	N	Mean	SD	F	P-value	Low Vs Mid	Low Vs High	Mid Vs High
T1 Parental self efficacy	Low-SES	38	31.00	6.22	8.93	.000	.703	.004	.001
	Mid-SES	224	31.93	5.79					
	High-SES	124	34.25	4.61					

Appendix I School/classroom factors by gender, health status and SES-level of household

I.1 SCHOOL AND CLASSROOM FACTORS

Table I 1 *School characteristics at T1 by gender, health status and gender, health status, and SES-level of family*

Measure	Category	No Disability/CI	Yes Disability/CI	χ^2 p-value	Boy	Girl	χ^2 p-value	Low-SES	Mid-SES	High-SES	χ^2 p-value
T1 School sector	Government	150(48.7%)	47(54.0%)	.446	102(54.5%)	95(45.7%)	.186	24(63.2%)	122(54.5%)	47(37.9%)	.000
	Catholic	96(31.2%)	21(24.1%)		52(27.8%)	65(31.3%)		8(21.1%)	71(31.7%)	35(28.2%)	
	Independent Private	62(20.1%)	19(21.8%)		33(17.6%)	48(23.1%)		6(15.8%)	31(13.8%)	42(33.9%)	
T1 Type of school	Primary level	257(83.4%)	73(83.9%)	.115	163(87.2%)	167(80.3%)	.000	37(97.4%)	200(89.3%)	85(68.5%)	.000
	K-12 without MS	34(11.0%)	5(5.7%)		23(12.3%)	16(7.7%)		0(0.0%)	17(7.6%)	21(16.9%)	
	K-12 with MS	17(5.5%)	9(10.3%)		1(0.5%)	25(12%)		1(2.6%)	7(3.1%)	18(14.5%)	
T1 Year level	Year 6	24(7.8%)	10(11.5%)	.277	4(2.1%)	30(14.4%)	.000	2(5.3%)	12(5.4%)	20(16.1%)	.002
	Year 7	284(92.2%)	77(88.5%)		183(97.9%)	178(85.6%)		36(94.7%)	212(94.6%)	104(83.9%)	

Table I 1 continued…*School characteristics at T1 by gender, health status and gender, health status, and SES-level of family*

Measure	Category	No Disability/CI	Yes Disability/CI	χ^2 p-value	Boy	Girl	χ^2 p-value	Low-SES	Mid-SES	High-SES	χ^2 p-value
T1 Receipt of physical assistance	No	269(87.6%)	65(74.7%)	.03	157(84.0%)	177(85.5%)	.67	23(62.2%)	188(83.9%)	116(93.5%)	.000
	Yes	38(12.4%)	22(25.3%)		30(16.0%)	30(14.5%)		14(37.8%)	36(16.1%)	8(6.5%)	
T1 Adequacy of physical assistance	Inadequate	21(6.8%)	11(12.6%)	.079	18(9.6%)	14(6.7%)	.292	5(13.2%)	18(8%)	8(6.5%)	.412
	Adequate	287(93.2%)	76(87.4%)		169(90.4%)	194(93.3%)		33(86.8%)	206(92%)	116(93.5%)	
T1 Receipt of academic assistance	No	236(76.6%)	50(57.5%)	.000	133(71.1%)	153(73.6%)	.589	22(57.9%)	163(72.8%)	95(76.6%)	.077
	Yes	72(23.4%)	37(42.5%)		54(28.9%)	55(26.4%)		16(42.1%)	61(27.2%)	29(23.4%)	
T1 Adequacy of academic assistance	Inadequate	49(15.9%)	21(24.7%)	.05	35(18.9%)	35(16.8%)	.59	12(31.6%)	40(18.0%)	18(14.5%)	0.06
	Adequate	259(84.1%)	64(75.3%)		150(81.1%)	173(83.2%)		26(68.4%)	182(82.0%)	106(85.5%)	

Table I 1 continued…*School characteristics at T1 by gender, health status and gender, health status, and SES-level of family*

