Adolescent goal content and pursuit: A review of the literature from the past 16 years.

Massey, E.K.; Gebhardt, W.A.; Garnefski, N.

Developmental Review 28 (2008) 421–460

Contents lists available at ScienceDirect

Developmental Review

journal homepage: www.elsevier.com/locate/dr

Review

Adolescent goal content and pursuit: A review of the literature from the past 16 years

Emma K. Massey *, Winifred A. Gebhardt, Nadia Garnefski

Leiden University Institute for Psychological Research, Clinical, Health and Neuropsychology Unit, Leiden University, The Netherlands

ARTICLE INFO

Article history:
Received 31 July 2007
Revised 29 January 2008
Available online 20 May 2008

Keywords:
Adolescents
Self-regulation
Personal goals
Personal projects
Life tasks
Aspirations
Goal pursuit

ABSTRACT

The aim of this article is to provide an overview and discussion of the literature from various areas of psychology on adolescent goal content and pursuit since the publication of Nurmi's review in 1991. Ninety-four studies were identified which incorporated a measure of adolescent goal content/processes. We explore and discuss the theories employed in these studies, methods of goal measurement, and the findings presented in the studies. Adolescent goal content and pursuit appear to be influenced by various sociodemographic and psychological factors. In turn, goal content, goal pursuit and (un)successful goal attainment are related to adolescent behavior, health and well-being. Limitations and suggestions for further research are discussed.

According to motivation theory, human behavior is fundamentally goal directed (Carver & Scheier, 1990a; Ford, 1992). Goals are the reference point or standard of comparison against which we evaluate our current state or behavior (Carver & Scheier, 1990a). Although goal content is guided by social and cultural norms (Nurmi, 1993; Oyserman & Fryberg, 2006), the set of goals one endorses is highly idiosyncratic (Carver & Scheier, 1990a). In a process defined by Nurmi as channeling (Nurmi, 2004), personal goals are shaped by, for example, previous learning experiences, individual characteristics, and the opportunities and constraints afforded by the environment. In the context of these environments and opportunities, adolescents construct their goals and make plans to achieve them (defined as selection, see Nurmi, 2004).

Adolescent goals are unique to this period, and distinct from those of adults (Nurmi, 1987; Ogilvie, Rose & Heppen, 2001). Typically they reflect the developmental tasks and age-graded developmental deadlines of adolescents (Cantor, Norem, Niedenthal, Langston & Brower, 1987; Havighurst, 1953;

* Corresponding author. Fax: +31 71527 4678.
E-mail address: emassey@fsw.leidenuniv.nl (E.K. Massey).

0273-2297/$ - see front matter © 2008 Elsevier Inc. All rights reserved.
doi:10.1016/j.dr.2008.03.002

Nurmi, 1987, 1991). Setting and successfully pursuing goals is particularly pertinent during adolescence when establishing identity is of fundamental importance (Erikson, 1963). Goal pursuit is suggested to serve as a self-directing and self-defining process (Nurmi, 1991, 1993, 2001). Adolescents direct their own development towards particular outcomes by selecting goals, determining strategies to achieve them and by evaluating the outcome of their efforts. This process defines the roles they take on, the narratives they construct and how they evaluate themselves (Nurmi, 1993). The developing self-identity, or so-called self-concept, in turn influences adolescents' outcome expectations, choice of goals and means of goal pursuit in a continuous interactive process (see Cantor & Kihlstrom, 1987; Markus & Nurius, 1986; Nurmi, 2001; Stein, Roeser & Markus, 1998).

As individuals invest their time, energy and resources in pursuit of their goals, the goal pursuit process shapes emotional experience (Cantor et al., 1991; Emmons, 1991). Research on adults and undergraduate students has identified that successful goal pursuit is associated with positive affect and higher well-being (Affleck et al., 1998; Brunstein, 1993; Harris, Daniels & Briner, 2003; King, Richards & Stemmerich, 1998). Basic psychological needs, such as relatedness, competence and autonomy are regarded to be the motivational force behind goal setting and successful goal attainment is suggested to satisfy these needs (Deci & Ryan, 2000; Ryan, Deci & Grolnick, 1995; Skinner & Wellborn, 1994). Conversely, impediment to goal pursuit is associated with greater negative affect and to a reduction in well-being (Emmons, 1986, 1996; Emmons & King, 1988; King et al., 1998). In order, therefore, to understand adolescent physical and emotional well-being, it is necessary to understand adolescent aspirations, and the factors that influence goal attainment.

Various theoretical perspectives have been used to understand and explain the mechanisms and processes involved in the development of goal setting and pursuit in adolescence. Theories such as *Possible Selves* (Markus & Nurius, 1986; Oyserman & Fryberg, 2006) and *Future Orientation Theory* (Nurmi, 1991, 1993; Seginer, 1992; Trommsdorff, Lamm & Schmidt, 1979) incorporate conceptualizations of the selves we expect to, hope to, fear or want to avoid becoming. These abstract cognitive representations incorporate both an approach and avoidance component. Another cognitive conceptualization of goals is that of *Current Concerns* (Klinger, 1975) in which to hold a concern is to be committed to a goal, forming incentives for behavior. Other theories conceptualize goals on a more behavioral level, such as *Personal Projects* (Little, 1983) which are defined as interrelated acts intended to achieve or maintain a desired state. In Carver and Scheier's *Control Theory* (Carver & Scheier, 1990a, 1990b), Bandura's *Social Cognitive Theory* (Bandura, 1986, 1997), and Higgins' *Self-Discrepancy Theory* (Higgins, 1987) goals serve as the standard or cognitive, symbolic representation against which the current state or behavior is compared. Discrepancy between this ideal and the current state generates dissatisfaction and motivates purposeful action. *Goal-Setting Theory* (Latham & Locke, 1991; Locke & Latham, 1990) proposes goal-directed action to be conscious and purposeful and that difficult but realistic goals lead to better performance. *Life tasks* (Cantor et al., 1987; Havighurst, 1953) incorporate a time-perspective into the definition of goals in which personally determined tasks are to be worked on and completed during a certain period of the life span. *Self-Determination Theory* (Deci & Ryan, 1985, 1990) focuses on the source of motivation for goals as either intrinsic or extrinsic. Despite differences in focus, abstraction and terminology, what these theories share is that goals are defined as motivational forces guiding behavior (Nurmi, 1997) and developmental pathways, and that goals are key to understanding (adolescent) behavior and well-being.

In 1991, Nurmi published an extensive review of the literature on adolescent goals incorporating studies from areas such as developmental, social, clinical and motivational psychology. In the review, Nurmi describes adolescent goal pursuit according to the processes of motivation, planning and evaluation. Later, Nurmi expanded this into a broader theory of adolescent socialization incorporating channeling, selection, adjustment and evaluation (Nurmi, 2004). The majority of the findings discussed in this article fall under the mechanisms of channeling and selection. Since Nurmi's 1991 review a considerable amount of research has been published in this rapidly growing area of psychology. The aim of the present review is to update the state of the art and to take stock of the findings from the past decade and a half in adolescent motivational research. Due to the variety in theoretical approaches and operationalizations of these concepts, the results of the studies reviewed were very varied. This review is an attempt to bring order to the findings, to draw some general conclusions and to make suggestions as to where we could go from here.

Following earlier researchers (such as Ford, 1992, and Austin & Vancouver, 1996), we differentiate (a) goal content and (b) goal processes. Goal content is defined as the content of the desired state, for example 'complete all my schooling' or 'get my own place' (Chang, Chen, Greenberger, Dooley & Heckhausen, 2006) or the state which is to be avoided, for example 'unemployment' or 'divorce' (Malmberg & Norrgård, 1999). In our definition of goal content we include goal importance (as this is often used as an indicator of the extent to which the goal is endorsed), the orientation of the goal (such as approach/avoidance or intrinsic/extrinsic), and the structure of the goal taxonomy (such as balance of approach and avoidance goals). Goal processes include behaviors and cognitions associated with these goals such as goal commitment, perceived difficulty, perception of attainability, plans for realization, perceived progress, expected age for goal attainment (temporal extension) and attributions for goal success.

First, we review the research on the association between adolescents' sociodemographic characteristics and (a) goal content and (b) goal processes. Second, we explore the relationships between goal content and processes on the one hand and behavioral and psychological outcomes on the other. Finally, we discuss the findings and methodological issues raised by the review and make suggestions for future research.

Method

Search strategy

Articles were retrieved via online databases (PsychInfo, ERIC, and PubMed) and cross-checking reference lists. Taking conceptualizations from the relevant motivational theories (described above), our search terms incorporated a combination of adolescent(s)/ce with one of the following: personal goals, personal strivings, personal projects, (future) aspirations, possible selves, future orientation, life tasks, and current concerns.

Selection criteria

Empirical articles which satisfied the following criteria were included in the review: published between 1991 and 2007, written in English, includes a sample of adolescents between the ages of 10 and 18 years, and includes a measure of goal content or processes as either an independent or dependent variable. Articles were excluded which investigated exclusively undergraduate students.

One hundred and two articles written on ninety-four studies were identified as satisfying these criteria. We focus on school-aged adolescents from the age of 10 (which is commonly viewed as the beginning of early adolescence, see Petersen, 1988) up to graduation from high-school (in the most cases at 18 years of age). We excluded studies which exclusively investigated undergraduate students as graduation from high-school is a major developmental task likely to have a great impact on adolescents' goals. The majority of adolescents in the studies were between the ages of 10 and 18, although two studies included children under the age of 10, eleven studies included samples of (mainly) high-school children who were over the age of 18, and seven studies followed adolescents into adulthood up to the age of 33 (see Table 1). The majority of the studies reviewed here were cross-sectional. Twenty-five studies were longitudinal and a further four reported on the first wave or a single wave of longitudinal data. Forty-nine of the reviewed studies reported on goal content, fourteen reported on goal processes and thirty-one reported on both content and processes.

We restricted our review to articles which employ motivational theories in which the goal concept is a central tenet. It is beyond the scope of this review to include literature pertaining to the burgeoning area of achievement motivation (for further elaboration see for example Covington, 2000; Eccles, 2007). Similarly, we limit our discussion to only the goal-related findings of each study. Dispositional or trait-like constructs which may underpin goal pursuit mechanisms such as personality, optimism, hope, and future-time perspective fall outside the realms of this review (the interested reader is referred to Motivation and Emotion, December 2001 for a discussion of these issues). Table 1 presents all reviewed studies in alphabetical order of author name, including details on the sample, measures, design, procedures and results.

Table 1
Articles reviewed: Adolescent goal content and pursuit

Author	Sample	Age (M)	Goal construct	Other constructs	Method	Main results
Ali et al. (2005)	114 American adolescents. 77% Caucasian	Grade 9 (14.7)	Process: Vocational Outcome Expectations scale. 6-items, rated on a 4-point scale, e.g., "My career planning will lead to a satisfying career for me"	SES, Vocational/Educational Self-Efficacy Scale, Parent Support Scale, Sibling Support Scale, Friends Support Scale, perception of educational barriers	Questionnaires completed in school	High maternal support was related to high vocational outcome expectations and vocational/educational self-efficacy. Peer and sibling support were positively related to vocational/educational self-efficacy. Higher self-efficacy was related to higher outcome expectations
Aloise-Young et al. (2001)	1606 American adolescents. 48% Caucasian, 32% Hispanic, 24% Other	Grade 6 (11.9) Grade 7 (12.7) Grade 8 (13.7) Grade 9 (14.7)	Content: 3 hoped for, 3 expected and 3 feared selves. E.g., "MEs that you hope will describe you", "MEs that probably will describe you" and "MEs that you are afraid will describe you"	Cigarette and alcohol consumption	T1 questionnaire on health behavior. T2 questionnaire on possible selves 6 weeks later	Balance between expected and feared selves was related to lower negative health behavior. Number of positive expected selves was negatively related to health behavior for 8th and 9th graders, particularly for girls. Heavy use higher in those lacking positive selves, particularly in 9th graders
Anderman and Anderman (1999)	660 American adolescents. 55% African American, 39% Caucasian, 7% Hispanic	T1: grade 5 T2: grade 6	Content: Approach ability goal orientation (Patterns of Adaptive Learning Survey). Social responsibility goals, social relationship goals and social status goals measured on a 5-point scale	Psychological Sense of School Membership Scale (belonging), GPA	Longitudinal study. Questionnaires completed in schools	Girls reported lower ability goals, higher relationship and social responsibility goals. Boys reported higher social status goals. School belonging and social responsibility goals were related to higher mastery goals. Relationship and social status goals were related to higher performance/ability goals
Armstrong and Crombie (2000)	502 Canadian adolescents	Grades 8–10	Content: Occupational aspirations: "List three jobs or occupations that you think you would really like to have when you are 35 years old." Participants selected the most desired of the three. Occupational expectations measured in same way	Participants coded on aspiration/expectation discrepancies. Expectations relative to aspirations rated as more masculine, non-discrepant, or more feminine, and higher in SES, non-discrepant, or lower in SES	3-year longitudinal study. Questionnaires completed in the spring of grade 8, 9 and 10	From grade 8 to 9, and from grade 9 to 10, aspirations were generally brought in line with (earlier discrepant) expectations. Changes in expectations were found in the direction of closing the discrepancy-gap. Adolescents with non-discrepant expectations and aspirations generally did not alter aspirations, although they did reduce the socio-economic level of their aspirations
Bandura et al. (2001)	272 Italian adolescents	11–15 (12) at Time 1	Content: Importance placed on academic achievements (own, parents and friends), expected academic performance (own, parents) and expected level of education to be completed, rated on a 5-point scale	Self-efficacy beliefs, parental perceived academic efficacy (mothers), parental academic aspirations, academic achievement, perceived occupational self-efficacy, occupational choices (Time 2)	1-year prospective study. Adolescents, their mothers and teachers participated.	SES had no direct effect on academic aspirations, but was mediated by parental perceived academic efficacy and aspirations. Parental aspirations were strongly related to adolescent aspirations. Adolescents' aspirations mediate between social and academic efficacy beliefs and occupational efficacy

Barry and Wentzel (2006)	T1: 287 T2: 265 American adolescents: 90% Caucasian, 6% Asian, 2% Hispanic, 1% Other	Grade 9 & 10	Content: Prosocial Goal Pursuit Scale, academic and social prosocial goals rated on a 5-point scale	Friendship, Friendship Qualities Scale, interaction frequency, friendship stability, prosocial behavior, friends' prosocial behavior	2 year longitudinal study. Questionnaires completed during school hours	Friend's prosocial behavior was related to adolescent's concurrent prosocial goal pursuit, particularly when affective quality of the friendship was high and frequency of contact was low. Change in prosocial goal pursuit was moderated by high interaction frequency. Prosocial goal pursuit was linked to prosocial behavior
Behnke et al. (2004)	10 Latino adolescents and parents	11–16 (14.6)	Content: adolescents' and parents' educational and occupational aspirations	Parents' own aspirations. Parents' perception of their support for child's aspirations and child's perception of this. Parents' and adolescents' needs to attain aspirations set	Interviews conducted in homes. Parents and youths interviewed separately. Qualitative data coded for recurrent themes	Parents and adolescents had similarly low or high educational goals. Parents' typically had high educational aspirations for their children. Adolescents' goals were lower. Means of achieving goals was often vague or unknown. Barriers to goal attainment included lack of knowledge about pathways to success, racism and low English proficiency. Perceived needs to attain goals were education, information and for youths, direction
Budhwar et al. (2000)	100 Indian middle-class families	Boys (17.3) Girls (17.1)	Content: Californian Life Goals Evaluation Schedules: 150 goal statements rated 1–5 on agreement (completed by all family members)	Interview Schedule for Child Rearing Practices (completed by mothers)	Interviews conducted individually in homes	Life goals of parents and offspring were very similar. Sons of mothers who encouraged independence scored higher on fame, leadership, self-expression and independence goals. Girls with such mothers also expressed greater leadership and independence goals
Carroll (1995)	5 incarcerated Australian boys: 3 Aboriginal, 2 Caucasian	14.5–16.5	Content: Interviews on goals Process: plans for attainment	Interviews explored gang membership and participation. Vignette and card sort on car theft, perception of leadership and identification with characters	Individual interviews conducted, vignette was administered at the end of the interview along with a card sorting task	Mainly short-term goal reported revolving around acquisition of resources, having fun and playing sport. Goal pursuit appears spontaneous as opposed to planned. Largely peer-group lead
Carroll (2002)	216 Australian girls	13–16	Content: semi-structured interviews on importance of academic and personal goals (17 goal-related questions). Process: commitment and planning	Interviews on reputation enhancing activities (e.g., smoking), and social networks. Vignettes explored reputation enhancing activities, influence of peers, and perceived image of girls and boys	Semi-structured group interviews were carried out at 2 single-sex and 4 coeducational schools. At-risk categorization based on teacher and/or school psychologist assessment	School setting and at-risk status related to goal content, diversity of goals, goal planning, commitment and importance. For example, not-at risk girls reported more diverse career goals which often required further education compared to career choices of at-risk girls. Attendance of a single-sex school was associated with a greater focus on education and career goals

(*continued on next page*)

Table 1 (*continued*)

