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Examining adolescent self-esteem in the context of developmental trajectories: Gender and trajectory group differences in social support, coping, stress, and academic achievement from Grades 8 to 11

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A thesis submitted to the Faculty of Graduate and Postdoctoral Studies

in partial fulfillment of the requirements for the degree of

Doctor of Philosophy

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Abstract

Previous research has identified multiple developmental trajectories of self-esteem in adolescence along with psychosocial factors that differentiate trajectory groups. Results of these and other studies have suggested relations between self-esteem and social support, coping, stress, academic achievement, and life satisfaction. In the first study of the present research, 469 adolescents (235 females and 234 males) were followed from Grades 8 to 10, through the transition to high school in Grade 9. Cluster analysis identified four trajectories of self-esteem: Consistently High (n = 147, 31.3%), Decreasing (n = 99, 21.1%), Increasing (n = 160, 34.1%), and Consistently Low (n = 63, 13.4%). These trajectories showed differential patterns on measures of reported friend, family, and esteem-enhancing social support, avoidant coping, and daily hassles. The Consistently High group reported increases in friend and esteem-enhancing support and decreased use of avoidant coping between Grades 8 and 10. The Increasing group reported increases in all three types of reported social support across the three years. The Decreasing group reported an increase in daily hassles between Grades 8 and 10. Although not different in reported self-esteem in Grade 8, the Consistently High and Decreasing groups were discriminated on the basis of all three types of reported social support, with students in the Decreasing group reporting less support. The Consistently High group demonstrated the most positive pattern of adjustment, the Consistently Low group demonstrated the most negative pattern, and the two changing groups generally demonstrated outcomes

between the two other groups. Results supported the conceptualization of trajectories as representative of distinct patterns of development in adolescence. In the second study, a subset of 338 adolescents (166 females and 172 males) was followed up in their Grade 11 year. As in the first study, the Consistently High group demonstrated the most positive adjustment and the Consistently Low group had the most negative outcomes. However, there was no additional differentiation between the Decreasing and Increasing groups at Grade 11. Reported life satisfaction was the variable that most strongly distinguished the trajectory groups in Grade 11. Further research is needed to identify self-esteem trajectories that represent the entire developmental stage of adolescence, as well as to aid in the early identification of at-risk self-esteem groups for the purpose of targeting appropriate interventions.

Acknowledgments

First and foremost, I would like to acknowledge the encouragement, support, and input provided by my supervisor, Dr. Gail Crombie, throughout this project. I would like to thank my committee members, Drs. Robert Flynn, Louise Lemyre, and Ian Manion. Dr. David DuBois, my external examiner, provided many valuable insights in finalizing the project. Thanks also to Dr. Dwayne Schindler, who always had an ear for any statistical question, no matter how minor. I owe a large debt of gratitude to my family, who encouraged me to follow my dreams and supported me in making them a reality. I also would like to acknowledge the support of my friends, both in and outside of the program, who saw me through many ups and downs. Finally, I want to thank Patrick Armstrong for his support throughout the project.

This project was funded in part by a grant from the Social Sciences and Humanities Research Council of Canada. I also would like to thank the administration of the school boards and participating schools, as well as the students whose participation made this project possible.

This project is dedicated to the memory of my sister, Karen Marie Silverthorn (1980-1996), whose openness and willingness to share gave me an invaluable window into the life of a 1990s teenager. Her interest in my work kept me from taking its value for granted and for that I will be forever grateful.

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CHAPTER I

Self-Esteem in Adolescence

Overview

Self-esteem is associated positively with mental health and well-being and negatively with anxiety, depression, and interpersonal difficulties (DuBois & Tevendale, 1999; Mruk, 1999). Adolescence may be a vulnerable period for self-esteem because of new developmental tasks (e.g., increasing emotional independence, changing peer relationships, and school transitions), particularly when multiple developmental challenges occur simultaneously (Simmons, Burgeson, Carlton-Ford, & Blyth, 1987). Some researchers (Deihl, Vicary, & Deike, 1997; Hirsch & DuBois, 1991; Zimmerman, Copeland, Shope, & Dielman, 1997) have examined within-group differences in adolescent self-esteem by using cluster analysis to identify different developmental trajectories that show both stability and change and have examined factors that differentiate among these trajectories, such as social relationships (Deihl et al., 1997; Hirsch & DuBois, 1991), peer pressure, and alcohol use (Zimmerman et al., 1997).

The purpose of the current research project is to: (1) test for multiple longitudinal self-esteem trajectories from early to middle adolescence (Grades 8 to 10) and examine these trajectories in terms of social support, coping, reported stress, and academic achievement over these three years; and (2) examine trajectory group differences in social support, coping, stress, life satisfaction and academic achievement at a one-year follow-up point in middle adolescence (Grade 11).

The literature review provides an overview of research on self-esteem in

adolescence and the empirical evidence for an association between self-esteem and gender, social support, coping, stress, life satisfaction, and academic achievement.

Literature Review

Self-Esteem and Adolescent Development

Self-esteem has a long history, dating back to the theories of James (1892) and Cooley (1902). Whereas James conceptualized self-esteem in terms of the ratio of successes to aspirations, Cooley focused on the social origins of self-esteem, in which self-evaluations (the "looking-glass self") are the reflected appraisals of significant others. Both theories, however, consider that there is a global aspect of the self that exists separately from specific self-evaluations (Harter, 1993). Global self-esteem is generally described in terms of global self-regard (Harter, 1993) or self-acceptance and self-respect (Rosenberg, Schooler, Schoenbach, & Rosenberg, 1995). Theoretical approaches to adult self-esteem focus on two main components of (1) competence, efficacy, and mastery, and (2) self-worth and self-respect (e.g., Branden, 1995; Mruk, 1999). These two components are reflected in the model discussed by Harter (1999), in which the two primary categories of antecedents to adolescent self-esteem are conceptualized as competence/adequacy and approval/support. In this framework, (low) self-esteem is also considered in a broader construct along with degree of depressive symptoms as well as hopelessness.

In adolescence, self-esteem has been asserted to be an important

component of mental health and adjustment (Bagley, Bolitho, & Bertrand, 1997), with research findings suggesting links between self-esteem and academic achievement, substance abuse, and delinquent behavior (Mullis, Mullis, & Normandin, 1992). Global self-esteem is believed to be particularly relevant to psychological well-being and has been found to be related positively to happiness and life satisfaction and negatively related to depression and anxiety (Rosenberg, 1985; Rosenberg et al., 1995).

Adolescence may be a critical period for self-esteem development as a result of the emergence of more abstract cognitive abilities as well as the adoption of more adult-like social roles and changing social contexts. Harter's (1993, 1999) research with adolescents has shown support for aspects of both James' and Cooley's conceptions of self-esteem, finding that discrepancies between perceived and ideal aspects of the self are associated with lower global self-esteem and that social support, particularly from peers and parents, is an important predictor of self-esteem. In a 1986 review, Rosenberg outlined changes in cognitive development and their impact on children and adolescents' conceptions of the self. In particular, adolescents' self-conceptions become more internal, more abstract and subjective, and more differentiated with age. These, and similar research findings, are elaborated more fully by Harter (1998, 1999). With the onset of the capacity for abstract thought in early adolescence, the organization of labels regarding the self become increasingly more abstract, although still compartmentalized. Salient content relevant to attitudes towards the self in early

adolescence involves aspects of social relationships. Attributes relevant to different interpersonal contexts remain important into middle and late adolescence although there is an increasing differentiation and focus on personal, not merely social, standards. From middle to late adolescence, conceptions of the self become more integrated, based on more higher-order abstractions regarding the self. These changes have implications for adolescent views of the self, particularly early in adolescence, in that increases in introspection along with an immature ability to effectively integrate trait labels may lead to a sense of contradiction within the self which may cause distress (Harter, 1998). Self-criticism and other negative feelings about the self are reported to be most severe during adolescence, particularly during the early adolescent period (Rosenberg, 1985).

Adolescent developmental tasks. As noted previously, adolescence is marked by multiple changes across a variety of developmental domains. This period is considered by many researchers to be better described in phases as opposed to one homogeneous stage of development (Steinberg, 1999). These phases correspond to educational transitions: early adolescence (11-14; middle school/junior high school), middle adolescence (15-18; secondary school), and late adolescence (18-21; post-secondary education/entry into the labor force).

Developmental tasks central to adolescent development include the acceptance of physical changes, achievement of emotional independence, the development of mature peer relationships, adoption of gender-related social roles,

preparation for adult roles, preparation for a career and self-sufficiency, acquisition of values, and behaving in a socially responsible manner (Jaffe, 1998). High self-esteem is proposed to be protective for adolescents in leading to greater success in resolving these developmental tasks, whereas low self-esteem may place adolescents at risk (Deihl et al., 1997). High self-esteem is related to factors such as peer social support (Hirsch & DuBois, 1991), whereas low self-esteem is related to lower levels of vocational identity and commitment to career development (Munson, 1992). The utility of using a developmental framework to examine adolescent adjustment (e.g., self-esteem) is that it permits the consideration of more long-term adaptational outcomes. For example, positive social relationships are linked with positive self-esteem, and since this relation is likely reciprocal, individuals with positive self-esteem are likely to better maintain existing relationships, form new relationships, and elicit support from these relationships (Gore & Eckenrode, 1996).

School transitions and adolescent self-esteem. School transitions are central in defining the three phases of adolescence, and mark significant changes in both academic and social contexts. School transitions often co-occur with other developmental tasks in adolescence (e.g., puberty, changing interpersonal relationships). Self-esteem is believed to be affected most negatively when numerous developmental transitions occur simultaneously, which is often the case in early adolescence (Blyth, Simmons, & Carlton-Ford, 1983; Mullis et al., 1992). Self-esteem has been reported to be lowest immediately following the

junior high transition but to have increased again by the following spring (Wigfield, Eccles, MacIver, Reuman, & Midgley, 1991). Girls in particular appear to be most at risk for declining self-esteem when school transitions occur early (from elementary to junior high school), in comparison with school systems in which transitions are made later into high school (Blyth et al., 1983).

Self-esteem stability and change in adolescence. Adolescence can be viewed as a period in which change in life span trajectories is possible (Hoffman, 1996), and in which patterns of continuity or discontinuity may occur depending on both the developmental domain and the individual. Several turning points occur in adolescence that have the potential to alter an individual's development course over the long term (Graber & Brooks-Gunn, 1996). Recently, a shift has occurred from the examination of global or universal patterns of development (e.g., in self-esteem) to the consideration of within-group differences, which allows for the possibility of different developmental trajectories or patterns of development (Compas, Hinden, & Gerhardt, 1995).

The results of research on stability and change in adolescent global self-esteem have yielded mixed results. In some studies, self-esteem has been found to be relatively stable over several years, including Grades 7 to 10 (Savin-Williams & Demo, 1984) and Grades 9 to 12 (Chubb, Fertman, & Ross, 1997). In other studies, self-esteem has been found to increase from early adolescence (Mullis et al., 1992; O'Malley & Bachman, 1983). Self-esteem change has also been suggested to vary by gender, with boys showing an increase and girls showing a

decrease (Block & Robins, 1993). To date, the evidence regarding overall stability or change in self-esteem across adolescence is insufficient to point to a definitive trend towards stability or change in adolescent self-esteem.

Three studies have been published that have taken a within-group approach to the examination of adolescent self-esteem (Deihl et al., 1997; Hirsch & DuBois, 1991; Zimmerman et al., 1997), based on the hypothesis that an overall examination of self-esteem may hide different trajectories that would emerge in the consideration of several subgroups.

Hirsch and DuBois (1991) published the first study of self-esteem trajectories based on a small sample (N = 128) of Midwestern students followed across four time points from the end of Grade 6 through to the end of Grade 8, with global self-esteem measured with the Rosenberg Self-Esteem Scale (Rosenberg, 1965). Students in this study made the transition from elementary to junior high school in Grade 7. Although self-esteem was correlated significantly across each pair of measurement points, the proportion of shared variance was consistently below 40%, which suggested only moderate consistency in self-esteem over time (Hirsch & DuBois, 1991). A cluster analysis of the global self-esteem scores across the four measurement points indicated the presence four developmental trajectories of self-esteem. Two trajectories ("consistently high", 35.2% of the sample; "chronically low", 12.5%) reflected relative stability in self-esteem over time. The other two trajectories reflected changing self-esteem over time ("steep decline", 21.1% and "small increase", 31.2%). The four trajectories

accounted for approximately 60% of the variance in global self-esteem at each of the four time points, indicating that considering self-esteem in terms of developmental trajectories accounts for a greater proportion of variance in self-esteem over time (Hirsch & DuBois, 1991) in comparison with pairwise correlations over time periods at an overall group level.

In 1997, a study by Zimmerman and colleagues was designed to replicate the results of the original Hirsch and DuBois (1991) study with some differences in methodology: (1) a different measure of self-esteem (Coopersmith, 1967), (2) a sample of over 1000 students from both urban and rural areas, and (3) measurement at the end of Grades 6, 7, 8, and the beginning of Grade 10. In this study, students made a transition to junior high school in Grade 7 and a transition to high school in Grade 10. The trajectories identified in this study were remarkably similar to those obtained in the original study (Hirsch & DuBois, 1991) and were termed "consistently high" (48.3%), "consistently low" (13.0%), "steadily decreasing" (20.2%), and "moderate and rising" (18.5%). In this study, however, a greater proportion of adolescents was classified in the "consistently high" group and fewer in the "moderate and rising" group than in the original Hirsch and DuBois (1991) study. The authors noted that this difference could have been produced by including measurement into Grade 10 and the use of a different measure of self-esteem (Zimmerman et al., 1997).

Deihl and colleagues (1997) also attempted to replicate the findings of the Hirsch and DuBois (1991) study with a sample of 142 rural adolescents followed

across four time points from Grades 7 to 10, using the same measure of self-esteem (Rosenberg, 1965) as in the original 1991 study. Students in this study were followed through a single school transition from junior into senior high school in Grade 10. The authors hypothesized that a greater proportion of students would fall into a pattern of consistently low or declining self-esteem as rural students have been found in previous studies to be at greater risk for low self-esteem (Deihl et al., 1997). In this study, results were indicative of three rather than four trajectories as found in the previous two studies. These groups corresponded with the initial Hirsch and DuBois (1991) study's consistently high, chronically low, and small increase trajectory groups, with proportions of 47%, 16%, and 37% of students, respectively (Deihl et al., 1997). Contrary to the hypothesis that rural students would be at greater risk for low or declining self-esteem, a higher proportion of students in this study did not fall into these two patterns; indeed, a trajectory group showing declining self-esteem did not emerge.

In the two studies in which four self-esteem trajectories were found, including a declining self-esteem group (Hirsch & DuBois, 1991; Zimmerman et al., 1997), the patterns that emerged were very similar, despite the fact that the latter study was based on a longer period of measurement (Grades 6 to 10 as opposed to Grades 6 to 8). In both studies, however, students were followed through an early adolescent transition; that is, they made their first transition from elementary to junior high school in Grade 7. Results of previous research have suggested that there is an increased vulnerability to self-esteem disruption in

school transitions that take place in early adolescence, such as the transition to junior high school (Blyth et al., 1983). Analyses based on assessment of self-esteem at a later point than the early adolescent transition to junior high school (in Grade 7) may result in a different pattern of self-esteem decline (e.g., moderate rather than sharp decline) or a smaller proportion of adolescents in a declining self-esteem group. In all three studies, however, distinct trajectories of self-esteem over time emerged along with a global pattern of temporal consistency, providing support for the position that general trends in the mean level of self-esteem is an inadequate representation of within-group variation, as patterns of increase and decrease often offset each other (Zimmerman et al., 1997). In the study of rural adolescents, however, a declining self-esteem trajectory was not found, and the authors speculated that this may be due to the high school transition (Grade 9 or 10) being less stressful as it occurs at a later point than the majority of early self-esteem developmental changes, such as adjusting to the physical changes of puberty (Deihl et al., 1997).

Correlates of Adolescent Self-Esteem

The findings of the three studies of longitudinal self-esteem trajectories give a preliminary suggestion of a number of factors that differentiate among different trajectories of self-esteem over time, such as interpersonal relationships, academic achievement, and problem behavior. In addition, the differentiation of self-esteem groups derived from cluster analysis on variables not used in obtaining the groups is an effective means of providing evidence for the validity

of a particular cluster solution (Aldenderfer & Blashfield, 1984). Harter's (1999) framework for antecedents/correlates of adolescent self-esteem provides a useful framework for the categorization of factors associated with self-esteem trajectories. The assessment of qualities of interpersonal relationships, particularly perceived social support, enables a focus on the support/validation component. Competence/adequacy can be conceptualized not only as adolescents' perceived or actual competence in life domains studied in relation to self-esteem (e.g., physical appearance, academic achievement), but also in terms of their perceptions of their ability to cope with new stressors and challenges and their perceptions of these challenges themselves.

In the current study, the support/validation constructs to be considered are family, friend, and esteem-enhancing support. Previous research on self-esteem trajectories suggests the importance of both peer and family relationships with respect to self-esteem (Deihl et al., 1997; Hirsch & DuBois, 1991). Factors related to the competence/adequacy domain to be considered include coping, reported stress, and academic achievement (average grades). Coping strategies and reported stress will be considered given the new demands and challenges posed by developmental tasks in adolescence. Previous trajectory studies have suggested trajectory group differences in academic achievement (Deihl et al., 1997; Hirsch & DuBois, 1991; Zimmerman et al., 1997). In addition, life satisfaction will be examined as it is a known correlate of self-esteem (Rosenberg, 1985). Using Harter's (1999) framework, life satisfaction would appear to play a

more correlational role with respect to self-esteem, possibly fitting in with the concept of helplessness.

Social support. Social support is differentiated from the concept of social network (the range of social relationships available to the individual) and is defined as the provisions obtained through these relationships (Frey & Rothlisberger, 1996). Social support can be examined with respect to different sources of support (e.g., family or friends), as well as types of support (e.g., esteem-enhancing support). In early adolescence, young people begin to turn more to friends for support, whereas support-seeking from parents remains relatively constant; by middle adolescence, adolescents spend more time with peers than with family (Steinberg, 1999). There is also some evidence that sources of support used by adolescents are determined by the nature of the problem at hand; for instance, adolescents are more likely to seek out friends rather than parents for assistance with interpersonal problems (Boldero & Fallon, 1995). Harter's (1999) research indicates that the perception of support from parents as well as peers is significantly correlated with overall feelings of self-worth, particularly support indicating approval and acceptance by others.

In the two studies examining social support in relation to self-esteem trajectories, both family and peer relationships were found to differentiate significantly between the different self-esteem trajectories (Deihl et al., 1997; Hirsch & DuBois, 1991). For example, in the Hirsch and DuBois (1991) study, peer social support in Grade 6 discriminated significantly between the

consistently low self-esteem group and the other three groups in the study, and self-esteem trajectory groups were found to show different temporal patterns of peer social support. To date, peer social support has been examined longitudinally with respect to self-esteem trajectories in only one study, which was focused on Grades 6 to 8, and not further into adolescence. Family social support has not yet been examined longitudinally for the different self-esteem trajectories.

Results of other studies have also suggested that social relationships in adolescence play a role with respect to self-esteem. For instance, Grade 9 students with at least one reciprocal friend had higher self-esteem than those students without a reciprocal friend (Bishop & Inderbitzen, 1995). Parent and peer attachment have been found to be related differentially to specific aspects of self-image, such as body image (O'Koon, 1997), suggesting that the link between interpersonal relationships and self-image in adolescence varies by the relationship (e.g., parents versus peers). An additional consideration involves aspects of interpersonal relationships, particularly esteem-enhancing or esteem-threatening interpersonal interactions. For high school students and college students, esteem enhancement and esteem threat from friends and family members were associated significantly with global self-esteem (Short, Sandler, & Roosa, 1996). This aspect of social relationships has not yet been examined with respect to trajectories of self-esteem in adolescence.

There is evidence for overall developmental change in social interactions with parents and peers across adolescence, with early adolescents seeking help

more from family members and older adolescents seeking help more from friends (Boldero & Fallon, 1995). Schonert-Reichl and Muller (1996) found that middle adolescents (15-18 years) reported seeking help from parents, friends, and professionals more than did early adolescents (13-14 years). These results suggest that there are developmental differences both in frequency of seeking social support as well as the sources from which such assistance is sought. Given that social support has been shown to associate with self-esteem, what remains unexplored is whether these developmental changes vary across different trajectories of self-esteem in adolescence.

Consistent gender differences have been found with respect to reported social support in adolescence. Overall, girls have been found to seek more support than boys (Schonert-Reichl & Muller, 1996). More specifically, girls have been found to report significantly greater levels of peer support (Barone, Aguirre-Deandreis, & Trickett, 1991; Slavin & Rainer, 1990; Windle, 1992). In addition to age- and gender-related differences in social support in adolescence, gender and age may also have an interactive effect with respect to social support. Although there is a general trend towards increased help-seeking from friends in adolescence, boys have been found to be less likely to seek help from friends and more likely to seek help from parents than are girls (Boldero & Fallon, 1995).

Coping. Coping can be conceptualized as responses that involve effort on the part of individuals to manage stressful situations (Compas, 1987a), and can be defined at the level of resources, styles, and specific coping responses. Categories

of coping resources include aspects of both the individual (e.g., problem-solving skills) and the environment (e.g., support network) that facilitate adaptation to stress (Compas, 1987a). Coping styles reflect methods of coping that are characteristic of an individual across either time or situation, whereas coping responses are the specific coping behaviors or strategies employed in the context of a particular stressful episode (Compas, 1987a; Patterson & McCubbin, 1987). The use of particular types of coping in adolescence may be important as both a protective and a risk factor in adolescent development (Compas, Orosan, & Grant, 1993).

Adolescents face a variety of new demands for which they have not yet fully developed their coping responses (Patterson & McCubbin, 1987). Changing family and peer relationships provide the context in which many of these new demands occur which require coping efforts. A traditional categorization of coping distinguishes between problem-focused coping, which involves cognitive and behavioral strategies to change a stressful situation, and emotion-focused coping, which involves attempts to regulate the emotional responses arising from a stressful situation (Ptacek, Smith, & Zanas, 1992). Researchers also have identified a third category of coping, problem denial or disengagement (Carver, Scheier, & Weintraub, 1989), which may result in more negative outcomes (Fromme & Rivet, 1994).

An alternative categorization of coping involves the distinction between approach and avoidant coping. Approach coping involves behaviors that are

designed to master the stressful event, whereas avoidant coping involves blocking information about the stressor or making efforts to avoid the stressor (Spirito, Stark, & Tyc, 1994). Approach coping is associated with more positive adjustment, whereas avoidant coping is associated with poorer adaptational outcomes, such as depression (Ebata & Moos, 1991; Herman-Stahl, Stemmler, & Petersen, 1995; Sandler, Tein, & West, 1994). Although measurement of coping in adolescence typically has considered a greater number of coping categories (Patterson & McCubbin, 1987; Spirito, Stark, & Williams, 1988), approach-oriented and avoidant coping have emerged as distinct categories of coping (Herman-Stahl et al., 1995).

Although adolescence involves a set of new developmental tasks that require adaptation on the part of individual adolescents, and self-esteem is hypothesized to play a role in meeting the developmental challenges of adolescence, none of the trajectory studies and few studies to date have examined explicitly the relation between self-esteem and coping. In a study of Grade 8 and 11 students, self-esteem was found to be correlated significantly with avoidance and problem-solving coping (-.40 and .19, respectively, Dumont & Provost, 1999). In considering self-esteem at two levels (high vs. low), differences were found on three coping categories involving diverting coping efforts away from a stressor (ventilating feelings, avoiding problems, relaxing), with low self-esteem adolescents reporting greater use of these strategies than high self-esteem adolescents (Chapman & Mullis, 1999). Researchers have found that coping

behavior is related significantly to depression (Glyshaw, Cohen, & Towbes, 1989; Herman-Stahl & Petersen, 1996), anxiety (Glyshaw et al., 1989), and behavior problems (Compas, Malcarne, & Fondacaro, 1988). These adjustment outcomes also have been found to be related to self-esteem (e.g., Mruk, 1999; Mullis et al., 1992; Rosenberg et al., 1995). In addition, self-esteem has been found to moderate the relationship between family adjustment and depressive symptomatology in early adolescents (Ohannessian, Lerner, Lerner, & von Eye, 1994). Although the patterns of coping related to specific self-esteem trajectories have not yet been examined, the results of Chapman and Mullis (1999) suggest a greater role for avoidant coping strategies with respect to self-esteem.

With respect to developmental trends in coping, Compas et al. (1993) concluded from their review of research on coping that there appear to be some age-related differences in coping behavior. Emotion-focused coping appears to increase with age from childhood to adolescence but not from adolescence to young adulthood, whereas problem-focused coping appears to remain relatively stable (Compas et al., 1993). Given the relative paucity of research examining relations between coping and self-esteem, it is unclear how these developmental trends in coping behavior may be expressed in the context of self-esteem considered in terms of developmental trajectories.

As with social support, gender differences have also been examined in adolescent coping. Although some researchers have concluded that females use more emotion-focused coping and males use more problem-focused coping,

others have not found such gender differences (Ptacek et al., 1992). In adult and college-age samples, gender differences in coping decrease when coping is considered in the context of specific situations as opposed to more general reports of coping style (Porter & Stone, 1995; Sigmon, Stanton, & Snyder, 1995). Thus, gender differences would be expected to be more pronounced in considering general patterns of coping as opposed to coping with a specific stressor. With respect to more specific categories of coping behavior in adolescence, gender differences have been found more consistently in research. Female adolescents tend to report greater use of approach strategies including developing self-reliance, seeking social support, investing in close friends, solving family relationships, and using proactive coping, whereas male adolescents tend to report greater use of avoiding problems, as well as using leisure and humor as coping strategies (Bird & Harris, 1990; Chapman & Mullis, 1999; Copeland & Hess, 1995; Patterson & McCubbin, 1987; Plancherel & Bolognini, 1995).

Stress. Events can be defined as stressful if they require responses or attempts at adaptation (Compas, 1987b). Adolescence is a developmental period that is characterized by many new developmental changes and challenges in comparison with earlier developmental stages that require adaptation. There remain in the literature ongoing debates regarding the definitions and measurement of stress (Compas, et al., 1993), with a distinction made between major and minor life events. Some researchers have found that the impact of major negative events on psychological symptoms is mediated by negative daily

events (Kanner, Coyne, Schaefer, & Lazarus, 1981; Wagner, Compas, & Howell, 1988). Other researchers, however, have found that both negative life events and minor events (hassles) contribute both jointly and independently to adjustment outcomes such as psychological symptoms, negative affect, parent ratings of maladjustment, and lower GPA (Rowlison & Felner, 1988). Thus, with respect to an adaptational outcome such as self-esteem, hassles would be expected to play a role, whereas the role of more major life events is less clear.