Measure	Category	No Disability/CI	Yes Disability/CI	χ^2 p-value	Boy	Girl	χ^2 p-value	Low-SES	Mid-SES	High-SES	χ^2 p-value
T1 Receipt of social assistance	No	255(83.1%)	68(78.2%)	.29	155(82.9%)	168(81.2%)	.66	26(70.3%)	180(80.4%)	109(87.9%)	.04
	Yes	52(16.9%)	19(21.8%)		32(17.1%)	39(18.8%)		11(29.7%)	44(19.6%)	15(12.1%)	
T1 Adequacy of social assistance	Inadequate	29(9.4%)	19(21.8%)	.002	27(14.4%)	21(10.1%)	.187	9(23.7%)	27(12.1%)	9(7.3%)	.021
	Adequate	279(90.6%)	68(78.2%)		160(85.6%)	187(89.9%)		29(76.3%)	197(87.9%)	115(92.7%)	
T1 Miss school	Never	87(28.2%)	17(19.5%)	.224	53(28.3%)	51(24.5%)	.450	12(31.6%)	58(25.9%)	34(27.4%)	.043
	Few times	220(71.4%)	70(80.5%)		134(71.7%)	156(75.0%)		25(65.8%)	166(74.1%)	90(72.6%)	
	Very often	1(.3%)	0(0.0%)		0(0.0%)	1(.5%)		1(2.6%)	0(.0%)	0(.0%)	
T1 Hours unsupervised after school	> 2 hours	80(26.0%)	10(11.5%)	.006	55(29.4%)	35(16.8%)	.009	6(15.8%)	49(21.9%)	34(27.4%)	.512
	upto2hours	69(22.4%)	30(34.5%)		46(24.6%)	53(25.5%)		12(31.6%)	54(24.1%)	30(24.2%)	
	no hours	159(51.6%)	47(54.0%))		86(46.0%)	120(57.7%)		20(52.6%)	121(54.0%)	60(48.4%)	

Table I 1 continued…*School characteristics at T1 by gender, health status and gender, health status, and SES-level of family*

Measure	Category	No Disability/CI	Yes Disability/CI	χ^2 p-value	Boy	Girl	χ^2 p-value	Low-SES	Mid-SES	High-SES	χ^2 p-value
T1 Held back in primary level school	No	300(97.4%)	73(83.9%)	.000	175(93.6%)	198(95.2%)	.486	36(94.7%)	212(94.6%)	118(95.2%)	.978
	Yes	8(2.6%)	14(16.1%)		12(6.4%)	10(4.8%)		2(5.3%)	12(5.4%)	6(4.8%)	
T1 Suspended when in primary level school	No	304(98.7%)	84(96.6%)	.180	180(96.3%)	208(100%)	.005	38(100%)	220(92.2%)	121(97.6%)	.619
	Yes	4(1.3%)	3(3.4%)		7(3.7%)	0(.0%)		0(.0%)	4(1.8%)	3(2.4%)	

Table I 1 continued…*School characteristics at T1 by gender, health status and gender, health status, and SES-level of family*

Measure	Category	No Disability/CI	Yes Disability/CI	χ^2 p-value	Boy	Girl	χ^2 p-value	Low-SES	Mid-SES	High-SES	χ^2 p-value
T2 Parents attended transition program	No	92(46.7%)	32(46.4%)	.963	63(50.8%)	61(43.0%)	.201	13(56.5%)	75(48.7%)	34(39.1%)	.207
	Yes	105(53.3%)	37(53.6%)		61(49.2%)	81(57.0%)		10(43.5%)	79(51.3%)	53(60.9%)	
T1 Parents accessed transition-related package	No	172(87.3%)	53(76.8%)	.038	99(79.8%)	126(88.7%)	.050	20(87.0%)	131(85.1%)	72(82.8%)	.842
	Yes	25(12.7%)	16(23.2%)		25(20.2%)	16(11.3%)		3(13.0%)	23(14.9%)	15(17.2%)	

