

The Effects of Within-School Transitions on Academic Motivation and Self-concept

Jasmine Green, Andrew J. Martin and Herbert W. Marsh,
SELF Research Centre, University of Western Sydney, Australia

Early adolescence is a time of significant change and transitions. During early adolescence, children experience the physical, psychological and social changes associated with puberty. Within high school there are important transitions as students move from junior high to middle high and then to senior high school. Previous research has shown that these normative school transitions tend to be associated with differences in academic motivation and self-concept. Less integral to research on school transitions has been the investigation of transition-related effects on academic motivation and self-concept from a longitudinal perspective. This paper provides a detailed analysis and discussion on the current issues that surround this area as well as an outline of the proposed study that aims to investigate academic motivation and self-concept in a diverse selection of Australian high schools across pre-determined year levels.

Adolescence has been described as a pivotal stage of development that is characterised by significant physical, psychological and social changes (e.g., Lord, Eccles & McCarthy, 1994; Plancherel, Bolognini & Halfon, 1998). Although all adolescents experience these developmental changes at one time or another, the effects of these changes are not uniform across all adolescents. For some individuals, adolescence marks the beginning of a 'downward spiral' (e.g., Eccles, Lord & Midgley, 1991) or as more historically described, a period of 'storm and stress' (see Arnett, 1999) that can eventuate in premature dropout, maladaptive behaviours and psychological functioning (Eccles et al, 1993; Rudolph, Lambert, Clark & Kurlakowsky, 2001). However contemporary research is beginning to challenge this perspective by adopting a more modified 'storm and stress' view that suggests *most* individuals are able to successfully negotiate this developmental period without excessively high levels of turmoil (Eccles et al, 1993). Although, adolescence is not as developmentally turbulent as initially suspected, it must be recognised that many of these 'problems' appear to begin and are more prevalent during the adolescent years and so remains an important developmental period to investigate.

Research suggests that secondary schooling plays a crucial role in facilitating or inhibiting the successful navigation of this developmental period. The transition from primary to high school may be especially challenging for young individuals because they face new demands associated with comparable differences in the following: school structure, classroom organization, teaching strategies, academic standards and teacher expectations (see MacIver & Epstein, 1993 for a review). These many changes experienced in secondary school have been found to exert an adverse influence on adolescent functioning that includes declines in levels of academic achievement (Blyth, Simmons, & Carlton-Ford, 1983; Eccles et al, 1989), interest in school (Epstein, & McPartland, 1976) as well as emotional outcomes such as decreased self-esteem (Simmons & Blyth, 1987, Wigfield, Eccles, MacIver, Rueman, & Midgley, 1991) and an increase in psychological distress (Chung, Elias, & Schneider, 1998; Hirsch & Rapkin, 1987). Two areas in particular that seem to suffer most are academic motivation (e.g., Harter, 1981) and self-concept (e.g., Marsh, 1989).

Although declines in these motivational constructs are not extreme for *all* adolescents, there is sufficient evidence to suggest that a gradual decline in the above-mentioned indicators of academic motivation does exist and warrants further investigation. For this reason, the impact of school transitions on the adolescent self-system and motivation has recently become a focal topic in educational research (Seidman, et al, 1994, 1996) and is the focus of this paper. In this paper, current research concerning students' academic motivation and self-concept will be reviewed as it relates to the normative school transitions an individual may experience throughout high school.

Academic Motivation through High School

This proposed study is part of a growing body of research that seeks to elucidate the effect that adolescent high school experiences have on academic motivation. As illustrated earlier, school transitions can affect several academic dimensions however motivation is deemed a particularly important dimension to consider because it

has the ability to predict essential educational outcomes such as achievement (Wigfield & Eccles, 2000). In fact, notable researchers Anderman and Maehr (1994) contend that, "While important at all ages and stages, issues of motivation have a degree of uniqueness and certainly a special sense of urgency about them during middle grades. It is a period where there is heightened awareness of emerging adulthood" (p 287).

Previous studies have revealed general developmental declines in many of the important motivational constructs during the transition to high school. For instance, Harter (1981) reported a shift from a predominately intrinsic to a more extrinsic motivational orientation over third grade to ninth grade. The largest decline being between sixth grade and seventh grade. Interestingly, a study conducted by MacIver, Stipek and Daniels (1991) found that perceived importance of extrinsic pressure from parents was associated with increased effort among junior high school students only, reflecting a decline in the importance of parental pressures for senior high school students.

The notion of declining student motivation and attitudes has also been highlighted by the work of Simmons and her colleagues (e.g., Blyth, Simmons, & Carlton-Ford, 1983; Simmons & Blyth; 1987), who found important evidence of school transition effects whereby girls moving into a traditional middle school showed more marked declines in self-esteem than girls who remained the same school setting (K-8 setting); no comparable transition effect was found for boys' self-esteem. Similarly, Harter, Whitesell and Kowalski (1992) examined individual differences in the effects of secondary school transitions on early adolescents' perceptions of competence. A considerable amount of students in this study exhibited declines in self-perceptions following the school transition, however, a general finding of this study revealed that motivational declines are dependent on the individual resources children bring with them to the new school environment.