Author	Sample	Age (M)	Goal construct	Other constructs	Method	Main results
Carroll et al. (1997)	260 Australian boys. 80 delinquent, 90 at-risk, 90 not at-risk	12–18	Content: Importance of Goals Scale (43 items, 8 subscales): goals rated on a 3-point scale of importance		At-risk categorization based on assessment by teachers and/or psychologists. Questionnaires completed in school or the detention center	Goal content varied according to delinquency status. Non-delinquency related to greater educational and interpersonal goals, and fewer delinquency and freedom-autonomy goals. Delinquency related to greater focus on social image goals
Carroll et al. (2001)	260 Australian boys. 80 delinquent, 90 at-risk, 90 not at-risk	12–18	Content: Importance of Goals Scale (see above)	Family structure, Reputation Enhancement Scale, Adapted Self-report Delinquency Scale, Rosenberg Self-esteem Scale	At-risk categorization based on assessment by teachers and/or psychologists. Questionnaires administered in small groups in school or the detention center	Not at-risk boys reported educational goals as more important. Delinquent and at-risk boys scored higher on delinquent goals and non-conforming ideal public self. Importance of goals did not differ as a function of family structure (two-parent or not)
Chang et al. (2006)	932 American adolescents: Caucasian, African, Mexican, Other Latino, Filipino, and Asian American	16–20 (17.8)	Content: Medium-range goals and plans for the next 10 years. Long-term occupational goals (open) ranked on prestige. Long-term ideal and expected educational goals (1–4) Process: priority rank, perceived control, temporal extension, likelihood of attaining occupational goals	Generational status, long-term occupational and educational aspirations and expectations	First wave of a longitudinal study in 4 schools. Questionnaires completed in school time	Educational and occupational goals highest priority. Temporal order: autonomy and education, occupation, material, family and self-actualization goals. No ethnic differences found for goal content (except material goals), priority, control, time frame or long term occupational goals. Mexicans reported fewer long term educational aspirations and expectations. Girls reported more family, educational and autonomy goals
Cohen and Cohen (1996, 2001)	776 American adolescents & mothers. 1983: 91% Caucasian	1983: (13.7) 1986: (16.4)	Content: 1983: What kids admire questionnaire, 22 items rated on approval (4-point scale) 1986: Childs Life Priority Sort (21 life priority statements sorted into level of importance)	Community, school family and peer environment, Mental health: adaptation of the Diagnostic Interview Schedule for Children (DISC-1)	A longitudinal study with measurements in 1975, 1983 and 1986. Data presented here 1983 (what children admire) and 1986 (life priorities)	Goal endorsement related to gender, age, personality and temperament, urbanicity, SES, peers, school, parenting and family relationships, social relationships parental aspirations, and parental education. Endorsement of some goals was related to various psychological disorders
Cook et al. (1996)	220 boys. 101 inner-city African-American, 119 affluent European American	7–17 (grade 2–8)	Content: ideal and expected job aspirations elicited (open). Plus choice of 1 out of 9 occupations as ideal and expected. Occupational goals converted into prestige scores	Own and perceived parental educational expectations, expected obstacles, education benefits, neighborhood safety beliefs, living situation, role models	Participants interviewed individually at school, randomly assigned to interviewer (African American or European American)	Ethnicity and grade differences found on occupational ideal and expected aspirations. Mediating factors: living with biological parents, having more role models, and perception of obstacles to success

Creed et al. (2007)	176 Australian adolescents and parents	Year 7 (12.2)	Content: Career aspirations and expectations: ''What kind of job would you *like* to have/*really expect* to have when you finish your education''? Response options ranged from unskilled to professional occupations (1–5)	Career status discrepancies (expected/aspired discrepancies), career barriers, school engagement, academic control beliefs, general ability, reading ability, parents' career aspirations and expectations for child	First wave of a longitudinal study. Youths completed questionnaires in school, parents completed surveys taken home by their children	Aspirations generally high; adolescents' career aspirations were lower than their parents'. Low discrepancy between adolescents' desired and expected job goals. Greater reading ability was related to higher occupational goals. Other variables were unrelated. Reading ability and career barriers were related to career expectations
Crum et al. (2005)	1183 American adolescents. 80% African American	11–14	Process: Educational aspirations: "How likely are you to do the following: graduate from high-school, go to college, go to technical school, serve in the armed forces, or get a job?" Probability rated on a 4-point scale	Peers alcohol use, alcohol use (reprimanded, social difficulties, or health/physical problems), self-reported school performance, neighborhood disadvantage	Data from longitudinal prevention trial. Baseline interviews in 1992, follow-up in 1993	When controlling for baseline alcohol use and sociodemographic confounders, there was no relationship between educational aspirations and alcohol use or problems
Curry et al. (1994)	520 Northern Irish adolescents	16–17	Content: Possible career selves: "What do you think will be the likely pattern of your working life?" categorized into: careerist (full-time work), adaptive, (occasional full or part-time work), home-centered (part-time or no work)	School performance, subject choice, attitudes towards careers, career self-efficacy, attitudes towards family/marriage	Questionnaires completed and group discussions carried out at school	86% of boys and to 54% of girls reported careerist goals. For girls, career goals were related to school subject choice, expectations of success, confidence in abilities, expectations for future family, masculinity, mathematical competence, independence, and self-efficacy. No differences in actual school achievement, femininity or self-worth
Dickson and MacLeod (2004a)	112 Australian adolescents	16–18 (16.4)	Content: Goals Task: sentence completion task, ''In the future it will be important for me to (avoid)...'' Process: Plan Task, plans for 2 most important approach and avoidance goals. Time limited to 75s per question for all tasks	Beck Anxiety Inventory (BAI), Beck Depression Inventory (BDI)	Cross-sectional questionnaires completed in school. Participants assigned to the categories: control, high anxiety, high depression, mixed. Goals and plans coded as approach or avoidance and for specificity	High depression and mixed groups scored lower on approach goals, formulated less specific goals and plans (avoidance and approach), reported fewer approach plans and more avoidance plans than controls. High anxiety group scored higher on avoidance goals, formulated less specific approach goals and approach plans, reported fewer approach plans and more avoidance plans than controls
Dickson and MacLeod (2004b)	144 Australian adolescents	16–18 (16.4)	Content: Achievement Goal Questionnaire: 29 approach and 22 avoidance goals (1–9). Goals Task (see Dickson & MacLeod, 2004a) Process: Consequences task: most important consequence per goal	Hospital Anxiety and Depression Scale (HADS)	Cross-sectional questionnaires completed in school	Anxiety was correlated with avoidance goals and consequences while depression was correlated negatively with approach goals and consequences. Results consistent for both open and closed goals measures

(*continued on next page*)

Table 1 (*continued*)

Author	Sample	Age (M)	Goal construct	Other constructs	Method	Main results
Dickson and MacLeod (2006)	111 Australian adolescents	16–18 (16.7)	Content: Goals Task (see Dickson & MacLeod, 2004a) Process: Goals Explanation Task. Goal likelihood Task (1–7). Personal Control Task (1–7). 75s time limit per question	BDI	Participants assigned to dysphoric or non-dysphoric groups. Cross-sectional questionnaires completed in school	Dysphoric adolescent reported fewer approach goals and more avoidance goals than controls, more reasons for goal non-attainment, fewer reasons for goal attainment, rated approach outcomes as less likely to happen, aversive outcomes as more likely to happen, and expected lower personal control over goals than controls
Dubow et al. (2001)	95 American adolescents: 59% non-Caucasian	Grade 6–8	Process: Expectations for positive outcomes on 8 goal items, rated 1–5	Global Self-Worth scale, problem solving efficacy, peer and family support, peer substance use, perceived peer sexual behavior, peer pressure to engage in substance use, Health and Daily Living-Youth Form	T1: September T2: June Questionnaires completed in schools	No significant relationships between demographic variables and future outcome expectations. Higher T1 problem solving efficacy and family support reported higher positive future expectations at T2. Higher T1 negative peer influences was related to lower future expectations at T2. An increase in future expectations between T1 and T2 was negatively related to problem behavior but no other variables
Gordon Rouse (2001)	64 Caucasian American adolescents. 17 resilient, 19 non-resilient, 19 advantaged high achievers, 9 advantaged low achievers	Grade 10	Content: Assessment of Personal Agency Beliefs (APAB): 72 goal items (1–7). Assessment of Academic Self-Concept and Motivation (AASCM): 80 school and self-items rated on importance (1–7) Process: APAB & AASCM items rated on ability and environmental support, and AASCM rated on control	Hollingshead index (SES), stress, GPA, Assessment of Academic Self-Concept and Motivation	Student categorization: resilient: low SES high GPA; non-resilient: low SES low GPA; advantaged achievers: high SES high GPA; advantaged low achievers: high SES low GPA	No differences in goals. Advantaged achievers scored higher than resilient students on cognitive-ability/environmental responsiveness/control beliefs, social-ability/control, and personal trust-ability subscales. Advantaged students scored higher than low SES students on cognitive-importance, and social-environmental responsiveness/importance subscales
Grant and Dweck (2001)	Korean and American adolescents	Grade 5	Content: Academic goals Process: effort attributions and responses to setbacks: agreement with statements rated	Attributions for academic setbacks		Korean students endorsed to a greater extent performance goals while American students endorsed a more learning orientation. Korean students made greater effort attributions compared to American students
Hill et al. (2004)	463 American adolescents, 83% European American, 16% African American, 1% Other	Grade 7–11	Content: Expectations/Aspirations measure (grade 11). Educational goals (chance of graduating high-school and going to college, 4-point scale). Occupational goals (occupation they wished to have when they grow up, assigned prestige score)	Grade 6: academic achievement Grade 7: SES, parent–teacher involvement (teacher, adolescent and mother) Grade 8: School behavior problems (teacher). Grade 9: academic achievement	Annual longitudinal study from kindergarten up to grade 11. Adolescents interviewed in grade 7 and 11, mothers interviewed in grade 7. Teacher completed questionnaires in grade 7 and 8	Higher parental education was related to higher educational aspirations but not to higher occupational aspirations. For parents with low education, academic involvement was related to higher adolescent aspirations. For parents with high education, involvement was related to school behavior, which in turn was related to achievement and aspirations

Henry et al. (2005)	106 American adolescents: 79.5% Caucasian, 9% African-American	T1: Grade 6 & 7 (12.35)	Process: beliefs regarding effect of substance use on goals: 9 statements rated on agreement (1–4)	School bonding, substance use	Longitudinal study with 4 time-point measurements over 2 years	Greater school bonding was related to the perception that substance use is detrimental to future goals, which in turn was negatively related to actual use. Evidence for mediation. Perception of risk to goals decreases with age. As school bonding decreases over time, so does their perception of risk to goals
Hofer and Chasiotis (2003)	120 Gwembe Tonga Zambian boys	12–21	Content: GOALS questionnaire: 24 intimacy, affiliation, altruism, power, achievement and variation goals rated on importance (1–5)	Satisfaction with Life Scale (SWLS), Implicit motives: Thematic Apperception Test (TAT) assessed themes of power, achievement and affiliation	Goals and SWLS reported using self-report questionnaires. TAT conducted in groups	Greater importance of life goals was related to greater life satisfaction. Congruence between implicit needs and explicit goals is associated with higher life satisfaction (except for power motives)
Honora (2002)	16 African American adolescents	14–16	Process: Future Events Listing: hoped for events reported and rated on extension and affect. Interview explored goals, plans, influence of others, goals others have for them, and temporal extension	Parental questionnaire: ethnicity, education, income, family composition, occupation, GPA	Parental information collected by telephone interviews. Youths completed goals questionnaire, Interviewer then explored influence of social factors	Girls reported a greater number of education, employment and family goals. Boys reported more sport/leisure goals. Differences in goals found according to achievement status (high/low). Higher achievers report greater discussion of goals and support from family
Jodl et al. (2001)	444 African- and European-American adolescents and parents	Grade 7	Content: Occupational aspirations (open-ended questions during interviews, coded for type of occupation, professional or athletic). Educational aspirations: 2 items, "How far will you actually go in school"?, and "How far would you like to go in school"? Occupational goals coded for organization, coherence and consistency	Parents: education, occupation and income, chances for youth positive outcomes, educational expectations/goals for child, child's academic and sporting ability, involvement in and instrumental support for study and sport, fathers' involvement in coaching Adolescents: perceived academic ability, value of education for future, identification with parents	Questionnaires and interviews conducted in participants' homes. Cross-sectional data from an ongoing longitudinal study	High parental educational goals and greater identification with mothers were related to higher adolescent educational goals. Identification with parents did not moderate between parents' and adolescents beliefs. Influence of parental values and occupational goals on adolescents' professional occupational goals were mediated by adolescents' educational goals. Parents' beliefs regarding sporting ability and talent were related to greater sporting profession goals, along with adolescents' own beliefs of ability and value. Influence of parents' beliefs and behaviors on adolescents' goals was domain specific
Kao (2000)	63 American adolescents:33 Hispanic, 15 African-American, 16 Caucasian, 8 Asian, 2 Other	Grade 9–12	Content: possible selves	Ethnic identity development, ethnic labels and associated meanings, ethnic relations in school, conceptions of success	Group discussion of 6 to 8 participants. Individual interviews several months later	Ethnic group membership and respective stereotypes suggested to impact upon formation and acceptability of possible selves/goals (e.g., by influencing competency beliefs and expected standards of achievement) and subsequent academic achievement

(*continued on next page*)

Table 1 (*continued*)

Author	Sample	Age (M)	Goal construct	Other constructs	Method	Main results
Kasser and Ryan (1993, Study 3)	157 American adolescents: 67% White, 31% African American, 1% Hispanic, 1% Other	18	Content: Aspirations Index: 14 self-acceptance, affiliation, community feeling and financial success aspirations rated on importance Process: items rated on chances of attainment (1–4)	Social functioning: Children's Global Assessment Scale, Oppositional and conduct disorders: Diagnostic Interview for Children and Adolescents, Social productivity: Community Mental Health Interview	Adolescent and parents were interviewed and completed questionnaires separately on university premises	A greater emphasis on affiliation, community feeling and self-acceptance goals was related to better psychological and social functioning. A greater emphasis on financial goals was related to poorer psychological and social functioning
Kasser et al. (1995)	140 American adolescents and mothers. 67% White, 31% African American, 2% Other	18	Content: Aspirations index (see Kasser & Ryan, 1993) completed by adolescent & mother	Mother: SES, Camberwell Family Interview, Parental Style Survey (warmth, control and democracy), Kohn Parent Values (self-direction versus conformity)	Mother and adolescents interviewed separately	Girls reported higher importance of self-acceptance, community feeling and affiliation goals. Maternal value of financial success was related to lower nurturance and lower SES. Lower SES was related to more financial goals. Greater maternal nurturance and higher SES was related to valuing self-acceptance above financial success
Kerpelman et al. (2002)	22 African American daughter–mother pairs	14–17	Content: Mother & daughter separately: Expected possible selves for the next 5 years: 3 most expected possible selves reported. Mother & daughter together: 41 item Q sort (least to most expected selves) Process: plans for goal attainment	Mother: age, marital status, employment status, level of education, family income, number of dependents	Individual interviews conducted, and together the Q sort was completed. Study conducted on school premises	Possible selves themes: getting a college education, employment, being responsible and independent yet socially connected and morally upstanding. Mothers were practically and emotionally supportive of daughters' goal pursuit. Higher maternal education related to greater detail and broader ranging strategies to assist their daughter pursue their goals
Khallad (2000)	156 US Caucasian and 193 Palestinian adolescents	Grade 10	Content: educational and occupational aspirations	Family support, SES	Questionnaires administered to high-school students in California and Jordan	Educational aspirations of US and Palestinian adolescents were similar. More Palestinian youths than US youths held high occupational goals. SES was positively related to educational goals (particularly in girls) but not occupational goals
Klaczynski and Reese (1991)	83 Caucasian American adolescents	15–17 (15.8), 17–19 (17.6)	Content: Short form of Motivational Induction Method: "I hope (for/to)…", "I am afraid that…". Rated on importance (1–4). Goal categories: social, adult anticipation and career anticipation Process: temporal extension (age), probability of attainment (1–3)	Values, control beliefs, decision making	Cross-sectional questionnaires completed in school	Goals categorized into social, adult anticipation and career anticipation goals. Evidence found for influence of educational track and grade on goal content
Knox et al. (2000)	212 American adolescents: 203 Caucasian, 3 African American, 3 Hispanic, 1 Asian, 2 Other	14–19 (16.4)	Content: Hoped-for and Feared Possible Selves Questionnaire: hopes and fears listed Process: likelihood of realization (1–7) and hoped for/feared rating (1–4)	Parents occupation, mother's education, Self-perception Profile for Adolescents Global Self-worth	Students in randomly selected classes from 5 high-schools filled out cross-sectional questionnaires during school hours	No gender differences were found in hoped for selves. Girls reported more relationship fears while boys mentioned more occupational and failure fears. Girls scored higher on likelihood of realizing feared selves a desire for hoped for selves