As with coping, few research studies have involved an explicit examination of the role of stress with respect to self-esteem. In a study of early adolescents, Harper and Marshall (1991) found that reports of problems in 11 different life areas were related to self-esteem, with different relations for girls and boys. For girls, significant problem areas associated with self-esteem were health and physical development, home and family, adjustment to school work, and curriculum and teaching procedures. For boys, the only significant problem area associated with self-esteem was social psychological relations (Harper & Marshall, 1991). In a study of college students, reported recurring stressful events were found to be related negatively to concurrent global self-esteem (-.34; Short et al., 1996). This pattern was repeated in a further study with high school students in which reported life events were associated negatively with concurrent global self-esteem (-.32). Much of the research examining the correlates of reported stress has been focused on such negative aspects of adjustment as psychological distress and symptoms of psychological disorder (DuBois, Felner,

Brand, Adan, & Evans, 1992; Ge, Lorenz, Conger, Elder, & Simons, 1994; Wagner & Compas, 1990). As noted previously, a link has been established between psychological symptomatology and global self-esteem (Mruk, 1999; Mullis et al., 1992; Rosenberg et al., 1995). Thus, although researchers suggest a link between reported major and daily events and self-esteem in adolescence, the role of reported stress has not been explored in the context of multiple trajectories of self-esteem.

Adolescence is not only a time of multiple changes, but different phases of adolescence are associated with variations in salience of various issues (e.g., pubertal change and family bickering in early adolescence, dating in middle adolescence). Researchers have reported an increase in reported stressful life events in early adolescence, particularly around the time of puberty (Graber & Brooks-Gunn, 1996). In a longitudinal study of adolescent stress, researchers found significant associations between age and different categories of reported stress, with older adolescents reporting more stressors from parents and fewer sibling and friend stressors (Timko, Moos, & Michelson, 1993). Gender differences are also found in reported stress, with early and middle adolescent girls reporting more negative major and minor life events than boys at those ages (e.g., Compas, Davis, & Forsythe, 1985; Timko et al., 1993; Wagner & Compas, 1990). Gender also has been found to show an interactive effect with age in the reporting of stressful life events in early adolescence, with girls beginning to report more life events than boys, although both girls and boys reported an

increase in life events at this time (Ge et al., 1994). How these gender and developmental differences might be expressed within the different trajectories of self-esteem, however, remains unclear.

Academic achievement. Research has shown a positive, significant relation between self-esteem and academic grades (Rosenberg, Schooler, & Schoenbach, 1989). It is important to note, however, that the strength of this relation varies by the type of self-esteem considered. Although higher correlations are generally found between academic self-concept and grades than between global self-esteem and grades, the degree of the relation between global self-esteem and grades is still significant (e.g., .25; Rosenberg et al., 1995). Researchers examining bidirectional relations among self-esteem and academic achievement have concluded that self-esteem both influences and is influenced by academic achievement in a positive direction (Liu, Kaplan, & Risser, 1992).

School transitions in early adolescence appear to be associated with a decline in overall Grade Point Average (GPA), particularly for girls. In comparing students from a junior high school cohort (transitions in Grades 7 and 10) with students from a K-8 cohort (transition in Grade 9), Blyth et al. (1983) found that in Grade 7, girls from the junior high school cohort reported lower self-esteem than girls in the K-8 cohort, whereas no differences were found for boys. This pattern of lower self-esteem for girls in the junior high school cohort in comparison with the K-8 cohort persisted after the transition to high school. In a study examining the impact of multiple life changes in early adolescence

(including school transitions), the number of life changes was found to have a significant negative effect on GPA for both girls and boys (Simmons et al., 1987).

In the studies of longitudinal trajectories of self-esteem, results regarding trajectory differences in academic grades are mixed. In the study by Zimmerman and colleagues (1997), a self-esteem group by time interaction emerged with respect to average reported school grades. Reported grades declined from Grades 6 to 8 for all of the trajectory groups, with the steadily decreasing group showing the greatest drop in grades and the consistently high group showing the smallest decrease. Students in the moderate and rising trajectory groups showed an overall increase in grades, particularly between Grades 8 and 10 (Zimmerman et al., 1997). In contrast, Deihl and colleagues (1997) did not find a significant self-esteem group difference in reported academic grades in the final year of their study (Grade 10).

As with the issue of gender differences in self-esteem, the differing methodologies of the self-esteem trajectory studies may explain the inconsistencies in trajectory differences in average grades. The study in which significant effects were found for academic grades (Zimmerman et al., 1997) followed students who underwent an early adolescent school transition in Grade 7, and measured academic grades at each of the time points of the study. The study by Deihl and colleagues (1997) began following students after the transition to junior high school in Grade 7, was based on a more homogeneous sample of rural adolescents and examined trajectory group differences on academic grades

only in the final year (Grade 10) of their study.

Life satisfaction. Life satisfaction is an aspect of positive psychological adjustment that can provide an important complement to measures that focus on more negative facets of adjustment (Pavot & Diener, 1993), and a sense of well-being has been found to be associated positively with self-esteem (Mruk, 1999). Life satisfaction is considered to involve conscious judgments of life circumstances based on both internal and external subjective criteria (Huebner, Gilman, & Laughlin, 1999; Pavot & Diener, 1993), whereas self-esteem involves a more inner-focused self-evaluation (Huebner et al., 1999). Life satisfaction has been found to be associated significantly with self-esteem in samples of both early (Huebner et al., 1999) and middle adolescents (Neto, 1993). The middle adolescent period lends itself well to an evaluation of life satisfaction, as the developmental tasks salient to this period involve a greater focus on identity related and future-oriented choices, and adolescents at this stage have gained greater cognitive and emotional maturity, as well as life experience (e.g., Deihl et al., 1997). A subjective assessment of satisfaction with current life circumstances is expected to provide an additional complement to the other factors previously discussed that are to be examined as to their ability to differentiate between different developmental trajectories of self-esteem; gender differences, however, are not expected (Pavot & Diener, 1993).

Summary

Although adolescence poses a unique set of developmental challenges that

are difficult for many individuals (Blyth et al., 1983; Simmons et al., 1987), approximately 80% of adolescents manage this period of development relatively well (Offer & Schonert-Reichl, 1992). Self-esteem is an important protective factor for psychological adaptation and is important in this developmental period characterized by new developmental challenges. Although there has been considerable debate regarding the degree of stability and change in self-esteem in adolescence, the examination of self-esteem in terms of developmental trajectories offers a promising alternative to examining trends in mean levels of self-esteem. Results of the few studies to date, however, have yielded somewhat mixed results regarding the number of self-esteem trajectories that best describe early and middle adolescent development. The results of the three studies of longitudinal trajectories of adolescent self-esteem provide a preliminary identification of factors that differentiate among trajectories of self-esteem, including peer and family relationships, susceptibility to peer pressure, satisfaction with school, and alcohol use (Deihl et al., 1997; Hirsch & DuBois, 1991; Zimmerman et al., 1997). The model of antecedents of adolescent self-esteem described by Harter (1999) also provides a framework for categorizing psychosocial constructs hypothesized to be related to self-esteem by considering (1) support/validation, and (2) competence/adequacy.

Social support from family and friends have been identified in prior research as factors that differentiate among different self-esteem trajectory groups, although family social support has not been examined longitudinally in

the context of self-esteem trajectories. Previously, researchers have reported relations between adolescent reports of social relationships and self-esteem (e.g., Bishop & Inderbitzen, 1995; O'Koon, 1997; Short et al., 1996), although the type of support received from such relationships (e.g., esteem-enhancing support) has not yet been examined with respect to self-esteem trajectories. Although there has been some indication in developmental change in social support (Boldero & Fallon, 1995; Schonert-Reichl & Muller, 1996), it is unclear whether these patterns of developmental change vary across the different self-esteem trajectories.

With the increase in new developmental demands in adolescence, strategies used to cope with stress are important to consider when examining different trajectories of adolescent self-esteem. To date, there has been little research examining the relation between self-esteem and coping, although results of some studies suggest a link between self-esteem and avoidant coping (Chapman & Mullis, 1999; Dumont & Provost, 1999). Research has shown that the use of different types of coping is related to depression and anxiety (e.g., Glyshaw et al., 1989; Herman-Stahl & Petersen, 1996), which have been found to be related to self-esteem (Rosenberg, 1985). Thus, there is a likely relation between self-esteem and coping, although this relation needs further exploration in the context of different longitudinal trajectories of self-esteem in adolescence.

Stress is an important area of study in adolescent development given the many new challenges faced during this developmental period; however, few

studies have examined the specific relation between self-esteem and reported stress. Current research in this area does support a negative relation between self-esteem and stress (Harper & Marshall, 1991; Short et al., 1996), although stress has not been examined in relation to different developmental trajectories of self-esteem. Developmental changes in reported stress in early adolescence (e.g., Ge et al., 1994; Graber & Brooks-Gunn, 1996; Timko et al., 1993) have also not been examined in the context of the self-esteem trajectories.

Academic achievement has been examined with respect to longitudinal trajectories of self-esteem, but the evidence for trajectory differences in academic grades remains mixed (Deihl et al., 1997; Zimmerman et al., 1997), possibly due to methodological differences. In general, results of prior research suggest a significant relation between self-esteem and academic achievement in adolescence (Liu et al., 1992; Rosenberg et al., 1995). Life satisfaction has also been found to be associated significantly with self-esteem in adolescence (Huebner et al., 1999; Neto, 1993).

Outline of the Current Research Project

The current research project is designed to address some of the remaining questions about the presence and identification of self-esteem trajectories in early and middle adolescence and the relations of such trajectories to the following psychosocial factors: social support, coping, stress, academic achievement, and life satisfaction. In Study 1, students were followed from Grades 8 to 10 and made a transition to high school in Grade 9. The first part of the study used

cluster analysis of global self-esteem scores from the end of each of these three years to identify longitudinal self-esteem trajectories that best characterize this period of adolescent development. The second part of the study involved the examination of self-esteem trajectory, year, and gender differences in social support, coping, daily hassles, and academic grades, with a specific focus on the developmental patterns in each of these factors for each of the different self-esteem trajectory groups.

In Study 2, a subset of students from the first study were examined cross-sectionally at the end of their Grade 11 year, as this represents a later point in adolescent development than has been examined to date in the context of self-esteem trajectories. Students were grouped into the trajectory groups from the first study, and trajectory (as well as gender) differences were examined in terms of social support, coping, daily hassles and life events, academic grades, and life satisfaction.

CHAPTER II

Longitudinal Examination of Self-Esteem from Grades 8 to 10: Identification and Psychosocial Differences of Four Self-Esteem Trajectory Groups

Longitudinal examination of self-esteem from Grades 8 to 10: Identification and psychosocial differences of four self-esteem trajectory groups

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Abstract

The present study employed cluster analysis methodology to examine self-esteem in adolescence in terms of developmental trajectories rather than stability or change at the overall group level. A sample of 235 female and 234 male adolescents were followed from their last year of elementary school (Grade 8) into secondary school (Grades 9 and 10). Four trajectory groups were identified: Consistently High (n = 147, 31.3%), Decreasing (n = 99, 21.1%), Increasing (n = 160, 34.1%) and Consistently Low (n = 63, 13.4%). A significant gender difference was found with more males in the Consistently High and more females in the Consistently Low trajectory groups. The Consistently High and Increasing groups showed increases in reported support, the Consistently High group reported a decreasing use of avoidant coping, and the Decreasing group had an increase in reported hassles from Grades 8 to 10. In addition, the Consistently High group reported greater social support than the Decreasing group in Grade 8, a point at which these groups did not differ on reported self-esteem. Results support previous research conceptualizing adolescent self-esteem in terms of developmental trajectories, and provide evidence for the validity of the trajectory groups as representing distinct patterns of adolescent development.

Longitudinal examination of self-esteem from Grades 8 to 10:

Identification and psychosocial differences of four self-esteem trajectory groups

Self-esteem underlies mental health adjustment (Bagley, Bolitho, & Bertrand, 1997), and is associated with self-acceptance, self-respect, happiness, and life satisfaction as well as with depression and anxiety (Rosenberg, 1985; Rosenberg, Schooler, Schoenbach, & Rosenberg, 1995). Self-esteem may be of particular importance in adolescence due to the emergence of developmental tasks such as achieving emotional independence, forming mature peer relationships, and preparing for a career (Jaffe, 1998). Although most adolescents (80%) appear to manage this stage with only minor difficulties (Offer & Schonert-Reichl, 1992), self-esteem appears to be at greater risk when multiple transitions occur simultaneously, often in early adolescence (Simmons, Burgeson, Carlton-Ford, & Blyth, 1987). High self-esteem may provide an advantage in adapting to new developmental tasks (Deihl, Vicary, & Deike, 1997), such as obtaining peer support (Hirsch & DuBois, 1991) and attaining vocational identity development (Munson, 1992).

Self-Esteem in Adolescence

Given the unique developmental challenges of adolescence, an important issue to consider is the process of self-esteem development during this period. Whereas some researchers suggest that self-esteem in adolescence is stable over several years (e.g., Chubb, Fertman, & Ross, 1997), others conclude that there is a general increase in self-esteem beginning in early adolescence (e.g., Mullis,

Mullis, & Normandin, 1992). Results of one particular study suggested that self-esteem increases for boys in early adolescence, while it declines for girls (Block & Robins, 1993). In these studies, self-esteem was considered at an overall group level by either examining mean changes in self-esteem or correlations among self-esteem scores over time.

Some researchers have suggested that the pattern of self-esteem stability seen in many studies is the result of collapsing across multiple patterns of self-esteem (Hirsch & DuBois, 1991). Three studies have been based on an alternative approach to the study of self-esteem stability and change in adolescence (Deihl et al., 1997; Hirsch & DuBois, 1991; Zimmerman, Copeland, Shope, & Dielman, 1997), which involves the identification of different self-esteem trajectory subgroups.

Hirsch and DuBois (1991) followed a small sample ($\underline{N}$ = 128) of adolescents in a mid-sized urban area from Grades 6 to 8, who made a transition from elementary to junior high school in Grade 7. Self-esteem correlated significantly across measurement points but the proportion of shared variance was below 40%. Cluster analysis of self-esteem scores revealed four longitudinal trajectories, two of which reflected relative stability ("consistently high", "chronically low"; 35.2% and 12.5%, respectively) and two of which reflected self-esteem change ("steep decline", "small increase"; 21.1% and 31.2%, respectively). The trajectories accounted for approximately 60% of the variance in self-esteem at each time point, indicating that this method better accounts for

variability in self-esteem over time than examining correlations between self-esteem scores at the overall group level across multiple points in time.

Zimmerman and colleagues (1997) attempted to replicate these results in a sample of over 1000 students in both urban and rural areas, followed from Grades 6 to 10. Students in this study made two school transitions, to junior high school in Grade 7 and senior high school in Grade 10. Similar trajectories were identified and were termed "consistently high" (48.3%), "consistently low" (13.0%), "steadily decreasing" (20.2%), and "moderate and rising" (18.5%). The "consistently high" group had more subjects and the "moderate and rising" group had fewer subjects than the comparable groups in the earlier study (Hirsch & DuBois, 1991).

Deihl and colleagues (1997) also attempted to replicate the findings of the first study with a sample of 142 adolescents followed from Grades 7 to 10, through a single transition into senior high school in Grade 10. Their study focused specifically on adolescents from an isolated and resource-poor rural community. Results indicated three rather than four trajectory groups which corresponded with the initial Hirsch and DuBois (1991) study's "consistently high", "chronically low" and "small increase" groups, with 47%, 16%, and 37% of students, respectively. The hypothesis of greater risk for low or declining self-esteem in rural adolescents was not supported and a declining pattern of self-esteem did not emerge.

These results suggest the presence of developmental trajectories of self-

esteem, but further research is needed to validate the number of trajectories that best describe adolescent development. In two of the three studies (Hirsch & DuBois, 1991; Zimmerman et al., 1997) four similar trajectories emerged, despite the fact that students in the latter study were followed into high school. In the third study (Deihl et al., 1997) in which a declining trajectory was not obtained, measurement began after the junior high school transition. Increased vulnerability to self-esteem disruption in early adolescent school transitions has been supported by research (Simmons et al., 1987). Self-esteem measurement beginning after the junior high transition may result in either the emergence of a different pattern of self-esteem decrease or the lack of a decreasing self-esteem pattern. In all three studies, however, self-esteem showed overall temporal consistency, suggesting that patterns of increase and decrease offset each other.

An examination of the developmental processes that underlie the different self-esteem trajectories is warranted (Hirsch & DuBois, 1991). First, the establishment of trajectory group differences over time in known correlates of adolescent self-esteem provides evidence for the validity of these trajectories. Second, characteristics associated with low or declining patterns of self-esteem may serve as markers of risk for self-esteem difficulties in adolescence, whereas those associated with high or increasing self-esteem trajectories are potential protective factors for adolescent self-esteem.

Gender differences have been found in adolescent self-esteem (e.g., Block & Robins, 1993; Bolognini, Plancherel, Bettschart, & Halfon, 1996; Chubb et al.,

1997), with males typically reporting greater self-esteem than females. In a recent meta-analysis (Kling, Hyde, Showers, & Buswell, 1999), small but consistent gender differences in global self-esteem favoring males were found for samples ranging in age from elementary school to older adults (60+ years). An age effect was also found with the greatest gender difference in global self-esteem occurring for high school aged adolescents (15-18), although this effect was still only small to moderate in magnitude (Kling et al., 1999). Gender differences in self-esteem trajectories did not emerge in two of the studies (Deihl et al., 1997; Hirsch & DuBois, 1991), however, in the third study, more females were found in the "steadily decreasing" group and more males were found in the "moderate and rising" group (Zimmerman et al., 1997).

Validation of Self-Esteem Trajectories

With the identification of adolescent self-esteem trajectories, further evidence is required to substantiate the validity of these trajectories. In cluster analysis, an effective means of validating cluster solutions is to examine clusters on variables not used to generate the cluster solution itself (Aldenderfer & Blashfield, 1984). In the current study, the factors to be considered are social support, coping, and hassles, as well as academic achievement. These factors can be categorized using Harter's (1999) general framework for grouping correlates/antecedents of self-esteem, with the social support variables reflecting the category of approval/support, and the coping, hassles, and academic achievement variables representing the category of competence/adequacy.

In the current study, social support is evaluated in terms of peer and family support, as well as support leading to better feelings about oneself (esteem-enhancing support). Self-esteem trajectories have varied on measures of peer and family relationships (Deihl et al., 1997), and have shown different temporal patterns of peer social support (Hirsch & DuBois, 1991). Esteem-enhancing social support also has been found to be associated with global self-esteem in adolescence (Short, Sandler, & Roosa, 1996). Coping is a second area to consider given the new demands faced by adolescents for which coping may not have been developed (Patterson & McCubbin, 1987). Coping has been associated empirically with correlates of self-esteem, such as depression (Glyshaw, Cohen, & Towbes, 1989; Herman-Stahl & Petersen, 1996), anxiety (Glyshaw et al., 1989), and behavior problems (Compas, Malcarne, & Fondacaro, 1988). Reported stress also will be considered, as stressful events in adolescence have been shown to be related to self-esteem (Harper & Marshall, 1991; Short et al., 1996). Academic achievement is associated positively with self-esteem (Hirsch & DuBois, 1991; Rosenberg, Schooler, & Schoenbach, 1989), but results regarding academic achievement in self-esteem trajectory studies have been mixed. In the two studies that considered achievement, trajectory differences were found in one (Zimmerman et al., 1997), but not in the other (Deihl et al., 1997).

Study Objectives and Hypotheses

The first objective of the current study is to test for trajectories of

adolescent self-esteem and to examine gender differences in trajectories that are identified. The second objective is to examine trajectory differences over time in the variables described previously to provide support for the external validity of the trajectories and to identify areas in which the self-esteem trajectories differ over time.

The research hypotheses are as follows: (1) through the use of cluster analysis, three or four self-esteem trajectories will be obtained that characterize differing levels of self-esteem and different patterns of self-esteem stability and change; (2) gender differences will be found in trajectory group membership in the direction of previous findings regarding gender differences in self-esteem; (3) the trajectory groups will differ over the three years of the study on social support, coping, stress, and academic grades, with high and increasing self-esteem patterns showing more positive outcomes.

Method

Participants

The sample for the present study was based on participation across the first three years of a six-year longitudinal study (Grade 8 to 10). The initial sample was obtained from six elementary schools from the suburban and outlying towns surrounding a mid-sized central Canadian city; students were followed in 16 high schools. Exclusion criteria included enrollment in a special education program (low reading comprehension levels) and recent immigration (language barrier impeding reading comprehension). Six hundred of the 616 students who

completed the survey in Grade 8 met inclusion criteria. Minor attrition occurred in the second and third years of the study (56 and 35 students, respectively). The final sample consisted of 509 students, 258 females and 251 males.

Parent data were obtained for 86.2% of the final sample. Parental occupations were coded using the Blishen Socioeconomic Index for Occupations (Blishen, Carroll, & Moore, 1987). The majority of fathers were employed in professional-level (45.1%) and technical-level (29.4%) occupations. For mothers, 27% were employed in clerical-level, 22.9% in technical-level, and 18.1% in professional-level occupations, with 14.6% of mothers identifying their occupation as homemaker.

Instruments

Self-esteem. The Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965) was used to measure self-esteem, and is composed of ten items rated on a four-point scale ("strongly disagree" to "strongly agree"). Five items are recoded so that higher scores represent higher self-esteem and a total score is obtained by summing the items. Evidence for the reliability and validity of the RSES has been reported (Bagley et al., 1997; Keith & Bracken, 1996; Rosenberg, 1965). In the three years of the current study, obtained Cronbach's alpha coefficients were consistent with prior research (α = .89, .89, .90, N = 509). The RSES showed good two- to three-week test-retest stability on a randomly selected subsample of students in the second year of the study (r = .82; n = 59).

Family and friend social support. Social support was measured with two

subscales of the subjective appraisal (APP) scale of the Survey of Children's Social Support (Dubow & Ullman, 1989). The APP consists of 31 items rated on a five-point scale ("never" to "always") with family and friend subscales composed of 11 and 10 items, respectively. Dubow and Ullman (1989) obtained internal consistency reliability estimates of .78 to .83 (specific subscales not identified). In the current study, obtained Cronbach's alpha coefficients were high for both the family (α = .92 to .93) and friend (α = .88 to .89) subscales. Two- to three-week test-retest correlations obtained in the second year of the current study were good (r = .86, .83 for family and friend support, respectively; n = 63).

Esteem-enhancing social support. Esteem-enhancing social support (support contributing to feeling better about oneself) was measured by one subscale of the Scale of Available Behaviors (SAB) from the Survey of Children's Social Support (Dubow & Ullman, 1989). The SAB has 38 items in total rated on a five-point scale ("never" to "always"), with 12 items forming the Emotional-Esteem Enhancing Support subscale. Dubow and Ullman (1989) report internal consistency Cronbach's alphas of .74 to .88 (specific subscales not identified). In the present study, obtained Cronbach's alpha coefficients for the esteem-enhancing support subscale across the three years were high (α = .91 to .92). The two- to three-week test-retest correlation obtained in the second year of the study for this subscale also was high (r = .94; n = 59).

Coping behavior. The Kidcope scale (Spirito, Stark, & Williams, 1988)

measured coping behavior. Respondents rate the frequency of use of 11 categories of coping on a four-point scale ("not at all" to "almost all the time"). Ten items were used to form scales of approach and avoidant coping (Spirito, Francis, Overholser, & Frank, 1996). The approach subscale represents coping strategies aimed at addressing problems (cognitive restructuring, problem-solving, calming oneself, and seeking social support), whereas the avoidant subscale represents attempts to avoid or deny problems (distraction, social withdrawal, self-criticism, blaming others, wishful thinking, and resignation). Scores were based on average frequency of use within the two categories. Two- to three-week test-retest correlations measured on a subsample of 59 students were acceptable for both approach (.77) and avoidant coping (.76). Evidence for the validity of the measure also has been reported (Spirito et al., 1988).

Daily hassles. Daily hassles were assessed by Baer, Garmezy, McLaughlin, Pokorny, and Wernick's (1987) 56-item adolescent version of Kanner, Coyne, Schaefer, and Lazarus' (1981) Hassles Scale, in which respondents endorse hassles occurring in the previous month. A total score was obtained by summing the number of hassles endorsed. A second adolescent version of the Hassles Scale has shown high internal consistency reliability with both junior and senior high school students (α = .95; Rowlison & Felner, 1988). In the current study, internal consistency reliability coefficients for the measure were also high (.88, .90, .91). In the second year of the current study, total number of hassles was correlated significantly (r = .70; n = 63) across a two- to

three-week period.

Academic grades. Report cards for each of the study participants were obtained at the end of each school year from participating schools. The measure of grades in the present study is based on an average percentage grade across academic courses taken each school year (Math, Science, Language Arts, and Social Sciences).

Procedure

Written consent was obtained from parents and verbal consent was obtained from students, who were informed that they could withdraw from the study at any time. Students completed questionnaires at the end of Grades 8, 9, and 10, and made the transition to high school in Grade 9. Questionnaires were administered in groups of approximately 10 to 20 students. Administration instructions were given both in writing with the questionnaire package and verbally prior to each administration session. Participants were treated in accordance with the ethical standards of the American and Canadian Psychological Associations.

Data Analytic Procedure

The analyses in the present study followed the format of Hirsch and DuBois (1991) and Zimmerman et al. (1997). All analyses were performed using SPSS 9 with the exception of post-hoc tests, which were done with Statistica 5. The first stage involved cluster analysis of the unstandardized self-esteem scores across three time points (Grades 8, 9, and 10). K-means cluster analysis was

chosen for two reasons: (1) subgroups of adolescents based on self-esteem trajectories are not expected to fall into a hierarchical pattern, and (2) this was the methodology employed in the original study (Hirsch & DuBois, 1991). Following the identification of self-esteem trajectories from the cluster analysis, a chi-square test was used to examine gender differences in trajectory group membership. The second stage involved two analyses. The first was 4 x 3 x 2 repeated measures MANOVA, with independent variables of trajectory group, year, and gender and dependent variables were social support from family and friends, esteem-enhancing social support, frequency of use of approach and avoidant coping, and daily hassles. The second was a 4 x 3 x 2 repeated measures ANOVA with the dependent variable of average grades. Analyses of variance were performed using the unique method of partitioning of variance.

Results

Attrition Analysis

Differences between attrited subjects ($n = 91$) and those with valid data for three years ($n = 509$) on Grade 8 self-esteem, family and friend social support, esteem-enhancing support, approach and avoidant coping, hassles, and average grades were tested with a one-way MANOVA. A significant multivariate effect was found using Wilks' criterion, $F(8,591) = 2.97$, $p < .01$. At the univariate level, the only significant variable was average grades, with retained subjects obtaining higher average grades in Grade 8, $F(1,598) = 8.88$, $p < .01$ (76.2% vs. 73.1%). Results should be interpreted with this difference in mind.