Likewise, Jacobs, Lanza, Osgood, Eccles and Wigfield (2002) found that student' self-perceptions of competence and subjective task values declined as children got older and the extent and rate of this decline varied across school subjects. More generally, age differences in competence beliefs favour primary/elementary children across several activity domains (see Eccles, Midgley, & Adler, 1984; Stipek & MacIver, 1989, for reviews). Other domain specific research has found that children are more pessimistic about their ability and potential in mathematics and more negative about the value of mathematics from fifth to tenth grades with a sharp decline evident after the transition to junior high school (Eccles., et al, 1983; Eccles, Midgley & Adler , 1984).

Moreover there appears to be evidence of gender by grade level differences in motivation. For example, several researchers have suggested that girls suffer greater losses in self-esteem during the transition to middle school than boys. (Blyth, Simmons & Carlton-Ford, 1983; Eccles et al., 1993). A differential change in academic achievement following the high school transition amongst boys and girls is also evident. Boys show a significant decline in academic achievement whereas girls show no change in academic achievement (Chung, Elias, & Schneider, 1998). This result is contrary to previous findings, which suggest a negative effect of school transitions on academic achievement is greater for girls (Blyth, Simmons & Carlton-Ford, 1983).

Moving away from the investigation of the *initial* high school transition, Martin (2004) has found that although boys' and girls' motivation and engagement is lower in middle high (grade 9-10), only girls' motivation is relatively higher in senior high school. Recent research conducted by Watt (2004), has shown declines in emotional and behavioural engagement through grade 7 and between grades 10-11 for boys and girls. However, gender differences were most clear in the senior year levels where boys report greater declines in intrinsic value for English than girls. Interestingly, the complex developmental patterns suggest that girls report greater and earlier declines in valuing of English than boys, and the reverse later. In contrast, a longitudinal study examining gendered developmental trajectories found that in general, gender differences in task valuing declined with age. The gender differences that are magnified the most during adolescence surrounded the subject of language arts, with boys' feelings of competence and values decreasing more rapidly than girls' during junior high (Jacobs et al, 2002). They also conclude that boys evidence more negative changes than girls in English over the high school years.

Recent Australian research has also begun to focus on the final two years of high school (years 11 and 12); a period often ignored in motivational research. These final years may be important to investigate as students probably consider this period of school to be the most important. Student performance outcomes have important ramifications for gaining entry into university and can affect other career pathways (Smith, Sinclair, & Chapman, 2002). Results of these studies indicate that declines occur in students' performance-approach goal orientations and academic self-efficacy in their final two years of senior high school and that concomitant

increases occur in students' non-productive attributes such as self-handicapping strategies, performance-avoidance goal orientations, anxiety and depression (Smith, 2004; Smith, Sinclair, & Chapman, 2002). Additionally, Australian studies have found that almost 50% of year 11 and 12 students experienced 'at risk' levels of psychological distress during the highly competitive final years (Hodge, McCormick, & Elliot, 1997) suggesting that this is a developmental period that can not be ignored (Smith & Sinclair, 2000).

Although a large majority of research denotes adolescence as a particularly stressful period, there is also reason to believe that these motivational declines are not universal because inconsistencies in research do exist. For example, Nottlemann's (1987) longitudinal study compared the effects of movement from grades 5 to 6 and grades 6 to 7 on self-esteem and perceived competence in both transition and non-transition groups. Surprisingly, she found that self-esteem was in fact higher in the transition students than non-transition students. Overall children's perceived competence increased and was relatively stable across the period of transition. Similarly, other studies have found no change in self-esteem in students making the transition from 6th grade to junior high school (Hirsh & Rapkin, 1987; Fenzel & Blyth, 1986). In addition, positive performance and attitudinal outcomes have been associated with well organised, supportive high school environments (eg., Felner, Ginter & Primavera, 1982).

These inconsistencies in research further support the modified 'storm and stress' perspective which acknowledges that some adolescents will adapt well to the high school environment whereas others may find their high school years difficult and experience a decline in these motivational constructs. It is important to note however, that these inconsistencies are also suggestive of major variations across studies. A limitation that is characteristic of research on motivational trajectories pertains to the conceptualisation of motivational constructs as unidimensional. In fact several motivations can underlie a student's behaviour and this multidimensionality is extremely important to consider if we are to further understand the complex nature of motivation during high school (see Vallerand, 1997). The current study intends to overcome this limitation by conducting the proposed research in the context of a multidimensional, integrative motivational framework.

Adolescence and Self-concept

As individuals mature, the emergence of new cognitive capacities allows adolescents' self-conceptions to become increasingly more abstract and psychological. In fact, various researchers contend that self-conceptions tend to become more differentiated, complex and better organised as individuals progress from childhood to adulthood (e.g., Byrne & Shavelson, 1996; Harter, 1999; Marsh, 1989). This observed developmental trend is good reason to suggest that our understanding of motivation will be further enhanced by giving consideration to self-concept.