Lanz and Rosnati (2002)	125 Italian late adolescents, 126 Italian young adults	17–19 20–25	Content: Hopes and Fears Questionnaire. Density scores calculated Process: temporal extension (age), external/internal control (1–4), level of realization (1–5) used to construct index of optimism	Parent–Adolescent Support Scale, Self-esteem Scale, Sense of Coherence Scale	Questionnaires administered in high-school and universities in Northern Italy	Girls reported a higher density of family goals. Older adolescents reported higher density of work goals and lower density of school goals. Hopes expected to be fulfilled by 3rd decade, fears by the 4th decade. Sense of coherence was positively related to optimism for hopes. For girls, parental support was positively related to optimism for hopes and negatively related to optimism for fears
Lanz et al. (2001)	482 Italian adolescents, 361 fathers and 394 mothers	12–20 (14.9)	Content: Hopes and fears (total score, number of life domains, salience, relative score, number of domains shared with parents) Process: temporal extension (age), internal/external attribution (1–4), probability of actualization (1–5)	Parent–adolescent communication scale, parents' hopes and fears for their children	Questionnaires completed in schools in 1997. Adolescents took parents' questionnaires home, to be returned in 10–14 days	Parents 'and adolescents' temporal extension for goals was around 30 years of age. Adolescents had greater internal control beliefs for work and school than their parents did for them. Adolescents were more pessimistic about probability of realization than their parents. Better father–daughter communication was related to greater girls' optimism. Better mother–adolescent communication was related to more internal control
Liberska (2002)	180 Polish adolescents	13–18	Content: "Could you please tell me about your plans for the future, what are your goals and expectations"? Rated on importance (1–4) Process: temporal extension (age)		Longitudinal study (during change from socialism to democracy). 60 youths interviewed in 1987, 1991, and 1999	Family, profession and material goals reported by the majority at all time points. Goals such as permanent employment, health preservation, and high income increased over time. Temporal extension increased between time points. 'Cultural prototype' of ordering of goals was supported
Lips (2004, Study 2)	713 undergrads, 447 adolescents. 83% Caucasian American	Freshmen–seniors (19.8), Grade 9–12 (16.7)	Content: Lips Academic Self-View Survey: 30 current & 16 future academic possible selves rated the extent to which the item represents the person (1–5)		Cross-sectional questionnaires were completed in school/ university	Current and possible selves follow gendered stereotypes (e.g., girls score higher on arts/ communication/culture while boys score higher on math/business/science)
Malmberg (2002)	145 Finnish adolescents	12–18 (15.5)	Process: Outcome expectations measured by probability estimations (1–5) of 12 goals occurring (education, occupation, family life)	Self-esteem, effortlessness (goal attainment without effort), non-effectiveness (probable non-attainment despite effort)	Questionnaires completed in schools in 1996	Probability estimations for occupation and education dipped in grade 9. Attainment of family goals reported as most probable, followed by education then occupation. Self-esteem positively predicted educational and family but not occupational goal expectations. For girls low self-esteem was related to high non-effectiveness and high effortlessness. High non-effectiveness predicted low occupational goal expectations

(*continued on next page*)

Table 1 (*continued*)

Author	Sample	Age (M)	Goal construct	Other constructs	Method	Main results
Malmberg et al. (2005)	239 Finland–Swedish adolescents, 197 parents	11–13, 14–16	Content: 16 career, family, and social goals rated on importance (1–4) Process: rated on likelihood of occurrence by adolescents and parents (1–4)	Family interaction: choicefulness and parental engagement	Cross-sectional questionnaires completed in schools. Parental questionnaires taken home and returned one week later	No relationship found between parents' and adolescents goals. Girls reported goals as less important and less likely to occur. No age differences found. Adolescent perception of family interaction mediated between parental probability estimations and adolescent probability estimations and goals
Malmberg and Norrgård (1999)	57 Finland–Swedish adolescents	12–15 (13.7)	Content: 'life paths' from the past, present and into the future completed for 'current self' and 'average person' Process: Events rated for commonness, likelihood of realization, success compared to others, likelihood of negative events happening, similarity of events	Rosenberg's Self-Esteem Scale (5 items). Optimism: probability estimations of life tasks	Session 1: participants completed life paths and other questionnaires. Session 2: participants interviewed on their life paths report in session 1	Developmental tasks and personal goals show substantial thematic overlap. Girls reported more normative tasks and personal goals than boys. Girls reported a greater number of family goals than boys. Positive educational and family goals increased with age. Likelihood of realization was correlated with self-esteem and optimism
Malmberg and Trempała (1997)	194 Finnish, 158 Polish adolescents	17	Process: probability of successful achievement of family, occupation and education goals (0–6). Control over goal realization (0–4). Temporal extension	Rosenberg's self-esteem scale, generational comparison between expectations for own and parents life paths	Cross-sectional questionnaires completed in school between November 1994 and January 1995	Gender, educational track, and cultural influences found on adolescents' expectations of success, extension of goals, perception of realization abilities, perception of control over the future and temporal extension. Self-esteem was positively correlated with probability of successful goal attainment
Marjoribanks (1991)	400 Australian adolescents. 211 Anglo-Australian, 97 Greek and 92 Italian	16	Content: Educational and occupational aspirations: level of education expected to/would like to attain (7-point scale) and what job they expected to have/would like to have when 25 years old (occupations ranked on prestige)	Family background characteristics, mothers' and fathers' support for learning, school environment	Interviews conducted in homes	Correlations between family and school environment variables and educational and occupational aspirations show variations according to social group (defined by ethnicity, gender and SES). In general parents' support was moderately related to educational aspirations, and to occupational aspirations for all but 2 groups
Marjoribanks (1993)	632 Australian adolescents	16	Content: Educational and occupational aspirations: expected to attain (7-point scale) and what job they expected to have when 25 years old (rank)	Perceptions of family learning environment (parental aspirations for them, encouragement, general interest)		Maternal support positively related to educational and occupational aspirations in Anglo-Australian and Greek Australian youths (not in Italian Australian youths). Fathers support was not related to adolescents' aspirations

Marjoribanks (1994a)	330 Australian adolescents	T1: 11 T2: 16 T3: 21	T2: educational level and occupation liked (open) and expected (1–7) to have at age 25	T1: Cognitive ability and attitudes T2: perceptions of parents' and teachers' support for learning T3: social-status attainment	Longitudinal study	Adolescent educational and occupational goals were positively related to social status attainment. This relationship was mediated by ability-attitude characteristics
Marjoribanks (1994b, 1994c, 1997, 1998, 1999, 2003b, 2003d)	500–520 Australian adolescents, Anglo-, English-, Greek-, and Italian-Australians	T1: 11 T2: 16	T2: Content: educational goals: educational level they realistically expected to attain (1–7). Occupational goals: what job they realistically expected to have at 25 (1–8, or coded according to Australian National University 3 Scale)	T1: Child attributes: intellectual ability, academic achievement, cognitive attitudes towards school. Birth order and number of children. Human capital: parents' education and occupation Social capital: involvement in activities and praise of children. Family educational capital: parents' aspirations for their children, press for achievement, independent-dependent orientation (encouragement of self-reliance and independence) individualism-collectivism, reading T2: Immediate setting (parents' and teachers' support for learning, encouragement, general interest, adolescents perception of parents' involvement in learning and aspirations), Teachers' educational capital and support for learning	Follow-up to Marjoribanks (1992). First and second wave data of a longitudinal study starting when adolescents were 11 years old. Parental-interviews conducted at T1, adolescents completed surveys at T2	1994b: parents' and teachers' support for learning was related to adolescent goals. Relationship between sibling variables and goals depended on human and social capital 1994c: Parents' involvement was related to higher educational and occupational goals, especially in boys. Relationships depended on environmental context 1997: High parental aspirations were related to high adolescent goals. Influence of family context on goals was (partially) mediated by perception of parental and teacher support 1998: human and family education capital was related to adolescent goals. Relationships between family context, individual attributes and goals were (partially) mediated by perception of parental support 1999: parents' social status and aspirations moderated effect of adolescents' individual characteristics on goals. Perceptions of parents' and teachers' educational capital mediated between family contexts and adolescent goals. Relationships vary according to gender and family context 2003b: Parents' aspirations and adolescents' perceptions of learning environment were positively related to adolescents' goals. Relationships between environment and goals differed according to intellectual ability-family social status 2003d: Family social status was positively related to adolescent goals. Goals varied according to ethnic group. Parental individualistic orientation was not significantly related to goals

(*continued on next page*)

Table 1 (*continued*)

Author	Sample	Age (M)	Goal construct	Other constructs	Method	Main results
Marjoribanks (2002a, 2002b, 2003a, 2003c)	2002a: 7780 2002b: 3512 2003b: 7248 2003d: 8322 Australian adolescents	1995: Year 9 2000: (20.2)	1995, 1996, 1997 & 2000: expected educational attainment (educational goals) measured on a 6-point scale. 1 = leave school as soon as possible; 6 = attend university 1996: occupational goals: occupations planned to achieve rated on a 10-point scale	1995: Family social status (parents' educational and occupational attainments), perception of parents' aspirations, family ethnicity, individual characteristics (math and reading achievement, academic self-concept), proximal settings (perceived school learning environment) 1996: Academic self-concept, proximal settings (perceived school and family learning environment 2000: Educational attainment	Longitudinal Study of Australian Youth. Measurements taken every year from 1995 to 2000	2002a: Education goals positively related to family social status, academic performance, self-concept (depending on ethnicity), family and school environment, varied according to ethnicity and were generally higher in girls. Occupational goals were positively related to higher social status and being male, and varied according to ethnicity. Academic performance and self-concept were positively related to occupational goals and mediated relation between social status and goals. Proximal settings were unrelated to occupational goals 2002b: Social status and parents' aspirations were significantly related to adolescent educational and occupational goals (stronger for education). Academic performance and self-concept were generally positively related to goals. Proximal settings were positively related to educational goals. Individual characteristics and proximal settings (partially) mediated between family context and aspirations 2003a: Education goals at first three measurements were positively related to educational attainment in 2000. Relationships between aspirations and attainment differ according to ethnicity 2003c: High parental aspirations were positively related to adolescents' aspirations (regardless of social status). Adolescent goals (1996/1997) were positively related educational attainment. In low aspiration families this relationship was weaker. Social status and parents' aspirations moderated relationship between adolescent goals and educational attainment
Mau and Bikos (2000)	14, 915 Asian, Hispanic, African and Caucasian American adolescents	T0 grade 8, T1 grade 10, T2 grade 12, T3 2 years later	Content: College aspirations coded as college/non-college. Occupational aspirations expected or planned to have by age 30. Coded as unskilled–semiskilled/technical-semiprofessional/professional	Self-esteem, locus of control, academic self-efficacy, perceived parental expectations, parental school involvement, number of siblings, academic proficiency, academic program, school setting, size and type	A three-wave longitudinal study starting in 1988	School program, school type, race and gender were the strongest predictors of occupational and educational aspirations at T3. Aspirations significantly increased with time. Overall the highest aspirations were observed in the Asian American group, and lowest in the Hispanic American group. Girls had higher aspirations than boys

McCabe and Barnett (2000)	72 African American adolescents	Grade 6 (12.4)	Content: Future Orientation Interview on career, family, and romantic relationship goals Process: self-attributed optimism and pessimism, control beliefs, detail, implicit optimism, implicit pessimism and realism	Future Events Questionnaire	Cross-sectional design. Interviews conducted individually and questionnaires completed in small groups	Adolescents report career goals in greater detail, and more optimism, realism, control beliefs for career goals than family and romantic relationship goals. No gender differences found for career, romantic and family relationship goals (details, optimism, pessimism and control beliefs)
Mirza and Somers (2004)	476 American adolescents: 82% Caucasian, 18% Middle-Eastern American	14–20 (16.2)	Process: 2 items on education goals 2 items on the impact having a child would have on attaining these goals Agreement with statement rated (1–5)	Realism regarding child-rearing responsibility, parent and peer approval of teenaged pregnancy, academic performance (grades)		Realism and others' acceptance of teen pregnancy contributed to a greater understanding of the impediment having a child would be on educational goals. Gender, ethnicity and achievement contributed to future orientation
Newberry and Duncan (2001)	418 adolescents: 96.5% Caucasian, 1.5% African American, 2% Other	14–18 (15.6)	Content: Possible Selves Questionnaire: "How probably is it that this will describe you in the future"?	Boredom Proneness Scale, Self-Reported Delinquency Scale	Cross-sectional questionnaires completed in school, participants received a debriefing letter for their parents	No gender differences were found in number of positive and negative selves. Greater negative and fewer positive selves were related to delinquent behavior
Nurmi (1994, Study 1)	267 adolescents	11, 15, & 18	Content: Hopes and Fears Interview (Study 1): Process: how advanced plans were, level of realization of plans, and knowledge about factors affecting realization		T1 in 1982, T2 in 1987. Interviews carried out in schools and data compared with hopes and fears of adults. (Only data on hopes presented)	Temporal order for achievement was as follows: get an education, get a job, get married, then achieve property/material goals, extending no further than the 3rd decade of life. Age and gender differences found in goal content, internalization, realization and optimism
Nurmi et al. (1999)	3250 adolescents from 11 European countries and the United States	13–17	Content: "When you think about the future, what do you consider as being important to you?" 14 items rated on importance (1–5)		Cross-sectional survey conducted in schools. Part of the Euronet study	Older adolescents rated career, becoming successful, social responsibility as less important and social pleasure as more important. Country effects found for career, becoming successful, family, social responsibility, and social pleasure. Girls rated becoming successful as less important and family and social pleasure as more important compared to boys
Nurmi et al. (1994)	367 Australian & 316 Finnish adolescents	13–14, 16–17	Content: Hopes and Fears Questionnaire: 10 lines allowed for both hopes and fears, relative frequency calculated per domain Process: temporal extension	Rural/urban dwelling	Cross-sectional study carried out in schools in 1991 in Australia and Finland	Expected temporal order for goal realization: education, property, occupation, family and leisure goals. Longer temporal extension for younger adolescents. Ethnicity, gender, age, and urban versus a rural living were found to influence on adolescent goals

(*continued on next page*)

Table 1 (*continued*)

Author	Sample	Age (M)	Goal construct	Other constructs	Method	Main results
Nurmi et al. (1995)	120 Australian, 102 Finnish & 46 Israeli adolescents	16–17	Content: Hopes and Fears Questionnaire, relative frequency calculated per domain Process: temporal extension (age), exploration of, and commitment to educational, occupational and family goals		Cross-sectional questionnaires completed during school hours in English, Finnish or Hebrew	Gender and culture influences on goals reported, e.g., girls reported more educational hopes, Israelis reported the least property goals. Temporal extension, exploration and commitment varied according to country. Girls reported greater exploration and commitment of educational goals than boys
Nurmi and Pulliainen (1991)	113 Finnish adolescents	10–11, 14–15	Content: Interviews on hopes and fears Process: optimism (1–5), temporal extension (age), plans for realization and internality (4–point bipolar scale)	Parent–child interaction: parental control and family discussion. Intelligence: figure analogy test, Rosenberg's Self-Esteem Scale	Questionnaires completed in classrooms. 1 week later individual interviews conducted regarding hopes, goals and plans. Data collected in 1987	More girls reported family and leisure goals. Leisure goal related to younger age and higher parental control. Family goals were related to greater family discussion. Educational goals were related to older age, lower parental control, higher intelligence and higher self-esteem. Temporal extension was greater for boys. Plan realization increased with age
Oyserman et al. (1995, Study 3 & 4)	Study 3: 55 African American adolescents	Study 3: grade 7 & 8	Study 3: Process: participants assigned to 1 of 3 conditions: no cue, positive or negative social comparison cue then rated likelihood of academic success in the next year (1–4)	Study 3: —	Study 3: Participants divided into 1 of 4 conditions (success/failure, similar or different to social comparison)	Study 3: Focusing on others' success increased own success estimations for boys, focusing on others' failures produces pessimism regarding future success. For girl the opposite was true
	Study 4: 55 African American adolescents	Study 4: grade 8	Study 4: Content: achievement related possible selves elicited and coded for balance	Study 4: GPA, California Achievement Test math and English subtest scores, 5-item school persistence scale (completed by student and teacher)	Study 4: Cross-sectional questionnaires completed in classrooms	Study 4: Girls reported more balanced selves than boys. Balance in possible selves predicted school persistence (boys), English & math performance, and GPA. Effect of balance greater for boys
Oyserman and Saltz (1993)	230 African American boys: 97 non-delinquents, 133 delinquents	13–17 (15.3)	Content: Importance rating of 6 possible selves (1–5). Approach/avoidance expectancies for the coming year Process: expected/feared selves balance, achievement plans	Social skills: Adolescent Problem Inventory. Delinquency: Youth in Transition questionnaire. Communication skills, school attendance	Participants interviewed at school (one frequently attended by the boys prior to incarceration) or detention centre. Data collected in 1989	Non-delinquents found more likely to have balanced possible selves, invest effort to achieve or avoid expected selves, value individuated and achievement-oriented goals. Balance in possible selves and attempts to achieve possible selves were related to some delinquent behaviors
Patton, Bartrum, & Creed (2004)	467 Australian adolescents	12.5–18.5 (14.96)	Content: level of agreement to 6 statements regarding career goals, e.g., "I have a clear set of goals for my future" (1–5)	Career Development Inventory, career expectations (career locus of control), Life Orientation Test-Revised, Rosenberg Self-Esteem Scale	Self-report questionnaires completed in schools	Career goals related to career planning and exploration. For girls, career goals were predicted by optimism. For boys, optimism and self-esteem predicted career expectations which in turn predicted career goals