I.2 PERCEPTION OF THE CLASSROOM ENVIRONMENT

Table I 2 *Gender differences in student's perception of the classroom environment at T1*

Class characteristics	G	N	Mean	SD	F	t	p-value
T1 Ease	boy	187	3.53	.86	2.33	1.77	.079
	girl	208	3.38	.80			
T1 Affiliation	boy	187	4.16	.88	2.61	-.96	.336
	girl	208	4.24	.74			
T1 Autonomy	boy	187	3.38	.81	4.83		
	girl	208	3.42	.71		-.47	.641
T1 Student cohesiveness	boy	187	4.06	.66	1.50	-1.75	.081
	girl	208	4.18	.63			
T1 Teacher support	boy	187	3.64	.85	.80	-.76	.449
	girl	208	3.71	.80			
T1 Task-orientation	boy	187	4.14	.69	.14	-.19	.851
	girl	208	4.16	.69			
T1 Involvement	boy	187	3.80	.76	4.20		
	girl	208	3.82	.67		-.32	.747
T1 Satisfaction	boy	187	3.78	.94	2.89	-2.08	.038
	girl	208	3.96	.81			
T1 Cultural tolerance	boy	187	4.32	.71	1.57	-1.22	.221
	girl	208	4.40	.67			
T1 Disability and CI	boy	187	4.12	.74	.09	-1.03	.305
tolerance	girl	208	4.20	.80			

Table I 3 *Bullying and being a bully record at T1 by gender, health status and gender, health status, and SES-level of family*

Measure	**Category**	**No Disability/CI**	**Yes Disability/CI**	**χ^2 p-value**	**Boy**	**Girl**	**χ^2 p-value**	**Low-SES**	**Mid-SES**	**High-SES**	**χ^2 p-value**
T1 Being bullied at primary school	Disagree	185 (65%)	39 (44.8%)	0.018	111 (60%)	113 (54.3%)	0.503	20 (52.6%)	129 (57.8%)	67 (54.5%)	0.927
	Can't decide	24 (7.8%)	13 (14.9%)		17 (9.2%)	20 (9.6%)		4 (10.5%)	22 (9.9%)	11 (8.9%)	
	Agree	97 (31.7%)	35 (40.2%)		57 (30.8%)	75 (36.1%)		14 (36.8%)	72 (32.3%)	45 (36.6%)	
T1 Bullying others at primary school	Disagree	243(79.2%)	69 (80.2%)	0.539	143(76.9%)	169 (81.6)	0.474	28 (73.7%)	174 (77.7%)	102 (83.6%)	0.375
	Can't decide	28 (9.1%)	10 (11.6%)		21 (11.3%)	17 (8.2%)		4 (10.5%)	21 (9.4%)	12 (9.8%)	
	Agree	36 (11.7%)	7 (8.1%)		22 (11.8%)	21 (10.1%)		6 (15.8%)	29 (12.9%)	8 (6.6%)	

Table I 4 *Differences in student's perception of the classroom environment as a function of student's health status at T1*

Class characteristic	Disability/CI	N	Mean	Std. Deviation	t	p-value
T1 Ease	No	308	3.60	.79	5.49	.000
	Yes	87	3.04	.84		
T1 Affiliation	No	308	4.25	.78	2.19	.029
	Yes	87	4.03	.89		
T1 Autonomy	No	308	3.40	.77	.26	.796
	Yes	87	3.38	.73		
T1 Student cohesiveness	No	308	4.18	.60	2.98	.003
	Yes	87	3.94	.77		
T1 Teacher support	No	308	3.69	.83	.44	.659
	Yes	87	3.64	.80		
T1 Task-orientation	No	308	4.21	.65	3.15	.002
	Yes	87	3.94	.79		
T1 Involvement	No	308	3.84	.72	1.40	.163
	Yes	87	3.72	.70		
T1 Satisfaction	No	308	3.90	.89	.46	.648
	Yes	87	3.84	.81		
T1 Cultural tolerance	No	308	4.37	.70	.41	.684
	Yes	87	4.34	.66		
T1 Disability and CI	No	308	4.18	.78	.80	.421
tolerance	Yes	87	4.10	.74		