Whereas the earliest research studied global self-concept, recent studies have begun to shift in focus to the measurement of multiple facets of self-concept. In fact, Shavelson, Hubner and Stanton (1976) developed a theoretical model of a multidimensional, hierarchical self-concept in which general self appears at the apex and is divided into academic and non-academic components that are further divided into more specific components. Subsequent research (Marsh, Byrne, & Shavelson, 1988; see Marsh & Craven, 1997 for review) has been very important in demonstrating the existence of separate dimensions of self-concept as well as the increasing differentiation and complexity of self-concept with age (e.g., Marsh, 1989). This proposed research intends to address self-concept from this multidimensional perspective.

More specifically, empirical research surrounding self-concept indicates that many of the domains of self-concept tend to decline during early adolescence and then rebuild slowly during later adolescence. For example, research by Marsh, Parker and Barnes (1985), found a decline in self-concept measures in grades 7-9 and then a levelling out effect in grades 9-11. Subsequent research by Marsh (1989) reported a decline in several domains of self-concept after 7th grade, reaching their lowest level in grade 8 and 9. However most domains manifested linear increases after that, through to the 11th grade. Other research (Cole et al, 2001; Eccles et al. 1989) has also reported significant declines in various self-concept domains during early adolescence? Researchers have suggested that many adolescents become more negative about school and themselves after the transition from elementary/primary school to high school (Eccles, Midgley, & Adler, 1984; Wigfield, et al, 1991).

Other studies however have not found such consistent grade effects. For instance, Dusek and Flaherty (1981) found no consistent age effects in multiple dimensions of self-concept during the adolescent years. Interestingly, Piers (1984) was not able to replicate earlier research findings of a self-concept increase in grade

10 (Piers & Harris, 1964). Similarly, subsequent research has also found self-concept to remain the same across the high school transition (e.g., Ching, Elias, & Scheider, 1998; Hirsch & Rapkin, 1987). Thus, previous research has indicated that although adolescents generally report a decline in self-concept following the transition to secondary there still appears to be no consistent pattern of age effects in adolescents' reports of self-concept.

This inconsistency also seems to plague research on gendered developmental trajectories. Studies of gender differences in self-concept have yielded inconclusive results. However, when gender differences do emerge it is usually consistent with traditional gender role expectations and stereotypes (e.g., gender differences in mathematics self-concept tend to favour boys). For instance, Skaalvik and Skaalvik (2004) found in their Norwegian study that males report a higher self-concept for math than girls, however older students (grade 11) had higher verbal than math self-concept regardless of gender. Likewise, Meece et al (1982) found that girls have lower math self-concept than do boys by junior high school whereas few reports of sex differences in math self-concept during primary school are reported. Marsh, Byrne, & Shavelson (1988), also report higher math and general self-concept for boys but that girls report higher verbal and academic self-concepts.

Having described this general trajectory, one can begin to assume that variations in self-concept appear to be most prominent during the initial secondary school transition however it must be noted that a large majority of the research reviewed here ignores the other important within-school pathways that take place during adolescence. While a number of studies have followed students from primary to secondary school, less is known about their transitioning throughout the high school years and the ways in which these change or evolve. The extent to which students can overcome this initial high school transition and the effects it has on self-concept is less understood. In the proposed study, students will be tracked throughout all high school year levels. A within-school pathway investigation of this nature has not received as much empirical or theoretical attention, perhaps because it coincides with fewer physical, cognitive and social changes.

The Present Investigation

In introducing the proposed study it is important to note that research findings surrounding academic motivation and self-concept appear to be mixed. Whilst most of the research reviewed here essentially assesses developmental changes in high school much attention has focused on elucidating the effects of between-school transitions on motivation and self-concept. Surprisingly, little research has investigated the within-school pathways *beyond* the initial high school transition. Hence, literature on the various within-school pathways of high school students is relatively sparse and has only been partially explored.

Less integral to research on school transitions has been the investigation of transition-related effects on academic motivation and self-concept from a longitudinal perspective. Much of this research derives from cross-sectional designs and so it is critical to assess change using a longitudinal design where the same student is tracked through these educational transitions. Hence critical questions remain to be answered. For example it is important to know what changes in self-concept and motivation remain after the initial secondary school transition, and how this varies differentially for boys and girls.

Indeed this is the focus of the current study. Of particular focus are transitions between junior and middle high and between middle and senior high school. This issue of transition tracking the same students has not been rigorously addressed in Australian high schools and so there is a need for large-sample, Australian research across pre-determined year levels, and across a diverse selection of school to shed light on the developmental pathways of high school students and how these unfold over time.

As a result, this large scale Australian high school study will attempt to investigate these within-school transition effects on academic motivation and self-concept from a multidimensional perspective. It is also proposed that in order to adequately examine these changes in self-concept and motivation over time, a multi-cohort-multi-occasion design, which measures multiple facets of these constructs, is required. The current study will employ such a design.

Method

Proposed Participants and Procedure

Respondents will comprise approximately 8,000 high school students from a total of nine Australian high schools. This large scale study will include a representative cross section of schools including; government selective, government comprehensive, catholic systemic, and private high schools. A mix of single sex and coeducational schools has also been included within this selection of schools.