Cluster Analysis

Table 1 lists intercorrelations, means, and standard deviations of the self-esteem scores from Grades 8 to 10. Self-esteem scores were screened for outliers and 14 cases were removed, leaving a sample of 495 (247 females and 248 males). Although pairwise correlations were significant (r's from .56 to .68), the proportion of shared variance was less than 50%. For Grades 8, 9, and 10, males (31.9, 33.1, 33.4) reported significantly higher self-esteem than females (30.5, 31.4, 31.5), however, the two groups did not show heterogeneity of variance. This result was consistent with previous research (Kling et al., 1999). As a result, the data were pooled across gender for subsequent analyses.

The k-means clustering algorithm requires a priori selection of the number of clusters prior to analysis. Given the variability of results in previous studies (e.g., three versus four trajectory groups), three-, four-, and five-cluster solutions were examined. All three solutions accounted for a similar proportion of variance. Each solution was examined in terms of the obtained self-esteem patterns and the number of cases in each group. The four cluster solution was more interpretable and yielded results similar to those of previous studies (e.g., Hirsch & DuBois, 1991; Zimmerman et al., 1997)[1].

[1]The three-cluster solution yielded Consistently High and Consistently Low self-esteem patterns as well as a third, much larger group that was stable with mean scores at the approximate scale midpoint. The five-cluster solution yielded the same four patterns as in the four-cluster solution along with a second Increasing self-esteem group with slightly lower mean scores than the first increasing pattern. Thus, the four-cluster solution was retained.

Table 1

Intercorrelations of self-esteem scores, total sample means and standard deviations for Grades 8 to 10

	Grade 8	Grade 9	Grade 10	Mean	SD
Grade 8	--			31.19	5.20
Grade 9	.63	--		32.24	5.23
Grade 10	.56	.68	--	32.45	5.17

Note. N = 495. All correlations significant at the .01 level. Proportion of shared variance (r^2) ranges from .31 to .46.

Split-half four-cluster solutions were examined as an additional means of testing the consistency of the obtained cluster solution. Group membership was unchanged for 77.4% of the sample between the split-half and total-group analyses, a result similar to the split-half analysis by Zimmerman et al. (1997) which found group membership unchanged for 81% of the sample. In the current split-half analysis, greater instability was noted for students in the two trajectory groups characterized by change (decrease and increase). Four-cluster solutions also were obtained separately by gender with group membership unchanged for 68.9% of the sample (see Appendix J). In both cases, the four trajectory patterns were found to be similar to those obtained for the overall group analysis. Visual inspection of the obtained results indicated that the Consistently High and Consistently Low groups did not differ substantially across gender, whereas there was greater variability in the pattern shown for the two groups characterized by changing self-esteem patterns, much like the results of the split-half analyses. Nonetheless, it was deemed that the patterns were sufficiently consistent to retain the results of the overall group analysis.

The four self-esteem trajectories are depicted in Figure 1 with means and standard deviations listed in Table 2. Analyses are on a sample of 469 after removal of 26 outliers identified for the analyses of variance. The Consistently High ($\underline{n}$ = 147; 31.3%) and Increasing ($\underline{n}$ = 160, 34.1%) groups showed increasing self-esteem over time. The Decreasing group ($\underline{n}$ = 99, 21.1%) showed declining self-esteem and the Consistently Low group ($\underline{n}$ = 63, 13.4%) showed

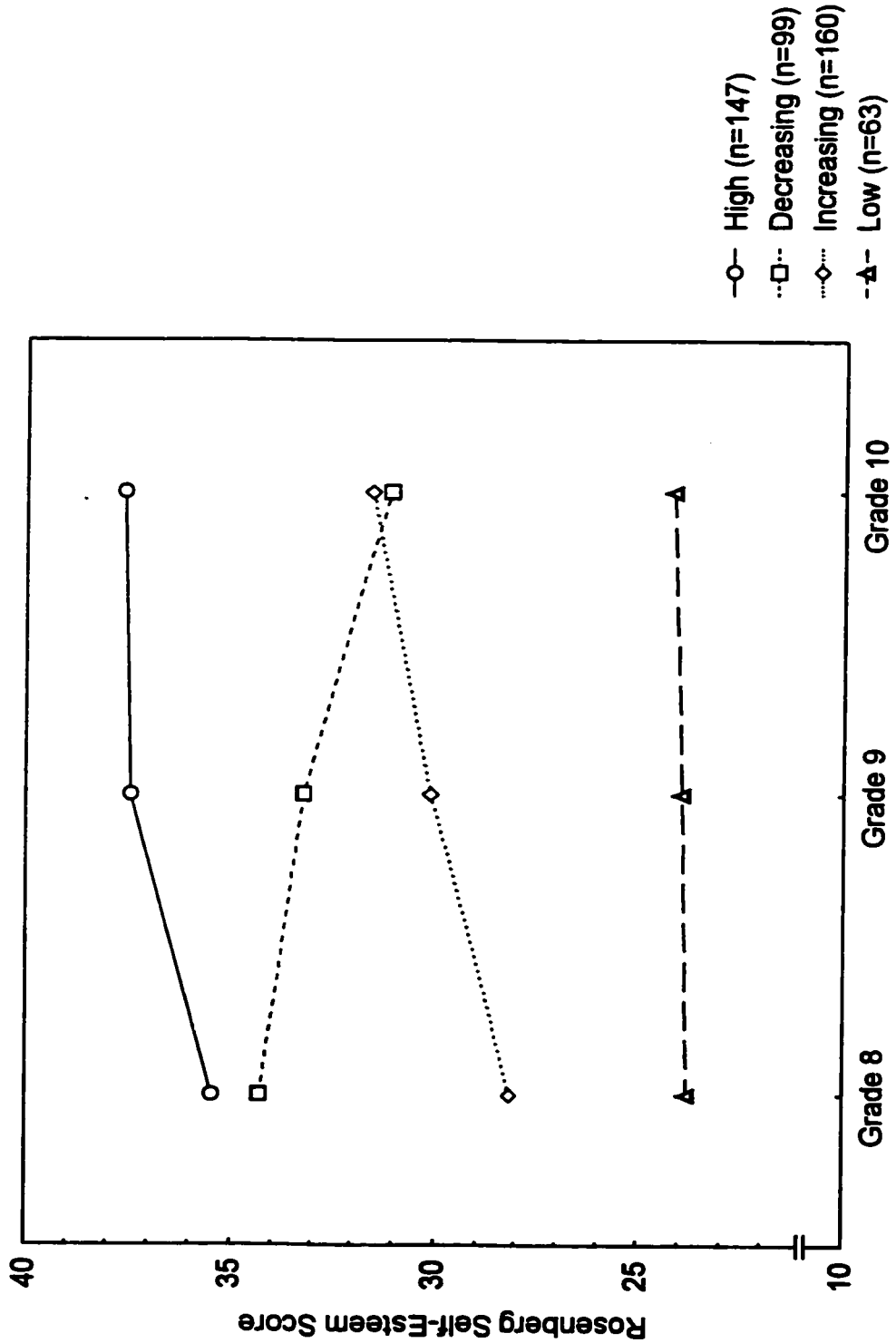

Figure 1. Self-esteem trajectories from cluster analysis (N = 469).

Table 2

Means and standard deviations of Rosenberg Self-Esteem Scale scores for self-esteem trajectory groups used in the analyses of variance

	n	Grade 8	Grade 9	Grade 10
Consistently high self-esteem	147	35.42 (3.45)	37.42 (2.20)	37.70 (1.90)
Decreasing self-esteem	99	34.29 (2.57)	33.21 (3.40)	31.07 (3.39)
Increasing self-esteem	160	8.15 2.71)	30.11 (2.94)	31.53 (3.16)
Consistently low self-esteem	63	3.70 (3.45)	23.95 (3.08)	4.19 (3.35)

Note. Standard deviations appear in parentheses below the mean.

virtually no self-esteem change. Females and males were not distributed equally across the four trajectories, $\chi^2(3) = 14.39$, $p < .01$. Fewer females (40.1%) and more males (59.9%) than expected were in the Consistently High group, whereas more females (68.3%) and fewer males (31.7%) than expected were in the Consistently Low group. Gender was therefore included as a factor in subsequent analyses.

A repeated measures ANOVA with self-esteem as a dependent variable indicated that the four trajectories differed in their patterns of self-esteem change over time, $F(6,974) = 28.57$, $p < .001$[2]. The trajectories accounted for approximately two-thirds of the variance in self-esteem within each of the three years ($\eta^2 = .64$, .68, and .66, respectively). Post-hoc tests for trajectory differences in reported self-esteem from Grades 8 to 10 were conducted. At each measurement point, all between group differences were significant with two notable exceptions: The Consistently High and Decreasing groups reported similar levels of self-esteem in Grade 8, and the Decreasing and Increasing groups were indistinguishable on reported self-esteem by Grade 10.

Repeated-Measures MANOVA on Psychosocial Variables[3]

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[2]As noted by previous researchers (Hirsch & DuBois, 1991), the F distribution is not entirely appropriate as the cluster analysis algorithm assigns subjects to groups on the basis of minimizing within-cluster variance and maximizing between-cluster variance. The F ratios provided here are intended simply to provide an index of the ability of the trajectory groups to discriminate on the basis of different levels of self-esteem.

[3]As a supplementary test of the analyses of variance, the same analyses were conducted controlling for Grade 8 self-esteem by entering it as a covariate. As the same effects emerged in

A 4 x 3 x 2 repeated-measures MANOVA was used to test for trajectory, year, and gender differences on dependent variables of family and friend social support, esteem-enhancing social support, approach and avoidant coping, and daily hassles on the sample of 469 (235 females and 234 males). Using Wilks' criterion, multivariate effects were obtained for the trajectory by year interaction, $F(36,4029.59) = 2.80$, $p < .001$, the gender by year interaction, $F(12,1834) = 2.24$, $p < .01$, and the main effects of self-esteem trajectory, $F(18,1290.25) = 12.98$, $p < .001$, gender, $F(6,456) = 29.78$, $p < .001$, and year $F(12,1834) = 4.49$, $p < .001$. Only significant effects are reported. Univariate effects are summarized by each variable, with means and standard deviations by trajectory and year listed in Table 3. Post-hoc effects were examined using Tukey's HSD test for unequal samples. For these, a Bonferroni correction was employed (.05/6 variables).

Social support from family. A self-esteem trajectory by year interaction emerged, $F(6,922) = 5.42$, corrected $p < .01$, $\eta^2 = .03$ and is illustrated in Figure 2. The Increasing self-esteem group showed a linear increase in family support, $F(1,465) = 9.74$, corrected $p < .05$, $\eta^2 = .02$, and the Consistently Low group showed a quadratic trend, $F(1,465) = 11.42$, corrected $p < .05$, $\eta^2 = .02$, decreasing slightly in Grade 9 and then increasing again to Grade 10. Post-hoc tests indicated that family support was highest for the Consistently High self-esteem group and lowest for the Consistently Low group at all three time points.

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both analyses, the original analyses of variance without covariates are presented.

Table 3

Means and standard deviations for significant dependent variables by self-esteem trajectory by year

	Self-Esteem Trajectory Group											
	Consistently High (n = 147)			Decreasing (n = 99)			Increasing (n = 160)			Consistently Low (n = 63)		
	Grade			Grade			Grade			Grade		
	8	9	10	8	9	10	8	9	10	8	9	10
Perceived family support	4.28 (0.51)	4.38 (0.47)	4.38 (0.48)	4.05 (0.65)	4.05 (0.69)	3.90 (0.73)	3.81 (0.64)	3.92 (0.58)	3.96 (0.61)	3.60 (0.72)	3.38 (0.73)	3.56 (0.67)
Perceived friend support	4.13 (0.49)	4.29 (0.44)	4.35 (0.41)	3.92 (0.62)	4.01 (0.55)	3.93 (0.55)	3.76 (0.58)	3.89 (0.56)	3.99 (0.48)	3.80 (0.59)	3.68 (0.66)	3.83 (0.64)
Perceived esteem-enhancing support	3.89 (0.59)	4.04 (0.50)	4.03 (0.46)	3.71 (0.64)	3.71 (0.60)	3.67 (0.61)	3.37 (0.70)	3.57 (0.56)	3.67 (0.55)	3.37 (0.63)	3.45 (0.61)	3.51 (0.57)
Frequency of avoidant coping	1.07 (0.49)	0.92 (0.46)	0.83 (0.45)	0.98 (0.46)	0.99 (0.46)	0.99 (0.47)	1.23 (0.56)	1.09 (0.48)	1.13 (0.53)	1.26 (0.50)	1.30 (0.52)	1.35 (0.50)
Total hassles	11.90 (6.59)	9.93 (6.21)	10.48 (5.95)	12.28 (7.12)	13.52 (8.89)	15.31 (9.25)	15.91 (8.26)	14.21 (7.80)	15.52 (8.31)	17.81 (7.75)	17.84 (8.58)	18.13 (8.48)

Note. Standard deviations appear in parentheses below the mean.

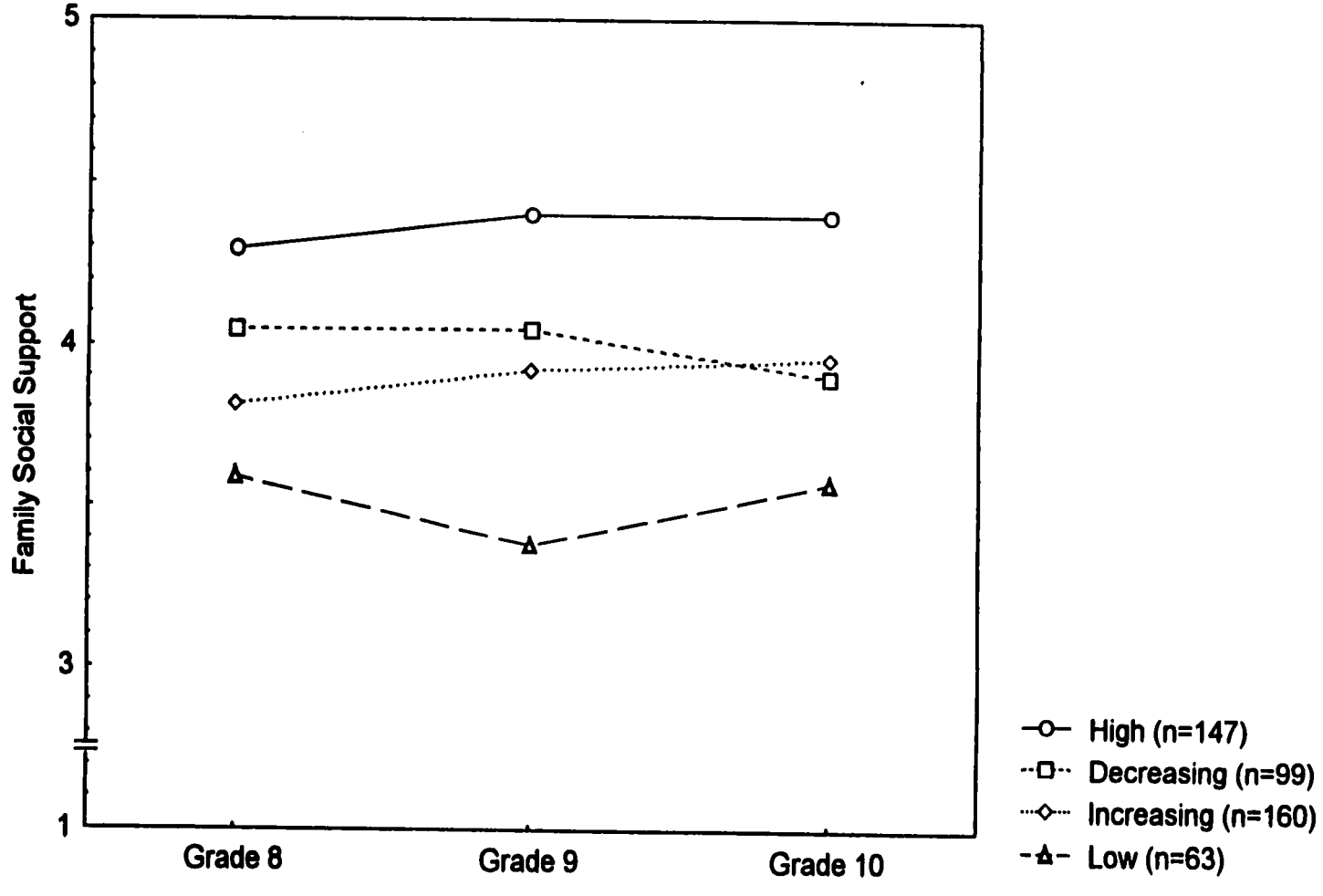

Figure 2. Perceived social support from family by self-esteem trajectory by year.

The Decreasing group reported higher family support than the Increasing group in Grade 8, but not in Grades 9 or 10.

Social support from friends. A self-esteem trajectory by year interaction was obtained, $F(6,922) = 4.16$, corrected $p < .01$, $\eta^2 = .03$, and is depicted in Figure 3. Linear increases in friend support were found for the Consistently High, $F(1,465) = 18.41$, corrected $p < .01$, $\eta^2 = .04$, and Increasing groups, $F(1,465) = 23.66$, corrected $p < .01$, $\eta^2 = .05$. Post-hoc tests revealed that the Consistently High group reported higher friend support than all other groups at all three time points. A main effect of gender was obtained, $F(1,461) = 84.16$, corrected $p < .01$, $\eta^2 = .15$, with females (4.13) reporting higher friend social support than males (3.86).

Esteem-enhancing social support. Two-way interactions were obtained for self-esteem trajectory by year, $F(6,922) = 4.46$, corrected $p < .01$, $\eta^2 = .03$, and gender by year, $F(2,922) = 5.36$, corrected $p < .05$, $\eta^2 = .01$. The trajectory by year interaction is illustrated in Figure 4. The Consistently High, $F(1,465) = 8.83$, corrected $p < .05$, $\eta^2 = .02$, and Increasing groups, $F(1,465) = 45.43$, corrected $p < .01$, $\eta^2 = .09$, showed linear increases in esteem-enhancing support. In post-hoc tests, the Consistently High group reported significantly higher esteem-enhancing support than all other groups at all time points. As with family support, the Decreasing group reported greater esteem-enhancing support than the Increasing group in Grade 8, but not in Grades 9 or 10. Males showed a linear increase in

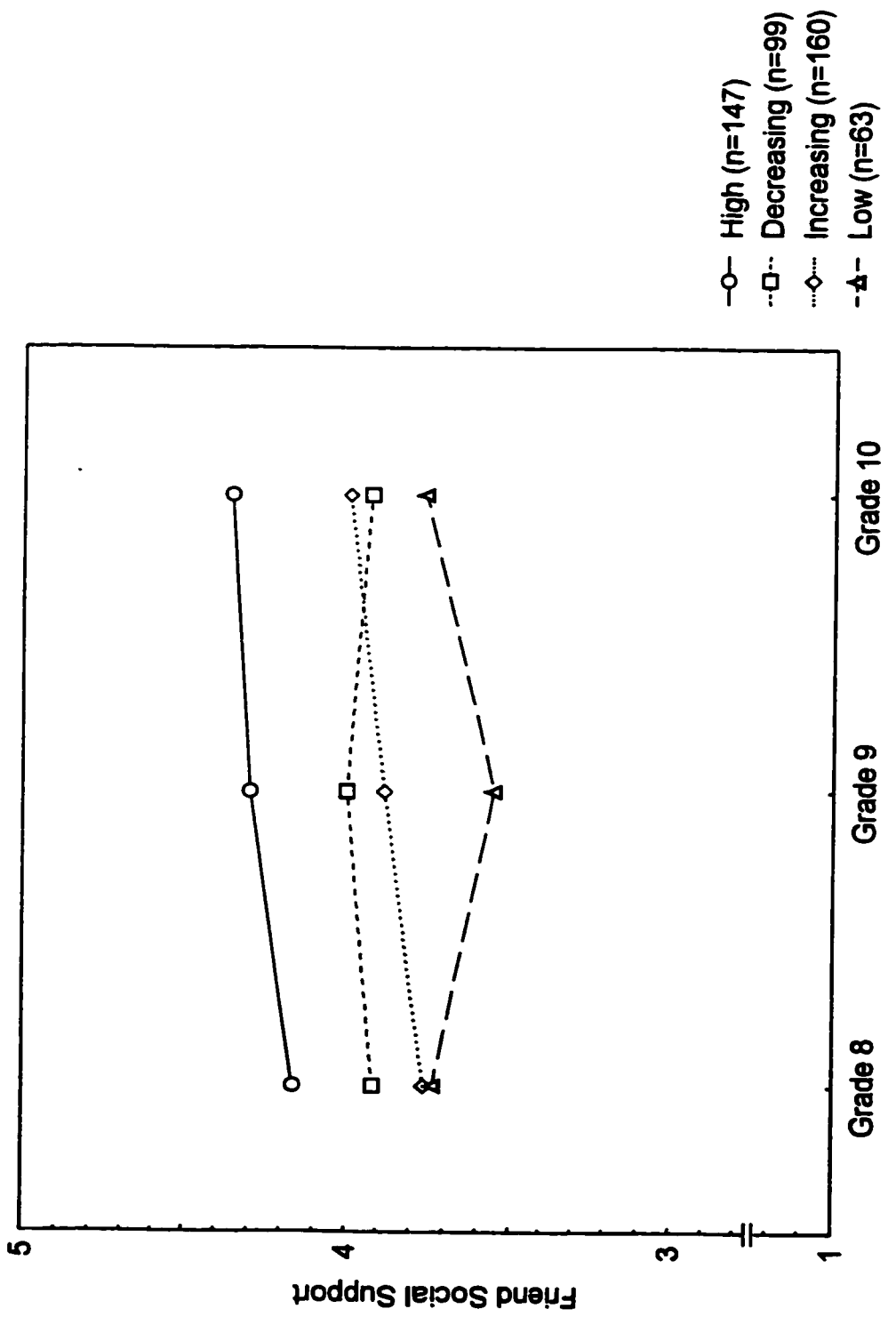

Figure 3. Perceived social support from friends by self-esteem trajectory by year.

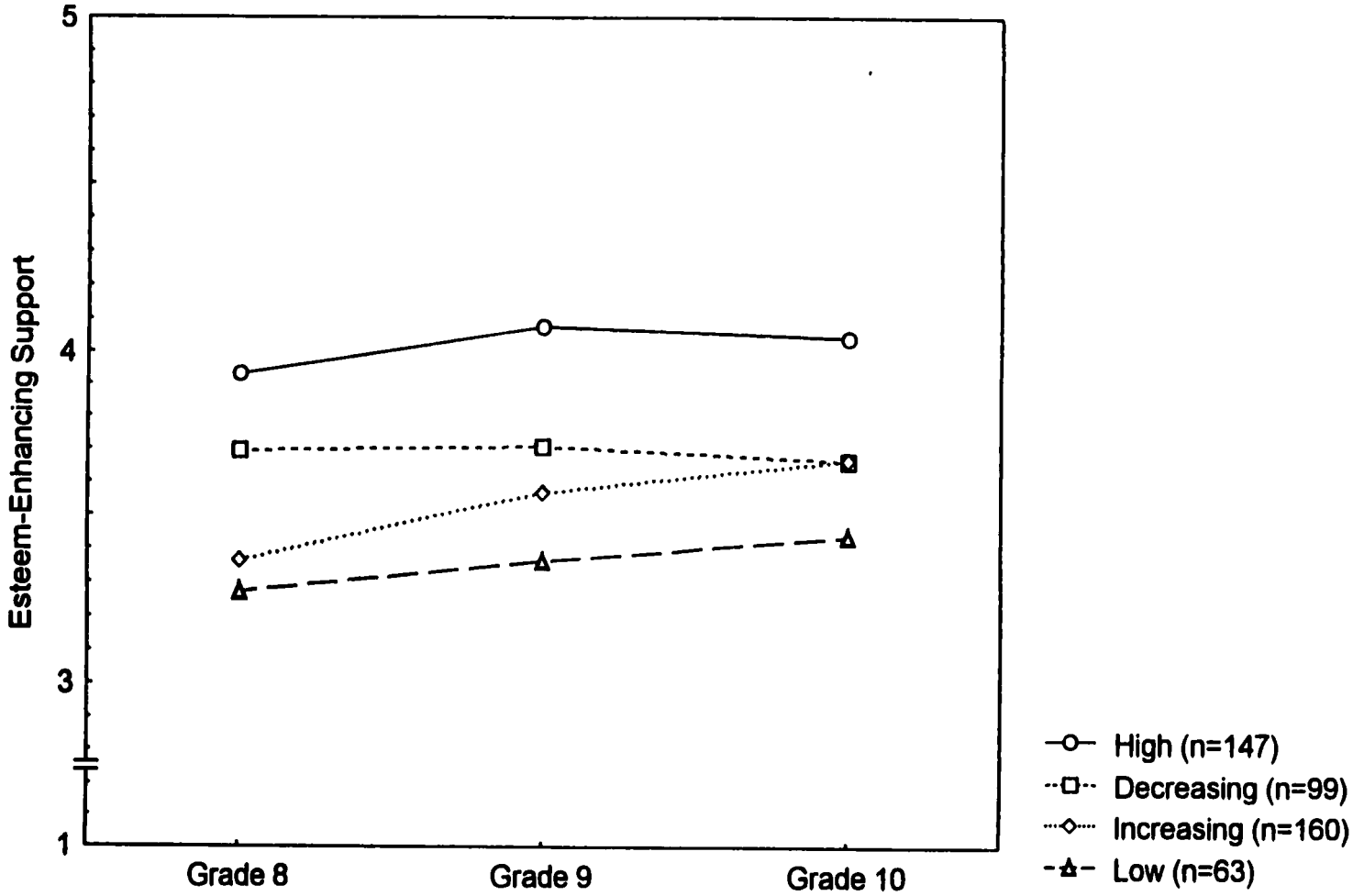

Figure 4. Perceived esteem-enhancing social support by self-esteem trajectory by year.

esteem-enhancing support, $F(1,467) = 44.58$, corrected $p < .01$, $\eta^2 = .09$. Post-hoc tests indicated that females reported higher esteem-enhancing support at all three time points.

Average frequency of approach coping. Main effects were found for self-esteem trajectory, $F(3,461) = 17.01$, corrected $p < .01$, $\eta^2 = .04$, and gender, $F(1,461) = 72.74$, corrected $p < .01$, $\eta^2 = .14$. In post-hoc tests, the Consistently High group (1.28) did not differ from the Decreasing group (1.23), but showed greater frequency of approach coping than both the Increasing (1.15) and Consistently Low (1.08) groups. Females reported a higher frequency of approach coping than males (1.39 vs. 1.00).