Table I 5 *Differences in student's perception of the classroom environment as a function of SES-level of household at T1*

Class characteristics	**SES-level**	**N**	**M**	**SD**	**F**	**P- value**	**Low Vs Mid**	**Low Vs High**	**Mid Vs. High**
T1 Ease	Low-SES	38	3.36	.87	4.77	.009	ns	ns	.009
	Mid-SES	224	3.38	.79					
	High-SES	124	3.65	.85					
T1 Affiliation	Low-SES	38	4.17	.82	1.40	.249	ns	ns	ns
	Mid-SES	224	4.15	.81					
	High-SES	124	4.29	.78					
T1 Autonomy	Low-SES	38	3.39	.69	2.56	.078	ns	ns	ns
	Mid-SES	224	3.33	.75					
	High-SES	124	3.52	.78					
T1 Cohesiveness	Low-SES	38	3.94	.74	4.49	.012	ns	.026	.058
	Mid-SES	224	4.08	.65					
	High-SES	124	4.25	.59					

Table I 5 …continued *Differences in student's perception of the classroom environment as a function of SES-level of household at T1*

Class characteristic	SES-level	N	M	SD	F	P- value	Low Vs Mid	Low Vs High	Mid Vs. High
T1 Teacher support	Low-SES	38	3.76	.84	.69	.503	ns	ns	ns
	Mid-SES	224	3.63	.82					
	High-SES	124	3.72	.83					
T1 Task orientation	Low-SES	38	4.04	.72	2.37	.095	ns	ns	ns
	Mid-SES	224	4.10	.71					
	High-SES	124	4.25	.67					
T1 Involvement	Low-SES	38	3.65	.76	1.80	.167	ns	ns	ns
	Mid-SES	224	3.79	.71					
	High-SES	124	3.89	.73					
T1 Satisfaction	Low-SES	38	3.87	.79	1.54	.214	ns	ns	ns
	Mid-SES	224	3.80	.94					
	High-SES	124	3.97	.78					

Table I 5…continued *Differences in student's perception of the classroom environment as a function of SES-level of household at T1*

Class characteristic	SES-level	N	M	SD	F	P- value	Low Vs Mid	Low Vs High	Mid Vs. High
T1 Cultural tolerance	Low-SES	38	4.30	.65	.28	.755	ns	ns	ns
	Mid-SES	224	4.35	.69					
	High-SES	124	4.39	.72					
T1 Disability and CI	Low-SES	38	4.10	.64	1.53	.218	ns	ns	ns
tolerance	Mid-SES	224	4.11	.82					
	High-SES	124	4.26	.75					
T1 Students bully me	Low-SES	38	1.84	.94	.37	.691	ns	ns	ns
	Mid-SES	223	1.74	.92					
	High-SES	123	1.82	.94					
T1 I bully students	Low-SES	38	1.42	.76	1.84	.160	ns	ns	ns
	Mid-SES	224	1.35	.70					
	High-SES	122	1.23	.56					

I.3 PERCEIVED TEACHER-EFFICACY

Table I 6 *Perceived teacher efficacy as a function of student's gender at T1*

Measure	Gender	N	M	SD	t	p-value
T1 Teacher efficacy	Boy	129	162.49	29.27	-.635	.526
	Girl	131	164.54	22.68		

Table I 7 *Perceived teacher efficacy as a function of student's health status at T1*

Measure	Disability/CI	N	M	SD	t	p-value
T1 Teacher efficacy	No	203	164.55	25.91	1.194	.233
	Yes	57	159.87	26.78		

Table I 8 *Perceived teacher efficacy as a function of SES-level of student at T1*