Phinney et al. (2001)	81 Armenian, 47 Vietnamese, 88 Mexican, 95 European, 60 African American adolescents	12–18 (14.8)	Content: "If you could do anything you wanted with your life, what would you most want to do and be"? Process: expected outcome (positive, uncertain, negative), attributions for expected outcomes (effort, ability external factors)	Adolescent: ethnicity birth place, and if necessary age of arrival in USA Parent: occupation, education, language	All participants born or moved to the USA before the age of 7. Participants recruited in schools and sent questionnaire and consent packs to their home with return envelope	No significant differences found in goal content and attainment expectations between American ethnic groups. European Americans attributed goal success more to ability; American minority adolescents attributed goal success to more effort
Piko and Keresztes (2006)	1109 Hungarian adolescents	14–21 (16.5)	Content: Aspirations Index: intrinsic (self-acceptance, affiliation, community feeling and physical health) and extrinsic (financial success, attractive appearance and social recognition) goals rated for importance (1–5)	Physical activity, Satisfaction With Life Scale, Psychosomatic Symptoms Scale, Children's Depression Inventory	Data collected anonymously in schools	Students divided into infrequent and frequent activity groups. Less active youths were significantly higher on the extrinsic goals of financial success, physical health, attractive appearance and social recognition
Pinquart et al. (2004)	T1: 1234 German adolescents T2: 980 T3: 867	T1: (13.7)	Process: extent to which 5 developmental tasks had been achieved (1–3), desired state of development (1–3). Change in state coded as assimilative, accommodative, goal-heightening or state-diminishing for all 5 tasks	Self-esteem	Questionnaires completed in school. Longitudinal design over a 2 year period	Decreasing the ideal-current state discrepancy was related to greater self-esteem, goal adjustment was not related to self-esteem changes. A reduction in current goal attainment was related to a decrease in self-esteem
Rainey and Borders (1997)	276 American girls and mothers: 96% Caucasian	12–15 (13)	Content: Career Aspiration Scale: accuracy of 10 items rated (1–5)	Occupational Check List, Inventory of Parent and Peer Attachment, GPA, Psychological Separation Inventory, Bem Sex-role Inventory, Attitudes Towards Women Scale for Adolescents	School councilors posted questionnaires and consent forms to mothers of 7th and 8th grade girls. Participating adolescents completed questionnaires in groups at school	Girls who aspire to leadership and advanced positions in their careers typically are more assertive, dominant and independent. Level of attachment, psychological separation and agentic characteristics influenced girls' career aspirations
Rojewski and Yang (1997)	18,311 American adolescents: Asian, African, Hispanic, Caucasian and Other American	Grade 8, 10 and 12	Content: Educational goals: education level they thought they would achieve (9-point scale). Occupational goals: job expected to have at age 30 chosen from a list of 17 categories. Coded according to Socioeconomic Index	SES, ethnicity, Rosenberg's Self-esteem scale, locus of control, academic achievement	Three data collection points of a national, longitudinal study (NELS: 88 database)	Females endorsed higher educational and occupational goals than boys at all three time points. Gender, race and SES all were related to occupational goals. Particularly SES was strongly related. Effects decreased with increasing age. Academic achievement and self-evaluation (self-esteem and locus of control) were positively and consistently related to occupational aspirations

(*continued on next page*)

Table 1 (*continued*)

Author	Sample	Age (M)	Goal construct	Other constructs	Method	Main results
Schmuck (2001, Study 1, sample 4)	76 German adolescents and 61 parents	(18.4)	Content: Aspirations Index: 32 intrinsic (self-acceptance, affiliation, community feeling) and extrinsic (financial success, social recognition and attractive appearance) goal items rated for importance (1–5)	Self-Actualization Scale, Subjective Vitality Scale, physical symptoms checklist, State Trait Inventory, Center For Epidemiological Studies Depression Survey	Self-report questionnaires completed at home or during experimental sessions	Adolescents reported more intrinsic goals than extrinsic goals, although they attached greater importance to financial goals than adults. Endorsement of intrinsic goals was correlated with higher well-being whereas endorsement of extrinsic goals was associated with lower well-being
Schönpflug and Jansen (1995)	192 Polish &157 German adolescents	14–15	Content: Importance of autonomy, preparation for profession, and an opposite-sex relationship rated (1–3) Process: urgency and developmental state (1–3) Coded into developmental demand (−3 to +3)	Preference for action (coping) strategies, persistence of preference for strategies, self-as-agent beliefs: self-esteem, self-efficacy and locus of control	A longitudinal questionnaire study with measurements in 1986, 1987, and 1988 conducted anonymously in schools	High self-as-agent beliefs are associated with more active, self-reliant strategies of goal pursuit. In all life goals (except autonomy), high self-as-agent beliefs were associated with greater achievement of goals. Gender differences found in attainment strategies for autonomy and professional goals
Schoon (2001)	7649 British adolescents and parents	1974: 16 1991: 33	Content: Occupational aspirations: "What would you like to be your first full-time job"? coded into professions (scientist, health professional or engineer)	1974: Personality attributes and parental interest in child's education, scientific ability, Mathematical Ability Test, family background, school environment 1991: Realization of occupational goals	Longitudinal study, data presented at age 16 (1974) and 33 (1991)	Occupational aspirations were related to gender, parental education, parental interest in education, teacher and self-ability ratings, actual mathematical ability, and school type. Realization of aspirations is related to (among other things) earlier aspirations. Data from most recent measurement over 15 years old at time of publishing
Schoon and Parsons (2002)	11016 (1958 cohort) 6417 (1970 cohort) British adolescents	T1: 16 T2:26 (1970 cohort), 33 (1958 cohort)	Content: Occupational aspirations: 1958 cohort: "what do you expect to be your first full-time job"? 1970 cohort: choice from a list of professions Educational aspirations: age likely to leave school, and further education wishes	Educational achievement (T1), social class (T1), material conditions (overcrowding, housing tenure, state benefits, parental aspirations, occupational attainment at T2)	Follow-up study of two British cohorts born in 1958 and 1970. Data from when participants were 16 (1974 and 1986) and 33 (1991) and 26 (1996)	Effect of parental social class on occupational attainment was mediated by teenage aspirations and educational attainment for both cohorts. High parental aspirations were related to high adolescent aspirations. High occupational attainment was predicted by high teenaged aspirations. Social class was found to influence aspirations via proximal family and material conditions
Schoon et al. (2007)	9519 (1958 cohort) 8481 (1970 cohort) British adolescents	T1: 16 T2: 30 (1970 cohort), 33 (1958 cohort)	Content: Occupational aspirations. 1958 cohort: "what would you like to be your first full-time job"? 1970 cohort: "is there an actual job you would like to do"?	Family background, individual assets, adult occupational status	Comparison of two British cohorts born in 1958 and 1970. Data presented from waves at ages 16 and 30/33	Adolescents aged 16 who held science, engineering or technology (SET) related occupational aspirations were more likely to have SET-related jobs as adults; this effect was particularly found in women

Schvaneveldt, Lee, Miller, Berry (2002)	1145 American adolescents and parent	T1: 7–11 T2:12–17 T3:18–22	Content: number of years at school hoped for and expected (1–5) measured at T2 & T3	Adolescent, all waves: Perceived academic rank, educational achievement T2: Interest in school, English proficiency, T3: Age at first sexual intercourse Parent: T1: Education, expectations for child's education. T1 & 2: Child's academic achievement	Longitudinal design with measurements in 1976, 1981 and 1987. Face to face and telephone interviews conducted	Higher educational goals were related to delayed first sexual intercourse. Sexually inexperienced adolescents reported higher educational goals. Those who remained inexperienced at T3 had higher educational goals. Sexual experience was related to lower concurrent scores on educational variables. None of the variables predicted age of first sexual intercourse of Black males
Seginer (1992)	124 Israeli adolescents	Grade 9 (15.1), Grade 12 (17.9), undergraduate girls (22.5)	Content: Future Orientation Questionnaire. Hopes and fears coded for salience (sum of hopes and fears), density (ratio number of goals per domain to total number of goals), specificity (concreteness of statements), positive outlook (ratio hopes to total goals), differentiation (number of domains endorsed) Process: temporal extension (age)		Data collected during classes in 1989. Goals categorized and coded by 2 research assistants	Salience and density of school goals higher for younger girls. Salience and density higher in older girls for higher education goals. College students reported higher salience and density of family goals and greater specificity of education and career goals. No significant age differences for emotional tone of goals or for existential goals (self, others, collective issues)
Seginer and Halabi-Kheir (1998)	276 Druze (Moslem), 308 Jewish adolescents	Druze: grade 9 (14.7) grade 12 (17.8) Jewish: grade 9 (15.1) grade 12 (17.9)	Content: Future Orientation Questionnaire. Hopes and fears coded for density (see Seginer, 1992) Process: temporal extension (year/age)		Self-report questionnaires were completed in school anonymously	Druze youths reported more goals overall. Controlling for age and gender, ethnicity influenced school, occupation, family, self, others and collectivist goal endorsement. Druze reported more existential goals, Jews report more prospective life goals. Gender effects were larger for the Druze sample
Seginer and Halabi (1991)	55 Druze, 38 Arab, 59 Jewish adolescents	Grade 10	Content: Future Orientation Questionnaire: Responses coded for salience, density and specificity (see Seginer, 1992) Process: temporal extension (year/age)		Cross-sectional questionnaires completed in groups in schools. Data collected in 1984	Druze and Jewish youths scored lower than Arabs on goal salience in all 8 domains. Self and collectivitist goals were more salient for Druze youths than Jews, while school, military service and family were less salient. Goal density and specificity was lower for Druze youths
Seginer and Vermulst (2002)	329 Israeli Arab, 357 Jewish adolescents	Grade 8	Content: Ideal and realistic academic aspirations (1—non-academic to 5—university degree)	Academic expectations (expected grades), perceived parental expectation, parental demandingness & support (adapted from Social Support Questionnaire), GPA	Self-report questionnaires completed during school. Grades obtained from school records	Paths to academic achievement differed for Arab/Jewish boys and girls. Educational goals are related to academic achievement (except Arab boys). In all groups except Arab girls, educational aspirations were predicted by parental support and demands
Seginer et al. (2004)	458 Israeli Jewish adolescents	Grade 11	Process: Prospective Life Course Questionnaire: career and prospective family goals rated on value, expectance, internal control, basic cognitive representation, domain-specific development, exploration and commitment (1–5)	Mother–Father–Peers Questionnaire, Rosenberg's Self-esteem Scale, self-agency: self-dependence, determination and responsibility	Questionnaires completed in school	Parental autonomy and acceptance found to influence adolescent future orientation (value, expectations and control) via self-evaluation. Girls reported higher family future orientation and on career motivation than boys

(continued on next page)

Table 1 (*continued*)

Author	Sample	Age (M)	Goal construct	Other constructs	Method	Main results
Skorikov and Vondracek (2007)	234 Caucasian American adolescents	Grade 7–12 (14.8)	Process: Career future orientation: Work Aspects Preference Scale (self-development subscale, 1–5), Career Decision Scale (barriers subscale, 1–4), Primary Prevention Awareness, Attitude and Usage Scale (school attitude subscale, 1–7)	Minor Delinquency scale, Experimentation with Alcohol and Experimentation Drugs subscales of Primary Prevention Awareness, Attitude and Usage Scale	Data collected in schools with a 1 year time interval. Questionnaires completed anonymously and matched using a personal code	Self-development through work and school attitudes were negatively related to delinquency and experimentation with alcohol and drugs. Path analysis confirmed a relationship between higher future career orientation and lower problem behavior. Barriers did not add to the model. Results suggested to be uni-directional
Slater (2003)	2380 American adolescents:79% Caucasian, 14% African-American, 3% Latino, 4% Other	Grade 8 (median age 14)	Process: consistency of substance use with other personal goals (one of the substance use risk factors) agreement with statements rated (1–4)	Sensation seeking, substance use behaviors (cigarette and marijuana use), substance use risk factors developed from American Drug and Alcohol Survey	Data collected in 20 middle and 10 junior schools. Trained teachers administered cross-sectional questionnaires in school	Perceived inconsistency between substance use and other personal goals was related to lower cigarette and marijuana use. This effect was more pronounced for high sensation seekers
Somers and Gizzi (2001)	551 American adolescents :81% Caucasian, 3% African-American, 3% Asian American, 3% Middle Eastern, 10% Other	13–18	Content: Future orientation: importance of earning a diploma and importance of school for the future, agreement with statement rated (1–5)	Student school attachment, student school involvement, risky behaviors (drug and alcohol use, fighting, contraception use and sexual activity), risky school behaviors (e.g., suspensions)	Classes randomly assigned to the study. Teachers administered cross-sectional questionnaires in class	For boys, future orientation was significantly related to substance use and aggression. Future orientation was not related to school risky behaviors, contraception use or sexual activity
Stein et al. (1998)	137 American adolescents: 83% Caucasian, 13% African American, 3% Other	T1: 13.5 T2: 14.5	Content: 'Me: Now and in the future', 31 possible selves descriptors rated on ''How much does it describe me now", "Will it describe me in the future" and "How likely is it that it will describe me in the future"? (1–5)	Alcohol Use and Misuse Scale (frequency and quantity of alcohol use), tobacco use, precocious sexual activity, GPA	1 year prospective study. Individual interviews and self-report questionnaires completed during two sessions a few weeks apart	Risky behavior was positively correlated with popular and deviant current and future possible selves, and negatively correlated with conventional possible selves. Grade 8 popular self-schema predicted grade 9 risky behavior. Higher grade 8 risky behaviors predicted a grade 9 deviant self-schema
Trempala and Malmberg (1998)	158 Polish &194 Finnish adolescents	17	Process: goals in education, occupation, and family (20 items) rated on probability (1–7)	Culture, social knowledge about normativity (expected achievement of developmental deadlines), knowledge of a generation gap (difference between self and parents' life), Rosenberg's Self-esteem Scale	Self-report questionnaires completed during school hours between December 1994 and January 1995	High self-esteem and control beliefs were predictive of greater expectations for the future in all 3 areas. Ethnicity predicted education and occupation expectations, and normativity predicted family expectations. Perception of generation gap was not predictive of expectations for the future. Individual factors were better predictors of expectations than ethnicity
Trice and Knapp (1992)	97 American adolescents	Grade 5 and 8	Content: career aspirations (coded according to theme)	Occupations of parents	Questionnaires administered to adolescents enrolled in regular education	Significant matches were found between mothers' occupation and adolescents' career aspirations for both boys and girls

Vesely et al. (2004)	1253 American adolescents and parents: 49% Caucasian, 23% African American, 19% Hispanic, 10% Native American adolescents	13–19 (15.4)	Content: future aspirations (1 of 8 developmental assets) 2 items rated (1–4) on importance (see Oman et al. 2002)	Developmental assets: non-parental adult role models, peer role models, family communication, use of time (groups/sports), use of time (religion), community involvement, future aspirations & responsible choices, sexual risk behavior	Data collected from randomly selected households. Adolescents and parents interviewed at home	After adjustment for demographic variables, future aspirations were significantly related to never having had sexual intercourse
Vrugt et al. (2002)	150 Dutch adolescents	Beginner: 12–14 Advanced: 16–19	Content: Personal academic goals: the grade they thought, hoped, were actually and minimally trying to achieve (1–10)	Academic self-efficacy, academic social comparison, grades, goal orientations: 10 task and 11 ego items. Agreement with statements rated 1–5	Cross-sectional questionnaires completed in schools	Academic self-efficacy was positively related to higher personal academic goals which were in turn related to academic achievement
Wall et al. (1999)	260 Canadian adolescents: 100% White	15–18 (15.37)	Content: importance of education and career aspirations (1–7) Process: perceived likelihood (1–7)	Limited Access to Opportunity Scale (LAOS), Social Support Appraisals Scale (APP)	Students randomly selected. Cross-sectional questionnaires completed in class. Occupations reported categorized according to educational requirements	Girls reported higher social support, opportunity, expectations and educational aspirations. Social support (girls: family, peers, school, boys: family only) was related to perception of opportunity which was in turn related to educational aspirations via expectations. Career expectations were related to career goals, and for boys educational goals were also related to career goals
Watson et al. (2002)	Sample1: 704 American adolescents Sample 2: 494 American adolescent	Sample 1: 11–18 Sample 2: 15–18	Content: Career Aspirations Questionnaire: ideal and realistic aspirations chosen out of a list of 131 occupations. Coded for socioeconomic prestige	Teacher rating of academic level (superior—below average)	Questionnaires administered in classrooms	High achievers endorsed higher career goals. Girls from single-sex schools had higher ideal and realistic goals compared to girls in co-educational schools (regardless of achievement level). Aspirations were lower in later grades for adolescents in co-educational schools; no drop in goals was seen in girls from single-sex schools
Wentzel (1994)	475 American adolescents: 68% Caucasian, 23% African American, 5% Hispanic, 7% Other	Grade 6 (11.9) Grade 7 (13.1)	Content: Prosocial goals (6-items, helping peers with social or academic problems), and Responsibility goals (7-items, keeping promises and follow rules) rated for frequency "How often do you try to…" (1–6)	Peer and teacher ratings of prosocial and irresponsible behavior, peer and teacher acceptance, perceived teacher and peer academic and social support, living situation	Cross-sectional questionnaires completed at school. Instructions read aloud by researcher	Peer and teacher support predicted prosocial and responsibility goals. Academic prosocial goals were positively related to peer acceptance. Academic social responsibility goals were positively related to teacher acceptance and negatively related to peer acceptance. Peer prosocial and responsibility goals not related to acceptance

(*continued on next page*)

Table 1 (*continued*)

Author	Sample	Age (M)	Goal construct	Other constructs	Method	Main results
Wentzel et al. (2007)	339 Americans adolescents: 49% Caucasian, 44% African American, 7% Other	Grade 6 (11.9) Grade 8 (13.1)	Process: Social goal pursuit: frequency of efforts to achieve social goals rated (1–5, 14 items)	Weinberger Adjustment Inventory, Davis Interpersonal Reactivity Index, Self-Perception Profile scale, Prosocial Self-Regulation Questionnaire, expectations for prosocial behavior, prosocial behavior	Questionnaires and peer and teacher rating completed in school	Perceived competence, perspective taking, peer expectations and internal, other-focused and external reasons were significant predictors of prosocial goal pursuit. Prosocial goal pursuit was a direct predictor of prosocial behavior when controlling for social cues and self-processes
Williams et al. (2000)	Study 1: 141 American adolescents	Study 1: 14–18 (16.1)	Content: Study 1: Guiding Principles Scale: goals ranked on importance	Study 1: Smoking: "Have you ever smoked 100 cigarettes in your life"?	Study 1: Cross-sectional questionnaire completed in school by students following an optional health class	Study 1: Smokers endorsed extrinsic goals to a greater extent than non-smokers (fame, wealth, image)
	Study 2: 271 American adolescents	Study 2: grade 9–12	Study 2: Aspirations Index: 35 goals rated (1–9) on importance	Study 2: Youth Risk Behavior Survey (health risk behavior items), perceived autonomy support	Study 2: all 9th to 12th graders in attendance completed the questionnaire	Study 2: Boys and Non-Caucasian students reported higher extrinsic aspirations. Parental autonomy support and father's education level was negatively related to extrinsic aspirations. Extrinsic aspirations related to risky behavior
Wilson and Wilson (1992)	2,896 American adolescents	high-school seniors	Content: Educational aspirations: "What is the lowest level of education you would be satisfied with"? 9 responses ranged from less than high-school to advanced professional degrees. Coded as below or above a bachelor's degree	Environments: Family (parents' education, perceived aspirations, monitoring of school performance, influence on school program), School (teachers' perceived aspirations, influence on school program, interfering factors, facility ratings)	A subsample from the first wave of a larger longitudinal study consisting of 58,728 seniors and sophomores, 94% Caucasian and 6% African-American	Higher educational aspirations were related to: high parents' education (above bachelors degree level), high fathers' aspirations, high mothers' aspirations, high teachers' aspirations, fewer interfering factors, high parental influence on program, high SES, being Black, being male
Yowell (2000)	38 American adolescents: 24 Mexican, 14 Puerto Rican	13–14 (13.4)	Content: Future Orientation Questionnaire: hopes and fears coded for relative frequency, specificity (0–4) and balance Process: extension (age), optimism/pessimism (1–5), internal/external control (−2 to +2), priority (1–5)	GPA	Individual interviews with the adolescents on the school premises. Questionnaires administered as open-ended interview protocol	Gender differences found in goal endorsement, specificity of formulation, and associated cognitions. Educational goals viewed an opportunity for economic improvement. No evidence for relationship between balanced possible selves and GPA, however this may be due to small sample size and the small number of feared selves

Measurement of adolescent goals

Goal content measures used in the papers reviewed can be broadly divided into two main approaches: an open (idiographic) goal elicitation procedure and pre-defined (nomothetic) goal measures. In the subsequent discussion of the literature, we shall differentiate between these procedures by indicating goals *reported* for the former and goals *endorsed* for the latter.