Average frequency of avoidant coping. Figure 5 illustrates the self-esteem trajectory by year interaction, $F(6,922) = 3.06$, corrected $p < .05$, $\eta^2 = .02$. The Consistently High group showed a linear decrease in avoidant coping, $F(1,465) = 24.70$, corrected $p < .01$, $\eta^2 = .05$. Post-hoc tests indicated that students in the Consistently High group reported less avoidant coping than the Increasing and Consistently Low groups in Grades 9 and 10. The Decreasing group reported less avoidant coping than the Increasing group in Grade 8, but not in Grades 9 or 10.

Daily hassles. The self-esteem trajectory by year interaction, $F(6,922) = 4.27$, corrected $p < .01$, $\eta^2 = .03$, is depicted in Figure 6. The Decreasing group reported a significant linear increase in hassles, $F(1,465) = 13.42$, corrected $p < .01$, $\eta^2 = .03$. Post-hoc tests indicated that the Decreasing group reported more

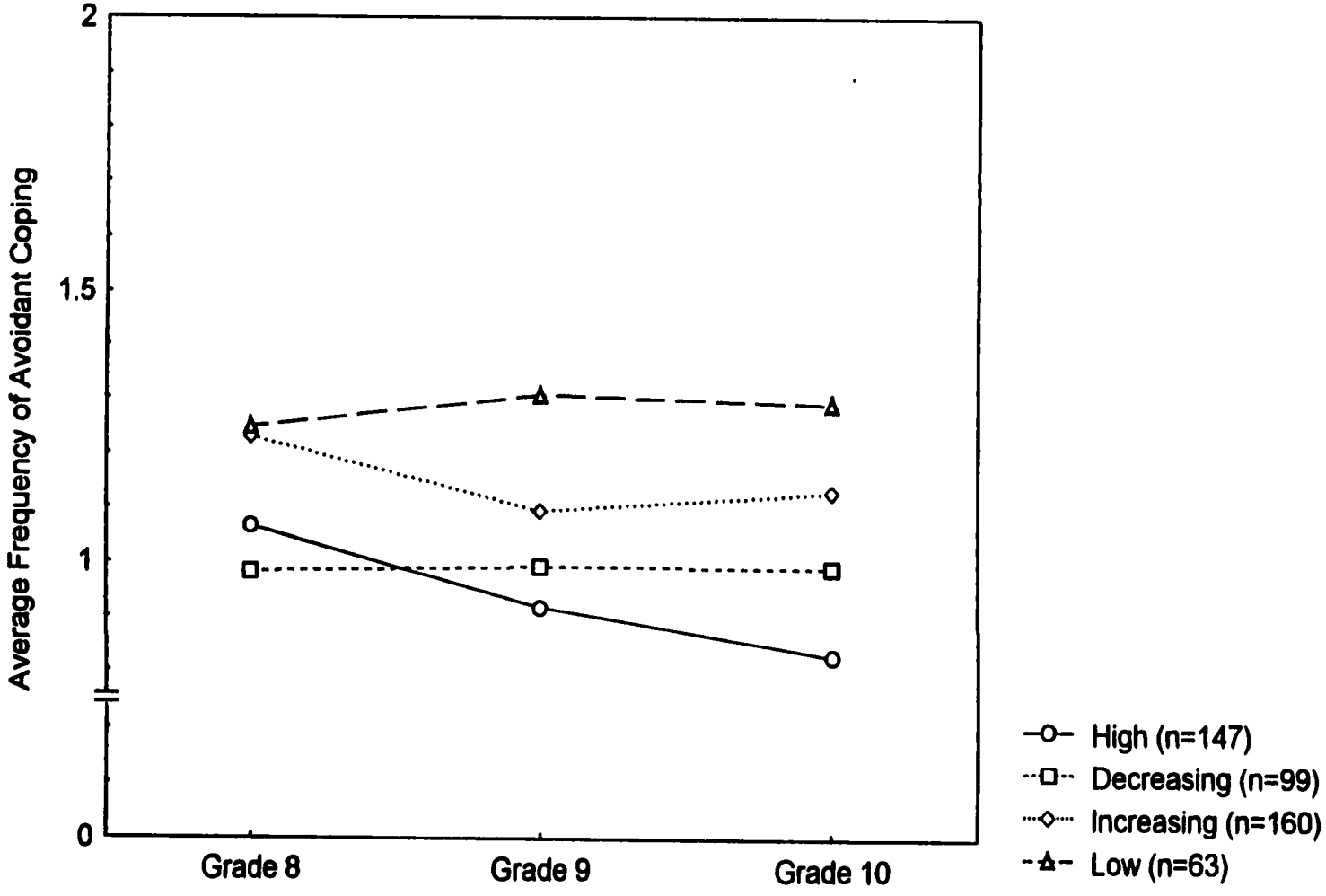

Figure 5. Average frequency of avoidant coping by self-esteem trajectory by year.

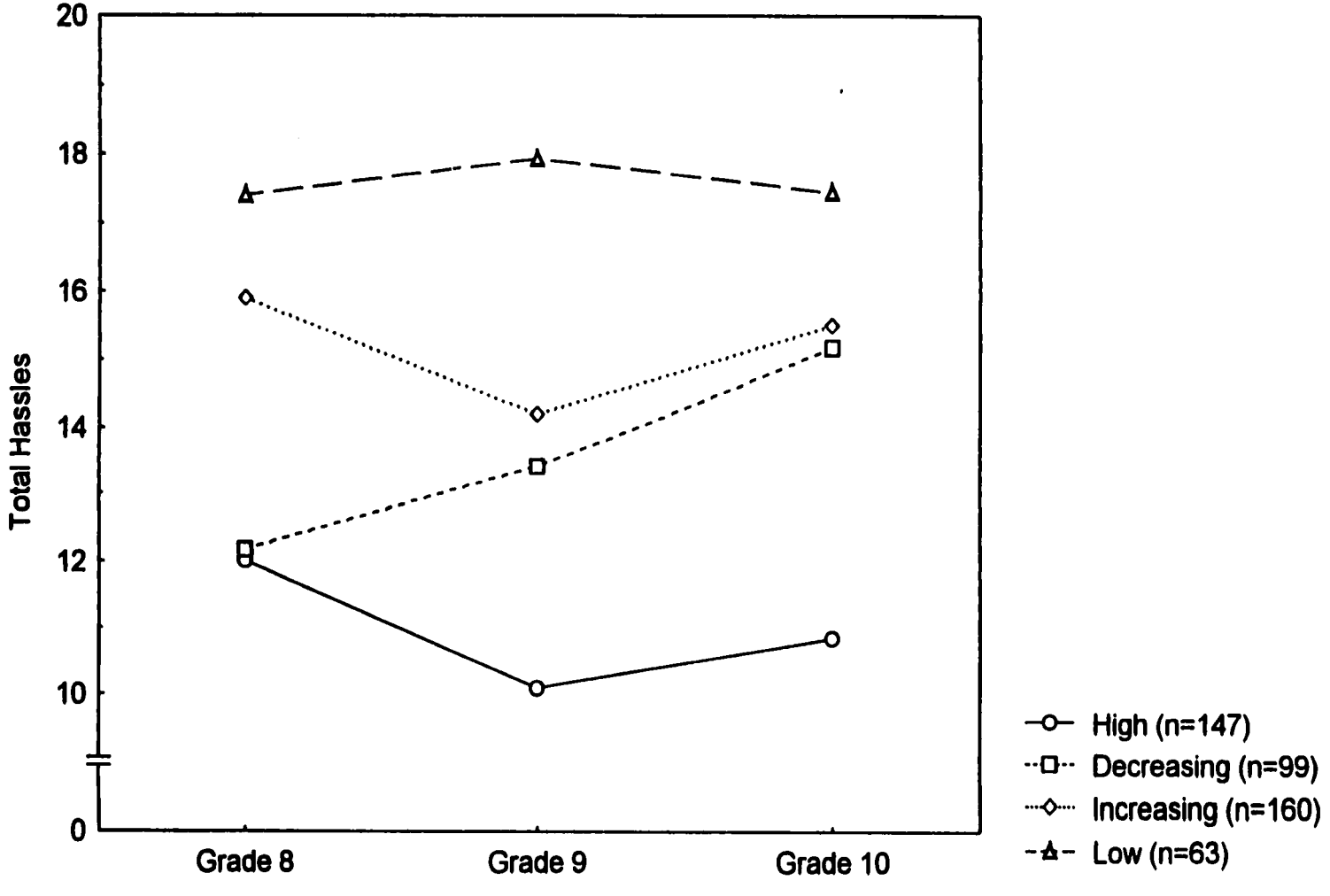

Figure 6. Reported total daily hassles by self-esteem trajectory by year.

daily hassles than the Consistently High group in Grades 9 and 10, but not in Grade 8. The Decreasing group also reported fewer daily hassles than both the Increasing and Consistently Low groups in Grade 8, but by Grade 10 there were no differences among the three groups. There was a main effect of gender, $F(1,461) = 17.70$, corrected $p < .01$, $\eta^2 = .04$, with females reporting more daily hassles than males (15.53 vs. 12.20).

Repeated-Measures ANOVA on Academic Grades

Using the Greenhouse-Geisser correction (epsilon = 0.94), a gender by year interaction was obtained, $F(2,922) = 3.34$, $p < .05$, $\eta^2 = .009$, however, given the small effect size this effect was determined to be of minimal practical significance and interpretation focused on the main effects. Main effects of self-esteem trajectory, $F(3,461) = 5.81$, $p < .01$, $\eta^2 = .04$, gender, $F(1,461) = 28.88$, $p < .001$, $\eta^2 = .06$, and year, $F(2,922) = 82.30$, $p < .001$, $\eta^2 = .15$, were obtained. Post-hoc tests indicated that the Consistently High group (75.85) had higher average grades than the Increasing and Consistently Low groups (73.11, 71.87, respectively), but not the Decreasing group (74.26). Females obtained higher average grades than males (76.09 vs. 71.95). Analysis of the year main effect revealed both significant linear, $F(1,461) = 120.29$, $p < .001$, $\eta^2 = .21$, and quadratic trends, $F(1,461) = 21.99$, $p < .001$, $\eta^2 = .05$. Average grades declined overall from Grade 8 (76.59) to Grade 9 (73.25) to Grade 10 (72.23), with post-hoc tests indicating significant differences between all three means.

Discussion

The current study generally replicated the four trajectories found in the earlier trajectory studies, although the Decreasing group in the current study showed a more gradual decrease in self-esteem (approximately one standard deviation overall) than both the "steep decline" (Hirsch & DuBois, 1991) and "steadily decreasing" groups (Zimmerman et al., 1997) found in previous research. However, in both of these studies, students made an early transition from elementary to junior high school in Grade 7. Self-esteem is believed to be particularly vulnerable in early adolescent school transitions (Blyth, Simmons, & Carlton-Ford, 1983; Simmons et al., 1987). In our study, students were followed from Grade 8 and made the transition to high school in Grade 9, and it is possible that the more moderate pattern of sel

esteem in comparison with year-to-year stability, and the four trajectories that were obtained in the current study were distinguished from each other on both levels of self-esteem as well as patterns of relative stability versus change. The Decreasing group was indistinguishable from the Consistently High group in Grade 8 but their self-esteem had decreased by Grade 10, whereas the Increasing group reported lower self-esteem than the Decreasing group in Grade 8 but was indistinguishable from this group by Grade 10. At an overall level, mean self-esteem scores for the entire sample showed a slight increase over time, which is consistent with previous research (e.g., Mullis et al., 1992; O'Malley & Bachman, 1983), although the overall pattern hides substantial variations in temporal patterns of self-esteem over time.

Compas, Hinden, and Gerhardt (1995) hypothesized several theoretical pathways for adolescent development. The trajectories obtained in the current study are consistent with the first four patterns of (1) stable adaptive functioning, (2) stable maladaptive functioning, (3) adolescent turnaround or recovery, and (4) adolescent decline. Although a fifth hypothetical pattern of development (temporary deviation of maladaptation) was proposed by Compas and colleagues, none of the trajectory studies to date have obtained a self-esteem trajectory that is suggestive of such a pattern. It is possible that this fifth pattern represents a more specific deviation that may not emerge when global self-esteem is measured. The timing of assessment of self-esteem also may have played a role. In all the trajectory studies of self-esteem, the shortest interval between self-esteem

assessments was approximately six months (Hirsch & DuBois, 1991), and it is possible that more frequent assessments may be required to capture a pattern of temporary deviation in self-esteem.

Gender and Self-Esteem Trajectories

Gender differences in the self-esteem trajectory groups were in the direction of group membership in the Consistently High group favoring males and group membership in the Consistently Low group favoring females. These results are consistent with previous research showing higher self-esteem for males (Block & Robins, 1993; Bolognini et al., 1996; Chubb et al., 1997). In a previous trajectory study (Zimmerman et al., 1997), more males were found in the "moderate and rising" group and more females were found in the "steadily decreasing" group. Students in the current study made a single transition between Grades 8 and 9, whereas students in the Zimmerman et al. (1997) trajectory study had a double transition (Grades 6-7 and Grades 9-10). Unlike boys, adolescent girls have been found to be more vulnerable to self-esteem disruption in double transitions (Simmons & Blyth, 1987), which may explain why gender differences did not emerge in the Increasing and Decreasing groups. In both studies, however, gender differences were in the direction of boys showing greater self-esteem. Significant interactions involving gender did not emerge in the analyses of variance, indicating that the different patterns of change over time in the dependent variables shown by the different self-esteem trajectories were independent of gender. Thus, the relation between the self-esteem trajectories and

the aspects of psychosocial adjustment in the current study did not vary by gender, despite gender differences in trajectory group membership.

Validity of the Self-Esteem Trajectories

As noted previously, evidence for the validity of cluster solutions can be obtained by comparing the clusters on variables not used to generate the solution (Aldenderfer & Blashfield, 1984). Significance tests were performed on variables known or hypothesized to be correlates of self-esteem: social support (Deihl et al., 1997; Hirsch & DuBois, 1991; Short et al., 1996), coping (Glyshaw et al., 1989; Herman-Stahl & Petersen, 1996), stress (Harper & Marshall, 1991; Short et al., 1996), and academic achievement (Rosenberg et al., 1989).

The self-esteem trajectories showed different temporal patterns in most of the variables with the exception of approach coping and average grades. Where changes emerged, they generally mirrored the self-esteem patterns of the trajectories: the high self-esteem group showed the most positive outcomes, the low self-esteem group showed the most negative outcomes, and the changing (decreasing and increasing) self-esteem groups fell in the middle with several variables mirroring the relative patterns of self-esteem change. These results provide additional evidence that the self-esteem trajectories represent different patterns of adolescent development and are consistent with the previous trajectory studies in which the trajectory groups differed from each other at the initial (Hirsch & DuBois, 1991) and final assessment points (Deihl et al., 1997), and also showed differential patterns of change over time on peer influence and

problem behavior (Zimmerman et al., 1997).

Results generally confirmed the hypothesis that trajectory groups would show differential patterns of stability and change over time in the study variables. Variables associated with low or decreasing patterns of self-esteem are considered to be risk factors, although these are not necessarily causally related to negative self-esteem outcomes (Compas et al., 1995). Attributes of high or increasing self-esteem patterns indicate possible protective factors. Such factors are of particular interest if they (a) differentiate between positive and negative patterns of adjustment, (b) are predictive of such patterns of adjustment, and (c) are amenable to intervention. For instance, in the present study, social support differentiated between all of the self-esteem trajectories in Grade 8 and showed differential patterns over time for the trajectory groups. In particular, the Consistently High group reported greater social support than the Decreasing group even at the time point (Grade 8) where these groups were indistinguishable on reported self-esteem. If perceived support is found to be predictive of these different trajectory patterns, this factor may have implications for intervention, as interventions can be targeted at improving interpersonal relationships and thus possibly raising self-esteem or preventing further self-esteem disruption.

Self-esteem trajectory groups did not show a differential pattern of change over time for academic grades, unlike in previous research (Zimmerman et al., 1997). In the present study, academic grades were measured by average grades across core academic subjects as obtained from students' report cards, whereas in

the Zimmerman et al. (1997) study, grades were based on self-report on a nine-point scale. This raises two methodological possibilities: (1) possible shared method variance or reporting bias as a result of both self-esteem and grades measured by self-report, or (2) a restricted range imposed by a nine-category scale. In both studies, however, grades showed a decline over the period of the study.

Characteristics of the Self-Esteem Trajectories

The Consistently High self-esteem group showed the most positive pattern of adjustment, not only in terms of self-esteem, but also with respect to the other outcomes considered in the current study. Students in this group reported the highest levels of social support from family members and friends, as well as the highest levels of esteem-enhancing social support. In Grade 8, although the Consistently High group was indistinguishable from the Decreasing group in terms of reported self-esteem, students in this trajectory reported higher family, friend, and esteem-enhancing social support in comparison with those students in the Decreasing trajectory. The Consistently High group also reported increasing levels of both friend and esteem-enhancing support between Grades 8 and 10. On the outcomes of use of avoidant coping and reported hassles for which differences emerged, students in the Consistently High group reported lower scores than the other self-esteem trajectory groups, and showed a decreasing reliance on avoidant coping between Grades 8 and 10. The positive adjustment associated with this group is consistent with previous trajectory studies in which students with a

consistently high pattern of self-esteem were found to have the highest grades, the greatest satisfaction with school, highest levels of peer support, lowest psychological symptoms, and lowest levels of alcohol use and misuse as well as low tolerance for deviance (Hirsch & DuBois, 1991; Zimmerman et al., 1997). In the original trajectory study, this group was described as presenting "a picture of considerable competence and well-being" (Hirsch & DuBois, 1991, p. 67).

Although students in the Decreasing self-esteem group reported similar levels of self-esteem in Grade 8 to those in the Consistently High group, several differences were found between these two groups across the three years of the study. In Grade 8, this group reported less social support from both family members and friends, as well as lower levels of esteem-enhancing support in comparison with the Consistently High group. These results at the Grade 8 level stand in contrast to those of the original trajectory study (Hirsch & DuBois, 1991), in which there were no differences between the "consistently high" and "steep decline" groups on a measure of peer support at their initial measurement point in Grade 6. It is possible that the difference in results may have been a result of different ages of measurement between the two studies (Grade 8 versus Grade 6). Adolescence involves shifts in interpersonal relationships with both peers and parents, with changes in the relative use of different sources of support for new developmental challenges (Boldero & Fallon, 1995; Steinberg, 1999). The importance of social support from both family members and friends is consistent with Harter's (1999) general model of risk factors for low self-esteem

and depression in which support from parents and peers is considered separately.

In the present study, at the Grade 8 level, students in the Decreasing self-esteem group were indistinguishable from those in the Consistently High group in terms of reported daily hassles but they reported an increasing number of hassles over the three years of the study. In other trajectory studies, the Decreasing group also showed increased vulnerability in terms of psychological symptoms (Hirsch & DuBois, 1991), as well as showing the greatest increase in susceptibility to peer pressure (Zimmerman et al., 1997).

The differences that emerged between the Decreasing and Consistently High self-esteem groups in the first year (Grade 8) of the current study are of particular interest as they can be interpreted to suggest that social support may be a marker of risk for those students whose self-esteem declines across the transition into high school. Although similar in reported self-esteem, the Decreasing group is reporting less support from friends, as well as family members, at a point in time prior to showing a decline in self-esteem. This finding speaks to the role of interpersonal relationships in the development of feelings about the self, which is consistent with the developmental process suggested by Harter (1999), which incorporates symbolic interactionist concepts (such as Cooley's "Looking Glass Self"). Thus, a discrepancy between perceived social support and reported self-esteem may be a marker of risk for declining self-esteem and warrants further study as a factor that may be predictive of self-esteem decline in adolescence.

The Increasing self-esteem trajectory group reported an initial level of self-esteem that was between that of the Decreasing and Consistently Low self-esteem groups. The level of self-esteem reported by this group increased over time and by Grade 10 was indistinguishable from the level of self-esteem reported by the Decreasing group, which had decreased in self-esteem from Grades 8 to 10. The Increasing group reported increases on all three measures of social support over the three years of the study. Although this group reported lower levels of both family support and esteem-enhancing support than the Decreasing group in Grade 8, the two groups were indistinguishable by Grade 9 and remained so in Grade 10. A similar pattern of results between these two groups also was found for avoidant coping, as well as for reported hassles. Thus, the Increasing group showed relative gains across the years of the study in comparison with the Decreasing group in terms of self-esteem and social support, as well avoidant coping and reported hassles, and the groups are indistinguishable by Grade 10. Similar to other trajectory studies, students in this group began with a baseline level of self-esteem that, although lower than students in the Consistently High and Decreasing groups, was substantially higher than that reported by the Consistently Low group. Some researchers have suggested that these students may possess sufficient psychosocial resources to negotiate the stress associated with school transitions (Deihl et al., 1997).

Students in the Consistently Low self-esteem trajectory are of major concern. This group reported the lowest self-esteem at all years of the study and

the level of self-esteem did not show change. The average level of self-esteem reported by this group at all three time points was slightly below the midpoint of the scale, suggesting a trend towards self-evaluations that are more negative than positive. Where differences emerged between the Consistently Low group and the other trajectory groups on measures of social support, these differences were consistently in the direction of this group reporting the least social support. A similar pattern was found for both avoidant coping and reported hassles, where the Consistently Low group, when different from the other trajectory groups, reported the greatest use of avoidant coping and greatest number of daily hassles. The consistent findings of more negative outcomes by the Consistently Low group and the lack of change in the study variables shown over the three years by this group indicate that this problematic pattern of adjustment predates the period of time examined in the current study (Grades 8 to 10). It is possible that a pattern of negative self-esteem is established earlier in adolescence. In fact, results of prior trajectory studies found this pattern of Consistently Low self-esteem in studies beginning as early as Grade 6 (Hirsch & DuBois, 1991; Zimmerman et al., 1997). Although in the current study, this group showed relative stability in psychosocial adjustment on the study variables considered (although their adjustment was lower than the other three groups), results of the earlier trajectory studies have raised additional concerns with respect to psychological problems, with students reporting consistently low self-esteem also reporting increased levels of depressive symptomatology over time (Grades 6 to 8; Hirsch & DuBois,

1991).

Gender and the Psychosocial Variables

Where gender differences emerged in the current study, they were consistent with the research literature. Girls reported greater social support from friends than boys, which is consistent with results of previous studies (e.g., Barone, Aguirre-Deandreis, & Trickett, 1991; Windle, 1992). Although girls reported greater esteem-enhancing support than boys across all three years of the study, this type of support was stable for girls whereas it showed an increase for boys between Grades 8 and 10. In early adolescence, boys have been found to spend a greater proportion of their time alone in comparison with girls, who spend a greater proportion of time with friends (Larson & Richards, 1991). This pattern for girls may remain stable into middle adolescence, whereas the pattern for boys may reflect increased time spent with others. Our results are consistent with previous research in which female adolescents are found to report greater social (e.g., Schonert-Reichl & Muller, 1996; Windle, 1992) and emotional support (Slavin & Rainer, 1990). Male adolescents have also been found to be less likely to seek help than females (Boldero & Fallon, 1995). In the current study, girls reported greater use of approach coping strategies than boys. In prior research girls have reported greater use of approach coping, including seeking social support, increasing self-reliance, and taking a proactive orientation (Bird & Harris, 1990; Chapman & Mullis, 1999; Copeland & Hess, 1995; Patterson & McCubbin, 1987). These results suggest that girls' involvement in social

relationships may provide them with an advantage in obtaining social support generally, as well as support specifically designed to aid in coping with stress.

Limitations of the Current Study

A limitation of the current study is that most of the variables were measured by self-report, with the exception of academic grades. Although the measures have demonstrated adequate reliability and validity, shared method variance may have an impact on study results, and future studies should incorporate both self-report and external reports where possible to address this issue. This issue has also been raised in prior trajectory studies (e.g., Deihl et al., 1997; Zimmerman et al., 1997).

In comparison with other statistical methods, the use of cluster analysis in developmental research is still relatively uncommon and the number of trajectory studies to date, given their focus on varying ages, is insufficient to draw definitive conclusions regarding the number of different self-esteem patterns that characterize the developmental period of adolescence. In the present study, trajectory groups were derived from measurement across three measurement points, one less than in previous trajectory studies. Nonetheless, the four trajectory group pattern that was identified was similar to those in previous studies (Hirsch & DuBois, 1991; Zimmerman et al., 1997).

An additional issue is related to the measurement of self-esteem in trajectory studies in terms of global self-esteem alone rather than more specific domains of self-concept (e.g., academic or social). Previous researchers have

suggested the potential utility of cluster analysis in the examination of multiple domains of self-esteem or self-concept (Hirsch & DuBois, 1991). One recent study (DuBois, Felner, Brand, & George, 1999) used cluster analysis to identify different profiles of self-esteem based on domain-specific self-esteem ratings at a single point in time, which were then found to show different longitudinal patterns of adjustment. Further investigation is needed, however, to address the issue of whether similar longitudinal trajectory patterns reflect more domain-specific self-evaluations.

Avenues for Future Research

To address some of the limitations previously identified, future trajectory studies will be strengthened by including a greater range of variables measured by both self-report and external reports. Although the results of the few studies to date have identified trajectories of self-esteem that characterize particular subsets of the adolescent years, further replication of the trajectory groups and the consideration of additional aspects of psychosocial adjustment are needed to provide support for these trajectory patterns in adolescence. Social support, coping, and hassles appear to be related to self-esteem trajectories, but additional replication and prospective studies are required to establish whether these factors are predictive of adolescent self-esteem trajectories and if intervention in these areas might prevent self-esteem decline. Follow-up study of the trajectories into middle and late adolescence also is required to provide further evidence for the validity of the trajectories. Examination of trajectory patterns of childhood and

preadolescent self-esteem is also needed to clarify the process whereby the consistently low self-esteem pattern develops, as it appears that this pattern is established prior to adolescence.

Results of the current study provide support for the validity of the trajectories as distinct patterns of adolescent development. The variables examined provide specific avenues for further research into risk and protective factors for adolescent self-esteem and the developmental processes that predict patterns of self-esteem in adolescence. Adolescent self-esteem seems well represented by multiple trajectories that differ not only on self-esteem, but also on other psychosocial variables. Although the role of these factors in the specific developmental processes that underlie adolescent self-esteem trajectories is not yet established, their identification provides more specific direction for future study.

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This study was funded in part by a Social Sciences and Humanities Research Council of Canada grant. We also would like to acknowledge the contributions of Dwayne Schindler, Robert Flynn, Louise Lemyre, Ian Manion, and David DuBois to the study.

A portion of this manuscript was presented at the Annual Convention of the Canadian Psychological Association, Ottawa, Ontario, June 29 - July 1, 2000.