Measure	SES-level	N	Mean	SD	F	P-value	Low Vs Mid	Low Vs High	Mid Vs High
T1 Teacher efficacy	Low-SES	25	164.48	29.01	4.874	.008	.773	.624	.006
	Mid-SES	153	159.71	25.71					
	High-SES	77	170.89	24.43					

I.4 TEACHER'S OPINION RELATIVE TO INTEGRATION OF STUDENTS WITH DISABILITIES AND/OR CHRONIC ILLNESS

Table I 9 *Teacher's Opinion Relative to Integration of Students with Disabilities and/or Chronic Illness as a function of student's gender at T1*

Measure	G	N	M	SD	t	p-value
T1 Mainstreaming attitude to disability	boy	124	75.40	9.84	-2.217	.028
	girl	128	77.96	8.49		
T1 Mainstreaming attitude to CI	boy	119	76.45	9.07	-1.331	.184
	girl	128	77.87	7.68		

Table I 10 *Teacher's Opinion Relative to Integration of Students with Disabilities and/or Chronic Illness as a function of student's health status at T1*

Measure	Disability/CI	N	Mean	SD	t	p-value
T1 Mainstreaming attitude to disability	No	200	76.75	9.39	.147	.884
	Yes	52	76.53	8.77		
T1 Mainstreaming attitude to CI	No	119	76.44	9.07	-.073	.942
	Yes	128	77.86	7.68		

Table I 11 *Teacher's Opinion Relative to Integration of Students with Disabilities and/or Chronic Illness as a function of SES-level of student at T1*

Measure	SES-level	N	Mean	SD	F	P-value	Low Vs Mid	Low Vs High	Mid Vs. High
T1 Opinion relative to inclusion of students with disability	Low-SES	22	81.68	13.38	3.679	.027	.022	.064	.972
	Mid-SES	153	76.03	8.474					
	High-SES	73	76.53	9.039					
T1 Opinion relative to inclusion of students with chronic illness	Low-SES	22	81.68	11.79	3.516	.031	.028	.052	.999
	Mid-SES	149	76.70	7.519					
	High-SES	72	76.83	8.726					

I.5 PARENTS' PERCEPTIONS OF GENERAL INVITATIONS FOR INVOLVEMENT OFFERED BY THEIR CHILD'S SCHOOL

Table I 12 *Parent perception of invitations for involvement from child's school at T1*

Measure	G	N	M	SD	t	p-value
T1 Invitations for involvement	boy	187	30.60	4.41	.29	.770
from child's school	girl	208	30.47	4.09		

Table I 13 *Parent perception of invitations for involvement from child's school by health status at T1*

Measure	Disability /CI	N	M	SD	t	p-value
T1 Invitations for involvement from	No	308	30.66	4.09	1.12	.262
child's school	Yes	87	30.08	4.69		

Table I 14 *Parent perception of invitations for involvement from child's school by SES-level of household at T1*

Measure	SES-level	N	M	SD	F	P-value	Low Vs Mid	Low Vs High	Mid Vs High
T1 Invitations for	Low-SES	38	31.13	2.94	1.75	.176	ns	ns	ns
involvement from	Mid-SES	224	30.22	4.40					
child's school	High-SES	124	30.97	3.92					

Appendix J Peer-group factors by gender, health status and SES-level of household

J.1 PEER–GROUP SOCIAL SUPPORT

Table J 1 *Perception of social support from a special person in one's life and from one's friends as a function of gender at* T1

Measure	G	N	M	SD	F	t	p-value
T1 Social support from a special person	boy	187	5.47	1.28	.921	-3.86	.000
	girl	208	5.95	1.18			
T1 Social support from friends	boy	187	5.32	1.31	.001	-2.93	.004
	girl	208	5.71	1.32			

Table J 2 *Perception of social support from a special person in one's life and from one's friends as a function of one's health status at T1*