An open goal-elicitation procedure allows insight into the self-articulated and spontaneously generated goals of adolescents. This ensures personal relevance of the goals and on the basis of such qualitative procedures, structured goal measures of greater validity can be developed. However, the concept of personal goals is an abstract one requiring a certain level of concentration, self-reflection and cognitive maturity on the part of the adolescent. Of the studies reviewed, the Hopes and Fears Questionnaire and Hopes and Fears Interview (see Nurmi, 1994) are two of the most commonly used open-ended measures.

The second approach is to employ pre-devised goal lists or measures. The advantage of pre-defined goal measures is that participants respond to the same set of goals allowing easier comparison of responses within and between studies. Additionally, the researcher can target goals which may not be spontaneously generated by the adolescent, for example, goals relating to sexual relationships or illegal activities. However, adolescents may have difficulty identifying with the items if they are not personally relevant to them. This could be a possible demand characteristic of such methods. Furthermore, focusing on a limited number of goals precludes an evaluation of the full taxonomy of adolescent goals and the interplay between them. Just over half of the studies reviewed employed closed ended goal-measures, of which the Aspirations Index (Kasser & Ryan, 1993) is one of the most commonly used.

For both open and closed ended measures, the question posed and the type of measure being used determines the type of response generated. Due to differing theoretical approaches, varying operationalizations of the goal concept have been employed resulting in differing abstraction and temporal extension of the goals elicited. These can range from concrete expectations in the short term to dreams for the undetermined future (see Table 1 for details).

With regards to treatment of data generated by open goal-elicitation procedures, goals are commonly either divided into categories based on the content generated (e.g., Knox, Funk, Elliott & Bush, 2000) or divided into pre-defined categories often based on earlier studies (e.g., Klaczynski & Reese, 1991). Some studies divided goals into 'approach' versus 'avoidance' regardless of content area (e.g., Dickson & MacLeod, 2004a). In other studies, balance scores were calculated. Goals are considered to be balanced when a positive/approach goal in a certain domain is complimented or balanced by a negative/avoidance goal in the same domain (e.g., Aloise-Young, Hennigan & Leong, 2001; Oyserman, Gant & Ager, 1995). Other categorizations include relative frequency score, salience, density, specificity, affective tone, and differentiation (see for example, Seginer, 1992; Yowell, 2000).

Results

Adolescents have been found to report personal goals in a variety of life domains. The most common adolescent goals relate to education and occupation (e.g., Lanz, Rosnati, Marta & Scabini, 2001). Other important goals include those relating to social relationships (e.g., Carroll, 2002; Knox et al., 2000). Money, fame and power appear to be at the bottom of adolescent priorities (Budhwar, Reeves, & Farrell, 2000; Cohen & Cohen, 2001). Goals less commonly reported include equality (Carroll, 2002), success and recognition (Knox et al., 2000), social connectedness (Kerpelman, Shoffner & Ross-Griffin, 2002), mortality (Honora, 2002) and military service (e.g., Seginer & Halabi-Kheir, 1998). These kinds of goals may be more typical of, or specific to, the sample under investigation, for example the military service is only reported in countries with mandatory conscription. Some responses reported do not reflect personal desired states, but societal concerns which are not encompassed by the personal goal definition employed in this review. These include global concerns such as war and the environment (Knox et al., 2000; Malmberg & Norrgård, 1999; Nurmi, Poole & Kalakoski, 1994; Nurmi & Pulliainen, 1991; Seginer, 1992; Seginer & Halabi, 1991; Seginer & Halabi-Kheir, 1998). In general, adolescent

goals follow a 'cultural prototype' (Nurmi, 2001) whereby adolescents expect to achieve their educational goals first, followed by occupational and family goals and finally securing material assets (Chang et al., 2006; Liberska, 2002; McCabe & Barnett, 2000; Nurmi, 1994; Nurmi et al., 1994; Yowell, 2000). High aspirations in adolescence have been found to be related to greater achievement in young adulthood (Marjoribanks, 1994a, 2003a; Schoon, 2001; Schoon & Parsons, 2002).

Despite these general patterns, the type of goals that adolescents strive for can vary greatly between individuals. What factors influence an adolescent to aspire to be a scholar, an athlete, an entrepreneur, or a parent? The selection of goals among the array of possibilities has been shown to be related to many sociodemographic factors, such as age, gender, ethnicity, SES, level of education, historical time (Nurmi, 1993), family values and social context (Cantor et al., 1991; Nurmi, 1991). These factors influence the norms against which adolescents compare themselves and the context within which goals are pursued.

Sociodemographic correlates of adolescent goal content and pursuit processes

Age

Content. Goal content is typically age-graded and reflects the important issues of a particular period of the life span (Ogilvie et al., 2001). During the transition from childhood to adulthood, adolescents set and pursue goals unique to this period. Within this life-phase, goal priorities change. Whereas leisure goals peak in early adolescence (10–14 years) (Nurmi & Pulliainen, 1991; Nurmi et al., 1994), school/education goals appear to increase towards middle (15 years) adolescence, and again decrease in late adolescence (Lanz & Rosnati, 2002). Occupation, family and property goals appear to increase after middle adolescence (Lanz & Rosnati, 2002; Nurmi, 1994). Older adolescents report a greater number of (higher) educational hopes and fears (Nurmi et al., 1994; Seginer, 1992; Seginer & Halabi-Kheir, 1998), possibly indicating, with increasing cognitive maturity, the development of a more complex goal structure, including both approach and avoidance goals. The above findings are in contrast to one study which found that older adolescents across Europe and the United States endorsed career, success, and social responsibility goals as less important than their younger counterparts did, while social pleasure goals were rated as more important (Nurmi, Liiceanu & Liberska, 1999).

Processes. Planning goal attainment appears to increase during early to mid adolescence (Nurmi & Pulliainen, 1991). Expectations of goal realization are found to remain stable between early to mid adolescence (Malmberg, Ehrman & Lithén, 2005), while confidence in goal attainability increases from mid-adolescence onwards (Nurmi, 1994). Finally, in one study over the course of a year, occupational aspirations were shown to be brought in line with (more realistic) expectations (Armstrong & Crombie, 2000). This suggests that with age, adolescents may adjust their goals, increasing realistic chances of goal attainment within the context of current opportunities and limitations.

With regards to temporal extension, adolescents are found to report goals/hopes which extend to (but no further than) the beginning of the third decade of life (Chang et al., 2006; Lanz & Rosnati, 2002; Nurmi, 1994; Nurmi et al., 1994). Fears on the other hand have been shown to extend up to the fourth decade of life (Lanz & Rosnati, 2002). Possibly because they are further away in years to this ceiling age, goals reported by younger adolescent extend further into the future than those of older adolescents (Nurmi et al., 1994).

In summary, as developmental deadlines within this period loom and are achieved, the goals of adolescents wax and wane reflecting changes in goal priority and importance. With increasing age, adolescents seem to develop increasing self-regulatory skills and beliefs, such as planning and confidence in attainment abilities.

Gender

Content. Many gender differences in adolescent goal content have been reported. Girls commonly report a greater number or greater importance of interpersonal goals/hopes (Anderman & Anderman, 1999; Chang et al., 2006; Kasser & Ryan, 1993; Kasser, Ryan, Zax & Sameroff, 1995; Lanz & Rosnati, 2002; Malmberg & Norrgård, 1999; Nurmi, 1994; Nurmi & Pulliainen, 1991; Nurmi et al., 1999), and fears (Knox et al., 2000; Nurmi, Poole & Seginer, 1995). Conversely, boys rate social status (Ander-

man & Anderman, 1999), becoming successful (Nurmi et al., 1999) and financial aspirations as more important (Kasser & Ryan, 1993). In the area of schooling, girls report and endorse educational goals to a greater extent than boys (Honora, 2002; Marjoribanks, 2002a; Mau & Bikos, 2000; Nurmi, 1994; Nurmi et al., 1995; Yowell, 2000). A disproportionate number of girls are found to endorse possible academic selves in arts and humanities compared to boys who endorse more academic possible selves in business and mathematics (Lips, 2004). However those girls who do endorse science-related career goals in adolescence appear to be more likely to enter careers in these fields as adults (Schoon, Ross & Martin, 2007). Further, differences also emerge in views on future career paths. Boys have been found to report a greater number of occupational goals (Yowell, 2000), fears (Knox et al., 2000), and more boys than girls expect to work full time for the majority of their lives (Curry, Trew, Turner & Hunter, 1994). Girls who do endorse a greater career-orientation (compared to girls who do not) demonstrate greater career value, perceived financial necessity, greater autonomy, self-efficacy and masculine personality characteristics (assertiveness, dominance and independence) (Curry et al., 1994; Rainey & Borders, 1997).

Although the majority of studies report gender differences in goal content, there are some inconsistencies in findings. For example, in one study girls report a greater number of goals than boys (Malmberg & Norrgård, 1999), while in other studies no difference was found (Aloise-Young et al., 2001; Knox et al., 2000; Newberry & Duncan, 2001). Some studies record fewer gender differences than they had expected for example only gender differences in relative frequency of some fears (Knox et al., 2000; Seginer, Vermulst & Shoyer, 2004).

Processes. Girls report greater exploration of, commitment to (Nurmi et al., 1995) and prioritization of educational goals (Chang et al., 2006). They also believe that they are more likely to attain their educational goals than boys do (Malmberg & Trempała, 1997). Although one study found that girls would be satisfied with achieving a lower level of education than boys (Wilson & Wilson, 1992). Boys on the other hand are more specific in plans for attainment and consideration of possible obstacles for occupational goals (Yowell, 2000). Findings from other studies suggest that gendered differences lie not in hoped for (approach) goals but in feared selves (avoidance goals). For example, girls have been found to rate feared selves as more likely to be realized than boys did (Knox et al., 2000; Malmberg et al., 2005).

With regards to temporal extension, boys future goals have been suggested to extend further into the future than those of girls (Nurmi & Pulliainen, 1991). Particularly, in the area of family, as girls generally evaluate themselves as more likely to find a partner and have children at an early age than boys do (Malmberg & Trempała, 1997). However, gender differences in goal processes are not always supported. One study on African American adolescents found no gender differences on (romantic, family and career) goal detail, perceived control, and goal-optimism and pessimism (McCabe & Barnett, 2000).

In short, goal content appears to reflect gendered-norms, particularly with regards to family goals, educational and occupational goals, although others have suggested that gender differences in occupational goals have disappeared in recent times (Lanz & Rosnati, 2002). Further, prioritization, commitment, realization beliefs and temporal extension of interpersonal, education and occupational goals appear to differ between boys and girls.

Family influence

Content. The nuclear family provides the context, resources and support for adolescent goal pursuit. Some studies report large similarities between the (life) goals of parents and adolescents (Budhwar et al., 2000; Creed, Conlon & Zimmer-Gembeck, 2007; Kasser et al., 1995; Kerpelman et al., 2002), while other studies report little similarity (Malmberg et al., 2005). For example, one study showed that approximately 30% of parent-adolescent dyads did not share a single hope (Lanz et al., 2001). In general, there is considerable evidence that high parental aspirations for their children translate into high adolescent aspirations (Bandura, Barbaranelli, Caprara & Pastorelli, 2001; Behnke, Piercy & Diversi, 2004; Jodl, Michael, Malanchuk, Eccles & Sameroff, 2001; Marjoribanks, 1997, 1998, 1999, 2003b, 2003c; Schoon & Parsons, 2002; Wilson & Wilson, 1992). Moreover, high parental aspirations for their children have also been found to strengthen the relationship between adolescents' aspirations and

their educational achievements (Marjoribanks, 2003c). In addition to this, parental beliefs regarding probability of their child achieving their goals have been shown to be related to adolescent goal endorsement (Malmberg et al., 2005).

The relationship between parents and youths, as indicated by support and demands (Marjoribanks, 1991, 1994b; Seginer & Vermulst, 2002), closeness (Cohen & Cohen, 2001), involvement in learning (Marjoribanks, 1994c), and encouragement and interest (Marjoribanks, 2003b) has been related to greater adolescent (educational and occupational) goal endorsement. Family support is suggested to foster perceived opportunities and expectations and thus indirectly influence educational and career aspirations (Wall, Covell & Macintyre, 1999). Some studies suggest greater importance of maternal support compared to that of the father (Marjoribanks, 1993) and greater identification with the mother has been shown to be related to higher educational goals (Jodl et al., 2001). Children of mothers who encourage independence appear to score higher on goals such as leadership and independence (Budhwar et al., 2000). In contrast, low parental autonomy support and low maternal nurturance have been related to greater financial and extrinsic goal endorsement (Kasser et al., 1995; Williams, Cox, Hedberg & Deci, 2000). In girls, a poor mother–daughter relationship measured by the degree of attachment and separation (Rainey & Borders, 1997), and having a working mother (Curry et al., 1994) have been found to be related to greater endorsement of career aspirations. Similarly, the type of work a mother does have been shown to be related to adolescents' career goals (Trice & Knapp, 1992). Finally, the scarce research on the influence of siblings on adolescent goals, suggests an association with aspirations, although the relationship may depend on the amount of parental support (Marjoribanks, 1994b).

It should be noted that the strength of the relationship between parental support for learning and adolescent goals has been found to vary according to ethnicity, gender and SES (Marjoribanks, 1991). Perception of parents' support, aspirations and involvement may (partially) mediate between family context (parental education and aspirations for their children) and adolescents' aspirations (Marjoribanks, 1999).

Processes. Parents can influence attitudes towards the future such as the level of optimism (Nurmi, 1991; Nurmi & Pulliainen, 1991). They can have an impact on plans for goal realization (Nurmi & Pulliainen, 1991) and are often active in assisting and supporting their children in attaining their (career) goals (Kerpelman et al., 2002). The beliefs parents hold about the likelihood of their child attaining their goals have been found to be positively related to adolescent beliefs of attainment probability (Malmberg et al., 2005). Greater family support has been shown to be related to greater optimism (Lanz & Rosnati, 2002) and positive future expectations nine months later (Dubow, Arnett, Smith & Ippolito, 2001). Parental acceptance and autonomy is suggested to promote positive self-evaluation which is associated with goal motivation and behavior (Seginer et al., 2004). Finally, greater sibling support is suggested to be related to higher vocational/educational goal efficacy (Ali, McWhirter, & Chronister, 2005).

In sum, parents' aspirations for their children, beliefs regarding likelihood of adolescents' goal attainment, (autonomy) support, involvement in learning, acceptance, nurturance and the quality of the relationship with their child are all factors which have been shown to influence the goals adolescents set and their experience of goal pursuit.

Peer influence

Content. During adolescence, the influence of peers has been shown to increase as the individual gains independence from parents and spends a greater amount of time in the company of friends (Bradford Brown, 1990). Indeed, the influence of school and peers on adolescent goals has been reported to be greater than that of the family (Cohen & Cohen, 2001). Research has suggested that teens who spend a greater amount of time in the company of peers are more likely to endorse hedonistic or deviant goals (Cohen & Cohen, 1996, 2001). Lending further support for this position, delinquent adolescents appear particularly social image focused (Carroll, 1995; Carroll, Durkin, Hattie & Houghton, 1997). To what extent then can peers have a positive influence on adolescent goals? Some evidence suggests that for girls, peer support is predictive of perceived goal opportunity which in turn is related to educational aspirations (Wall et al., 1999). For boys no such relationship was found. Similarly, peer support

(Wentzel, 1994), peer expectations (Wentzel, Filisetti & Looney, 2007) and peer prosocial behavior (Barry & Wentzel, 2006) have been related to prosocial goal endorsement at school.

Processes. One study reports the positive influence of peer (and sibling) support on educational and career self-efficacy beliefs, which in turn led to higher career outcome expectancies (Ali et al., 2005). Conversely, greater negative peer influences (peer substance use, sexual behavior and pressure to use substances) have been related prospectively to a decrease in positive future expectations (Dubow et al., 2001).