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CHAPTER III

Self-Esteem Trajectory Groups Identified in Grades 8 to 10: A Follow-up Analysis on Psychosocial Factors and Academic Achievement in Grade 11

Self-esteem trajectory groups identified in Grades 8 to 10: A follow-up analysis on psychosocial factors and academic achievement in Grade 11

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Abstract

Previous longitudinal research has demonstrated multiple self-esteem trajectory groups in adolescence. The present study is a one-year follow-up of self-esteem trajectories identified in Grades 8 to 10, in which four groups were identified (Consistently High, Decreasing, Increasing, and Consistently Low). Grade 11 students' (N = 338) social support, stress, coping, life satisfaction, and academic achievement were examined to see whether previously-established self-esteem trajectory differences were maintained one year later in Grade 11. Three hypotheses were tested: (1) the Consistently High group would show the most positive outcomes, (2) differences between the Increasing and Decreasing groups would favor the Increasing group, and (3) the Decreasing group would be most like the Consistently Low group. The four self-esteem trajectory groups continued to represent distinct patterns of self-esteem into Grade 11 but showed minimal change on mean levels of self-esteem to Grade 11. Results supported the first, but not the second and third hypotheses. The Consistently High group reported the most positive outcomes, whereas few differences were found between the other three trajectory groups. Life satisfaction most consistently differentiated between the four self-esteem trajectory groups, suggesting that different patterns of self-esteem may have implications for satisfaction with current life circumstances in middle adolescence.

Self-esteem trajectory groups identified in Grades 8 to 10: A follow-up analysis on psychosocial factors and academic achievement in Grade 11

Although self-esteem has been studied across the life span, it has been of particular research interest with respect to adolescence as a result of the many developmental tasks that emerge during this period. There has been some debate in the research literature as to whether self-esteem in adolescence remains relatively stable (e.g., Chubb, Fertman, & Ross, 1997), shows an increase (e.g., Mullis, Mullis, & Normandin, 1992), or varies by gender, with females showing a decrease and males showing an increase (Block & Robins, 1993). Other researchers (e.g., Deihl, Vicary, & Deike, 1997; Hirsch & DuBois, 1991; Zimmerman, Copeland, Shope, & Dielman, 1997) have proposed that adolescent self-esteem is examined more appropriately in terms of different developmental trajectories, and that patterns of stability are the result of stable and changing patterns offsetting each other. This methodology is in keeping with theoretical approaches in which different developmental pathways are thought to reflect stable and changing patterns of development, as well as adaptive and maladaptive patterns of adjustment (Compas, Hinden, & Gerhardt, 1995).

The present study is a one-year follow up of self-esteem trajectory groups formed on the basis of reported global self-esteem from Grades 8 to 10 (Silverthorn & Crombie, 2000). In this earlier study, four trajectory groups were obtained that were similar to those found in two previous trajectory studies

(Hirsch & DuBois, 1991; Zimmerman et al., 1997): stable and high, stable and low, decreasing, and increasing. A third trajectory study (Deihl et al., 1997) did not identify a decreasing self-esteem pattern, however, this study was focused on an isolated rural population in comparison with the other studies which examined more varied samples of adolescents. In our previous study (Silverthorn & Crombie, 2000), the decreasing self-esteem group was indistinguishable in Grade 8 from the high self-esteem group, but reported lower self-esteem in Grades 9 and 10. The increasing self-esteem group reported significantly lower self-esteem than the decreasing group in Grades 8 and 9, but by Grade 10 the two groups were indistinguishable.

The purpose of the current study was to examine these previously established self-esteem trajectories at a later point, in Grade 11, which represents further progression into the middle adolescent phase of development. Unlike the early adolescent period, in which the physical changes of puberty and school transitions are the most salient issues (Graber & Brooks-Gunn, 1996), the middle adolescent period involves the emergence of new developmental issues including identity exploration, dating, and career development (Santrock, 1998). As adolescents progress toward the end of high school, there is a greater focus on the future in terms of preparing for adult work and family roles (Petersen, Kennedy, & Sullivan, 1991). To date, trajectory studies of self-esteem in adolescence have not followed adolescents beyond their Grade 10 year, leaving speculation as to the implications of later adolescent development for trajectory analyses of self-

esteem.

In all of the trajectory studies, trajectory groups were established via cluster analysis, in which self-esteem scores across multiple points in time were analyzed to identify different patterns of stability and change in self-esteem. The validity of cluster solutions can be tested by comparing groups on variables not used to generate the cluster solution, as this tests the generality of the clusters against relevant external criteria (Aldenderfer & Blashfield, 1984). In the trajectory studies of self-esteem, the identified groups have been examined with respect to additional variables relevant to adolescent development, although these analyses were intended to further elaborate on characteristics of the different trajectory groups rather than explicitly provide evidence for their validity. Nonetheless, the results regarding factors other than self-esteem are relevant to the issue of validity as they involve analysis of constructs that have been found in previous research to be related to self-esteem in adolescence. What is not known, however, is the role of these psychosocial factors with respect to the self-esteem trajectories in the later years of adolescence.

In the preceding study across Grades 8 to 10 (Silverthorn & Crombie, 2000), variables examined in relation to the four self-esteem trajectories assessed family, friend, and esteem-enhancing social support, approach and avoidant coping, daily hassles, and academic grades. In the current study, measures of these constructs were again examined, along with reported life events and life satisfaction. In some cases, different measures were used that were more

appropriate for this now older adolescent group.

Results of previous self-esteem trajectory studies have indicated that students in the different self-esteem trajectories have varied in their reports of peer and family relationships (Deihl et al., 1997) and that patterns of peer social support over time vary across the different trajectory groups (Hirsch & DuBois, 1991). Satisfaction with social support has been linked with self-esteem (Dumont & Provost, 1999), and social support from family members has been found to be related to psychological adjustment (Holahan, Valentiner, & Moos, 1995) as well as depression and delinquent behavior (Licitra-Kleckler & Waas, 1993). In addition, esteem-enhancing support has been shown to be related to global self-esteem in both high school and college students (Short, Sandler, & Roosa, 1996). In our preceding study across Grades 8 to 10, patterns of stability and change in reported family, friend, and esteem-enhancing social support varied across the four self-esteem trajectory groups, with the high self-esteem group consistently reporting the greatest social support at each measurement point (Silverthorn & Crombie, 2000).

Coping was considered for two reasons: (1) in adolescence, new demands are faced that require adaptation (Patterson & McCubbin, 1987), and (2) coping is known to be associated with correlates of self-esteem including depression (Glyshaw, Cohen, & Towbes, 1989; Herman-Stahl & Petersen, 1996), anxiety (Glyshaw et al., 1989), and behavior problems (Compas, Malcarne, & Fondacaro, 1988). In our earlier study (Silverthorn & Crombie, 2000), avoidant coping

(avoiding or denying problems) varied over time for the self-esteem trajectory groups, whereas approach coping (addressing problems or feelings) did not. With respect to specific categories of coping, students with low self-esteem reported greater use of coping involving ventilating feelings, avoiding problems, and using relaxation than those with high self-esteem (Chapman & Mullis, 1999).

The construct of stress was included because adolescents' reports of stressful events have been found to be associated negatively with self-esteem (Harper & Marshall, 1991; Short et al., 1996). In our preceding study, the self-esteem trajectory groups showed different patterns of reported daily hassles over time (Silverthorn & Crombie, 2000). In the current study, stress was considered in terms of reported hassles as well as positive and negative life events in the last 12 months. Although some researchers have concluded that the impact of major life events on adjustment is mediated by daily events (Wagner, Compas, & Howell, 1988), other researchers have reported evidence that life events and minor events (hassles) contribute jointly and independently to adjustment (Rowlison & Felner, 1988).

Academic achievement has been found to be related to self-esteem (Hirsch & DuBois, 1991; Rosenberg, Schooler, & Schoenbach, 1989). Two previous trajectory studies examined academic achievement in relation to self-esteem trajectories, with results of one suggesting trajectory differences (Zimmerman et al., 1997) and the other suggesting no differences (Deihl et al., 1997). In our earlier study (Silverthorn & Crombie, 2000), the Consistently High trajectory

group had higher overall average grades than the other three trajectory groups, and average grades declined from Grades 8 to 10, but the trajectory groups did not show differential patterns of change in academic achievement over time.

Life satisfaction was considered as an additional variable as self-esteem is reported to be associated with a sense of well-being (Mruk, 1999). In contrast with indicators of adjustment that focus on negative psychosocial outcomes (such as psychological symptoms), life satisfaction is considered to involve conscious judgments of life circumstances based on subjective criteria (Pavot & Diener, 1993).

Results of trajectory studies have provided evidence that the self-esteem trajectory groups represent distinct patterns of adolescent development, as they differ on measures of numerous other factors. These studies also have provided descriptive characteristics of the trajectories over a limited time period. To date, however, there has not been an examination of previously established self-esteem trajectory groups at a later point in time on relevant criteria.

The objective of the present study was to examine characteristics of four self-esteem trajectory groups identified in Grades 8 to 10 (Silverthorn & Crombie, 2000) at a one-year follow-up point, when students were in a more senior year of high school. Of particular interest were: (1) the two changing self-esteem groups that were indistinguishable from each other on self-esteem scores at the end of Grade 10 and (2) similarities and differences between the decreasing and low self-esteem groups. The research hypotheses for the study were as

follows: (1) the Consistently High self-esteem trajectory group was expected to show the most positive outcome for significant trajectory group differences on the dependent variables, (2) the Increasing self-esteem group was hypothesized to show more positive adjustment for significant trajectory group differences in comparison with the Decreasing group, and (3) the Decreasing group was expected to show the fewest differences in comparison with the Consistently Low self-esteem group, given its pattern of self-esteem decline between Grades 8 and 10.

Method

Participants

The sample for the current study was obtained from a one-year follow-up of an earlier study of Grades 8 to 10, in which students were followed through the transition into high school in Grade 9. Exclusion criteria included enrollment in a special education program (low reading comprehension levels) and recent immigration (limitations in reading comprehension). Initial consent was obtained in Grade 8 for three years of the study and consent for three additional years was sought at the end of Grade 10. Of the 469 students (235 females and 234 males) in the earlier study, 344 students (169 females and 175 males; 73% of the original sample) consented to continue participation in the study.

Parent data were obtained for 88.4% of the sample and occupations were coded using the Blishen 1981 Socioeconomic Index for Occupations (Blishen, Carroll, & Moore, 1987). Fathers were employed in professional (47.1%) and

technical (27.0%) occupations. Mothers were employed in clerical (30.3%), technical (21.4%), and professional occupations (19.3%), with 13.8% identifying themselves as homemakers.

Instruments

Self-esteem. Self-esteem was measured with the Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965), in which respondents rate ten items on a four-point scale ("strongly disagree" to "strongly agree"). Five items are recoded so that higher scores represent higher self-esteem and a total score is obtained by summing the recoded items. The RSES has demonstrated adequate reliability and validity (Bagley, Bolitho, & Bertrand, 1997; Keith & Bracken, 1996; Rosenberg, 1965) and showed acceptable internal consistency in the study sample ($\alpha = .89$). In our earlier study (Silverthorn & Crombie, 2000), the RSES was shown to have good two- to three-week test-retest stability on a randomly selected subsample ($r = .82$, $n = 59$).

Social support from family and friends. The Perceived Social Support Scale (PSS; Procidano & Heller, 1983) was used to measure family and friend support. Each scale is composed of 20 statements which are rated as "yes", "no", or "don't know". Subscale scores are the number of items endorsed with a response indicating perceived social support. The measure has demonstrated both reliability and validity (Procidano, 1992) and showed acceptable internal consistency reliability estimates in the study sample (family and friend support α

= .82, .75, respectively).

Esteem-enhancing social support. Esteem-enhancing social support (support that increases positive feelings about the self) was measured by a subscale of the Scale of Available Behaviors (SAB) from the Survey of Children's Social Support (Dubow & Ullman, 1989). The Emotional-Esteem Enhancing Support subscale comprises 12 of the scale's 38 items, which are rated on a five-point scale ("never" to "always"). The measure has demonstrated both reliability and validity in previous research (see Dubow & Ullman, 1989), and demonstrated acceptable internal consistency reliability in the study sample (α = .90).

Coping. The Adolescent Coping Orientation for Problem Experiences scale (A-COPE; Patterson & McCubbin, 1987) was used to measure coping. The measure comprises 55 specific coping behaviors rated on a five-point scale ("never" to "always"). Ten of the original 12 subscales were employed in the current study: ventilating feelings, seeking diversions, developing self-reliance, developing social support, solving family problems, avoiding problems, investing in close friends, engaging in demanding activity, being humorous, and relaxing. Two additional subscales (seeking professional support and seeking spiritual support) were not included as over half of the students reported that they never used any of the coping strategies that made up these scales. The measure has demonstrated moderate levels of internal consistency reliability and evidence for the instrument's validity has been reported (Patterson & McCubbin, 1987). In the

current study, internal consistency reliability estimates for the subscales had a median value of .70 (range .49 to .81). Subscales with internal consistency reliability estimates below .70 were: investing in close friends (.69), developing self-reliance (.59), relaxing (.55), and seeking diversions (.49).

Life events. Life events were measured by the Life Events Checklist (Johnson, 1986; Johnson & McCutcheon, 1980), which is a list of 46 major and minor life events. Respondents indicate which events occurred in the past 12 months and rate events as being good or bad, and rate their impact on a four-point scale ("no effect" to "great effect"). In the unit rating procedure, two scores are obtained representing the number of positive and negative events endorsed. Evidence for the reliability and validity of the measure has been reported in several studies (Brand & Johnson, 1982; Johnson, 1986; Johnson & McCutcheon, 1980).

Hassles. Daily hassles were assessed using Baer, Garmezy, McLaughlin, Pokorny, and Wernick's (1987) 56-item adolescent version of Kanner, Coyne, Schaefer, and Lazarus' (1981) Hassles Scale. Participants identify hassles occurring in the past month and rate their severity on a three-point scale ("somewhat" to "extremely"). A total score was obtained by summing the number of hassles endorsed. High internal consistency has been reported for other adult and adolescent versions of the scale (Kanner et al., 1981; Rowlison & Felner, 1988); similar results were obtained in the study sample ($\alpha = .88$). Evidence for the validity of the measure has also been reported (Kanner et al., 1981).

Life satisfaction. The Satisfaction With Life Scale (SWLS; Diener, Emmons, Larsen, & Griffen, 1985) was employed to assess life satisfaction. Respondents rate five statements on a seven-point scale ("strongly disagree" to "strongly agree") and a score is obtained by summing the scores across the five items, with a score of 20 representing a neutral point. A review of the SWLS reported evidence for both the reliability and validity of the measure (Pavot & Diener, 1993). The Cronbach's alpha in the current study ($\alpha = .88$) was consistent with previous research.

Academic Grades. Report cards for study participants were obtained at the end of the school year from participating schools. Average grades are based on an average across academic courses (Math, Science, Language Arts, Social Sciences).

Procedure

Written consent was obtained from parents and verbal consent was obtained from students in the study, who were informed that they could withdraw from the study at any time. Questionnaires were administered in groups of approximately 10 to 20 students. Administration instructions were given in writing with the questionnaire package and verbally prior to each administration session. Participants were treated in accordance with the ethical standards of the American and Canadian Psychological Associations.

Data Analytic Procedure

Prior to performing data analyses to test present research hypotheses,

average self-esteem scores for the four self-esteem trajectory groups were recalculated for the sample in the current study (N = 338 following data screening for multivariate outliers for the subsequent analyses). The self-esteem trajectories also were examined in terms of their patterns of self-esteem stability and change across the four years as well as their reported self-esteem in Grade 11.

There were three categories of data analysis. The first involved a 4 x 2 MANOVA (trajectory by gender) on the seven psychosocial variables (not including coping variables). The second was based on a 4 x 2 MANOVA with the dependent variables of 10 coping subscales of the A-COPE. The analysis of coping variables was separated from the other psychosocial variables due to the consideration of a greater number of more specific categories of coping behavior. The final analysis involved a 4 x 2 ANOVA on the dependent variable of average academic grades. Analyses of variance were performed using the unique method of partitioning of variance. All analyses were performed using SPSS 9 with the exception of post-hoc tests, which were done with Statistica 5.

Results

Attrition Analyses

In a MANOVA on eight dependent variables (Grade 10 self-esteem, family and friend social support, esteem-enhancing support, average frequency of approach and avoidant coping, total hassles, and average grades), no differences emerged between attrited students (n = 125) and those who remained in the study to the 4th year (n = 344). Neither self-esteem trajectory group nor gender showed

differential patterns of attrition. Six outlier cases were removed, leaving a sample of 338 (166 females and 172 males).

Self-Esteem Trajectories

Means and standard deviations of self-esteem scores from Grades 8 to 11 for the four trajectories established in our earlier study of Grades 8 to 10 (Silverthorn & Crombie, 2000) are listed in Table 4 and the trajectories are depicted in Figure 7. The proportion of students in the high, decreasing, increasing, and low groups in the current study are comparable to those in our earlier study of Grades 8 to 10 (32.0 vs. 31.3%, 19.8 vs. 21.1%, 34.0 vs. 34.1%, and 14.2 vs. 13.4%, respectively; Silverthorn & Crombie, 2000).

An additional cluster analysis was performed on the self-esteem variable across four years for the sample in Grade 11 ($N = 335$ after removal of 3 outlier cases). The four trajectories found in our earlier study on a larger sample of the same group of students (Silverthorn & Crombie, 2000) were replicated, with 81% of the students classified into the same category ($\kappa = .73$, $p < .001$). In comparing the Grade 8 to 10 and Grade 8 to 11 analyses, changes in group membership primarily occurred between the Decreasing and Consistently High groups and between the Increasing and Decreasing groups. Students who "switched" from the Decreasing to the Consistently High group reported greater self-esteem in Grades 10 and 11, and increased in self-esteem between Grades 10 and 11 in comparison with students who showed a Decreasing pattern in both analyses, who showed a decrease in self-esteem between Grades 10 and 11. Students who "switched" from

Table 4

Means and standard deviations for Rosenberg Self-Esteem Scale scores for self-esteem trajectory groups

	n	Grade 8	Grade 9	Grade 10	Grade 11
Consistently high self-esteem	108	35.03 (3.43)	37.42 (2.11)	37.92 (1.68)	35.89 (3.44)
Decreasing self-esteem	67	34.22 (2.57)	33.58 (3.09)	30.88 (3.44)	30.28 (4.80)
Increasing self-esteem	115	28.28 (2.41)	30.31 (2.84)	31.34 (3.11)	30.94 (4.08)
Consistently low self-esteem	48	23.62 (3.44)	24.29 (2.90)	24.23 (3.09)	25.75 (4.69)

Note. Total N = 338. Standard deviations appear in parentheses below the mean.

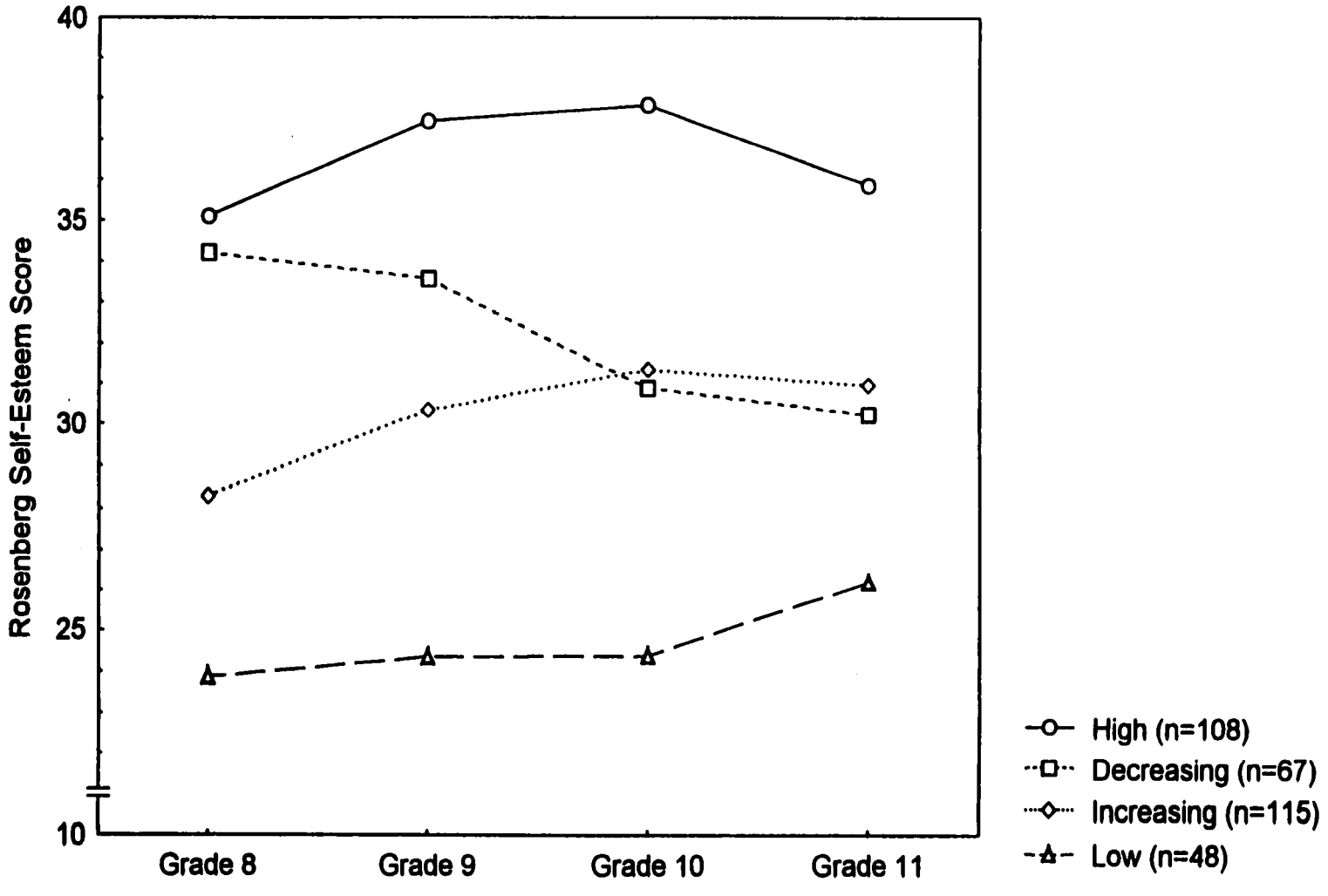

Figure 7. Self-esteem trajectories (Grades 8 to 11 based on cluster analysis on Grades 8 to 10 (N = 338).

Increasing to Decreasing reported higher self-esteem in Grade 8 and lower self-esteem in Grades 10 and 11, and showed a decrease in self-esteem between Grades 9 and 10 in comparison with students who showed an Increasing pattern in both analyses, who increased on self-esteem between Grades 9 and 10. Although these results are suggestive of changes in self-esteem group membership with the consideration of an additional measurement point in middle adolescence (Grade 11), a decision was made to retain the trajectory group membership from our earlier study (Silverthorn & Crombie, 2000) and focus on the results of the one-year follow-up period.

A repeated measures ANOVA (four trajectories by gender by four years) was employed to examine trajectory group differences in self-esteem at each of the four years from Grade 8 to 11. Post-hoc tests indicated no self-esteem change in the Decreasing and Increasing groups between Grades 10 and 11. The Consistently High group declined slightly in self-esteem to Grade 11, although the score was still approximately one standard deviation higher than the overall mean. The Consistently Low group did not show significant change in self-esteem between Grades 10 and 11, but there was a significant net increase in self-esteem for this group between Grades 8 and 11. A two-way ANOVA (self-esteem trajectory by gender) with the dependent variable of Grade 11 self-esteem indicated significant main effects of both trajectory, $F(3,330) = 63.49$, $p < .001$, $\eta^2 = .37$, and gender, $F(1,330) = 5.78$, $p < .05$, $\eta^2 = .02$. Post-hoc tests using Tukey's HSD indicated that the high self-esteem group reported greater self-

esteem than the three other groups, that there were no differences between the decreasing and increasing self-esteem groups, and that both the increasing and decreasing self-esteem groups reported higher self-esteem than the low self-esteem group. As in our earlier study (Silverthorn & Crombie, 2000), female and male students were not distributed equally across the four trajectories, $\chi^2(3) = 13.26$, $p < .01$. Fewer females (38.0%) and more males (62.0%) than expected were in the Consistently High group, whereas more females (68.8%) and fewer males (31.3%) than expected were in the Consistently Low group. As in our earlier study, gender was included as a factor in the subsequent analyses.

MANOVA on Psychosocial Variables[1]

To assess for self-esteem trajectory and gender differences in the seven psychosocial variables (excluding the coping variables), a two-way MANOVA was performed with the independent variables of self-esteem trajectory and gender. Dependent variables were family and friend social support, esteem-enhancing support, number of positive and negative life events, reported daily hassles, and life satisfaction. Using Wilks' criterion, overall multivariate effects were observed for both the main effects of self-esteem trajectory, $F(21,930.9) = 5.86$, $p < .001$, and gender, $F(7,324) = 7.34$, $p < .001$. Only significant results are reported. Univariate effects are summarized by each variable, with means and

[1]As a supplementary test of the analyses of variance, the same analyses were conducted controlling for Grade 8 self-esteem by entering it as a covariate. As the same effects emerged in both analyses, the original analyses of variance without covariates are presented.

standard deviations of the significant dependent variables by self-esteem trajectory and gender listed in Tables 5 and 6, respectively. Post-hoc trajectory group differences were tested using Tukey's HSD for unequal sample sizes. For these effects, a Bonferroni correction was employed (.05/7 variables).

Social support from family. There was a main effect of self-esteem trajectory, $F(3,330) = 10.05$, corrected $p < .01$, $\eta^2 = .08$. In post-hoc tests, the Consistently High self-esteem group (14.67) reported greater family support than the Decreasing, Increasing, and Consistently Low groups (10.88, 12.45, and 10.48, respectively).

Social support from friends. Main effects were obtained for trajectory, $F(3,330) = 8.67$, corrected $p < .01$, $\eta^2 = .07$, and gender, $F(1,330) = 37.03$, corrected $p < .01$, $\eta^2 = .10$. Post-hoc tests revealed significantly greater friend support in the Consistently High group (15.81) as compared to the Decreasing, Increasing, and Consistently Low groups (14.13, 13.75, and 13.52, respectively). Females reported significantly greater friend support than males (15.77 vs. 13.18).