Measure	Disability/CI	N	M	SD	t	p-value
T1 Social support from a special person	No	308	5.72	1.29	.12	.901
	Yes	87	5.71	1.14		
T1 Social support from friends	No	308	5.61	1.34	2.45	.015
	Yes	87	5.21	1.25		

Table J 3 *Perception of social support from a special person in one's life and from one's friends as a function of one's household income level at T1*

Measure	Levels	N	M	SD	F	P-value	Low Vs Mid	Low Vs High	Mid Vs. High
T1 Social support from a special person	Low-SES	38	5.44	1.48	1.65	.193	ns	ns	ns
	Mid-SES	224	5.67	1.22					
	High-SES	124	5.84	1.24					
T1 Social support from	Low-SES	38	5.43	1.55	.46	.631	ns	ns	ns
	Mid-SES	224	5.48	1.32					

friends	High-SES	124	5.61	1.29

J.2 PEER-GROUP CHARACTERISTICS (STUDENT SELF-REPORT)

Table J 4 *Pre-transition perception of value that one's peer group placed on pro-social values as a function of gender*

Measure	G	N	M	SD	t	p-value
T1 Peer group pro-social values	boy	187	16.47	3.46		
	girl	208	17.25	2.89	-2.43	.016

Table J 5 *Pre-transition perception of value that one's peer group placed on pro-social values as a function of health status*

Measure	Disability/CI	N	M	SD	t	p-value
T1 Peer group pro-social values	No	308	16.97	3.17	.98	.326
	Yes	87	16.59	3.26		

Table J 6 *Pre-transition perception of importance that one's peer group placed on pro-social values as a function of the income level of one's household*

Measure	Levels	N	M	SD	F	P-value	Low Vs Mid	Low Vs High	Mid Vs. High
T1 Peer group pro-social values	Low-SES	38	17.16	2.81	.398	.672	ns	ns	ns
	Mid-SES	224	16.73	3.33					
	High-SES	124	16.95	3.01					

Appendix K Adjustment components by gender, health status and SES-level of household

K.1 ACADEMIC COMPETENCE

Table K 1 *Pre-transition perception of academic competence as a function of gender*

Measure	G	N	M	SD	t	p-value
Academic competence	boy	187	2.86	.72	.50	.613
	girl	208	2.83	.72		

Table K 2 *Pre-transition perception of academic competence as a function of health status*

Measure	Disability/CI	N	M	SD	t	p-value
Academic competence	No	308	2.94	.70	5.27	.000
	Yes	87	2.50	.67		

Table K 3 *Pre-transition perception of academic competence as a function of the income level of one's household*

Measure	Levels	N	M	SD	F	P-value	Low Vs Mid	Low Vs High	Mid Vs High
Academic competence	Low-SES	38	2.49	.81	8.89	.000			
	Mid-SES	224	2.80	.69			.032	.000	.023
	High-SES	124	3.02	.69					

K.2 EMOTIONAL AND BEHAVIOURAL ADJUSTMENT (PARENTAL REPORT)

Table K 4 *Parental report of child's emotional and behavioural adjustment as a function of their child's gender at T1*

Outcome	G	N	M	SD	t	p-value
T1 Emotional problems	boy	187	1.77	1.98	-.77	.444
	girl	208	1.92	1.98		
T1 Conduct problems	boy	187	1.04	1.34		
	girl	208	.71	1.09	2.72	.007
T1 Hyperactivity	boy	187	3.17	2.49		
	girl	208	2.01	1.85	5.18	.000
T1 Peer problems	boy	187	1.56	1.95		
	girl	208	1.29	1.61	1.48	.140
T1 Pro-social behaviour	boy	187	8.21	1.76		
	girl	208	8.66	1.48	-2.73	.007
T1 Total difficulties	boy	187	7.54	5.91		
	girl	208	5.93	4.83	2.94	.003

Table K 5 *Parental report of child's emotional and behavioural adjustment as a function of the health status of their child at T1*