A teacher in a normally scheduled class will administer questionnaires. There will be a second administration of the instruments at the same point in the following year. With each year, the sample will be refreshed with a new year 7 cohort. This longitudinal study will be conducted in two stages: the first one during Term 3 and the second stage during the same time of year the following year.

Measures

The Student Motivation and Engagement Scale (SMES)

This study utilises Student Motivation and Engagement Scale (Martin, 2001, 2002, 2003), which is an instrument that measures high school students' motivation. It is hypothesized to assess motivation through three adaptive cognitive dimensions, three adaptive behavioural dimensions, three impeding cognitive dimensions, and two maladaptive behavioural dimensions of motivation and engagement. Each of the eleven factors comprises four items – hence it is a 44-item instrument. To each item, students rate themselves on a scale of 1 ('Strongly Disagree') to 7 ('Strongly Agree').

Adaptive dimensions of motivation and engagement

Each adaptive dimension falls into one of two groups: cognitions and behaviours. Adaptive cognitions include self-efficacy, mastery orientation, and value of schooling. Adaptive behaviours include persistence, planning, and study management.

Self-efficacy (eg. "If I try hard, I believe I can do my schoolwork well"): Adapted in part from Midgley et al.'s (1997) Patterns of Adaptive Learning Survey, self-efficacy is students' belief and confidence in their ability to understand or to do well in their schoolwork, to meet challenges they face, and to perform to the best of their ability.

Valuing of school (eg. "Learning at school is important to me"): Adapted in part from Pintrich, Smith, Garcia & McKeachie's (1991) Motivated Strategies for Learning Questionnaire, valuing of school is how much students believe what they learn at school is useful, important, and relevant to them or to the world in general.

Mastery orientation (eg. "I feel very pleased with myself when I really understand what I'm taught at school"): Adapted in part from Nicholls (1989), mastery orientation is being focused on learning, solving problems, and developing skills.

Planning (eg. "Before I start an assignment I plan out how I am going to do it"): Adapted in part from Miller et al. (1996), planning is how much students plan their schoolwork, assignments, and study and how much they keep track of their progress as they are doing them.

Study management (eg. "When I study, I usually study in places where I can concentrate"): Adapted in part from Pintrich et al. (1991), study management refers to the way students use their study time, organize their study timetable, and choose and arrange where they study.

Persistence (eg. "If I can't understand my schoolwork at first, I keep going over it until I understand it"): Adapted in part from Miller et al. (1996), persistence is how much students keep trying to work out an answer or to understand a problem even when that problem is difficult or is challenging.

Impeding cognitive dimensions

Impeding cognitive-affective dimensions are anxiety, failure avoidance, and uncertain control.

Anxiety (eg. "When exams and assignments are coming up, I worry a lot"): Adapted in part from Pintrich and DeGroot (1990), anxiety has two parts: feeling nervous and worrying. Feeling nervous is the uneasy or sick feeling students get when they think about their schoolwork, assignments, or exams. Worrying is their fear about not doing very well in their schoolwork, assignments, or exams.

Failure avoidance (eg. "Often the main reason I work at school is because I don't want to disappoint my parents"): Adapted from an orientation outlined by Harter, Whitesell, and Kowalski (1992), students have an avoidance focus when the main reason they do their schoolwork is to avoid doing poorly or to avoid being seen to do poorly.

Uncertain control (eg. "I'm often unsure how I can avoid doing poorly at school"): Adapted in part from Connell's (1985) Unknown cognitive dimension of the Multidimensional Measure of Children's Perceptions of Control (1985), this subscale assesses students' uncertainty about how to do well or how to avoid doing poorly.

Maladaptive behavioural dimensions

Maladaptive behavioural dimensions are self-handicapping and disengagement.

Self-handicapping (eg. "I sometimes don't study very hard before exams so I have an excuse if I don't do as well as I hoped"): Adapted from the Academic Self-Handicapping Scale (Midgley, Arunkumar, & Urdan, 1996) and the Shortened Self-handicapping Scale (Strube, 1986), students self handicap when they do things that reduce their chances of success at school. Examples are putting off doing an assignment or wasting time while they are meant to be doing their schoolwork or studying for an exam.

Disengagement (eg. "I often feel like giving up at school"): Students are disengaged or at risk of disengagement when they feel like giving up in particular school subjects or school generally. Students high in disengagement tend to accept failure and behave in ways that reflect helplessness.

The Self-Description Questionnaire II Short (SDQII-S; Marsh, 1992)

The SDQII-S is based on the Shavelson model of self-concept (Marsh & Shavelson, 1985; Shavelson, Hubner, & Stanton, 1976) and the multiple dimensions of self-concept defined by that model. The original extended version of this questionnaire is a well-developed instrument that accurately assesses the multiple and distinct dimensions of the self-concept in different facets of daily activity (Marsh, 1992; Byrne, 1996). The SDQII-S is adapted from the original extended version and retains the original eleven scales, including three areas of academic self-concept, two areas of physical self-concept, three areas of relationship self-concept, and also scales for emotional stability, honesty-trustworthiness and general self-concept.