Esteem-enhancing social support. Self-esteem trajectory, $F(3,330) = 15.11$, corrected $p < .01$, $\eta^2 = .12$, and gender, $F(1,330) = 18.02$, corrected $p < .01$, $\eta^2 = .05$, main effects emerged. Post-hoc tests indicated that the Consistently High group (3.98) reported greater esteem-enhancing support than the Decreasing, Increasing, and Consistently Low groups (3.61, 3.63, and 3.54,

Table 5

Means and standard deviations for significant dependent variables by self-esteem trajectory

	Self-esteem trajectory group			
	Consistently High (n = 108)	Decreasing (n = 67)	Increasing (n = 115)	Consistently Low (n = 48)
Perceived family support	14.67 (5.18)	10.88 (6.66)	12.45 (5.58)	10.48 (6.11)
Perceived friend support	15.81 (3.62)	14.13 (4.83)	13.75 (4.48)	13.52 (4.99)
Perceived esteem-enhancing support	3.98 (0.51)	3.61 (0.61)	3.63 (0.52)	3.54 (0.53)
Total hassles	12.10 (6.58)	15.15 (9.14)	15.51 (7.86)	18.21 (8.20)
Life satisfaction	27.93 (4.80)	23.39 (6.55)	23.16 (6.16)	18.27 (5.69)
Develop self-reliance	19.80 (3.13)	18.63 (3.73)	18.45 (3.20)	17.98 (2.79)
Solve family problems	18.49 (3.64)	16.40 (4.62)	16.67 (4.03)	16.38 (3.42)
Avoid problems	10.10 (3.51)	12.42 (4.98)	10.98 (3.74)	12.33 (4.80)
Invest in close friends	6.52 (2.15)	5.91 (2.25)	5.58 (2.00)	5.90 (2.17)

Note. Standard deviations appear in parentheses below the mean.

Table 6

Means and standard deviations for significant dependent variables by gender

	Females (n = 166)	Males (n = 172)
Perceived friend support	15.77 (3.81)	13.18 (4.68)
Perceived esteem-enhancing support	3.83 (0.56)	3.63 (0.55)
Total hassles	16.49 (7.90)	13.04 (7.82)
Seek social support	19.60 (3.28)	16.60 (3.25)
Solve family problems	18.33 (4.07)	16.03 (3.70)
Invest in close friends	6.47 (2.06)	5.53 (2.14)
Average grades	71.50 (12.49)	68.70 (12.40)

Note. Standard deviations appear in parentheses below the mean.

respectively). Females reported greater esteem-enhancing support than males (3.83 vs. 3.63).

Life events. No significant effects emerged.

Total daily hassles. The main effects of self-esteem trajectory, $F(3,330) = 5.50$, corrected $p < .01$, $\eta^2 = .05$, and gender, $F(1,330) = 9.45$, corrected $p < .05$, $\eta^2 = .03$, were both significant. Students in the Consistently High self-esteem trajectory group (12.10) reported significantly fewer hassles than students in the Increasing (15.51) and Consistently Low (18.21) self-esteem groups but not the Decreasing group (15.15). Females reported more daily hassles than males (16.49 vs. 13.04).

Life satisfaction. There was a main effect of self-esteem trajectory, $F(3,330) = 31.78$, corrected $p < .01$, $\eta^2 = .22$. From the post-hoc tests, students in the Consistently High self-esteem trajectory group reported the highest level of life satisfaction (27.93), which was significantly greater than that reported by the Decreasing (23.39), Increasing (23.16), and Consistently Low (18.27) groups. Students in the Decreasing and Increasing self-esteem groups reported greater life satisfaction than students in the Consistently Low self-esteem group.

MANOVA on Coping Variables[2]

[2]As with the psychosocial variables, the same analyses were conducted controlling for Grade 8 self-esteem by entering it as a covariate. As the same effects emerged in both analyses, the original analyses of variance without covariates are presented.

A two-way MANOVA (trajectory by gender) was performed on the ten dependent coping variables: ventilating feelings, seeking diversions, developing self-reliance, seeking social support, solving family problems, avoiding problems, investing in close friends, engaging in demanding activity, using humor, and relaxing. Using Wilks' criterion, overall multivariate effects were observed for the main effects of self-esteem trajectory, $F(30,942.87) = 2.51$, $p < .001$, and gender, $F(10,321) = 12.71$, $p < .001$. Five coping variables were found to have significant univariate effects: developing self-reliance, seek social support, solve family problems, avoiding problems, and investing in close friends. Means and standard deviations for these variables by trajectory and gender are listed in Tables 5 and 6, respectively. Univariate effects are summarized separately by each dependent variable for which significant univariate effects were obtained. Post-hoc tests of trajectory group differences were examined using Tukey's HSD for unequal sample sizes. For these effects, a Bonferroni correction was employed (.05/10 variables).

Developing self-reliance. There was a main effect of trajectory, $F(3,330) = 4.31$, corrected $p < .05$, $\eta^2 = .04$, with students in the Consistently High self-esteem trajectory group (19.80) had higher scores than students in the Increasing (18.45) and Consistently Low (17.98) self-esteem groups, but not the Decreasing self-esteem group (18.63).

Seeking social support. A main effect of gender was obtained, $F(1,330) =$

65.65, corrected $p < .01$, $\eta^2 = .17$. Female students reported greater scores on seeking social support than males (19.60 vs. 16.60).

Solving family problems. Both the main effects of trajectory, $F(3,330) = 9.11$, corrected $p < .01$, $\eta^2 = .08$, and gender, $F(1,330) = 30.40$, corrected $p < .01$, $\eta^2 = .08$, were significant. The Consistently High self-esteem group had the highest average score (18.49) in contrast with the Decreasing, Increasing, and Consistently Low groups (16.40, 16.67, and 16.38, respectively). Female students (18.33) reported higher scores than male students (16.03).

Avoiding problems. There was a main effect of trajectory, $F(3,330) = 6.48$, corrected $p < .01$, $\eta^2 = .06$. Students in the Consistently High self-esteem trajectory group (10.10) reported lower scores on avoiding problems than students in the Decreasing (12.42) and Consistently Low (12.33) self-esteem groups, but not those in the Increasing self-esteem group (10.98).

Investing in close friends. There were main effects of both trajectory, $F(3,330) = 5.37$, corrected $p < .05$, $\eta^2 = .05$, and gender, $F(1,330) = 14.00$, corrected $p < .01$, $\eta^2 = .04$. With respect to self-esteem trajectory, the only group difference that emerged was between the Consistently High (6.52) and Increasing (5.58) self-esteem groups. Female students reported a higher frequency of use of this strategy in comparison with male students (6.47 vs. 5.53).

ANOVA on Academic Grades

An ANOVA was performed to test for trajectory and gender differences in

average grades. A significant main effect of gender was found, $F(1,330) = 6.40$, $p < .05$, $\eta^2 = .02$, with female students (71.50) having higher academic grades than male students (68.70). There were no differences in academic grades among the trajectory groups.

Discussion

The purpose of the current study was to examine subsequent development one year later at Grade 11, of previously established self-esteem trajectories from Grades 8 to 10. The results of the current study provide additional information about multiple self-esteem trajectories in adolescence while raising some additional issues. Self-esteem at an overall mean level declined slightly from Grades 10 to 11, although the four trajectory groups showed minimal change in self-esteem into the Grade 11 year, with the exception of a slight decrease in self-esteem for the Consistently High group. Considering self-esteem between Grades 8 and 11, however, the four self-esteem trajectory groups each showed quite different patterns of self-esteem from the end of elementary school to the middle of the high school years. These groups are consistent with four of the five patterns of development hypothesized by Compas and colleagues (1995): stable adaptive functioning (consistently high self-esteem), stable maladaptive functioning (consistently low self-esteem), adolescent turnaround or recovery (increasing self-esteem), and adolescent decline (decreasing self-esteem). As in our earlier study as well as previous trajectory studies, the fifth pattern of development representing temporary deviation or maladaptation during adolescence (Compas

et al., 1995) did not emerge.

In the current study, the trajectory groups considered were based on a previous analysis of self-esteem from Grades 8 to 10 (Silverthorn & Crombie, 2000) and trajectory group membership was held constant into the follow-up Grade 11 year. Although a new cluster analysis using self-esteem scores from Grades 8 through 11 indicated the same four patterns as in the earlier study, with the majority of students (81%) being placed in the same trajectory group, there was some degree of change in both the trajectory group membership as well as group means in this additional analysis. In particular, changes in group membership were most likely for students in the two "changing" groups (Decreasing and Increasing self-esteem). Students who changed groups showed significant differences from those who remained in the same group on both self-esteem and magnitude of year-to-year self-esteem change both before and after Grade 10. Further study is required to ascertain whether changing trajectory patterns are the result of considering an additional year of self-esteem measurement in the analysis or whether there is a "leveling-off" of self-esteem change in the later years of adolescence.

In our previous study of Grades 8 to 10 (Silverthorn & Crombie, 2000), the Decreasing self-esteem pattern showed a more gradual pattern of self-esteem decline in comparison with the other two trajectory studies of Grades 6 to 8 (Hirsch & DuBois, 1991) and Grades 6 to 10 (Zimmerman et al., 1997) that also identified groups that declined in self-esteem. These earlier two studies followed

students who made a junior high school transition (Grade 7), which is hypothesized to be a greater period of risk for self-esteem disruption as it coincides with several other changes of early adolescence, such as puberty (Simmons, Burgeson, Carlton-Ford, & Blyth, 1987). From these studies, it can be concluded that although there appears to be some consistency in the four trajectory groups of self-esteem, both the levels of reported self-esteem as well as the degree of change seen in the changing groups over time may vary as a function of the adolescent period covered by a particular study. Given the changes that emerged in the current study with the addition of a measurement point in middle adolescence (Grade 11), additional study is needed to identify the trajectories that characterize self-esteem from early to late adolescence.

The primary objectives of the current study were to examine, at a one-year follow-up in Grade 11, trajectory group differences in a series of psychosocial variables that have been linked empirically with self-esteem and other indicators of psychological adjustment in adolescence. The four trajectory groups were found to differ on a subset of the variables considered, including the three types of social support (family, friends, and esteem-enhancing), reported hassles, life satisfaction, and four of the ten coping behaviors (developing self-reliance, solving family problems, avoiding problems, and investing in close friends). The developmental picture at Grade 11 indicates that, at an overall level, the trajectory groups continue to differ from each other on additional factors linked with adjustment in adolescence.

Results generally confirmed the first research hypothesis, with adolescents in the consistently high self-esteem group reporting more social support from family and friends, higher levels of esteem-enhancing support, higher life satisfaction, and a higher frequency of use of solving family problems as a coping strategy than adolescents in the other three self-esteem trajectory groups. Thus, the Consistently High self-esteem trajectory appears to represent a stable group of well-adjusted adolescents who report feeling more satisfied with their lives and experience more supportive relationships and less stress than other adolescents, as well as fewer hassles and less reliance on avoiding problems as a coping strategy. Positive attributes of this trajectory pattern also have been indicated in the other trajectory studies, including peer support and low psychological symptomatology (Hirsch & DuBois, 1991), positive peer and family relationships as well as emotional tone (Deihl et al., 1997), and fewer problem behaviors such as susceptibility to peer pressure, alcohol use/misuse, and tolerance for deviance (Zimmerman et al., 1997). The results of the current study indicate that the stable, positive adjustment shown by this Consistently High self-esteem group persists into the later years of high school.

The second research hypothesis was not supported, as no differences emerged between the Decreasing and Increasing self-esteem groups. Although these two groups reported different levels of self-esteem in Grade 8, their reported self-esteem and other indicators of psychosocial adjustment were indistinguishable by Grade 10 (Silverthorn & Crombie, 2000). In Grade 11, these

two groups not only did not vary on self-esteem, but showed no differences in reported levels of social support, stress, life satisfaction, or use of different coping strategies. More encouragingly, the Decreasing self-esteem group did not appear to show a continued pattern of self-esteem decline, suggesting that this pattern "evens out" in middle adolescence. The current study, however, did not assess psychological symptoms in relation to the trajectories. In early adolescence, declining self-esteem was found to be associated with an increase in psychological symptomatology over time (Hirsch & DuBois, 1991), although the trajectory group in their study showed a more steep pattern of self-esteem decline.

As noted in our earlier study of Grades 8 to 10 (Silverthorn & Crombie, 2000), the Decreasing group in the present sample showed a pattern of more gradual decline in comparison with the analogous pattern in the other two trajectory studies ("steep decline", Hirsch & DuBois, 1991; "steadily decreasing", Zimmerman et al., 1997). Given that students in the current study were followed from a later age (Grade 8) and came from a school system in which this was not a transition year, this sample may have been less vulnerable to the self-esteem decline that is hypothesized to be associated with early adolescent school transitions (Simmons et al., 1987).

A broader and more long-term consideration of indicators of adolescent adjustment needs to be undertaken to examine whether the impact of declining self-esteem leaves adolescents at a disadvantage in relation to those whose self-esteem increases over time, even if their levels of reported self-esteem are similar.

It is also possible that the Decreasing group may be vulnerable to the later transition to adulthood which, like early adolescence, involves changes in social roles and expectations that may affect self-perceptions, including self-esteem (Petersen et al., 1991). Thus, it is important that future research on adolescent self-esteem trajectories further consider the impact of transitions in the later years of adolescence, as earlier disruptions in self-esteem may place adolescents at greater risk as they navigate the transition from adolescence into early adulthood.

The third research hypothesis was not supported as, with the exception of life satisfaction, there were no differences between the Decreasing, Increasing, and Consistently Low groups on the variables considered in the current study. Both the Decreasing and Increasing groups reported similar levels of life satisfaction which were greater than that reported by the Consistently Low group. This suggests that the pattern of more negative adjustment as shown by the Decreasing group in our earlier study of Grades 8 to 10 (Silverthorn & Crombie, 2000) did not persist into the Grade 11 year. However, the Increasing self-esteem group also did not show a pattern of increased positive adjustment in Grade 11 on the factors considered in the current study.

Life satisfaction was the variable that most clearly distinguished among the different self-esteem trajectory groups, at the Grade 11 point, with the exception of the Decreasing and Increasing groups, who reported similar levels of life satisfaction (as well as self-esteem). In the current study, the association between self-esteem and life satisfaction ($r = .65$) was greater in magnitude than

the association between self-esteem and the other factors considered. Results of previous research with both early (r = .52; Huebner, Gilman, & Laughlin, 1999) and middle adolescents (r = .51; Neto, 1993) also have indicated a significant relation between these two constructs. Life satisfaction, like self-esteem, has been found to be associated negatively with psychological symptoms, including depression (Pavot & Diener, 1993).

By examining a later "snapshot" of previously established self-esteem trajectory groups from Grades 8 to 10, we have added to the picture of self-esteem development in middle adolescence while raising additional questions. Although the groups show distinct patterns of self-esteem, there was very little change in self-esteem for each trajectory group to the follow-up year (Grade 11). Our re-analysis of trajectory groups based on four years of self-esteem scores suggests the same four patterns, but there was some degree of change in the trajectory groups, indicating that to examine adequately trajectories of self-esteem in middle adolescence, an examination of trajectory patterns should take place across this full developmental period.

The self-esteem trajectory group that was most clearly distinguished from the others was the Consistently High self-esteem group, which differed from all three additional groups on measures of social support and life satisfaction and differed from at least one of the additional trajectory groups on measures of hassles and specific coping strategies. In the current study, further differentiation was not seen between the Increasing and Decreasing groups, suggesting that there

may be a limit to increases in self-esteem in adolescence if youth are starting from a baseline that is below average. The Decreasing self-esteem group, however, did not continue to show a pattern of decline, possibly suggesting greater stability in middle adolescence.

A strength of the current study was the focus on previously-established self-esteem trajectories and associated psychosocial factors into middle adolescence, that is, at an age beyond which had been examined previously in trajectory studies of self-esteem. The sample was moderately large and representative of a school-based population of adolescents drawn from both urban and rural communities, which contributes to the potential generalizability of the study results. An additional variable, life satisfaction, was considered which had not yet been examined with respect to trajectories of self-esteem in adolescence. Such a construct is perhaps more appropriate with regard to the later years of adolescence, as older adolescents have gained greater cognitive and emotional maturity, along with more experience, and are better able to reflect on the status of their lives and how this fits with the values and future goals that begin to emerge in middle adolescence (e.g., Deihl et al., 1997; Santrock, 1998).

The results of the current study are limited, however, in that they are based on a one-year follow-up into Grade 11 of previously identified self-esteem trajectory groups. To establish most effectively the trajectory patterns that best describe self-esteem in adolescence, a more comprehensive analysis is needed that encompasses a longer time frame, such as middle or even late adolescence,

than that considered in studies to date. This is an important consideration, as the salience of particular developmental tasks differs across the early, middle, and late adolescent periods (Santrock, 1998). The role of psychological symptomatology also was not examined in the current study. Symptomatology has been found to play a significant role with respect to self-esteem trajectory groups in a younger sample (Grades 6 to 8; Hirsch & DuBois, 1991). Given that self-esteem is known to be associated with symptoms such as anxiety and depression, this remains a missing piece in the study of self-esteem trajectories into the high school years.

Results of the current study provide additional support for the utility of examining self-esteem in terms of multiple developmental trajectories as opposed to overall mean levels of self-esteem. Although in the present study, the patterns of self-esteem established from Grades 8 to 10 appeared to stabilize into Grade 11, further research is needed in which self-esteem trajectories are derived directly from self-esteem scores reported over time in middle, as well as late, adolescence. The Consistently High group, representing positive adolescent adjustment, stands apart as the group that is most consistently differentiated from the other trajectories in terms of social support, stress, coping, and life satisfaction, although a consideration of additional factors (including psychological symptomatology) is needed to describe more fully the differences among the four trajectory patterns. With the identification of multiple self-esteem trajectories in early and into middle adolescence, it is anticipated that further

attention to the later years of adolescence will result in a more fully elaborated portrayal of the multiple pathways of self-esteem development across the full range of adolescence.

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We would like to acknowledge the contributions of Dwayne Schindler, Robert Flynn, Louise Lemyre, Ian Manion, and David DuBois. This study was funded in part by a Social Sciences and Humanities Research Council of Canada grant.

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CHAPTER IV

General Discussion

General Discussion

The purpose of the present research was to examine longitudinal self-esteem trajectories and associated psychosocial outcomes from early to middle adolescence (Grades 8 to 10) and self-esteem trajectory group outcomes at a follow-up point in Grade 11. Adolescence is a particularly relevant developmental period with respect to self-esteem, as it is defined and marked by transitions in self-perceptions, roles, and expectations (Petersen, Kennedy, & Sullivan, 1991). Early adolescents must cope with changing physical appearance, the development of new cognitive abilities, changes in school context and peer group demands, and changing parent-child relationships. Middle and late adolescents face continued peer group demands, the development of intimate relationships, as well as the task of making choices about future adult roles. All of these new developmental demands have implications for a sense of identity and feelings of self-worth. Given the number of changes associated with early adolescent development, this period has been conceptualized as one in which there is greater susceptibility to self-esteem disruption (Rosenberg, 1985). This may place some adolescents at risk, as self-esteem is hypothesized to have a protective role for adolescence as they adapt to the multiple developmental tasks associated with this period (Deihl et al., 1997).

Most longitudinal or age-related studies of self-esteem in adolescence have focused on the degree to which there is overall stability or change in self-esteem at a mean level over varying periods of time in adolescence. Results of

this type of research indicate general stability (e.g., Chubb et al., 1997; Savin-Williams & Demo, 1984), slight increases (Mullis et al., 1992; O'Malley & Bachman, 1983), or different patterns of increase and decrease as a function of gender (Block & Robins, 1993). Results of research studies focusing on multiple pathways of adolescent self-esteem development (e.g., Deihl et al., 1997; Hirsch & DuBois, 1991; Zimmerman et al., 1997) have shown that beneath the global picture of self-esteem stability or slight incremental change lie multiple trajectory patterns of stability and change in levels of self-esteem over time. In the current study, four different self-esteem trajectory groups were identified: Consistently High, Consistently Low, Decreasing, and Increasing. These differing patterns of self-esteem would have been hidden had self-esteem simply been examined at an overall level.

The Self-Esteem Trajectory Groups

The four trajectory groups identified in the current research had clearly distinct patterns of self-esteem development from early into middle adolescence at the level of self-esteem alone. In the first study, and to a lesser extent in the second study, examination of additional factors relevant to adolescent development and psychological adjustment (social support, stress, coping, life satisfaction, and academic achievement) clarified further the different characteristics of these four groups. The examination of these other aspects of adolescent development also served to provide additional evidence for the validity of the self-esteem trajectories, as they varied on a range of other characteristics.

The Consistently High self-esteem group was the most well-adjusted of the four groups examined and, similar to the equivalent group in the first trajectory study (Hirsch & DuBois, 1991), showed both competence and well-being. Students in this group had the highest level of self-esteem initially in Grade 8 (approximately one standard deviation above the overall mean), and their self-esteem increased slightly to Grade 10 before showing a slight drop in Grade 11. The Consistently High self-esteem group also reported the greatest amount of social support at all four years from both family and friends, as well as esteem-enhancing support. Not only did this group report the highest levels of social support overall, they reported an increase in friend and esteem-enhancing support between Grades 8 and 10, providing support for the importance of social support from significant others in the maintenance of high self-esteem. With respect to reported hassles, in which there were differences between the Consistently High group and the other self-esteem groups, they were in the direction of this particular group reporting the fewest day-to-day stressors. Consistently High self-esteem students reported a decrease from Grades 8 to 10 in their use of coping behaviors considered to be "avoidant", that is, directed away from addressing problems or feelings about problems, whereas there were no changes in their use of "approach" coping behaviors over time. In Grade 11, the Consistently High trajectory group reported the least use of "avoiding problems" as a coping strategy.

Despite the potential additional stress posed by the move into high school,

this group not only continued to do well, they reported improvements in several indicators of adjustment. In a related study of rural adolescents who were followed through the transition to high school in Grade 10 (Deihl et al., 1997), the consistently high group was hypothesized to have adjusted well to transitions in middle adolescence as a result of their previous level of positive self-esteem and their ability to cope successfully with new demands. Thus, it is likely that the Consistently High trajectory represents a group of adolescents who are well-adjusted at the entry to this developmental period, manage adolescent transitions effectively, and continue to improve in obtaining greater support from peers and decreasing their use of avoidant behaviors to deal with stress.

At the other end of the spectrum was the Consistently Low self-esteem group, which showed a general pattern opposite to that of students whose self-esteem was relatively stable over time, but high. The Consistently Low group showed very little self-esteem change over time. The level of self-esteem reported by this group in Grade 11, however, was greater than what had been reported at the end of Grade 8. Despite this increase, mean self-esteem scores for this group were consistently one-and-a-half standard deviations below the mean of the overall sample. Mean levels of self-esteem reported by this group at each of the different measurement points were either slightly below or above the absolute midpoint of the Rosenberg scale, indicating that although much lower than students in the other groups, students in the Consistently Low group reported self-esteem scores at about the point dividing self-evaluations that are more negative

than positive from those that are more positive than negative. Thus, students in the Consistently Low group were generally not reporting overwhelmingly negative self-esteem, but were consistently giving more negative self-reports than the other three trajectory groups.

Students in the Consistently Low group were doing more poorly than those in the other self-esteem groups at the start of the study in Grade 8, particularly when compared with students in the Consistently High and Decreasing self-esteem groups. Between Grades 8 and 10, this group showed very little change on any of the variables considered, with the exception of social support from family, which dropped to Grade 9 and then increased again to Grade 10. This group was not notably different from the two "changing" self-esteem groups in Grade 11 in terms of the factors considered, with the exception of life satisfaction, with students in this group reporting substantially lower satisfaction with the current circumstances of their lives. The pattern shown by the Consistently Low self-esteem group was similar to that found in the other trajectory studies, in which assessment of self-esteem began as early as Grade 6 (Deihl et al., 1997; Hirsch & DuBois, 1991; Zimmerman et al., 1997), and suggests that there is a subgroup of adolescents whose difficulties predate the onset of adolescence. Given the association between self-esteem and problems including depression and anxiety (Harter, 1993; Rosenberg et al., 1995), this group would appear to be most at risk for more serious psychological problems as they progress through their adolescent years. Given the degree of stability shown

by the Consistently Low self-esteem group, and the evidence that this pattern is likely established prior to adolescence, these at-risk students would likely benefit from identification and intervention prior to the adolescent years.

The Decreasing group also is of concern, as students in this group reported similar levels of self-esteem to those in the Consistently High group immediately prior to the transition into high school (end of Grade 8). This group then showed a pattern of gradual self-esteem decline into Grade 10, which appeared to stabilize between Grades 10 and 11. Interestingly, this trajectory group showed very little change over time on other aspects of adolescent adjustment, with the exception of reported daily hassles, which increased between Grades 8 and 10. Although self-esteem did not decline significantly for the Decreasing group until between the Grade 9 and 10 years, this group reported an increase in hassles as early as Grade 9. It remains to be seen, however, whether increased stress is predictive of self-esteem decline or whether an additional aspect of adolescent adjustment is resulting in change on both self-esteem and reported hassles during these three years.

Hirsch and DuBois (1991) noted in their study that they had not been able to identify factors that might be predictive of self-esteem decline. In the current study, however, students in the Decreasing group reported lower levels of social support (parent, peer, and esteem-enhancing) in relation to those in the Consistently High group in Grade 8, although these two groups did not differ substantially on their reports of self-esteem. This raises the possibility that, at

least in Grade 8, that a discrepancy between self-esteem and perceptions of social support may be a marker for students at risk for self-esteem decline as they move into high school. Further study is required to determine whether such a discrepancy is predictive of later self-esteem decline and what magnitude of discrepancy is significant enough to place these students at risk.

The self-esteem pattern shown by students in the Increasing group is of interest, as this group reported substantially lower self-esteem than both the Consistently High and Decreasing groups initially, but was indistinguishable from the Decreasing group by Grade 10 and into Grade 11. In Grade 8, the mean level of self-esteem reported by the Increasing group was slightly greater than one-half of a standard deviation below the overall group mean (although still greater than the scale midpoint), and increased by Grade 10 to be just slightly below the overall mean reported self-esteem score. Thus, this group started from a low to moderate level of self-esteem, which then increased between Grades 8 and 10. The most notable feature of this group was their increase in perceived social support on all of the social support factors examined between Grade 8 and Grade 10, suggesting that a perception of increasing social support may play an important role in increasing self-esteem from early to middle adolescence. In the Hirsch and DuBois (1991) study, their small increase group showed very little change on reported peer support from Grades 6 to 8, which suggests that the role of social support with respect to an increasing pattern of self-esteem may be influenced by age and the timing of school transitions. In the Zimmerman et al.

(1997) study which was based on Grades 6 to 10, the moderate and rising self-esteem group was associated with several positive outcomes, such as the least rate of increase in alcohol use and misuse, as well as tolerance for deviance, although the consistently high self-esteem group reported the most positive outcomes. Nonetheless, students who fit an Increasing pattern of self-esteem development may possess sufficient psychosocial resources to manage school transitions and other stressors in adolescence (Deihl et al., 1997).

Implications for the Study of Self-Esteem in Adolescence

The results of the two studies presented in the current research, along with the previous trajectory studies of self-esteem in adolescence, lend support to conceptualizations of adjustment in adolescence that emphasize multiple patterns of development (e.g., Compas et al., 1995). Two of the self-esteem trajectories are characterized by relative stability over several years in adolescence, suggesting that these patterns are established earlier in childhood and remain largely unaffected by the new challenges of adolescence. The changing trajectories of increase and decrease suggest a pattern of adolescent self-esteem development that is influenced, both positively and negatively, by experiences incurred during the adolescent period.