Outcome	Disability/CI	N	M	SD	t	p-value
T1 Emotional problems	No	308	1.56	1.83		
	Yes	87	2.86	2.17	-5.09	.000
T1 Conduct problems	No	308	.72	1.09		
	Yes	87	1.39	1.50	-3.89	.000
T1 Hyperactivity	No	308	2.21	1.93		
	Yes	87	3.81	2.82	-4.99	.000
T1 Peer problems	No	308	1.13	1.46		
	Yes	87	2.42	2.37	-4.84	.000
T1 Pro-social behaviour	No	308	8.53	1.56		
	Yes	87	8.13	1.83	1.90	.060
T1 Total difficulties	No	308	5.62	4.58		
	Yes	87	10.49	6.40	-6.64	.000

Table K 6 *Parental report of child's emotional and behavioural adjustment as a function of the household income level at T1*

Outcome	SES-level	N	M	SD	F	P- value	Low Vs Mid	Low Vs High	Mid Vs. High
T1 Emotional problems	Low-SES	38	2.97	2.354	7.05	.001	.001	.001	ns
	Mid-SES	224	1.75	1.92					
	High-SES	124	1.68	1.87					
T1 Conduct problems	Low-SES	38	.97	1.34	1.51	.221	ns	ns	ns
	Mid-SES	224	.95	1.29					
	High-SES	124	.72	1.08					
T1 Hyperactivity	Low-SES	38	3.47	2.76	6.43	.002	ns	.003	.042
	Mid-SES	224	2.70	2.17					
	High-SES	124	2.09	2.13					

Table K 6. ..*cont Parental report of child's emotional and behavioural adjustment as a function of the household income level* at T1

Outcome	**SES-level**	**N**	**M**	**SD**	**F**	**P- value**	**Low Vs Mid**	**Low Vs High**	**Mid Vs. High**
T1 Peer problems	Low-SES	38	2.26	1.93	5.99	.003	.014	.002	ns
	Mid-SES	224	1.39	1.82					
	High-SES	124	1.14	1.53					
T1 Pro-social behaviour	Low-SES	38	8.66	1.28	3.54	.030	ns	ns	.036
	Mid-SES	224	8.26	1.76					
	High-SES	124	8.72	1.44					
T1 Total difficulties	Low-SES	38	9.68	6.55	8.48	.000	.006	.000	ns
	Mid-SES	224	6.79	5.40					
	High-SES	124	5.64	4.73					

K.3 OVERALL SENSE OF SELF-WORTH

Table K 7 *Pre-transition perception of self-worth as a function of health status*

Outcome (*N*= 395)	**G**	**N**	**M**	**SD**	**t**	**p-value**
T1 Self-worth	boy	187	3.32	.60	.78	.437
	girl	208	3.28	.63		

Table K 8 *Pre-transition perception of self-worth as a function of health status*

Outcome (*N*= 395)	**Disability/CI**	**N**	**M**	**SD**	**t**	**p-value**
T1 Self-worth	No	308	3.33	0.61	1.99	.047
	Yes	87	3.18	0.64		

Table K 9 *Pre-transition perception of self-worth as a function of the income level of one's household*

Outcome	**SES-level**	**N**	**Mean**	**SD**	**F**	**P-value**	**Low Vs Mid**	**Low Vs Hi**	**Mid Vs High**
T1Self-worth	Low-SES	38	3.31	.63					
	Mid-SES	224	3.23	.63	3.04	.049	ns	ns	.043
	High-SES	124	3.39	.60					

K.4 BELONGINGNESS IN SCHOOL

Table K 10 *Pre-transition perception of belongingness in school as a function of gender*

Outcome	G	N	Mean	SD	t	p-value
T1 Belongingness in school	boy	186	3.80	.75	-1.92	.055
	girl	208	3.94	.65		

Table K 11 *Pre-transition perception of belongingness in school as a function of students' health status*

Outcome	Disability/CI	N	M	SD	t	p-value
T1 Belongingness in school	No	307	3.90	.68	1.15	.249
	Yes	87	3.80	.77		