To summarize, there is evidence to suggest that the perception that peers are involved in risky behavior and a greater amount of time spent with such peers is related to increased experimentation with deviant goals. However, in other spheres such as education, peer support, behavior, and expectations may foster greater academic, occupational, and prosocial aspirations.

Educational environment

Content. Various contextual influences on goal setting have been reported, including school setting and educational track (institutional career, see Nurmi, 2004). Interviews with girls revealed that those in a single-sex school report more educational goals while those in a co-educational school put a greater emphasis on physical appearance, interpersonal, career, and freedom-autonomy goals (Carroll, 2002). Girls educated in a single-sex environment also report more career aspirations in natural sciences than those in mixed schools (Schoon, 2001). Boys in this study attending a co-educational school endorsed the goal of being an engineer to a greater extent than boys in a single-sexed school. More generally, girls in single-sex schools have been found to report higher career goals than girls in co-educational schools (Watson, Quatman & Edler, 2002).

In addition to the type of school, the type of educational track an adolescent follows may influence the goals they pursue. Following either an academic versus vocational education will largely determine the opportunities for further education and employment, which may translate into differing hopes, fears and expectations for the future. Supporting this notion, adolescents following a vocational education have been shown to report a greater number of adult preparatory goals (e.g., independence from parents, getting a job and starting a family) and fewer career preparatory goals (e.g., continuing in education, being successful, establishing a career) compared to those following an academic education (Klaczynski & Reese, 1991).

Processes. Girls studying in a single-sex school have been found to have higher commitment to goals, set more specific and achievable goals, and perceive fewer barriers to achievement than those in studying in a co-educational setting (Carroll, 2002). Additionally, while career aspirations appear to decrease with age in co-educational schools, in single-sex schools girls' career aspirations appear to remain stable (Watson et al., 2002).

Educational track has also been found to be related to expectations of success, self-efficacy and control beliefs over one's future (Klaczynski & Reese, 1991; Malmberg & Trempała, 1997). Adolescents following a vocational education are suggested to be more likely to attribute *negative* educational goal outcomes to themselves while college–preparatory students are more likely to attribute *positive* educational goal outcomes to themselves (Klaczynski & Reese, 1991). There is some contradictory evidence regarding expectations for goal success, with one study finding these predictions to be higher in college–preparatory students (Malmberg & Trempała, 1997) while another finds them to be higher in vocational students (Klaczynski & Reese, 1991). As would be expected, adolescents following a vocational education (and thus often required to fulfill fewer years of secondary school) have a shorter temporal extension when considering educational and occupational goals than those following an academic secondary education (Malmberg & Trempała, 1997).

The educational setting appears to shape the goals and goal cognitions of adolescents. The type of school (mixed versus co-educational) and type of educational track are related to both the types of goals set, temporal extension and the beliefs associated with these goals, such as commitment, perception of barriers, expectations of success, attributions for goal outcomes, and feeling of self-efficacy and control over the future.

Ethnicity

Content. There is much evidence to suggest that culture is an important back-drop against which goal setting and pursuit takes place. There is some suggestion for differences in goal endorsement between individualist and collectivist cultures. For example, African American girls and their mothers emphasize the importance of social responsibility and connectedness (Kerpelman et al., 2002). However, when parental individualistic socialization orientation is measured directly, no relationship with adolescents' aspirations was found (Marjoribanks, 2003b).

Studies have shown various different types of goals being emphasized within different ethnic groups. In a comparison of ethnic groups in Australia, Greek and Italian youths endorsed higher educational and occupation aspirations compared to Anglo- and English-Australians (Marjoribanks, 2003b). Further, in a study of Israeli teens, goals of Jewish adolescents reflected the prospective life domain (e.g., occupation) while goals of Druze adolescents reflected greater emphasis on existential domains (e.g., collective issues and family), reflecting the traditional values and expectations of this community (Seginer & Halabi-Kheir, 1998). A similar study of Jewish and Arab Israeli's found support for the influence of ethnic membership on educational aspirations via factors such as social background and parental demandingness (Seginer & Vermulst, 2002).

Widely held stereotypes regarding typical behaviors of particular ethnic groups have been found to influence the possible selves reported by young people (Kao, 2000). For example, the widely held perception that Asian American students are academically gifted means that many of these adolescents are dissatisfied with their academic performance if they do not conform to this stereotype. Similarly, feared selves often consist of the negative stereotypes attributed to ones ethnic group, such as becoming a manual laborer for Hispanic American youths. In line with these prevailing stereotypes, a study of ethnic groups in the USA found that Asian American youths report the highest educational and occupational aspirations while Hispanic Americans report the lowest (Mau & Bikos, 2000). In contrast to these findings, another recent study found no support for difference in reported aspirations and expectations between American ethnic minority groups. However when a closed ended methodology was used, differences did arise with, again, Mexican youths scoring the lowest on long term educational aspirations (Chang et al., 2006). Further evidence suggests that the meaning attached to particular goals differs according to ethnic membership. For example, minority (Mexican and Puerto Rican) youths in the USA describe educational goals not in terms of personal growth but in terms of the chance for economic improvement (Yowell, 2000).

Despite these noted differences, there is a considerable cross-cultural overlap in adolescent goal content. This is likely to reflect the core developmental tasks common to individuals of this age group (Nurmi, 1991). For example, a study on American youths reported, when controlling for SES, found no significant difference in the goals reported by adolescents from different ethnic groups (Phinney, Baumann & Blanton, 2001; see also Chang et al., 2006). This study focused largely on desired professions, and the similarity in findings may reflect valuing of traditionally respected professions such as law or medicine across ethnic groups.

Processes. There is comparatively less research on differences in goal processes across ethnic groups. Further evidence for differentiation along the collectivist–individualist dimension, comes from findings on attribution of goal success. For example, ethnic monitory youths in America (Armenian, Vietnamese, Mexican-American, and African-American) were found to typically attribute successful goal attainment to the amount of effort invested, whereas European American youths typically attributed success to ability (Phinney et al., 2001). This concurs with work on Korean-American and European-American adolescents (and undergraduates), which suggested that membership to an individualist or collectivist culture shapes the goal pursuit process (Grant & Dweck, 2001). Failure attributed to lack of effort in a collectivist culture is suggested to lead to humiliation, anxiety, and negative affect, as failure is seen to be shared by the entire group. Failure due to lack of effort in an individualist culture is acceptable but only if this indicates that failure is not due to lack of ability. Finally, another study found evidence that Caucasian-Americans would be satisfied with achieving a lower level of education compared to their African American counterparts (Wilson & Wilson, 1992).

It appears that ethnic membership is one of the important factors which shape goal content. Common ethnic-stereotypes are likely to restrict the possibilities adolescents perceive for goal pursuit. Finally, attributions for goal success or failure may be in part determined by ethnic norms.

Socioeconomic status (SES)

Content. Adolescents' perception of opportunities and resources for goal pursuit are likely to be partly determined by their SES. There is some evidence that adolescents with a low SES endorse materialistic goals to a greater extent than those of a higher SES (Cohen & Cohen, 1996, 2001; Kasser et al., 1995). Several studies have suggested that high SES is related to higher educational goals (Hill et al., 2004; Khallad, 2000; Marjoribanks, 2002a, 2003d; Wilson & Wilson, 1992) although findings with regards to occupational aspirations are mixed (Hill et al., 2004; Rojewski & Yang, 1997). The influence of parental SES on adolescents' aspirations may be (partially) mediated by more proximal family factors such as material conditions (Marjoribanks, 1998; Schoon & Parsons, 2002), perception of parental support, involvement and aspirations (Bandura et al., 2001; Marjoribanks, 1999), academic achievement, self-concept (Marjoribanks, 2002b), and parental perceived academic efficacy (Bandura et al., 2001).

Interviews with teenaged girls revealed that those with a low SES are highly motivated to achieve goals which could potentially improve their socioeconomic situation (Carroll, 2002). However, another study showed that inner-city boys report aspiring to (and expecting) fewer white-collar or prestigious occupations than those from more affluent suburban areas (Cook et al., 1996). This suggests that adolescents of a low SES may aspire to improvement but their aspirations are relatively not as high as their more advantaged peers. It should be noted that the latter study compares inner-city African-American boys with affluent Caucasian boys, rendering the results somewhat confounded by ethnicity. Indeed, SES is often highly correlated with ethnicity. As discussed earlier, the study by Phinney and colleagues (2001) found no ethnicity differences in goals when controlled for SES, suggesting that SES may be the more important factor. Another study comparing high and low academic achievers with differing SES backgrounds found no evidence for a difference in goal endorsement (Gordon Rouse, 2001).

Processes. There is little research on the relationship between SES and goal pursuit processes. One study demonstrated that when level of academic achievement is equivalent, low SES students report lower beliefs of ability to achieve cognitive, social and personal goals, lower beliefs of environmental responsiveness to achieve cognitive goals, and lower personal control to achieve cognitive and social goals than high SES students (Gordon Rouse, 2001).

It is likely that the economic situation of the family has some influence on adolescents' goals; however, as SES is closely linked to other factors such as ethnicity, urbanicity, and educational setting, it is difficult to partial out the unique contribution of SES. There is some evidence that more proximal factors may mediate the relationship with adolescent goals.

Social and political environment

Content. The impact of the sociopolitical structure on adolescent goals has scarcely been investigated. One study investigated changes in goal content before, during and after the transformation of Poland from a socialist to a democratic society (Liberska, 2002). The findings identified goals common to most adolescents such as starting a family and having a satisfying profession along side other goals which reflect the changing economic situation such as gaining assets and a high income. Another study comparing Eastern European, Western European, and American adolescents identified 'a clear distinction' in goals such as becoming successful, social responsibility and leisure (Nurmi et al., 1999). The least differences were found in the areas of career and family. Surprisingly, often American adolescents' goals were most similar to their Eastern European counterparts.

Processes. In the study of Liberska, the temporal extension of almost all goals was found to lengthen after the introduction of democracy, with the exception of achieving a high income. Despite this developmental delay, the temporal ordering for goal attainment remained the same and conformed to the common 'cultural prototype' (Nurmi, 1991). Factors which play an important role in the timing of adolescents' goals include national institutional tracks such as length of education and

conscription (Malmberg & Trempała, 1997; Nurmi et al., 1995). For example, goal cognitions and timing of developmental trajectories with regards to the family and occupational goals have been shown to differ between adolescents from Poland and Germany (Schönpflug & Jansen, 1995) and Poland and Finland respectively (Malmberg & Trempała, 1997). Although it should be noted that Malmberg and Trempała conclude that other psychosocial factors had a stronger influence relative to country.

In summary, the socio-political context in which adolescents grow up may shape goals although further investigation in this area is needed to draw more certain conclusions. There appears to be certain 'core' adolescent goals, such as family and occupational goals, which are consistently reported across countries and contexts although national institutional structures are likely to determine timing of these goals.

Psychological and behavioral correlates of goal content and pursuit

The following section explores the extent to which goals and goal pursuit are associated with adolescent behavior and psychological well-being. These studies investigated the relationships between goal content and processes on the one hand and adolescent behaviors (such as health compromising or delinquent behavior) and well-being (such as symptoms of depression or anxiety) on the other.

Health compromising behaviors

Adolescence is for many a time of experimentation with new experiences including risky health behaviors such as alcohol and drug use, smoking and unsafe sex (Gibbons, Gerrard, Blanton & Russell, 1998; Kokkevi, Gabhainn, Spyropoulou & Risk Behaviour Focus Group of the HBSC, 2006). An important question is, therefore, to what extent a relationship exists between (un)healthy behaviors and the goals that adolescents set for themselves and how they go about achieving them (Stein et al., 1998).

Content. Various cross-sectional studies suggest a relationship between health compromising behaviors and adolescent goal content, although it is not possible to draw conclusions regarding direction of causality based on these studies. Endorsing extrinsic goals such as wealth, fame and image appears to be related to greater likelihood of risky health behavior such as smoking (particularly in older adolescents) (Williams et al., 2000) and a sedentary lifestyle (Piko & Keresztes, 2006). Greater educational goal endorsement has been associated with lower risk behaviors in male adolescents, although not in girls (Somers & Gizzi, 2001). Similarly, greater future aspirations have been related to delayed initiation of sexual intercourse, although the measure of future aspirations used is not clearly described (Vesely et al., 2004). Related to this, greater realism regarding child-rearing and lower perceived acceptance of adolescent pregnancy has been found to be associated with greater educational goal endorsement (Mirza & Somers, 2004).

Findings from prospective and longitudinal studies support cross-sectional findings, for example, for the relationship between sexual behaviors and subsequent educational goal endorsement. In a longitudinal study, initiation of sexual activity between time measurements was associated with a decrease in endorsement of educational goals (Schvaneveldt, Lee, Miller & Berry, 2001). Conversely, a lack of sexual experience was related to greater interest in school, more educational goals and higher achievement (depending on ethnicity and gender) (Schvaneveldt et al., 2001). Other studies suggest that risky health behavior becomes incorporated into the self-schema (of which possible selves are suggested to be future-oriented components). For example, among girls, engaging in risky behavior (alcohol use, tobacco use, and precocious sexual activity) in the 8th grade was predictive of self-conceptions involving problem behavior and deviant beliefs in the 9th grade (Stein et al., 1998). The number of possible selves and extent to which they are balanced with negative possible selves has been found to be related to alcohol and cigarette use (Aloise-Young et al., 2001). For girls, greater alcohol and cigarette use was associated with reporting fewer expected possible selves. For boys, a greater number of negative health behaviors was related to reporting fewer balanced possible selves. A balance between goals is suggested to offer adolescents both a positive image to strive for combined with an awareness of the negative outcomes they wish to avoid (Oyserman & Markus, 1990).

To what extent then is the endorsement of certain goals related to subsequent risky health behaviors? Endorsement of a 'popular' possible self (being well-liked), by girls at age 13–14 has been found to be related to increased risky health behaviors (smoking, sexual activity, and alcohol use) at age 14–15 (Stein et al., 1998). Findings from cross-sectional studies suggest that educational goals may play a protective role against (subsequent) risky health behavior, however, evidence from a prospective study found no association between greater achievement goal endorsement and lower alcohol use (Crum, Storr & Anthony, 2005). The authors cite the young age of the adolescents (11–14 years) and the relatively short one year period between measurements as possible reasons for the lack of relationship. In the area of occupational goals however, a greater positive career orientation has been found to be related to lower problem behavior (delinquency, drugs, and alcohol) over a period of a year (Skorikov & Vondracek, 2007).

Processes. A greater perceived detrimental effect of substance use on future goals has been found to be related to lower concurrent and subsequent substance use (Henry, Swaim & Slater, 2005) although this risk perception appears to decrease with age. Similarly, some studies have investigated goal conflict as a possible protective factor against unhealthy behaviors. Conflict or inconsistency between marijuana or cigarette use with other personal goals is suggested to be related, albeit cross-sectionally, to lower use of these drugs (Slater, 2003).

In sum, on the basis of cross-sectional studies it appears that health compromising behaviors are positively related to extrinsic goals and negatively related to educational goals. These findings however are not always borne out by prospective data. The limited research on goal processes and health behaviors hints at the importance of dissonance between risky behaviors and other personal goals.

Problem behavior

Apart from health compromising behaviors, other risk behaviors such as problem or deviant behavior can develop during adolescence. Delinquency here is understood as involvement in antisocial or illegal activities.

Content. Delinquent boys and those seen as at-risk of becoming delinquent score significantly higher on freedom-autonomy and delinquent goal endorsement than not at-risk adolescents (Carroll, Hattie, Durkin & Houghton, 2001). In contrast, not at-risk boys endorse greater educational and interpersonal goals (Carroll et al., 2001). Moreover, non-delinquent boys report more individuated selves such as being independent, finishing school and getting a job (Oyserman & Saltz, 1993). Noticeably, in a small case-study of five Australian incarcerated boys, no educational goals were mentioned (Carroll, 1995). In line with these findings on boys, a study found that at-risk girls value career goals, improving their current situation, social (partying) goals, competitive sporting and freedom-autonomy goals, in contrast to not at-risk girls who valued more educational, friendship, health and fitness goals. Independence was also an important goal of not at-risk girls, but was combined with a desire to maintain a supportive relationship with parents (Carroll, 2002). Greater self-reported delinquent behavior is associated with greater negative possible future selves and fewer positive possible future selves (Newberry & Duncan, 2001). For example, delinquent boys report fewer balanced selves compared to non-delinquent boys (Oyserman & Saltz, 1993). This suggests that delinquent adolescents lack positive self-images or expectations to guide their behavior towards positive outcomes. However, as the above studies were cross-sectional, no conclusions can be made as to direction of causation.

Processes. Involvement in delinquent activities may influence the way in which adolescents think about and pursue their goals. For example, non-delinquent boys report significantly greater attempts at achieving their goals compared to delinquent boys (Oyserman & Saltz, 1993). At-risk girls have been found to focus primarily on planning social goals while not at-risk girls also planned for educational goals (Carroll, 2002). Conversely, an increase in positive future expectations has been shown to be related to lower problem behaviors nine months later (Dubow et al., 2001). Some evidence does suggest that delinquents are committed to their goals, albeit short term goals such as sports, having fun and being with friends, or goals for immediate gain such as acquisition of resources (Carroll, 1995).

To summarize, delinquency appears to be characterized by a profile of low educational goals and high autonomy and delinquent goals. However, due to the noticeable scarcity of longitudinal studies in this area, no conclusions can be made regarding causality.