The differences in the patterns of the self-esteem trajectories between the current research and prior studies, particularly for the trajectory showing a decrease in self-esteem over time, indicate the need to consider the role of timing of self-esteem assessment in self-esteem trajectory studies. In the current

research, the Decreasing trajectory showed a much more gradual pattern of self-esteem decline in contrast to the declining trajectories identified in studies which, unlike the current study, involved an early adolescent school transition in Grade 7 (Hirsch & DuBois, 1991; Zimmerman et al., 1997). The re-analysis of self-esteem trajectories from Grades 8 to 11 in the one-year follow-up period of the current research indicated the same four self-esteem trajectories as were identified previously, but with changes in trajectory group membership, particularly for the two trajectories involving self-esteem change. This is noteworthy as the current research involved a follow-up of self-esteem measurement to a point later than previous trajectory studies (Grade 11). A limitation to note, however, is that the trajectories in the current study were identified based on measurement of self-esteem across three points in time (Grades 8 to 10) in comparison with other trajectory studies involving four measurement points. Since the trajectories were identified based on a more limited number of self-esteem measurement points, it is possible that the accuracy of identification of the self-esteem trajectories may have been limited. Nonetheless, the four trajectories identified were similar to those found in two previous trajectory studies (Hirsch & DuBois, 1991; Zimmerman et al., 1997). With the different developmental tasks associated with middle and late adolescent phases, self-esteem trajectories in middle or late adolescence might show different patterns of self-esteem than those restricted to the early adolescent phase of development. In order to capture more fully the picture of self-esteem across the entire adolescent period, further study is required

than encompasses a broader range of adolescent years.

The results of the current research, along with those of prior self-esteem trajectory studies, are suggestive of some of the psychosocial factors associated with different adolescent self-esteem trajectories. These results are consistent with prior research that has indicated relations between self-esteem and social support (Harter, 1999; O'Koon, 1997; Short et al., 1996), coping behavior (Chapman & Mullis, 1999; Dumont & Provost, 1999), reported stress (Harper & Marshall, 1991; Short et al., 1996), academic achievement (Rosenberg et al., 1995), life satisfaction (Huebner et al., 1999; Neto, 1993), and psychological symptomatology (Mruk, 1999; Rosenberg et al., 1995). With the exception of life satisfaction, effect sizes indicate that in the current research, the psychosocial factors share less than 10% of the variance with self-esteem in terms of trajectories, which is consistent with prior research. This suggests a role for additional psychosocial factors than those examined to date with respect to the different trajectories of self-esteem in adolescence.

The Role of Individual and Relationship Factors in Adolescent Self-Esteem Development

In the consideration of risk and protective factors in adolescence, attention is given to both individual and social factors (Dekovic, 1999). In the current research, individual-level factors considered with respect to the self-esteem trajectories included coping behavior, reported stress, life satisfaction, and academic achievement, whereas social factors included perceived support from

family members and friends, and esteem-enhancing social support. These individual and social resources are also interrelated, for example, coping behavior is influenced by adolescents' relationships with parents and parents' coping behavior (Dusek & Danko, 1994; Ruchkin, Eisemann, & Hagglof, 1999). The concept of individual and social factors can be considered within Harter's (1999) framework in which correlates/antecedents of adolescent self-esteem are grouped into competence/adequacy and approval/support categories. Perceptions of competence or actual measures of competence can be considered to function at the individual level in that they involve individual behavioral performance or individual perceptions of one's own performance. Although often based on individual evaluations or perceptions, the concept of approval/support involves relationships with other people and thus can be considered to function at a more social level.

At the individual level in the current research, coping (particularly avoidant coping behavior), reported hassles, life satisfaction, and academic achievement were significant factors. Different patterns of avoidant coping were seen for the four self-esteem trajectories across Grades 8 to 10, and the coping strategy of avoiding problems differed significantly across the trajectory groups in Grade 11, whereas no such effect was seen for approach coping. In previous research, results have indicated a greater role for avoidant, as opposed to approach, coping with respect to self-esteem (Chapman & Mullis, 1999; Dumont & Provost, 1999). The Consistently Low and Decreasing Groups showed no

change in use of avoidant coping, the Consistently High group reported decreased use of avoidant coping between Grade 8 and Grade 10, and the Increasing group showed a nonsignificant decline in use of avoidant coping between Grades 8 and 9. All four trajectory groups showed general patterns of stability in their use of approach coping between Grades 8 and 10. Maintenance of a prominently avoidant pattern of coping, as well as a shift towards a more avoidant pattern of coping, has been found to be associated with greater depressive symptomatology (Herman-Stahl et al., 1995).

Reported daily hassles also differed significantly by the self-esteem trajectory groups from Grades 8 to 10 as well as in Grade 11. Of particular note was the increase in reported hassles for students in the Decreasing self-esteem group between Grades 8 and 10, in comparison with relative patterns of stability for the other three trajectory groups. However, it is unclear whether this pattern of increased daily hassles is simply co-occurring with a decrease in self-esteem, or whether it is, in fact, a predictive factor. The role of academic achievement with respect to the self-esteem trajectories remains unclear as the trajectory groups did not show differential patterns of academic achievement over time, unlike the one prior trajectory study in which academic achievement was examined across several years (Zimmerman et al., 1997). At an overall level, however, the trajectory groups did vary on average grades, which is consistent with previous research (Rosenberg et al., 1989). In the follow-up year of the current research, life satisfaction discriminated significantly between the self-

esteem trajectory groups. As this aspect of adjustment has not yet been examined longitudinally in the context of self-esteem trajectories, its specific role with respect to the trajectories remains undefined at present.

There is substantial evidence that both family and peer relationships are transformed beginning in early adolescence. Parent-adolescent relationships undergo a period of temporary disruption in early adolescence, with increased conflict and tension and decreased warmth (Anderson, Hetherington, & Clingempeel, 1989). Currently, however, research supports a trend towards renegotiation of parent-child relationships in middle and late adolescence (Fuligni & Eccles, 1993), and the maintenance of an important role for family throughout adolescence (Burt, Cohen & Bjorck, 1988). Although this is generally the norm, some families may not successfully renegotiate parent-adolescent relationships, resulting in further distancing and alienation from parents (Fuligni & Eccles, 1993), which appears to be associated with additional problems such as aggression and depressed mood (Noack & Puschner, 1999). Along with this change in the parent-adolescent relationship is an increased importance and valuing of peer relationships (Burt et al., 1988; Fuligni & Eccles, 1993). These transformations in interpersonal relationships that begin in early adolescence become particularly relevant in middle adolescence, with the developmental tasks of becoming self-reliant and achieving autonomy from parents, expanding peer relationships, and gaining the ability to have more intimate friendships (Isakson & Jarvis, 1999). These findings are reflected in research on the relations between

perceived approval and self-worth in that the association between peer approval and self-worth increases with development, whereas the association between parent approval and self-worth remains generally stable to late adolescence (Harter, 1999).

The results of the current research are consistent with the continued importance of both family as well as peer (friend) relationships in early and middle adolescence, particularly for an increase in self-esteem. The Consistently High group reported the highest levels of all types of social support and reported increases in friend and esteem-enhancing support, and the Increasing group reported increasing support from both family and friends, as well as esteem-enhancing support, between Grades 8 and 10. The Declining and Consistently Low self-esteem groups reported little net change in these aspects of social support between Grades 8 and 10. With respect to the family, these results are consistent with research that has found a link between positive adjustment in adolescence and parenting practices of increased involvement and supervision as opposed to control (Burt et al., 1988; Kurdek, Fine, & Sinclair, 1994). Although the focus in trajectory studies has been on perceived social support, it has been argued that these cognitive representations are a critical aspect of relationships (Fuligni & Eccles, 1993). Social support from friends also appears to be important for the maintenance of high self-esteem as well as increasing self-esteem in adolescence. Although the focus of peer relationships has often been on the negative aspect of peer influence or pressure, the peer group can also be a

source of support and reassurance (Dekovic, 1999). In the current research, the focus of reported social support was specifically on friends as opposed to peers in general, which may account for the positive associations between peer social support and self-esteem.

Implications for Intervention

Although adolescence involves multiple developmental transitions, the majority of adolescents manage these transitions successfully with little disruption (Offer & Schonert-Reichl, 1992). From this perspective, adolescents experiencing significant levels of distress are at risk, as this distress is likely to be predictive of future difficulties (Grossman, Beinashowitz, Anderson, Sakurai, Finnin, & Flaherty, 1992). The Consistently Low group is of great concern as this group is consistently reporting the lowest levels of psychosocial adjustment. However, given the stability of this pattern, it is likely established at an earlier developmental point and thus intervention for this group would be required prior to the adolescent developmental period.

The Decreasing self-esteem group also is of particular concern as their pattern of declining self-esteem is occurring during this developmental period. In the current research, the Decreasing self-esteem group reported an increase in reported daily hassles as they moved from Grades 8 to 10. This group also reported lower levels of social support than the Consistently High group in Grade 8 at a point prior to their self-esteem decrease, although a concomitant decline in social support was not seen. In the Hirsch and DuBois (1991) study of Grades 6

to 8, the declining self-esteem trajectory showed a decrease in peer support and an increase in psychological symptomatology, although this group did not differ in reported social support from the consistently high self-esteem group in Grade 6. As noted previously, the degree of decline appears to be related to the ages at which self-esteem is evaluated. Given the differences between these two studies in the results regarding social support, psychosocial factors may be associated with different self-esteem trajectories and may also vary across different ages.

In a recent meta-analytic review of self-esteem interventions, Haney and Durlak (1998) found that treatment programs were more effective in changing self-esteem than were primary prevention programs. As primary prevention programs may be targeted at an entire group as opposed to one identified as being at risk, fewer changes in self-esteem would be expected for those students already showing positive adjustment. This result also speaks to the utility of trajectory studies of self-esteem in identifying students already showing a negative pattern of self-esteem (Consistently Low group) and those at risk for self-esteem decline (Decreasing group). The trajectory approach again lends its utility to the evaluation of the impact of intervention on the decreasing group in that successful intervention would be expected to reduce the slope of decline, or decrease the proportion of students showing such a pattern (Hirsch, DuBois, & Brownell, 1993).

Issues to be Addressed in Future Research

The results of the current research provide support for the consideration of

adolescent self-esteem in terms of multiple developmental trajectories, as well as support for the validity of these trajectories as representing distinct patterns of development in adolescence. Given the differences in the patterns shown by the self-esteem trajectories across studies that have encompassed different age groups and the new developmental tasks that characterize middle and late adolescence, further study encompassing longer periods of development is needed in order to identify the self-esteem trajectories that best characterize not only early adolescence, but middle and late adolescence as well.

Results of the current study, as well as previous trajectory studies, suggest that other aspects of psychosocial development relevant to adolescent self-esteem trajectories, including social support, coping, stress, life satisfaction, academic achievement, psychological symptoms, and problem behavior such as alcohol misuse. These measures have primarily been measured by self report, raising the issue of shared method variance, particularly for negative adjustment outcomes (e.g., Dekovic, 1999). Future study should incorporate both self and external reports in order to clarify the role of psychosocial factors with respect to trajectories of self-esteem. As future studies target a wider age range in adolescence, psychosocial factors need to be evaluated across all adolescent developmental periods in order to clarify the aspects of psychosocial adjustment that are critical to self-esteem trajectory outcomes at specific points in development as opposed to seeking more general markers of risk (e.g., Grossman et al., 1992).

With respect to intervention, Haney and Durlak (1998) reported that effects of self-esteem intervention are stronger for interventions as opposed to primary prevention. For the Decreasing self-esteem trajectory in particular, further study is needed to enable the early identification of this group to specifically target these adolescents at risk for self-esteem disruption in adolescence, and to examine whether interventions can have an impact at a broader level in reducing the level of self-esteem decline for this group as a whole or in preventing self-esteem decline for some of these adolescents. Concern also has been raised about the Consistently Low self-esteem trajectory, however, the stability of this group in adolescence suggests that this pattern is established at an earlier age. In order to intervene with this group, further study is needed to clarify the childhood precursors of this pattern and to identify earlier points of intervention with this group.

In conclusion, the consideration of self-esteem in adolescence in terms of multiple developmental trajectories appears to be an effective way of representing different subgroups of adolescents that show differing outcomes not only on self-esteem but on other indicators of psychosocial adjustment during this developmental period. To date, most of the research has focused on early adolescence, and further study into middle and late adolescence is needed to identify the trajectory patterns that best characterize the entire developmental stage of adolescence. The integration of the trajectory approach with the literature on self-esteem intervention is anticipated to result in more effective early

identification of at-risk youth to implement intervention programs at a point prior to the onset of more persistent difficulties.

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Appendix A

Rosenberg Self-Esteem Scale

IN THE FOLLOWING ITEMS, WE WOULD LIKE TO FIND OUT ABOUT CERTAIN AREAS OF YOUR LIFE.

CIRCLE YOUR RESPONSE NEXT TO EACH QUESTION.

		CIRCLE YOUR ANSWER			
Q-1	On the whole, I am satisfied with myself.	STRONGLY AGREE	SOMEWHAT AGREE	SOMEWHAT DISAGREE	STRONGLY DISAGREE
Q-2	At times I think I am no good at all.	STRONGLY AGREE	SOMEWHAT AGREE	SOMEWHAT DISAGREE	STRONGLY DISAGREE
Q-3	I feel that I have a number of good qualities.	STRONGLY AGREE	SOMEWHAT AGREE	SOMEWHAT DISAGREE	STRONGLY DISAGREE
Q-4	I am able to do things as well as most other people.	STRONGLY AGREE	SOMEWHAT AGREE	SOMEWHAT DISAGREE	STRONGLY DISAGREE
Q-5	I feel **I DO NOT** have much to be proud of.	STRONGLY AGREE	SOMEWHAT AGREE	SOMEWHAT DISAGREE	STRONGLY DISAGREE
Q-6	I certainly feel useless at times.	STRONGLY AGREE	SOMEWHAT AGREE	SOMEWHAT DISAGREE	STRONGLY DISAGREE
Q-7	I feel that I am a person of worth, at least on an equal plane with others.	STRONGLY AGREE	SOMEWHAT AGREE	SOMEWHAT DISAGREE	STRONGLY DISAGREE
Q-8	I wish I could have **MORE** respect for myself.	STRONGLY AGREE	SOMEWHAT AGREE	SOMEWHAT DISAGREE	STRONGLY DISAGREE
Q-9	All in all, I am inclined to feel that I am a failure.	STRONGLY AGREE	SOMEWHAT AGREE	SOMEWHAT DISAGREE	STRONGLY DISAGREE
Q-10	I take a positive attitude toward myself.	STRONGLY AGREE	SOMEWHAT AGREE	SOMEWHAT DISAGREE	STRONGLY DISAGREE

Appendix B

Survey of Children's Social Support APP Scale

IN THE FOLLOWING ITEMS, WE WOULD LIKE TO FIND OUT ABOUT CERTAIN AREAS OF YOUR LIFE.

CIRCLE YOUR RESPONSE NEXT TO EACH QUESTION.

		CIRCLE YOUR ANSWER				
	FRIENDS					
Q-1	Some teenagers feel left out by their friends, but other teenagers do not. Do you feel left out by your friends?	NEVER	HARDLY EVER	SOMETIMES	MOST OF THE TIME	ALWAYS
Q-2	Some teenagers feel well-liked by their friends, but other teenagers do not. Are you well-liked by your friends?	NEVER	HARDLY EVER	SOMETIMES	MOST OF THE TIME	ALWAYS
Q-3	Some teenagers get picked on by their friends, but other teenagers do not. Do you get picked on by your friends?	NEVER	HARDLY EVER	SOMETIMES	MOST OF THE TIME	ALWAYS
Q-4	Do your friends make fun of you in a negative way?	NEVER	HARDLY EVER	SOMETIMES	MOST OF THE TIME	ALWAYS
Q-5	Do your friends like to hear your ideas?	NEVER	HARDLY EVER	SOMETIMES	MOST OF THE TIME	ALWAYS
Q-6	Do you and your friends do a lot of things for each other?	NEVER	HARDLY EVER	SOMETIMES	MOST OF THE TIME	ALWAYS

Q-7	Do you feel very close to your friends?	NEVER	HARDLY EVER	SOMETIMES	MOST OF THE TIME	ALWAYS
Q-8	Can you count on your friends for help or advice when you have problems?	NEVER	HARDLY EVER	SOMETIMES	MOST OF THE TIME	ALWAYS
Q-9	Do you think your friends care about you?	NEVER	HARDLY EVER	SOMETIMES	MOST OF THE TIME	ALWAYS
Q-10	Do your friends make you feel bad?	NEVER	HARDLY EVER	SOMETIMES	MOST OF THE TIME	ALWAYS
	FAMILY					
Q-11	Some teenagers can count on their family for help or advice when they have problems, but other teenagers cannot. Can you count on your family for help or advice when you have problems?	NEVER	HARDLY EVER	SOMETIMES	MOST OF THE TIME	ALWAYS
Q-12	Some teenagers and their family do a lot of things for each other, but other teenagers and their family do not. Do you and your family do a lot of things for each other?	NEVER	HARDLY EVER	SOMETIMES	MOST OF THE TIME	ALWAYS

Q-13	Some teenagers' family make them feel bad, but other teenagers' family do not. Does your family make you feel bad?	NEVER	HARDLY EVER	SOMETIMES	MOST OF THE TIME	ALWAYS
Q-14	Do you share a lot with your family?	NEVER	HARDLY EVER	SOMETIMES	MOST OF THE TIME	ALWAYS
Q-15	Do you have a hard time talking to your family?	NEVER	HARDLY EVER	SOMETIMES	MOST OF THE TIME	ALWAYS
Q-16	Do you feel like your family is **NEVER** there when you need them?	NEVER	HARDLY EVER	SOMETIMES	MOST OF THE TIME	ALWAYS
Q-17	Do you feel left out by your family?	NEVER	HARDLY EVER	SOMETIMES	MOST OF THE TIME	ALWAYS
Q-18	Does your family listen to your ideas?	NEVER	HARDLY EVER	SOMETIMES	MOST OF THE TIME	ALWAYS
Q-19	Are you an important member of your family?	NEVER	HARDLY EVER	SOMETIMES	MOST OF THE TIME	ALWAYS
Q-20	Do you think your family cares about you?	NEVER	HARDLY EVER	SOMETIMES	MOST OF THE TIME	ALWAYS
Q-21	Do you feel like you **DON'T** belong in your family?	NEVER	HARDLY EVER	SOMETIMES	MOST OF THE TIME	ALWAYS

Appendix C

Perceived Social Support Scale

THE STATEMENTS WHICH FOLLOW REFER TO FEELINGS AND EXPERIENCES WHICH OCCUR TO MOST PEOPLE AT ONE TIME OR ANOTHER IN THEIR RELATIONSHIPS WITH FRIENDS/FAMILIES AND CLASSMATES. FOR EACH STATEMENT THERE ARE THREE POSSIBLE ANSWERS: YES, NO, DON'T KNOW. PLEASE CIRCLE THE ANSWER YOU CHOOSE FOR EACH ITEM.

		CIRCLE YOUR ANSWER		
FRIENDS				
Q-1	My friends give me the moral support I need.	YES	NO	DON'T KNOW
Q-2	Most other people are closer to their friends than I am.	YES	NO	DON'T KNOW
Q-3	My friends enjoy hearing what I think.	YES	NO	DON'T KNOW
Q-4	Certain friends come to me when they have problems or need advice.	YES	NO	DON'T KNOW
Q-5	I rely on my friends for emotional support.	YES	NO	DON'T KNOW
Q-6	If I felt that one or more of my friends were upset with me, I'd just keep it to myself.	YES	NO	DON'T KNOW
Q-7	I feel that I'm on the fringe in my circle of friends.	YES	NO	DON'T KNOW
Q-8	There is a friend I could go to if I were just feeling down, without feeling funny about it later.	YES	NO	DON'T KNOW
Q-9	My friends and I are very open about what we think about things.	YES	NO	DON'T KNOW
Q-10	My friends are sensitive to my personal needs.	YES	NO	DON'T KNOW
Q-11	My friends come to me for emotional support.	YES	NO	DON'T KNOW
Q-12	My friends are good at helping me solve problems.	YES	NO	DON'T KNOW
Q-13	I have a deep sharing relationship with a number of friends.	YES	NO	DON'T KNOW
Q-14	My friends get good ideas about how to do things or make things from me.	YES	NO	DON'T KNOW
Q-15	When I confide in friends, it makes me feel uncomfortable.	YES	NO	DON'T KNOW
Q-16	My friends seek me out for companionship.	YES	NO	DON'T KNOW

Q-17	I think that my friends feel I'm good at helping them solve problems.	YES	NO	DON'T KNOW
Q-18	I don't have a relationship with a friend that is as intimate as other people's relationships with friends.	YES	NO	DON'T KNOW
Q-19	I've recently gotten a good idea about how to do something from a friend.	YES	NO	DON'T KNOW
Q-20	I wish my friends were much different.	YES	NO	DON'T KNOW

FAMILY

Q-21	My family gives me the moral support I need.	YES	NO	DON'T KNOW
Q-22	I get good ideas about how to do things or make things from my family.	YES	NO	DON'T KNOW
Q-23	Most other people are closer to their family than I am.	YES	NO	DON'T KNOW
Q-24	When I confide in the members of my family who are closest to me, I get the idea that it makes them uncomfortable.	YES	NO	DON'T KNOW
Q-25	My family enjoys hearing about what I think.	YES	NO	DON'T KNOW
Q-26	Members of my family share many of my interests.	YES	NO	DON'T KNOW
Q-27	Certain members of my family come to me when they have problems or need advice.	YES	NO	DON'T KNOW
Q-28	I rely on my family for emotional support.	YES	NO	DON'T KNOW
Q-29	There is a member of my family I could go to if I were just feeling down, without feeling funny about it later.	YES	NO	DON'T KNOW
Q-30	My family and I are very open about what we think about things.	YES	NO	DON'T KNOW
Q-31	My family is sensitive to my personal needs.	YES	NO	DON'T KNOW
Q-32	Members of my family come to me for emotional support.	YES	NO	DON'T KNOW
Q-33	Members of my family are good at helping me solve problems.	YES	NO	DON'T KNOW
Q-34	I have a deep sharing relationship with a number of members of my family.	YES	NO	DON'T KNOW

Q-35	Members of my family get good ideas about how to do things or make things from me.	YES	NO	DON'T KNOW
Q-36	When I confide in members of my family, it makes me uncomfortable.	YES	NO	DON'T KNOW
Q-37	Members of my family seek me out for companionship.	YES	NO	DON'T KNOW
Q-38	I think that my family feels that I'm good at helping them solve problems.	YES	NO	DON'T KNOW
Q-39	I don't have a relationship with a member of my family that is as close as other people's relationships with family members.	YES	NO	DON'T KNOW
Q-40	I wish my family was much different.	YES	NO	DON'T KNOW

Appendix D

Survey of Children's Social Support SAB Scale

(Emotional/Esteem-Enhancing Support Items)

IN THE FOLLOWING ITEMS, WE WOULD LIKE TO FIND OUT ABOUT CERTAIN AREAS OF YOUR LIFE.

CIRCLE YOUR RESPONSE NEXT TO EACH QUESTION.

		CIRCLE YOUR ANSWER				
Q-1	How often does somebody cheer you up when you lose at something?	NEVER	HARDLY EVER	SOMETIMES	MOST OF THE TIME	ALWAYS
Q-2	When you have a secret you want to share, how often can you find someone to tell it to?	NEVER	HARDLY EVER	SOMETIMES	MOST OF THE TIME	ALWAYS
Q-3	How often does somebody cheer you up when you are sad?	NEVER	HARDLY EVER	SOMETIMES	MOST OF THE TIME	ALWAYS
Q-4	How often does somebody say positive things to you when you do something well?	NEVER	HARDLY EVER	SOMETIMES	MOST OF THE TIME	ALWAYS
Q-5	How often does somebody stand up for you when you get picked on?	NEVER	HARDLY EVER	SOMETIMES	MOST OF THE TIME	ALWAYS
Q-6	How often do people say things that make you feel good, or happy, or important?	NEVER	HARDLY EVER	SOMETIMES	MOST OF THE TIME	ALWAYS
Q-7	How often can you find someone to help you when you get in trouble?	NEVER	HARDLY EVER	SOMETIMES	MOST OF THE TIME	ALWAYS
Q-8	How often are people happy for you when you do something well?	NEVER	HARDLY EVER	SOMETIMES	MOST OF THE TIME	ALWAYS
Q-9	When you do work (like art work or school work), how often are people interested in it?	NEVER	HARDLY EVER	SOMETIMES	MOST OF THE TIME	ALWAYS

Q-10	How often do people listen to you when you have ideas?	NEVER	HARDLY EVER	SOMETIMES	MOST OF THE TIME	ALWAYS
Q-11	When something is bothering you, how often does somebody help you forget about it?	NEVER	HARDLY EVER	SOMETIMES	MOST OF THE TIME	ALWAYS
Q-12	How often can you find somebody to be with when you don't feel good?	NEVER	HARDLY EVER	SOMETIMES	MOST OF THE TIME	ALWAYS

Appendix E

Kidcope Scale

PLEASE READ EACH STATEMENT AND DETERMINE WHICH PHRASES APPLY (IF ANY) TO HOW YOU DEALT WITH SITUATIONS THAT BOTHERED YOU RECENTLY.
THEN ANSWER BOTH QUESTIONS TO THE RIGHT OF EACH STATEMENT, CIRCLING THE BEST ANSWER.

FOR THOSE STATEMENTS THAT YOU ANSWER "NOT AT ALL" TO THE FIRST QUESTION, THE SECOND QUESTION DOES NOT REQUIRE A RESPONSE.

		1st Question - Circle your answer HOW OFTEN DID YOU DO THIS?				2nd Question - Circle your answer HOW MUCH DID IT HELP?				
		Not at all	Some-times	A lot of the time	Almost all the time	Not at all	A little	Some-times	Pretty Much	Very Much
Q-1	I thought about something else, or tried to forget it, like watch TV or play a game to get it off my mind	0	1	2	3	0	1	2	3	4
Q-2	I stayed away from people, or kept my feelings to myself, or just handled the situation on my own	0	1	2	3	0	1	2	3	4
Q-3	I tried to see the good side of things, or concentrated on something good that could come out of the situation	0	1	2	3	0	1	2	3	4
Q-4	I realized I brought the problem on myself and blamed myself for causing it	0	1	2	3	0	1	2	3	4
Q-5	I realized that someone else caused the problem and I blamed them for making me go through it	0	1	2	3	0	1	2	3	4
Q-6	I thought of ways to solve the problem, or talked to others to get more facts and information about the problem, or tried to actually solve the problem	0	1	2	3	0	1	2	3	4
Q-7	I talked about how I was feeling; or yelled, screamed, and/or hit something	0	1	2	3	0	1	2	3	4
Q-8	I tried to calm myself by talking to myself, or praying, or taking a walk, or just trying to relax	0	1	2	3	0	1	2	3	4
Q-9	I kept thinking and wishing this had never happened, or that I could have changed what had happened	0	1	2	3	0	1	2	3	4
Q-10	I turned to my family, or friends, or other adults to help me feel better	0	1	2	3	0	1	2	3	4
Q-11	I just accepted the problem because I knew I couldn't do anything about it	0	1	2	3	0	1	2	3	4

Appendix F

Adolescent Coping Orientation for Problem Experiences (A-COPE) Scale

WE ARE TRYING TO FIND OUT HOW ADOLESCENTS DEAL WITH DIFFERENT SITUATIONS.