The SDQII-S is a self-concept measure that is specifically designed to measure the multiple dimensions of the self-concept for adolescents in grades 7 through to 12. The short version of the self-description questionnaire contains 11 scales of self-concept defined by responses to 51 items. It employs a 6-point Likert scale whereby respondents are asked to indicate false, mostly false, more false than true, more true than false, mostly true or true in response to various statements. The psychometric properties for both versions of the Self-description questionnaire are strong (Byrne, 1996). A detailed review of the SDQII S instrument is beyond the scope of this paper but briefly the 11 scales of the SDQ II-S are as follows.

Physical Abilities: Student self-perceptions of their skills and interest in sports, games, and physical activities (4 items).

Physical Appearance: Student self-perceptions of their physical attractiveness, how their appearance compares with others, and how others think they look (4 items).

Same-sex Relationships: Student self-perceptions of their popularity with members of the same sex and how easily they make friends with members of the same sex (5 items).

Opposite-sex Relationships: Student self-perceptions of their popularity with members of the opposite sex and how easily they make friends with members of the opposite sex (4 items).

Parent Relationships: Student self-perceptions of how well they get along with their parents, whether they like their parents, and the quality of their interactions with their parents (4 items).

Honesty-Trustworthiness: Student self-perceptions of their honesty and trustworthiness

Emotional Stability: Student self-perceptions of themselves as being calm and relaxed, emotionally stable, and how they worry (5 items).

Self-esteem: Student self-perceptions of themselves as effective, capable individuals who are proud and satisfied with the way they are (6 items).

Verbal: Student self-perceptions of their skills and ability in English and reading (5 items).

Math: Student self-perceptions of their skills and ability in mathematics (4 items).

General School: Student self-perceptions of their skills and ability in school subjects in general. (4 items).

Proposed Statistical Analyses

Multi-Cohort – Multi-Occasion Modellings (MCMO)

To recap, the major focus of this study is to examine how self-concept and academic motivation change over the course of high school with an additional focus on how this change is different for boys and girls? It has been argued that to appropriately examine age-related changes in self-concept and motivation, multi-cohort-multi-occasion modelling (MCMO) designs, which measure multiple facets of self-concept and motivation, are required (Marsh, 1998; Marsh, Craven, & Debus, 1998). The current study intends to employ such a design by measuring the multiple domains of the SDQII S and SMES using a longitudinal sample of high school students across pre-determined year levels (year 7 to 12). This methodological and statistical technique provides simultaneous multicohort comparisons (cross-sectional comparisons of different age cohorts) and longitudinal comparisons of the same students on multiple occasions. Two grade cohorts will be followed over a period of two years affording the project the opportunity to examine both actual changes over time as well as any additional grade/cohort-related changes. A MCMO design provides a stronger basis for assessing developmental differences than a cross-sectional comparison collected on a single occasion or a longitudinal comparison based on responses by a single age cohort collected on multiple occasions.

Significance of the Proposed Study and Implications for Practise

Although substantial research underpins the field of motivation and self-concept, few studies adopt a multidimensional perspective whilst utilising a longitudinal design that investigates these constructs beyond the initial high school transition. The findings of the proposed study will be particularly noteworthy because previous research of this nature has not been conducted on a systematic basis nor has it been approached from the perspective of an integrated, multidimensional framework. More specifically, the findings of this study will be based on a large sample size as well as a representative number of schools across Australia. A study that is significant in scope and size makes it possible to utilise sophisticated statistical analysis such as multi-cohort-multi-occasion modelling that yields generalisable findings. The conduct of sophisticated analysis lays important foundations for further research of this nature.

This question of how self-concept and academic motivation vary with age and gender has diverse theoretical and practical implications for researchers and educators who are interested in understanding student behaviour during high school years. The enhancement of self-concept and motivation is widely valued as a positive outcome of high school education. Parents, educators and researchers are continually searching for 'promising practices' that will improve students' academic motivation and subsequently, performance. By adding to of the existing knowledge base, the results of this study may assist teachers in selecting strategies to enhance self-concept and motivation (Marsh, 1989; MacIver, Stipek & Daniels, 1991). This study may also allow for the identification of 'at risk' groups through the identification of potential times of flux and instability in the development of self-concept and student motivation. For example, perhaps there is a need to have a stronger focus on the middle high school years and senior years, which are often ignored.

Due to the multidimensional framework adopted in this study, educators may also be able to target specific dimensions of student motivation and self-concept. For example, a student who develops a low math self-concept may choose to rule out any math related career paths, however if these developmental academic pathways during high school were better understood than these consequences may be prevented.

Conclusion

The unique contribution of the present investigation aims to provide much needed continuity by examining responses of a large sample of adolescents over *all* high school year levels (year 7 to 12). This study will hopefully clarify the posited age effects that are pieced together from a collage of different studies by utilising standardised instruments that adopt a multidimensional framework. Coupled with this extensive literature review this proposed research hopes to provide a clear, systematic picture of how multiple dimensions of motivation and self-concept vary with age and sex than has previously been available. By better understanding these factors, educators and practitioners are able to implement more effective programs to assist individuals during adolescence. For many adolescents the transitions within high school are relatively smooth, for others however the transition period is characterised by a decline in motivation and self-concept. Several factors may lie at the crux of the declines that accompany the high school years and this research attempts to readdress previous research limitations and use these results to better target these factors and develop appropriately directed strategies for much needed intervention work.