Psychological well-being

Content. To what extent do affective experiences (or psychological states) influence adolescent goal content (Austin & Vancouver, 1996)? Evidence suggests that anxiety is positively related to greater avoidance goals while depression appears to be related to both fewer approach goals (Dickson & MacLeod, 2004b, 2006) and greater avoidance goals (Dickson & MacLeod, 2006). High self-efficacy (a person's belief in their capabilities to achieve their goals) has been found to be associated with higher academic goal endorsement (Vrugt, Oort & Zeeberg, 2002). Similarly, high self-esteem has been related to reporting more educational (Nurmi & Pulliainen, 1991) and higher occupational goals (Rojewski & Yang, 1997). In a sample of Zambian adolescents, personal goals in the areas of power, affiliation and achievement were significantly associated with greater life satisfaction (Hofer & Chasiotis, 2003). This latter finding suggests that the link between pursuit of personal goals and well-being holds not only for Western adolescent samples, but also for adolescents from developing countries. Further findings suggest that endorsement of intrinsic goals is associated with higher well-being in adolescents, whereas endorsement of extrinsic goals is associated with poorer well-being (Schmuck, 2001). Adolescents who value wealth and physical pleasures to a greater extent have been found to be at greater risk of developing various kinds of psychological disorders such as disruptive and personality disorders (Cohen & Cohen, 2001). Conversely, the goal of being a good person was found to be protective against disruptive, personality and depressive disorders (Cohen & Cohen, 2001). The above studies demonstrate associations only as the findings are based on concurrent measurements.

Processes. Depressed adolescents have been found to report a larger number of reasons why goals may not be attained, fewer reasons why goals could be attained, the belief that aversive outcomes were more likely to occur and approach goal outcomes were less likely to occur, and a lower sense of control over goal pursuit relative to non-depressed controls (Dickson & MacLeod, 2006). Adolescents who are depressed and/or anxious also report fewer approach plans and more avoidance plans than controls (Dickson & MacLeod, 2004a). Further, certain patterns of specificity in planning have been observed, in that depressed adolescents report generally less specific goal plans, while anxious adolescents report lower specificity in approach plans (Dickson & MacLeod, 2004a). Self-efficacy has been found to be strongly related to probability estimates of educational, occupational and family goals occurring (Trempała & Malmberg, 1998). Similarly, other studies have shown that higher self-esteem was related to more internal control beliefs regarding the future (Nurmi & Pulliainen, 1991) greater goal progress (Pinquart, Silbereisen & Wiesner, 2004) and greater probability estimations of attaining family and education goals (Malmberg, 2002).

There appears therefore to be a relationship between approach (versus avoidance) goal endorsement and intrinsic (versus extrinsic) goal endorsement on the one hand and psychological health on the other. However again, there is little longitudinal evidence to support conclusions regarding causality.

In summary of this section, there seems to be evidence for a bidirectional relationship between goal endorsement on the one hand and (some) health compromising and problem behaviors and psychological well-being on the other. Endorsement of non-conventional or extrinsic goals may perpetuate risky behaviors and extrinsic goals in particular appear to be related to lower psychological health. Goal balance and conflict may be important factors in the development of health compromising behavior. Furthermore, existing behavioral patterns and the psychological state of an adolescent appear to be important factors in determining subsequent goal content and pursuit.

Discussion

Adolescents aspire to the goals which are, according to their life circumstances and social context, open to them. Sociodemographic and cultural factors such as age, gender, family characteristics, institutional structures, ethnic membership, and the socio-political climate have been found in our review

to influence adolescent motivation. Material, psychological, and social resources also appear to play an important role in determining the possible goal pathways by which adolescents can achieve their aspirations. The goals that adolescents strive to achieve, the way they think about and experience goal pursuit shapes, in turn, behavior, self-perception and well-being (Nurmi, 2001). The circular nature of these relationships can constitute either an upwards or downwards spiral (Nurmi, 1997). Our findings confirm and extend those presented by Nurmi (1991).

Adolescent goals reflect the pertinent life tasks of this period in the life span (Nurmi, 1991), with goal content varying according to the stage of development and cultural and gendered norms. With increasing age and developing cognitive maturity, adolescents demonstrate increasing exploration, planning and confidence in their ability to realize their personal goals. Goals endorsed by girls and boys seem to reflect gender stereotypes somewhat (see also Bois-Reymond, Guit, Peters, Ravesloot & Van Rooijen, 1994), although the extent to which this is the case varies considerably across studies. The discrepancy between the aspirations of male and female adolescents, or the lack thereof, may be attributable to contextual factors such as school setting, socialization and culture. In a progressively more emancipated society, congruence between the goals of girls and boys growing up in Westernized countries may be increasing (Fiorentine, 1988).

Proximal social factors, such as parental support, involvement, nurturance, attainment beliefs and aspirations for their children have been found to be related to adolescent goal endorsement, perceptions of attainability, and plans for realization. These relationships however may depend upon family characteristics such as ethnicity (Marjoribanks, 1993). It should also be noted that adolescents' goals are, in turn, likely to shape those of their parents (co-development as discussed by Nurmi, 2001). While the influence of parents is apparent, there is much less research on the influence of siblings and peers on goal content and pursuit. Questions remain regarding the conditions under which peers exert an adaptive influence on adolescent strivings.

The meaning of goals, particularly those relating to education and occupation, is also likely to differ according to the available social and economic resources (e.g., Basit, 1996; Carroll, 2002). Parents with high SES may serve as role-models for high educational and occupational aspirations (Hill et al., 2004). Conversely, adolescents with few socioeconomic resources may focus on gaining material possessions and improving their situation. However, goal pursuit may be thwarted by beliefs of low ability, control and environmental responsiveness. One of the difficulties of research in this area is that SES is often confounded by the ethnic composition of the sample (e.g., Cook et al., 1996). In future research it would be interesting to determine the unique contribution of each of these two influential factors to goal endorsement and goal pursuit. Another important question for future research is to what extent can motivational factors be used to help economically or otherwise disadvantaged youths break the cycle of poverty?

In addition to the family environment, the educational setting can influence the type of goals set, developmental timing, and beliefs regarding for example goal attainability, control and plans for goal attainment, mainly through the different perspectives on future educational and occupational possibilities. The cultural setting, on the other hand, is likely to influence adolescent goals via sex-role expectations, accepted behavioral norms, religious beliefs, and the legal and political climate (Basit, 1996; Greene & DeBacker, 2004; Nurmi, 1987). Ethnic membership is suggested to determine the acceptability of certain strivings, whereby pursuit of goals typically associated to other ethnic groups is discouraged (e.g., academic goals may be seen as "acting white" by African-American youths). This may lead to some adolescents considering a narrower range of possibilities for their future goals. Goal meaning and attribution of success should, therefore, be viewed in the light of the ethnic background of the adolescent (Grant & Dweck, 2001; Phinney, 1990). In addition to ethnic membership, the country in which research is conducted necessarily influences the goal pursuit process via national institutional structures such as conscription and the educational system (Malmberg & Trempała, 1997; Nurmi et al., 1995). Further, the socio-political climate of the country is likely to shape perception of goal possibilities; however research in this area is scarce.

In short, most sociodemographic variables are quite strongly and meaningfully related to goal endorsement and goal pursuit, in line with Nurmi's concept of 'channeling'. With regards to the relationship between goals and behavior and well-being, several further conclusions can be drawn.

A focus on social goals, such as being liked or being popular, appears to be a risk factor for problem behaviors. This is in accordance with research on undergraduates which suggests that a strong need for affiliation or acceptance may lead adolescents to engage in behaviors which are regarded within their peer groups as socially desirable, "grown up" or "cool", such as smoking and drinking (Simons, Christopher & Mclaury, 2004). Moreover, personal goals may be influenced by, or subsumed by, peer group membership and pursuit of collective group goals. Indeed, successful attainment of group goals may be a prerequisite of peer group acceptance. Worryingly, the literature reviewed suggests that engaging in problem behaviors may in turn become incorporated into the definition of self (e.g., self as 'smoker', 'drinker', 'gang member') which may serve to reinforce these behaviors so that they become enduring (e.g., Stein et al., 1998; see also Nurmi, 2001). Further exploration of the relationships between peers and social goals on both problem and adaptive behavior would be an interesting avenue for future research. Additionally, findings on prosocial peer behavior and expectations may offer insight into the potential positive influence of peers. Much of the research to date however is cross-sectional and cannot demonstrate causal effects.

The literature points to a possible cyclical effect in which risk/problem behavior leads to lower educational/achievement goals and an increase in deviant, autonomy and extrinsic goals. These goals may in turn reinforce these problem behaviors. In contrast to social goals, educational goals (and possibly career goals) may offer a possible route to lower problem behavior (e.g., Simons et al., 2004), although there is some inconsistency regarding this association. The possible positive impact of endorsing educational, 'being a good person' and intrinsic goals on well-being, behavior and achievement, should be further investigated. The literature reviewed also points to the impact of goal structure, such as goal conflict (see also Simons, 2003; Simons & Carey, 2003) and balance between approach and avoidance goals, on various outcomes. Therefore pertinent questions for future research include: Can greater consideration of how risk behavior conflicts with other personal goals, such as educational or sports goals, help reduce or prevent the problem behavior? Can balance between goals promote successful goal attainment and well-being and possibly reduce or prevent problem behavior?

With regards to psychological well-being of adolescents, a focus on materialistic goals has been associated with poor adjustment and low well-being (Csikszentmihalyi, 1999; Kasser & Ryan, 1993, 1996). A predominance of extrinsic goals has been suggested to be a result of striving for a sense of worth via external rewards and recognition, reflecting a lack of personal/inner self-worth (Ryan, Sheldon, Kasser & Deci, 1996). These studies with adolescents support a wider body of literature which indicates a relationship between extrinsic goals and a lower well-being (e.g., Kasser & Ryan, 1993, 1996; Sheldon & Kasser, 1995).

The circular theme is also evident in the relationship between psychological state and goals. The type of goal, experience during goal pursuit, and (un)successful goal attainment have been found to impact upon adolescent psychological well-being. Depression, anxiety and self-esteem are suggested to influence goal setting and means of pursuit, supporting earlier findings in undergraduates (Salmela-Aro & Nurmi, 1996) and adults (Emmons, 1992). Successful goal pursuit may fundamentally protect against depression by creating resistance via the need to learn, grow and improve. Conversely, an orientation towards proving one's worth, competence or likeability may to be related to higher anxiety, low self-esteem, goal disengagement and depression when one encounters negative events (Dykman, 1998). An interesting question for the future is to what extent self-regulatory skills such as flexible goal pursuit, planning and coping with setbacks to pursuit, can improve health (behaviors) and well-being?

As is evident from this review, the work in this area is far from complete. Questions remain for example on whether the pursuit of certain types of goals leads adolescents into a life of risk behaviors, low achievement and well-being, or whether prior behavior and health influences goal setting and goal cognitions. A negative view of one's future may lead to greater involvement in problem behavior and a lack of positive goals may preclude the occurrence of positive outcomes. It is likely that these relationships are bidirectional and that they are influenced by other psychosocial variables such as impulsivity, social environment (Oyserman & Saltz, 1993), and sensation seeking (Newberry & Duncan, 2001).

Methodological issues

Certain methodological issues of the studies reviewed should be taken into consideration for future studies. Firstly, the extent to which the method of goal-elicitation influences results obtained remains unclear. In some cases similar results were obtained regardless of elicitation method while in other studies findings depended on method of goal-elicitation employed (e.g., Chang et al., 2006). Consequently, we suggest that exploring the impact of the goal-elicitation procedure on findings is an essential question for future research. Similarly, there is need for greater parsimony in goals measures, as some operationalizations from different theoretical perspectives may be measuring the same or similar concepts (such as possible selves and hopes and fears), while others are substantially distinct (such as ideal-state discrepancy and intrinsic/extrinsic motivation). Multi-trait–multi-method studies may be able to shed light on possible conceptual overlap and differentiation. Further, there is a lack of reviews and meta-analyses on, for example the relative frequency, density, or temporal extension of goals.

Secondly, studies tend to focus on normative, majority groups of adolescents. It is important to attempt to reach minority or hard to recruit adolescents as the aspirations of these non-normative groups may present a different picture to the one portrayed here. At the same time these adolescents may be in greater need of assistance in preventing or breaking a downward spiral. Youths which are not fully represented in the literature up to now include those who truant from school, school dropouts, and homeless or chronically ill adolescents.

Thirdly, as already highlighted by Nurmi (2004) there is a need for more longitudinal studies as only approximately one third of the studies reviewed followed adolescents over time. Prospective studies with a greater number of measurement points over a longer period of time could provide greater insight into the dynamics of goal pursuit such as factors influencing goal selection, experience of goal pursuit, and the consequences of goal (non)attainment on further goal setting, behavior and well-being.

Conclusions

In this review, we have provided an overview of the most recent literature on the area of adolescent goals and goal pursuit. Our goal was to clarify and understand the goals that adolescents strive to achieve, factors which play a role in shaping this motivated behavior and the nature of their relationships with behavior and well-being. This review clearly highlights that both goal content and goal processes are strongly related to a variety of personal, social and environmental factors. Moreover, adolescent aspirations and the process of goal pursuit are linked to both (risk) behaviors and overall well-being. One of the main challenges for the future will be the development and testing of interventions for youths that promote adaptive and effective goal pursuit strategies which are in accordance with the specific characteristics of the target group.

References

Affleck, G., Tennen, H., Urrows, S., Higgins, P., Abeles, M., Hall, C., et al (1998). Fibromyalgia and women's pursuit of personal goals: A daily process analysis. *Health Psychology, 17*, 40–47.

Ali, S. R., McWhirter, E. H., & Chronister, K. M. (2005). Self-efficacy and vocational outcome expectations for adolescents of lower socioeconomic status: A pilot study. *Journal of Career Assessment, 13*, 40–58.

Aloise-Young, P. A., Hennigan, K. M., & Leong, C. W. (2001). Possible selves and negative health behaviors during early adolescence. *Journal of Early Adolescence, 21*, 158–181.

Anderman, L. H., & Anderman, E. M. (1999). Social predictors of changes in students' achievement goal orientations. *Contemporary Educational Psychology, 24*, 21–37.

Armstrong, P. I., & Crombie, G. (2000). Compromises in adolescents' occupational aspirations and expectation from grades 8 to 10. *Journal of Vocational Behavior, 56*, 82–98.

Austin, J. T., & Vancouver, J. B. (1996). Goal constructs in psychology: Structure, process, and content. *Psychological Bulletin, 120*, 338–375.

Bandura, A. (1986). *Social foundations of thought and action. A social cognitive theory*. Englewood Cliffs, New Jersey: Prentice Hall.

Bandura, A. (1997). *Self-efficacy. The exercise of control*. New York: W.H. Freeman and Company.

Bandura, A., Barbaranelli, C., Caprara, G. V., & Pastorelli, C. (2001). Self-efficacy beliefs as shapers of children's aspirations and career trajectories. *Child Development, 72*, 187–206.