PLEASE READ EACH ITEM CAREFULLY AND CIRCLE YOUR ANSWER.

"WHEN YOU FACE DIFFICULTIES OR FEEL TENSE, HOW OFTEN DO YOU ...?"

		CIRCLE YOUR ANSWER				
Q-1	Go along with parents' requests and rules.	NEVER	HARDLY EVER	SOMETIMES	OFTEN	MOST OF THE TIME
Q-2	Read.	NEVER	HARDLY EVER	SOMETIMES	OFTEN	MOST OF THE TIME
Q-3	Try to be funny and make light of it.	NEVER	HARDLY EVER	SOMETIMES	OFTEN	MOST OF THE TIME
Q-4	Apologize to people.	NEVER	HARDLY EVER	SOMETIMES	OFTEN	MOST OF THE TIME
Q-5	Listen to music – stereo, radio, etc.	NEVER	HARDLY EVER	SOMETIMES	OFTEN	MOST OF THE TIME
Q-6	Talk to a teacher or a counselor at school about what bothers you.	NEVER	HARDLY EVER	SOMETIMES	OFTEN	MOST OF THE TIME
Q-7	Eat food.	NEVER	HARDLY EVER	SOMETIMES	OFTEN	MOST OF THE TIME
Q-8	Try to stay away from home as much as possible.	NEVER	HARDLY EVER	SOMETIMES	OFTEN	MOST OF THE TIME
Q-9	Use drugs prescribed by a doctor.	NEVER	HARDLY EVER	SOMETIMES	OFTEN	MOST OF THE TIME
Q-10	Get more involved in activities at school.	NEVER	HARDLY EVER	SOMETIMES	OFTEN	MOST OF THE TIME
Q-11	Go shopping; buy things you like.	NEVER	HARDLY EVER	SOMETIMES	OFTEN	MOST OF THE TIME
Q-12	Try to reason with parents and talk things out; compromise.	NEVER	HARDLY EVER	SOMETIMES	OFTEN	MOST OF THE TIME
Q-13	Try to improve yourself (get body in shape, get better grades, etc.).	NEVER	HARDLY EVER	SOMETIMES	OFTEN	MOST OF THE TIME
Q-14	Cry.	NEVER	HARDLY EVER	SOMETIMES	OFTEN	MOST OF THE TIME

Q-15	Try to think of the good things in your life.	NEVER	HARDLY EVER	SOMETIMES	OFTEN	MOST OF THE TIME
Q-16	Be with a boyfriend or girlfriend.	NEVER	HARDLY EVER	SOMETIMES	OFTEN	MOST OF THE TIME
Q-17	Ride around in the car.	NEVER	HARDLY EVER	SOMETIMES	OFTEN	MOST OF THE TIME
Q-18	Say nice things ("warm fuzzies") to others.	NEVER	HARDLY EVER	SOMETIMES	OFTEN	MOST OF THE TIME
Q-19	Get angry and yell at people.	NEVER	HARDLY EVER	SOMETIMES	OFTEN	MOST OF THE TIME
Q-20	Joke and keep a sense of humor.	NEVER	HARDLY EVER	SOMETIMES	OFTEN	MOST OF THE TIME
Q-21	Talk to a minister/ priest/rabbi.	NEVER	HARDLY EVER	SOMETIMES	OFTEN	MOST OF THE TIME
Q-22	Let off steam by complaining to family members.	NEVER	HARDLY EVER	SOMETIMES	OFTEN	MOST OF THE TIME
Q-23	Go to church.	NEVER	HARDLY EVER	SOMETIMES	OFTEN	MOST OF THE TIME
Q-24	Use drugs (not prescribed by a doctor).	NEVER	HARDLY EVER	SOMETIMES	OFTEN	MOST OF THE TIME
Q-25	Organize your life and what you have to do.	NEVER	HARDLY EVER	SOMETIMES	OFTEN	MOST OF THE TIME
Q-26	Swear.	NEVER	HARDLY EVER	SOMETIMES	OFTEN	MOST OF THE TIME
Q-27	Work hard on schoolwork or school projects.	NEVER	HARDLY EVER	SOMETIMES	OFTEN	MOST OF THE TIME
Q-28	Blame others for what's going on.	NEVER	HARDLY EVER	SOMETIMES	OFTEN	MOST OF THE TIME
Q-29	Be close with someone you care about.	NEVER	HARDLY EVER	SOMETIMES	OFTEN	MOST OF THE TIME
Q-30	Try to help other people solve their problems.	NEVER	HARDLY EVER	SOMETIMES	OFTEN	MOST OF THE TIME
Q-31	Talk to your mother about what bothers you.	NEVER	HARDLY EVER	SOMETIMES	OFTEN	MOST OF THE TIME
Q-32	Try, on your own, to figure out how to deal with your problems or tension.	NEVER	HARDLY EVER	SOMETIMES	OFTEN	MOST OF THE TIME

Q-33	Work on a hobby you have (sewing, model building, etc.).	NEVER	HARDLY EVER	SOMETIMES	OFTEN	MOST OF THE TIME
Q-34	Get professional counseling (not a school teacher or school counselor).	NEVER	HARDLY EVER	SOMETIMES	OFTEN	MOST OF THE TIME
Q-35	Try to keep up friendships or make new friends.	NEVER	HARDLY EVER	SOMETIMES	OFTEN	MOST OF THE TIME
Q-36	Tell yourself the problem(s) is not important.	NEVER	HARDLY EVER	SOMETIMES	OFTEN	MOST OF THE TIME
Q-37	Go to a movie.	NEVER	HARDLY EVER	SOMETIMES	OFTEN	MOST OF THE TIME
Q-38	Daydream about how you would like things to be.	NEVER	HARDLY EVER	SOMETIMES	OFTEN	MOST OF THE TIME
Q-39	Talk to a brother or sister about how you feel.	NEVER	HARDLY EVER	SOMETIMES	OFTEN	MOST OF THE TIME
Q-40	Get a job or work harder at one.	NEVER	HARDLY EVER	SOMETIMES	OFTEN	MOST OF THE TIME
Q-41	Do things with your family.	NEVER	HARDLY EVER	SOMETIMES	OFTEN	MOST OF THE TIME
Q-42	Smoke.	NEVER	HARDLY EVER	SOMETIMES	OFTEN	MOST OF THE TIME
Q-43	Watch T.V.	NEVER	HARDLY EVER	SOMETIMES	OFTEN	MOST OF THE TIME
Q-44	Pray.	NEVER	HARDLY EVER	SOMETIMES	OFTEN	MOST OF THE TIME
Q-45	Try to see the good things in a difficult situation.	NEVER	HARDLY EVER	SOMETIMES	OFTEN	MOST OF THE TIME
Q-46	Drink beer, wine, liquor.	NEVER	HARDLY EVER	SOMETIMES	OFTEN	MOST OF THE TIME
Q-47	Try to make your own decision.	NEVER	HARDLY EVER	SOMETIMES	OFTEN	MOST OF THE TIME
Q-48	Sleep.	NEVER	HARDLY EVER	SOMETIMES	OFTEN	MOST OF THE TIME
Q-49	Say mean things to people: be sarcastic.	NEVER	HARDLY EVER	SOMETIMES	OFTEN	MOST OF THE TIME

Q-50	Talk to your father about what bothers you.	NEVER	HARDLY EVER	SOMETIMES	OFTEN	MOST OF THE TIME
Q-51	Let off steam by complaining to your friends.	NEVER	HARDLY EVER	SOMETIMES	OFTEN	MOST OF THE TIME
Q-52	Talk to a friend about how you feel.	NEVER	HARDLY EVER	SOMETIMES	OFTEN	MOST OF THE TIME
Q-53	Play video games (Space Invaders, Pac-Man), pool, pinball, etc.	NEVER	HARDLY EVER	SOMETIMES	OFTEN	MOST OF THE TIME
Q-54	Do a strenuous physical activity (jogging, biking, etc.).	NEVER	HARDLY EVER	SOMETIMES	OFTEN	MOST OF THE TIME
Q-55	Get angry and take it out on others.	NEVER	HARDLY EVER	SOMETIMES	OFTEN	MOST OF THE TIME

Appendix G

Hassles Scale

HASSLES - IN THE PAST MONTH

LISTED BELOW ARE A NUMBER OF WAYS IN WHICH A PERSON CAN FEEL BOTHERED OR HASSLED.

(1) FIRST, GO THROUGH ALL THE ITEMS AND CHECK THE HASSLES THAT HAVE HAPPENED TO YOU IN THE PAST MONTH.

(2) THEN FOR ALL YOU HAVE CHECKED, INDICATE HOW SEVERE EACH OF THE HASSLES HAS BEEN FOR YOU IN THE PAST MONTH BY CIRCLING ONE OF THE THREE ANSWERS ON THE RIGHT.

IF A HASSLE DID NOT OCCUR IN THE LAST MONTH DO NOT PUT A CHECK NEXT TO IT.

CHECK	HASSLES	SOMEWHAT SEVERE	MODERATELY SEVERE	EXTREMELY SEVERE
		CIRCLE YOUR ANSWER		
1. ___	Misplacing or losing things.....	1. SOMEWHAT.....	MODERATELY	.....EXTREMELY
2. ___	People who bully or pick on you.	2. SOMEWHAT.....	MODERATELY	.....EXTREMELY
3. ___	Troubling thoughts about your future.....	3. SOMEWHAT.....	MODERATELY	.....EXTREMELY
4. ___	Thoughts about death.....	4. SOMEWHAT.....	MODERATELY	.....EXTREMELY
5. ___	Health of a family member.....	5. SOMEWHAT.....	MODERATELY	.....EXTREMELY
6. ___	Not enough money.....	6. SOMEWHAT.....	MODERATELY	.....EXTREMELY
7. ___	Too many responsibilities.....	7. SOMEWHAT.....	MODERATELY	.....EXTREMELY
8. ___	Concerned about the meaning of life.....	8. SOMEWHAT.....	MODERATELY	.....EXTREMELY
9. ___	Trouble relaxing.....	9. SOMEWHAT.....	MODERATELY	.....EXTREMELY
10. ___	Trouble making decisions.....	10. SOMEWHAT.....	MODERATELY	.....EXTREMELY
11. ___	Problems getting along with students at school.....	11. SOMEWHAT.....	MODERATELY	.....EXTREMELY

HASSLES CHECK		SOMEWHAT SEVERE	MODERATELY SEVERE	EXTREMELY SEVERE
		CIRCLE YOUR ANSWER		
12. ___	Chores at home.....	12. SOMEWHAT.....	MODERATELY	.....EXTREMELY
13. ___	Parent(s) who is(are) laid off or out of work.....	13. SOMEWHAT.....	MODERATELY	.....EXTREMELY
14. ___	Don't like current school classes and/or activities.....	14. SOMEWHAT.....	MODERATELY	.....EXTREMELY
15. ___	Don't like students at school.....	15. SOMEWHAT.....	MODERATELY	.....EXTREMELY
16. ___	Too much time on hands, getting bored.....	16. SOMEWHAT.....	MODERATELY	.....EXTREMELY
17. ___	Having to wait.....	17. SOMEWHAT.....	MODERATELY	.....EXTREMELY
18. ___	Concerns about accidents.....	18. SOMEWHAT.....	MODERATELY	.....EXTREMELY
19. ___	Being lonely.....	19. SOMEWHAT.....	MODERATELY	.....EXTREMELY
20. ___	Silly practical mistakes.....	20. SOMEWHAT.....	MODERATELY	.....EXTREMELY
21. ___	Inability to express yourself.....	21. SOMEWHAT.....	MODERATELY	.....EXTREMELY
22. ___	Physical illness.....	22. SOMEWHAT.....	MODERATELY	.....EXTREMELY
23. ___	Don't like your physical appearance.....	23. SOMEWHAT.....	MODERATELY	.....EXTREMELY
24. ___	Fear of people not liking you.....	24. SOMEWHAT.....	MODERATELY	.....EXTREMELY
25. ___	Concerns about health in general.	25. SOMEWHAT.....	MODERATELY	.....EXTREMELY
26. ___	Not having enough friends.....	26. SOMEWHAT.....	MODERATELY	.....EXTREMELY
27. ___	Poor physical abilities.....	27. SOMEWHAT.....	MODERATELY	.....EXTREMELY
28. ___	Others taking advantage of you....	28. SOMEWHAT.....	MODERATELY	.....EXTREMELY
29. ___	Concerns about your body.....	29. SOMEWHAT.....	MODERATELY	.....EXTREMELY

HASSLES		SOMEWHAT SEVERE	MODERATELY SEVERE	EXTREMELY SEVERE
CHECK		CIRCLE YOUR ANSWER		
30. ___	Not getting enough rest.....	30. SOMEWHAT.....	MODERATELY	.....EXTREMELY
31. ___	Problems with parent(s).....	31. SOMEWHAT.....	MODERATELY	.....EXTREMELY
32. ___	Problems with brother(s) and sister(s).....	32. SOMEWHAT.....	MODERATELY	.....EXTREMELY
33. ___	Problems with your boyfriend or girlfriend.....	33. SOMEWHAT.....	MODERATELY	.....EXTREMELY
34. ___	School work too easy.....	34. SOMEWHAT.....	MODERATELY	.....EXTREMELY
35. ___	Concerns about meeting high standards.....	35. SOMEWHAT.....	MODERATELY	.....EXTREMELY
36. ___	Money dealings with friends or acquaintances.....	36. SOMEWHAT.....	MODERATELY	.....EXTREMELY
37. ___	Dissatisfaction with school.....	37. SOMEWHAT.....	MODERATELY	.....EXTREMELY
38. ___	Trouble with reading, writing, or spelling.....	38. SOMEWHAT.....	MODERATELY	.....EXTREMELY
39. ___	Problems with parental divorce or separation.....	39. SOMEWHAT.....	MODERATELY	.....EXTREMELY
40. ___	Trouble with arithmetic, math.....	40. SOMEWHAT.....	MODERATELY	.....EXTREMELY
41. ___	Gossip.....	41. SOMEWHAT.....	MODERATELY	.....EXTREMELY
42. ___	Not enough time to do the things you need to do.....	42. SOMEWHAT.....	MODERATELY	.....EXTREMELY
43. ___	Not enough energy.....	43. SOMEWHAT.....	MODERATELY	.....EXTREMELY
44. ___	Sorry about past decisions.....	44. SOMEWHAT.....	MODERATELY	.....EXTREMELY
45. ___	The weather.....	45. SOMEWHAT.....	MODERATELY	.....EXTREMELY
46. ___	Nightmares.....	46. SOMEWHAT.....	MODERATELY	.....EXTREMELY

HASSLES		SOMEWHAT SEVERE	MODERATELY SEVERE	EXTREMELY SEVERE
CHECK		CIRCLE YOUR ANSWER		
47. ___	Hassles from teachers.....	47. SOMEWHAT.....	MODERATELY	.....EXTREMELY
48. ___	Difficulties with friends.....	48. SOMEWHAT.....	MODERATELY	.....EXTREMELY
49. ___	Transportation problems.....	49. SOMEWHAT.....	MODERATELY	.....EXTREMELY
50. ___	Prejudice and discrimination from others.....	50. SOMEWHAT.....	MODERATELY	.....EXTREMELY
51. ___	No time for fun.....	51. SOMEWHAT.....	MODERATELY	.....EXTREMELY
52. ___	Concerns about news events.....	52. SOMEWHAT.....	MODERATELY	.....EXTREMELY
53. ___	Crime.....	53. SOMEWHAT.....	MODERATELY	.....EXTREMELY
54. ___	Pollution.....	54. SOMEWHAT.....	MODERATELY	.....EXTREMELY
55. ___	Being criticized.....	55. SOMEWHAT.....	MODERATELY	.....EXTREMELY
56. ___	Being embarrassed.....	56. SOMEWHAT.....	MODERATELY	.....EXTREMELY

Appendix H

Life Events Checklist

BELOW IS A LIST OF THINGS THAT SOMETIMES HAPPEN TO PEOPLE.

- **PUT A CHECK MARK IN THE SPACE BY EACH OF THE EVENTS YOU HAVE EXPERIENCED DURING THE PAST 12 MONTHS (THAT IS, SINCE SPRING OF LAST YEAR).**
- **FOR EACH OF THE EVENTS YOU CHECK, ALSO INDICATE WHETHER YOU WOULD RATE THE EVENT AS A *GOOD* EVENT OR AS A *BAD* EVENT.**
- **FINALLY, INDICATE HOW MUCH YOU FEEL THE EVENT HAS CHANGED OR HAS HAD AN IMPACT OR EFFECT ON YOUR LIFE BY PLACING A CIRCLE AROUND THE APPROPRIATE STATEMENT (NO EFFECT-SOME EFFECT-MODERATE EFFECT-GREAT EFFECT).**
  - **(1) PLACE A "CHECK MARK" IN THE SPACE TO INDICATE YOU HAVE EXPERIENCED THE EVENT.**
  - **(2) INDICATE WHETHER YOU VIEWED THE EVENT AS A GOOD OR BAD EVENT, AND**
  - **(3) INDICATE HOW MUCH EFFECT THE EVENT HAS HAD ON YOUR LIFE.**

TO GET SOME IDEA OF THE TYPE OF EVENTS YOU WILL BE ASKED TO RATE, PLEASE READ OVER THE ENTIRE LIST BEFORE YOU BEGIN. ONLY RESPOND TO THOSE EVENTS YOU HAVE ACTUALLY EXPERIENCED DURING THE PAST YEAR.

Event	Check	Type of Event (Circle One)		Impact or Effect of Event on Your Life (Circle One)			
1. Moving to a new home.	_____	Good	Bad	no effect	some effect	moderate effect	great effect
2. New brother or sister.	_____	Good	Bad	no effect	some effect	moderate effect	great effect
3. Changing to new school.	_____	Good	Bad	no effect	some effect	moderate effect	great effect
4. Serious illness or injury of family member.	_____	Good	Bad	no effect	some effect	moderate effect	great effect
5. Parents divorced.	_____	Good	Bad	no effect	some effect	moderate effect	great effect
6. Increased number of arguments between parents.	_____	Good	Bad	no effect	some effect	moderate effect	great effect
7. Mother or father lost job.	_____	Good	Bad	no effect	some effect	moderate effect	great effect
8. Death of close family member.	_____	Good	Bad	no effect	some effect	moderate effect	great effect
9. Parents separated.	_____	Good	Bad	no effect	some effect	moderate effect	great effect

Event	Check	Type of Event (Circle One)		Impact or Effect of Event on Your Life (Circle One)			
10. Death of a close friend.	_____	Good	Bad	no effect	some effect	moderate effect	great effect
11. Increased absence of parent from the home.	_____	Good	Bad	no effect	some effect	moderate effect	great effect
12. Brother or sister leaving home.	_____	Good	Bad	no effect	some effect	moderate effect	great effect
13. Serious illness or injury of close family member.	_____	Good	Bad	no effect	some effect	moderate effect	great effect
14. Parent getting into trouble with law.	_____	Good	Bad	no effect	some effect	moderate effect	great effect
15. Parent getting a new job.	_____	Good	Bad	no effect	some effect	moderate effect	great effect
16. New stepmother or stepfather.	_____	Good	Bad	no effect	some effect	moderate effect	great effect
17. Parent going to jail.	_____	Good	Bad	no effect	some effect	moderate effect	great effect
18. Change in parents' financial status.	_____	Good	Bad	no effect	some effect	moderate effect	great effect
19. Trouble with brother or sister.	_____	Good	Bad	no effect	some effect	moderate effect	great effect
20. Special recognition for good grades.	_____	Good	Bad	no effect	some effect	moderate effect	great effect
21. Joining a new club.	_____	Good	Bad	no effect	some effect	moderate effect	great effect
22. Losing a close friend.	_____	Good	Bad	no effect	some effect	moderate effect	great effect

Event	Check	Type of Event (Circle One)		Impact or Effect of Event on Your Life (Circle One)			
23. Decrease in number of arguments between you and your parents.	_____	Good	Bad	no effect	some effect	moderate effect	great effect
24. Male: girlfriend getting pregnant.	_____	Good	Bad	no effect	some effect	moderate effect	great effect
25. Female: getting pregnant.	_____	Good	Bad	no effect	some effect	moderate effect	great effect
26. Losing a job (e.g., a part-time job).	_____	Good	Bad	no effect	some effect	moderate effect	great effect
27. Making the honor roll.	_____	Good	Bad	no effect	some effect	moderate effect	great effect
28. Getting your own car/motorbike.	_____	Good	Bad	no effect	some effect	moderate effect	great effect
29. New boyfriend/new girlfriend.	_____	Good	Bad	no effect	some effect	moderate effect	great effect
30. Failing a grade.	_____	Good	Bad	no effect	some effect	moderate effect	great effect
31. Increase in number of arguments between you and your parents.	_____	Good	Bad	no effect	some effect	moderate effect	great effect
32. Getting a job of your own (e.g., a part-time job).	_____	Good	Bad	no effect	some effect	moderate effect	great effect
33. Getting into trouble with police.	_____	Good	Bad	no effect	some effect	moderate effect	great effect
34. Major personal illness or injury.	_____	Good	Bad	no effect	some effect	moderate effect	great effect

Event	Check	Type of Event (Circle One)		Impact or Effect of Event on Your Life (Circle One)			
35. Breaking up with boyfriend/ girlfriend	_____	Good	Bad	no effect	some effect	moderate effect	great effect
36. Making up with boyfriend/ girlfriend	_____	Good	Bad	no effect	some effect	moderate effect	great effect
37. Trouble with teacher.	_____	Good	Bad	no effect	some effect	moderate effect	great effect
38. Male: girlfriend having abortion.	_____	Good	Bad	no effect	some effect	moderate effect	great effect
39. Female: having abortion.	_____	Good	Bad	no effect	some effect	moderate effect	great effect
40. Failing to make an athletic team.	_____	Good	Bad	no effect	some effect	moderate effect	great effect
41. Being suspended from school.	_____	Good	Bad	no effect	some effect	moderate effect	great effect
42. Making failing grades on report card.	_____	Good	Bad	no effect	some effect	moderate effect	great effect
43. Making athletic team.	_____	Good	Bad	no effect	some effect	moderate effect	great effect
44. Trouble with classmates.	_____	Good	Bad	no effect	some effect	moderate effect	great effect
45. Special recognition for athletic performance.	_____	Good	Bad	no effect	some effect	moderate effect	great effect
46. Getting put in jail.	_____	Good	Bad	no effect	some effect	moderate effect	great effect

Event	Check	Type of Event (Circle One)		Impact or Effect of Event on Your Life (Circle One)			
Other events which have had an impact on your life. List and rate.							
47. _____	_____	Good	Bad	no effect	some effect	moderate effect	great effect
48. _____	_____	Good	Bad	no effect	some effect	moderate effect	great effect
49. _____	_____	Good	Bad	no effect	some effect	moderate effect	great effect
50. _____	_____	Good	Bad	no effect	some effect	moderate effect	great effect

Appendix I

Satisfaction With Life Scale

BELOW ARE FIVE STATEMENTS WITH WHICH YOU MAY AGREE OR DISAGREE. USING THE SCALE BELOW, INDICATE YOUR AGREEMENT WITH EACH ITEM BY CIRCLING YOUR ANSWER.

		CIRCLE YOUR ANSWER						
Q-1	In most ways my life is close to my ideal	STRONGLY DISAGREE	DISAGREE	SLIGHTLY DISAGREE	NEITHER AGREE NOR DISAGREE	SLIGHTLY AGREE	AGREE	STRONGLY AGREE
Q-2	The conditions of my life are excellent	STRONGLY DISAGREE	DISAGREE	SLIGHTLY DISAGREE	NEITHER AGREE NOR DISAGREE	SLIGHTLY AGREE	AGREE	STRONGLY AGREE
Q-3	I am satisfied with my life	STRONGLY DISAGREE	DISAGREE	SLIGHTLY DISAGREE	NEITHER AGREE NOR DISAGREE	SLIGHTLY AGREE	AGREE	STRONGLY AGREE
Q-4	So far I have gotten the important things I want in life	STRONGLY DISAGREE	DISAGREE	SLIGHTLY DISAGREE	NEITHER AGREE NOR DISAGREE	SLIGHTLY AGREE	AGREE	STRONGLY AGREE
Q-5	If I could live my life over, I would change almost nothing	STRONGLY DISAGREE	DISAGREE	SLIGHTLY DISAGREE	NEITHER AGREE NOR DISAGREE	SLIGHTLY AGREE	AGREE	STRONGLY AGREE

Appendix J

Cluster Analysis by Gender

Means and standard deviations of Rosenberg Self-Esteem Scale scores of self-esteem trajectory groups identified for the entire sample and separately by gender from Grades 8 to 10

		n (%)	Grade 8	Grade 9	Grade 10
Consistently High	Overall	159 (32.1)	35.35 (3.49)	37.34 (2.24)	37.66 (1.91)
	Females	76 (30.8)	35.49 (3.49)	37.14 (2.11)	36.24 (2.79)
	Males	99 (39.9)	36.21 (2.28)	37.34 (2.12)	36.91 (2.98)
Decreasing	Overall	102 (20.6)	34.32 (2.56)	33.16 (3.41)	31.10 (3.38)
	Females	51 (20.6)	33.18 (2.51)	29.04 (2.65)	31.16 (3.45)
	Males	75 (30.2)	30.33 (3.65)	30.23 (3.16)	29.35 (2.53)
Increasing	Overall	170 (34.3)	28.22 (2.68)	30.01 (3.02)	31.50 (3.20)
	Females	68 (27.5)	27.97 (2.29)	32.13 (3.30)	31.34 (3.29)
	Males	54 (21.8)	29.11 (3.21)	32.61 (2.61)	35.93 (2.20)
Consistently Low	Overall	64 (12.9)	23.72 (3.43)	24.02 (3.09)	24.16 (3.33)
	Females	52 (21.1)	23.85 (3.27)	24.40 (3.09)	24.94 (3.68)
	Males	20 (8.1)	23.75 (3.13)	23.70 (2.94)	24.75 (3.99)

Note. Standard deviations appear in parentheses below the mean.