About the Authors

Jasmine Green is a psychology Doctoral candidate with the SELF Research Centre. In 2004, Jasmine completed the fourth year of her BPsych (Hons) program at the University of Western Sydney under the supervision of Professor Marsh and Dr Andrew Martin. Utilising a longitudinal design, her current research will examine the transitional changes associated with motivation and engagement and the causal ordering of various motivational variables. She is a member of the Golden Key Honour Society, as well as the current recipient of the prestigious Australian Postgraduate Award.

Dr Andrew Martin is Post Doctoral Research Fellow at the SELF Research Centre, University of Western Sydney. He is a Registered Psychologist and specialises in student motivation. In 2003, he was named in *The Bulletin's* Smart 100 Australians and in the Top 10 in the field of Education. In 2002, his PhD was judged the Most Outstanding Doctoral Dissertation in Educational Psychology by the American Psychological Association and before that was judged the Most Outstanding PhD in Education in Australia by the Australian Association for Research in Education.

Professor Herb Marsh is Professor of Educational Psychology, founding Director of the SELF Research Centre and served as UWS's inaugural Dean of Graduate Research Studies and Pro-Vice-Chancellor. He received UWS's inaugural awards for Research, Postgraduate Supervision, and Doctorate of Science. Herb has published more than 250 peer-reviewed journal articles, 40 chapters, 10 monographs, and 225 conference papers. He is Australia's most widely cited researcher in both education and psychology, and the 11th mostly widely cited researcher in the world across all disciplines of psychology.

Contact Details

Jasmine Green
PhD Candidate
SELF Research Centre
Bankstown Campus, Penrith South NSW 1797 Australia
E-mail: ja.green@uws.edu.au
Phone: (02) 9772 6827 (or + 61 2 9772 6827)
Fax: (02) 9772 6432 (or + 61 2 9772 6432)

Dr Andrew Martin
Postdoctoral Research Fellow
SELF Research Centre
University of Western Sydney
Bankstown Campus, Penrith South NSW 1797 Australia
Email: a.martin@uws.edu.au
Phone: (02) 9772 6656 (or + 61 2 9772 6656)
Fax: (02) 9772 6432 (or + 61 2 9772 6432)

Professor Herb Marsh
Director, SELF Research Centre
University of Western Sydney
Bankstown Campus, Penrith South NSW 1797 Australia
Email: h.marsh@uws.edu.au
Phone: (02) 9772 6633 (or + 61 2 9772 6633)
Fax: (02) 9772 6432 (or + 61 2 9772 6432)

References

- Anderman, E.M., & Maehr, M.L. (1994). Motivation and schooling in middle grades. *Review of Educational Research*, 64(2), 287-309.
- Arnett, J.J. (1999). Adolescent storm and stress, reconsidered. *American Psychologist*, 54(5), 317-326.
- Blyth, D.A., Simmons, R.G & Carlton-Ford, S. (1977). *Life-span developmental psychology: Introduction to research methods*. Monterey, CA: Brooks-Cole.
- Byrne, B. (1996). *Measuring Self-Concept Across the Life Span: Issues and Instrumentation*. Washington DC: American Psychological Association.
- Byrne, B., & Shavelson, R. (1996). On the structure of self-concept for pre-, early-, and late-adolescents: A test of the Shavelson, Hubner, and Stanton (1976) model. *Journal of Personality and Social Psychology*, 70, 599-613.
- Chung, H.H., Elias, M., & Schneider, K. (1998). Patterns of individual adjustment changes during middle school transition. *Journal of School Psychology*, 36(1), 83-101.
- Cole, A.C., Maxwell, S.E., Martin, J.M., Peeke, L.G., Seroczynski, A.D., Tram, J.M., Hoffman, K.B., Ruiz, M.D., Jacquez, F., & Maschman, T. (2001). The development of multiple domains of child and adolescent self-concept: A cohort sequential longitudinal design. *Child Development*, 72(6), 1723-1746.
- Connell, J. P. (1985). A new multidimensional measure of children's perceptions of control. *Child Development*, 56, 1018-1041.
- Dusak, J.B., & Flaherty, J.F. (1981). The development of the self-concept during adolescent years. *Monographs of the Society for Research in Child Development*, 46 (serial No.4).
- Eccles, J.S., Adler, T.F., Futterman, R., Goff, S.B., Kaczala, C.M., Meece, J.L. & Midgley, C. (1983). Expectancies, values, and academic behaviours. In J.T. Spence (Ed.), *Achievement and achievement motivation* (pp.75-146). San Francisco: W.H Freeman.
- Eccles, J.S., Midgley, C., Wigfield, A., Buchanan, C.M., Reuman, D., Flanagan, C., & MacIver, D. (1993). Development during adolescence: The impact of stage-environment fit on young adolescents' experiences in schools and in families. *American Psychologist*, 48(2), 90-101.
- Eccles, J.S., Lord, S., & Midgley, C. (1991). What are we doing to early adolescents? The impact of educational contexts on early adolescents. *American Journal of Education*, 97(4), 521-542.
- Eccles, J.S., Midgley, C., & Adler, T.F. (1984) Grade-related changes in the school environment: Effects on achievement motivation. In J.G. Nicholls (Ed.), *The development of achievement motivation* (pp. 283-331). Greenwich, CT: JAI Press.
- Eccles, J.S., Wigfield, A., Flanagan, C.A., Miller, C., Reuman, D.A., & Yee, D. (1989). Self-concepts, domain values, and self-esteem: Relations and changes at early adolescence. *Journal of Personality*, 57, 283-310.
- Eccles, J.S., Wigfield, A., Midgley, C., Reuman, D., Mac Iver, D., & Feldlaufer, J. (1993). Negative effects of traditional middle schools on students' motivation. *The Elementary School Journal*, 93, 553-574.
- Epstein, J.L., & McPartland, J.M. (1976). The concept and measurement of quality of school life. *American Educational Research*, 13, 15-30.
- Felner, R.D., Ginter, M., & Primavera, J. (1982). Primary prevention during school transitions: Social support and environmental structure. *American Journal of Community Psychology*, 10, 277-290.
- Fenzel, L.M., & Blyth, D.A. (1986). Individual adjustment to school transitions: An exploration of the role of supportive peer relations. *Journal of Adolescence*, 6(3), 315-329.
- Hodge, G.M., McCormick, J., & Elliot, R. (1997). Examination-induced distress in public examination at the completion of secondary schooling. *British Journal of Educational Psychology*, 67, 185-197.
- Harter, S. (1981). A new self-report scale intrinsic versus extrinsic orientation in the classroom: Motivational and informational components. *Developmental Psychology*, 17, 300-312.