Table K 12 *Pre-transition perception of belongingness in school as a function of household income level*

Outcome	SES-level	N	M	SD	F	P-value	Low Vs Mid	Low Vs High	Mid Vs. High
T1 Belongingness in school	Low-SES	38	3.71	.75	3.82	.023	.686	.061	.067
	Mid-SES	223	3.83	.71					
	High-SES	124	4.01	.65					

K.5 LONELINESS AND SOCIAL DISSATISFACTION IN SCHOOL

Table K 13 *Report of loneliness in school as a function of gender at T1*

Outcome	G	N	M	SD	t	p-value
T1 Loneliness and social dissatisfaction in school	boy	187	28.05	10.87	.74	.462
	girl	208	27.28	10.09		

Table K 14 *Report of loneliness in school as a function of health status at T1*

Outcome	Disability/CI	N	M	SD	t	p-value
T1 Loneliness and social dissatisfaction in school	no	308	26.53	9.95		
	yes	87	31.60	11.27	-3.80	.000

Table K 15 *Report of loneliness and social dissatisfaction in school as a function of one's household income at T1*

Outcome	SES-level	N	M	SD	F	P-value	Low Vs Mid	Low Vs High	Mid Vs. High
T1 Loneliness and social dissatisfaction in school	Low-SES	38	30.42	13.588	3.47	.032	ns	.055	ns
	Mid-SES	224	28.18	10.65					
	High-SES	124	25.86	8.70					

K.6 PARTICIPATION IN SCHOOL EXTRA-CURRICULAR ACTIVITIES

Table K 16 *Availability of opportunities for participation, and frequency of participation in extra-curricular activities, at T1*

Outcome	G	N	M	SD	t	p-value
T1 Availability of opportunities for participation	boy	119	10.82	2.31		
	girl	136	11.45	1.95	-2.32	.021
T1 Social leisure participation	boy	115	28.37	7.09		
	girl	135	29.45	6.04	-1.28	.201
T1 Civic participation	boy	120	10.24	3.73		
	girl	144	11.62	4.39	-2.75	.006
T1 Creative pursuits	boy	123	2.41	1.13	-3.47	.001
	girl	141	2.90	1.14		

Table K 17 *Availability of opportunities for participation, and frequency of participation in extra-curricular activities, as a function of students' health status, at T1*

Outcome	Disability/CI	N	M	SD	t	p-value
T1 Availability of opportunities for participation	No	197	11.22	2.12	.91	.362
	Yes	58	10.93	2.21		
T1 Social leisure participation	No	192	29.35	6.35	1.75	.081
	Yes	58	27.64	7.10		
T1 Civic participation	No	202	11.07	4.17	.54	.588
	Yes	62	10.74	4.12		
T1 Creative pursuits	No	203	8.13	3.52	.90	.371
	Yes	61	7.67	3.35		

Table K 18 *Availability of opportunities for participation, and frequency of participation in extra-curricular activities by SES-level at T1*

Outcome	SES-level	N	M	SD	F	P- value	Low Vs Mid	Low Vs High	Mid Vs. High
T1 Availability of opportunities	Low-SES	16	10.69	2.62	1.31	.271	ns	ns	ns
for participation	Mid-SES	150	11.07	2.12					
	High-SES	83	11.44	1.96					
T1 Social leisure participation	Low-SES	18	26.67	7.85	1.29	.277	ns	ns	ns
	Mid-SES	148	29.26	6.56					
	High-SES	78	29.02	5.94					
T1 Civic participation	Low-SES	18	10.72	4.46	2.66	.072	ns	ns	ns
	Mid-SES	157	10.56	3.92					
	High-SES	83	11.84	4.43					
T1 Creative pursuits	Low-SES	18	7.28	3.06	3.28	.039	ns	ns	.054
	Mid-SES	157	7.70	3.24					
	High-SES	83	8.81	3.83					