- Harter, S. (1999). *The construction of self: A developmental perspective*. New York: Guilford Press.
- Harter, S., Whitesell, N., & Kowalski, P. (1992). Individual differences in the effects of educational transitions on young adolescents' perceptions of competence and motivational orientation. *American Educational Research Journal*, 29, 777-807.
- Hirsch, B., & Rapkin, B. (1987) The transition to junior high school: A longitudinal study of self-esteem, psychological symptomology, school life, and social support. *Child Development*, 58, 1235-1243.
- Hodge, G., McCormick, J., & Elliot, R. (1997). Examination-induced distress in a public examination at the completion of secondary schooling. *British Journal of Educational Psychology*, 67, 185-197.
- Jacobs, J.E., Lanza, S., Osgood, D.W., Eccles, J.S., & Wigfield, A. (2002). Changes in children's self-competence and values: Gender and domain differences across grades one through twelve. *Child Development*, 73, 509-527.
- Lord, S.E., Eccles, J.S., & McCarthy, K.A. (1994). Surviving the junior high school transition: Family processes and self-perceptions as protective and risk factors. *Journal of Early Adolescence*, 14(2), 162-199.
- MacIver, D.J., & Epstein, J.L. (1993). Middle grades research: Not yet mature no longer a child. *The Elementary School Journal*, 93(5), 519-534.
- MacIver, D.J., Stipek, D.J., & Daniels, D.H. (1991). Explaining within-semester changes in student effort in junior high school and senior high school courses. *Journal of Educational Psychology*, 83(2), 201-211.
- Marsh, H.W. (1989). Age and sex effects in multiple dimensions of self-concept: Preadolescence to early adulthood. *Journal of Educational Psychology*, 81, 417-430.
- Marsh, H.W. (1992). *Self-Description Questionnaire-2 (Short)*. Australia: University of Western Sydney.
- Marsh, H.W. (1998). Age and gender effects in physical self-concepts for adolescent elite athletes and nonathletes: A multicohort-multioccasion design. *Journal of Sport and Exercise Psychology*, 20, 237-259.
- Marsh, H.W., Byrne, B.M., & Shavelson, R. (1988). A multifaceted academic self-concept: Its hierarchical structure and its relation to academic achievement. *Journal of Educational Psychology*, 80, 366-380.
- Marsh, H.W., & Craven, R. (1997). Academic self-concept: Beyond the dustbowl. In G. Phye (Ed.), *Handbook of classroom assessment: Learning, achievement, and adjustment*. Orlando, FL: Academic.
- Marsh, H.W., Craven, R., & Debus, R. (1998). Structure, stability, and development of young children's self-concept: A multicohort-multioccasion study. *Child Development*, 69, 1030-1053.
- Marsh, H.W., Parker, J., & Barnes, J. (1985). Multidimensional adolescent self-concepts: Their relationship to age, sex, and academic measures. *American Educational Research Council*, 22, 422-444.
- Marsh, H.W., & Shavelson, R. (1985). Self-concept: Its multifaceted hierarchical structure. *Educational Psychologist*, 20, 107-125.
- Martin, A. J. (2001). The Student Motivation Scale: A tool for measuring and enhancing motivation. *Australian Journal of Guidance and Counselling*, 11, 1-20.
- Martin, A. J. (2002). Motivation and academic resilience: Developing a model of student enhancement. *Australian Journal of Education*, 47, 88-106.
- Martin, A. J. (2003). The Student Motivation Scale: Further testing of an instrument that measures school students' motivation. *Australian Journal of Education*, 47, 88-106.
- Martin, A.J. (2005). Examining a multidimensional model of student motivation and engagement using a construct validation approach. Submitted for publication.
- Meece, J.L., Parsons, J.E., Kaczala, C.M., Goff, S.B., & Futterman, R. (1982). Sex differences in math achievement: Toward a model of academic choice. *Psychological Bulletin*, 91, 324-348
- Midgley, C., Arunkumar, R., & Urdan, T. (1996). "If I don't do well tomorrow, there's a reason": Predictors of adolescents' use of academic self-handicapping strategies. *Journal of Educational Psychology*, 88, 423-434.
- Midgley, C., Maehr, M., Hicks, L., Roesser, R., Urdan, T., Anderman, E., et al. (1997). *Patterns of Adaptive Learning (PALS)*. Ann Arbor, MI: University of Michigan.
- Miller, R. B., Greene, B. A., Montalvo, G. P., Ravindran, B., & Nichols, J. D. (1996). Engagement in academic work: The role of learning goals, future consequences, pleasing others, and perceived ability. *Contemporary Educational Psychology*, 21, 388-422.
- Nicholls, J. G. (1989). *The competitive ethos and democratic education*. Cambridge: Harvard University Press.

- Nottlemann, E.D. (1987). Competence and self-esteem during transition from childhood to adolescence. *Developmental Psychology*, 23(3), 441-450.
- Piers, E.V. (1984). Piers-Harris Children's Self-concept Scale: Revised manual 1984. Los Angeles: Western Psychological Services.
- Piers, E.V., & Harris, D.A. (1964). Age and other correlates of self-concept in children. *Journal of Educational Psychology*, 55, 91-95.
- Pintrich, P. R., & DeGroot, E. V. (1990). Motivational and self-regulated learning components of classroom academic performance. *Journal of Educational Psychology*, 82, 33-40.
- Pintrich, P. R., Smith, D. A. F., Garcia, T., & McKeachie, W. J. (1991). *A manual for the use of the Motivated Strategies for Learning Questionnaire (MSLQ)*. Ann Arbor, MI: National Center for Research to Improve Post secondary Teaching and Learning.
- Plancherel, B., Bolognin, M., & Halfon, O. (1998). Coping strategies in early and mid-adolescence: Difference according to age and gender in a community sample. *European Psychologist*, 3(3), 192-201.
- Rudolph, K.D., Lambert, S.F., Clark, A.G., & Kurlakowsky, K.D. (2001). Negotiating the transition to middle school: The role of self-regulatory processes. *Child Development*, 72(3), 929-946.
- Seidman, E., Aber, J.L., Allen, L.R., & French, S.E. (1996). The impact of the transition to high school on the self-system and perceived social context of poor urban youth. *American Journal of Community Psychology*, 24, 489-515.
- Seidman, E., Allen, L.R., Aber, J.L., Mitchell, C., & Feinman, J. (1994). The impact of school transitions in early adolescence on the self-system and perceived social context of poor urban youth. *Child Development*, 65, 507-522.
- Skaalvik, S., & Skaalvik, E.M. (2004). Gender differences in math and verbal self-concept, performance expectations, and motivation. *A Journal of Research*, 50(3), 241-253.
- Shavelson, R.J., Hubner, J.J., & Stanton, G.C. (1976). Self-concept: Validation of construct interpretations. *Review of Educational Research*, 46, 407-441.
- Simmons, R.G., & Blyth, D.A. (1987). *Moving into adolescence: The impact of pubertal change and school context*. Hawthorn, Aldine De Gruyler.
- Smith, L. (2004). Changes in student motivation over the final year of high school. *Journal of Educational Enquiry*, 5(2), 64-85.
- Smith, L., & Sinclair, K.E. (2000). Transforming the HSC: Affective implications. *Change Transformations in Education*, 3, 67-80.
- Stipek, D.J., & MacIver, D.J. (1989). Developmental change in children's assessment of intellectual competence. *Child Development*, 60, 521-538.
- Strube, M. J. (1986). An analysis of the Self-Handicapping Scale. *Basic Applied Social Psychology*, 7, 211-224.
- Vallerand, R.J. (1997). Toward a hierarchical model of intrinsic and extrinsic motivation. In M.P. Zanna (Ed.), *Advances in experimental social psychology* (Vol. 27, pp. 271-360). New York: Academic Press.
- Watt, H. (2004). Boys and English: Do boys 'disengage' from English through secondary school? Paper presented at the Third International Biennial SELF Research Conference, Berlin, Germany.
- Wigfield, A., & Eccles, J.A. (2000). Expectancy-value theory of achievement motivation. *Contemporary Educational Psychology*, 25, 68-81.
- Wigfield, A., Eccles, J.S., MacIver, D., Reuman, D.A., & Midgley, C. (1991). Transitions during early adolescence: Changes in children's domain-specific self-perceptions and general self-esteem across the transition to junior high school. *Developmental Psychology*, 27, 552-565.