Barry, C. M., & Wentzel, K. R. (2006). Friend influence on prosocial behavior: The role of motivational factors and friendship characteristics. *Developmental Psychology, 42*, 153–163.
Basit, T. N. (1996). "I'd hate to be just a housewife": Career aspirations of British Muslim girls. *British Journal of Guidance and Counseling, 24*, 227–242.
Behnke, A. O., Piercy, K. W., & Diversi, M. (2004). Educational and occupational aspirations of Latino youth and their parents. *Hispanic Journal of Behavioral Sciences, 26*, 16–35.
Bois-Reymond, M., Guit, H., Peters, E., Ravesloot, J., & Van Rooijen, E. (1994). Life-course transitions and future orientations of Dutch youth. *Young, 2*, 3–20.
Bradford Brown, B. (1990). Peer group and peer cultures. In S. Feldman & G. R. Elliott (Eds.), *At the threshold*. Cambridge, Massachusetts: Harvard University Press.
Brunstein, J. C. (1993). Personal goals and subjective well-being: A longitudinal study. *Journal of Personality and Social Psychology, 65*, 1061–1070.
Budhwar, L., Reeves, D., & Farrell, P. (2000). Life goals as a function of social class and child rearing practices in India. *International Journal of Intercultural Relations, 24*, 227–245.
Cantor, N., & Kihlstrom, J. F. (1987). *Personality and social intelligence*. London: Prentice-Hall.
Cantor, N., Norem, J., Langston, C., Zirkel, S., Fleeson, W., & Cook-Flannagan, C. (1991). Life tasks and daily life experiences. *Journal of Personality, 59*, 425–451.
Cantor, N., Norem, J. K., Niedenthal, P. M., Langston, C. A., & Brower, A. M. (1987). Life tasks, self-concept ideals, and cognitive strategies in a life transition. *Journal of Personality and Social Psychology, 53*, 1178–1191.
Carroll, A. (1995). Characterizing the goals of juvenile delinquents: Nature, content and purpose. *Psychology, Crime and Law, 1*, 247–260.
Carroll, A. (2002). At-risk and not at-risk adolescent girls in single-sex and mixed-sex school settings: An examination of their goals and reputations. *Westminster Studies in Education, 25*, 147–162.
Carroll, A., Durkin, K., Hattie, J., & Houghton, S. (1997). Goal setting among adolescents: A comparison of delinquent, at-risk, and not-at-risk youth. *Journal of Educational Psychology, 89*, 441–450.
Carroll, A., Hattie, J., Durkin, K., & Houghton, S. (2001). Goal-setting and reputation enhancement: Behavioural choices among delinquent, at-risk and not at-risk adolescents. *Legal and Criminological Psychology, 6*, 165–184.
Carver, C. S., & Scheier, M. F. (1990a). Principles of self-regulation: Action and emotion. In E. T. Higgins & R. M. Sorrentino (Eds.). *Handbook of motivation and cognition: Foundations of social behavior* (Vol. 2). New York & London: The Guilford Press.
Carver, C. S., & Scheier, M. F. (1990b). Origins and functions of positive and negative affect: A control-process view. *Psychological Review, 97*, 19–35.
Chang, E., Chen, C., Greenberger, E., Dooley, D., & Heckhausen, J. (2006). What do they want in life? The life goals of a multi-ethnic, multi-generational sample of high school seniors. *Journal of Youth and Adolescence, 35*, 321–332.
Cohen, P., & Cohen, J. (1996). *Life values and adolescent mental health*. Mahwah, New Jersey: Lawrence Erlbaum Association.
Cohen, P., & Cohen, J. (2001). Life values and mental health in adolescence. In P. Schmuck & K. M. Sheldon (Eds.), *Life goals and well-being*. Gottingen: Hogrefe and Huber Publishers.
Cook, T. D., Church, M. B., Ajanaku, S., Shadish, W. R., Kim, J.-R., & Cohen, R. (1996). The development of occupational aspirations and expectations among inner-city boys. *Child Development, 67*, 3368–3385.
Covington, M. V. (2000). Goal theory, motivation, and school achievement: An integrative review. *Annual Review of Psychology, 51*, 171–200.
Creed, P. A., Conlon, E. G., & Zimmer-Gembeck, M. J. (2007). Career barriers and reading ability as correlates of career aspirations and expectations of parents and their children. *Journal of Vocational Behavior, 70*, 242–258.
Crum, R. M., Storr, C. L., & Anthony, J. C. (2005). Are educational aspirations associated with the risk of alcohol use and alcohol use-related problems among adolescents? *Substance Use and Misuse, 40*, 151–169.
Csikszentmihalyi, M. (1999). If we are so rich, why aren't we happy? *American Psychologist, 54*, 821–827.
Curry, C., Trew, K., Turner, I., & Hunter, J. (1994). The effect of life domains on girls' possible selves. *Adolescence, 29*, 133–150.
Deci, E. L., & Ryan, R. M. (1985). The general causality orientations scale: Self-determination in personality. *Journal of Research in Personality, 19*, 109–134.
Deci, E. L., & Ryan, R. M. (1990). A motivational approach to self: Integration in personality. In R. Dienstbier (Ed.). *Perspectives on motivation* (Vol. 38). Lincoln: University of Nebraska Press.
Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the self determination of behavior. *Psychological Inquiry, 11*, 227–268.
Dickson, J. M., & MacLeod, A. K. (2004a). Approach and avoidance goals and plans: Their relationship to anxiety and depression. *Cognitive Therapy and Research, 28*, 415–432.
Dickson, J. M., & MacLeod, A. K. (2004b). Brief report: Anxiety, depression and approach and avoidance goals. *Cognition and Emotion, 18*, 423–430.
Dickson, J. M., & MacLeod, A. K. (2006). Dysphoric adolescents' causal explanations and expectancies for approach and avoidance goals. *Journal of Adolescence, 29*, 177–191.
Dubow, E. F., Arnett, M., Smith, K., & Ippolito, M. F. (2001). Predictors of future expectations of inner-city children: A 9-month prospective study. *Journal of Early Adolescence, 21*, 5–28.
Dykman, B. M. (1998). Integrating cognitive and motivational factors in depression: Initial tests of a goal-orientation approach. *Journal of Personality and Social Psychology, 74*, 139–158.
Eccles, J. S. (2007). Families, schools, and developing achievement-related motivations and engagement. In P. D. Hastings & J. E. Grusec (Eds.), *Handbook of socialization: Theory and research*. New York: Guilford Press.
Emmons, R. (1986). Personal strivings: An approach to personality and subjective well-being. *Journal of Personality and Social Psychology, 51*, 1058–1068.
Emmons, R. (1992). Abstract versus concrete goals: Personal strivings level, physical illness, and psychological well-being. *Journal of Personality and Social Psychology, 62*, 292–300.
Emmons, R. (1996). Striving and feeling: Personal goals and subjective well-being. In P. M. Gollwitzer & J. A. Bargh (Eds.), *The psychology of action: Linking cognition and motivation to behavior*. New York: The Guilford Press.

Emmons, R. A. (1991). Personal strivings, daily life events, and psychological and physical well-being. *Journal of Personality, 59*, 453–472.
Emmons, R. A., & King, L. A. (1988). Conflict among personal strivings: Immediate and long-term implications for psychological and physical well-being. *Journal of Personality and Social Psychology, 54*, 1040–1048.
Erikson, E. H. (1963). *Childhood and society* (2nd ed.). New York: W.W. Norton & Company.
Fiorentine, R. (1988). Increasing similarity in the values and life plans of males and female college students? Evidence and implications. *Sex Roles, 18*, 143–158.
Ford, M. E. (1992). *Motivating humans: Goals, emotions, and personal agency beliefs*. Newbury Park, California: SAGE Publications.
Gibbons, F. X., Gerrard, M., Blanton, H., & Russell, D. (1998). Reasoned action and social reaction: Willingness and intention as independent predictors of health risk. *Journal of Personality and Social Psychology, 74*, 1164–1180.
Gordon Rouse, K. A. (2001). Resilient students' goals and motivation. *Journal of Adolescence, 24*, 461–472.
Grant, H., & Dweck, C. S. (2001). Cross-cultural response to failure: Considering outcome attributions with different goals. In F. Salili, C.-Y. Chiu, & Y.-Y. Hong (Eds.), *Student motivation: The culture and context of learning*. Dordrecht, Netherlands: Kluwer Academic Publishers.
Greene, B. A., & DeBacker, T. K. (2004). Gender and orientations toward the future: Links to motivation. *Educational Psychology Review, 16*, 91–120.
Harris, C., Daniels, K., & Briner, R. B. (2003). A daily diary study of goals and affective well-being at work. *Journal of Occupational and Organizational Psychology, 76*, 401–410.
Havighurst, R. J. (1953). *Human development and education*. New York: David McKay Company.
Henry, K. L., Swaim, R. C., & Slater, M. D. (2005). Intraindividual variability of school bonding and adolescents' beliefs about the effect of substance use in future aspirations. *Prevention Science, 6*, 101–112.
Higgins, E. T. (1987). Self-discrepancy: A theory relating self and affect. *Psychological Review, 94*, 319–340.
Hill, N. E., Castellino, D. R., Lansford, J. E., Nowlin, P., Dodge, K. A., Bates, J. E., et al (2004). Parent academic involvement as related to school behavior, achievement, and aspirations: Demographic variations across adolescence. *Child Development, 75*, 1491–1509.
Hofer, J., & Chasiotis, A. (2003). Congruence of life goals and implicit motives as predictors of life satisfaction: Cross-cultural implications of a study of Zambian male adolescents. *Motivation and Emotion, 27*, 251–271.
Honora, D. T. (2002). The relationship of gender and achievement to future outlook among African American adolescents. *Adolescence, 37*, 301–316.
Jodl, K. M., Michael, A., Malanchuk, O., Eccles, J. S., & Sameroff, A. (2001). Parents' roles in shaping early adolescents' occupational aspirations. *Child Development, 72*, 1247–1265.
Kao, G. (2000). Group images and possible selves among adolescents: Linking stereotypes to expectations by race and ethnicity. *Sociological Forum, 15*, 407–429.
Kasser, T., & Ryan, R. M. (1993). A dark side of the American dream: Correlates of financial success as a central life aspiration. *Journal of Personality and Social Psychology, 65*, 410–422.
Kasser, T., & Ryan, R. M. (1996). Further examining the American dream: Differential correlates of intrinsic and extrinsic goals. *Personality and Social Psychology Bulletin, 22*, 280–287.
Kasser, T., Ryan, R. M., Zax, M., & Sameroff, A. J. (1995). The relations of maternal and social environments to late adolescents' materialistic and prosocial values. *Developmental Psychology, 31*, 907–914.
Kerpelman, J. L., Shoffner, M. F., & Ross-Griffin, S. (2002). African American mothers' and daughters' beliefs about possible selves and their strategies for reaching the adolescents' future academic and career goals. *Journal of Youth and Adolescence, 31*, 289–302.
Khallad, Y. (2000). Education and career aspirations of Palestinian and U.S. Youth. *The Journal of Social Psychology, 140*, 789–791.
King, L., Richards, J. H., & Stemmerich, E. (1998). Daily goals, life goals and worst fears: Means, ends and subjective well-being. *Journal of Personality, 66*, 713–744.
Klaczynski, P. A., & Reese, H. W. (1991). Educational trajectory and "action orientations": Grade and track differences. *Journal of Youth and Adolescence, 20*, 441–462.
Klinger, E. (1975). Consequences of commitment to and disengagement from incentives. *Psychological Review, 82*, 1–25.
Knox, M., Funk, J., Elliott, R., & Bush, E. (2000). Gender differences in youths' possible selves. *Youth and Society, 31*, 287–309.
Kokkevi, A., Gabhainn, S. N., & Spyropoulou, M.Risk Behaviour Focus Group of the HBSC. (2006). Early initiation of cannabis use: A cross-national European perspective. *Journal of Adolescent Health, 39*, 712–719.
Lanz, M., & Rosnati, R. (2002). Adolescents' and young adults' construction of the future: Effects of family relations, self-esteem, and sense of coherence. In J. Trempała & L. E. Malmberg (Eds.). *Adolescents' future-orientation. Theory and research* (Vol. 691). Frankfurt am Main: Peter Lang.
Lanz, M., Rosnati, R., Marta, E., & Scabini, E. (2001). Adolescents' future: A comparison of young people's and their parents' views. In J.-E. Nurmi (Ed.), *Navigating through adolescence: European perspectives*. New York & London: Routledge Falmer.
Latham, G. P., & Locke, E. A. (1991). Self-regulation through goal setting. *Organizational Behavior and Human Decision Processes, 50*, 212–247.
Liberska, H. (2002). Life perspectives of adolescents in the context of social and economic changes in Poland. In J. Trempała & L. E. Malmberg (Eds.). *Adolescents' future-orientation: Theory and research* (Vol. 691). Frankfurt am Main: Peter Lang.
Lips, H. M. (2004). The gender gap in possible selves: Divergence of academic self-views among high school and university students. *Sex Roles, 50*, 357–371.
Little, B. R. (1983). Personal projects: A rationale and method for investigation. *Environment and Behavior, 15*, 273–309.
Locke, E. A., & Latham, G. P. (1990). *A theory of goal setting and task performance*. Englewood Cliffs, New Jersey: Prentice Hall.
Malmberg, L. E. (2002). Adolescents' biased means and future expectations. In J. Trempała & L. E. Malmberg (Eds.). *Adolescents' future-orientation: Theory and research* (Vol. 691). Frankfurt am Main: Peter Lang.
Malmberg, L. E., Ehrman, J., & Lithén, T. (2005). Adolescents' and parents' future beliefs. *Journal of Adolescence, 28*, 709–723.
Malmberg, L. E., & Norrgård, S. (1999). Adolescents' ideas of normative life span development and personal future goals. *Journal of Adolescence, 22*, 33–47.

Malmberg, L. E., & Trempała, J. (1997). Anticipated transition to adulthood: The effect of educational track, gender, and self-evaluation on Finnish and Polish adolescents' future orientation. *Journal of Youth and Adolescence, 26*, 517–537.
Marjoribanks, K. (1991). Adolescents' learning environments and aspirations: Ethnic, gender, and social-status group differences. *Perceptual and Motor Skills, 72*, 823–830.
Marjoribanks, K. (1993). Perceived parents' support for learning and aspirations for Australian adolescents. *Perceptual and Motor Skills, 77*, 840–842.
Marjoribanks, K. (1994a). Family and school environments, adolescents' aspirations and young adults' status attainment: Ability-attitude group differences. *European Journal of Psychology of Education, 9*, 215–223.
Marjoribanks, K. (1994b). Sibling and environmental correlates of adolescents' aspirations: Family group differences. *Journal of Biosocial Science, 26*, 301–309.
Marjoribanks, K. (1994c). Perceptions of parents' involvement in learning and adolescents' aspirations. *Psychological Reports, 75*, 192–194.
Marjoribanks, K. (1997). Family contexts, immediate settings, and adolescents' aspirations. *Journal of Applied Developmental Psychology, 18*, 119–132.
Marjoribanks, K. (1998). Family capital, children's individual attributes, and adolescents' aspirations: A follow-up analysis. *The Journal of Psychology, 132*, 328–336.
Marjoribanks, K. (1999). Environmental and individual influences on adolescents' aspirations: A moderation-mediation model. *Learning Environments Research, 2*, 43–64.
Marjoribanks, K. (2002a). Family background, individual and environmental influences on adolescents' aspirations. *Educational Studies, 28*, 33–46.
Marjoribanks, K. (2002b). Family contexts, individual characteristics, proximal settings, and adolescents' aspirations. *Psychological Reports, 91*, 769–779.
Marjoribanks, K. (2003a). Family background, individual and environmental influences, aspirations and young adults' educational attainment: A follow-up study. *Educational Studies, 29*, 233–242.
Marjoribanks, K. (2003b). Educational and occupational aspirations of "common man" boys: Kahl's study revisited. *The Journal of Genetic Psychology, 156*, 205–216.
Marjoribanks, K. (2003c). Learning environments, family contexts, educational aspirations and attainment: A moderation–mediation model extended. *Learning Environments Research, 6*, 247–265.
Marjoribanks, K. (2003d). Family contexts, individualism-collectivism, and adolescents' aspirations for their futures. *Psychological Reports, 93*, 300–304.
Markus, H., & Nurius, P. (1986). Possible selves. *American Psychologist, 41*, 954–969.
Mau, W., & Bikos, L. H. (2000). Educational and vocational aspirations of minority and female students: A longitudinal study. *Journal of Counseling & Development, 78*, 186–194.
McCabe, K., & Barnett, D. (2000). First comes work, then comes marriage: Future orientation among African American young adults. *Family Relations, 49*, 63–70.
Mirza, S. A., & Somers, C. L. (2004). Future orientation among Caucasian and Arab-American adolescents. *School Psychology International, 25*, 361–372.
Newberry, A. L., & Duncan, R. D. (2001). Roles of boredom and life goals in juvenile delinquency. *Journal of Applied Social Psychology, 31*, 527–541.
Nurmi, J.-E. (1987). Age, sex, social class, and quality of family interactions as determinants of adolescents' future orientation: A developmental task interpretation. *Adolescence, 22*, 977–991.
Nurmi, J.-E. (1991). How do adolescents see their future? A review of the development of future orientation and planning. *Developmental Review, 11*, 1–59.
Nurmi, J.-E. (1993). Adolescent development in an age-graded context: The role of personal beliefs, goals, and strategies in the tackling of developmental tasks and standards. *International Journal of Behavioral Development, 16*, 169–189.
Nurmi, J.-E. (1994). The development of future-orientation in a life-span context. In Z. Zaleski (Ed.), *Psychology of future orientation* (pp. 20–616). Lublin, Poland: Wydawnictwo Towarzystwa Naukowego Katolickiego Uniwersytetu Lubelskiego.
Nurmi, J.-E. (1997). Self-definition and mental health during adolescence and young adulthood. In J. Schulenberg, J. L. Maggs, & K. Hurrelmann (Eds.), *Health risks and developmental transitions during adolescence*. New York: Cambridge University Press.
Nurmi, J.-E. (2001). Adolescents' self-direction and self-definition in age-graded sociocultural and interpersonal contexts. In J.-E. Nurmi (Ed.), *Navigating through adolescence. European perspectives* (pp. 229–249). New York & London: Routledge Falmer.
Nurmi, J.-E. (2004). Socialization and self-development. Channeling, selection, adjustment and reflection. In R. M. Lerner & L. Steinberg (Eds.), *Handbook of adolescent psychology*. Hoboken, New Jersey: John Wiley & Sons.
Nurmi, J.-E., Liiceanu, A., & Liberska, H. (1999). Future-oriented interests. In F. D. Alsaker & A. Flammer (Eds.), *The adolescent experience: European and American adolescents in the 1990s*. Mahwah, New Jersey: Lawrence Erlbaum Associates, Publishers.
Nurmi, J.-E., Poole, M. E., & Kalakoski, V. (1994). Age differences in adolescent future-oriented goals, concerns, and related temporal extension in different sociocultural contexts. *Journal of Youth and Adolescence, 23*, 471–487.
Nurmi, J.-E., Poole, M. E., & Seginer, R. (1995). Tracks and transitions: A comparison of adolescent future-oriented goals, explorations, and commitments in Australia, Israel, and Finland. *International Journal of Psychology, 30*, 355–375.
Nurmi, J.-E., & Pulliainen, H. (1991). The changing parent–child relationship, self-esteem, and intelligence as determinants of orientation to the future during early adolescence. *Journal of Adolescence, 14*, 35–51.
Ogilvie, D. M., Rose, K. M., & Heppen, J. B. (2001). A comparison of personal project motives in three age groups. *Basic and Applied Social Psychology, 23*, 207–215.
Oyserman, D., & Fryberg, S. (2006). The possible selves of diverse adolescents: Content and function across gender, race, and national origin. In C. Dunkel & J. Kerpelman (Eds.), *Possible selves: Theory, research and applications* (pp. 17–39). Hauppauge, NY, US: Nova Science Publishers.
Oyserman, D., Gant, L., & Ager, J. (1995). A socially contextualized model of African American identity: Possible selves and school persistence. *Journal of Personality and Social Psychology, 69*, 1216–1232.
Oyserman, D., & Markus, H. (1990). Possible selves in balance: Implications for delinquency. *Journal of Social Issues, 46*, 141–157.

Oyserman, D., & Saltz, E. (1993). Competence, delinquency, and attempts to attain possible selves. *Journal of Personality and Social Psychology, 65*, 360–374.
Petersen, A. C. (1988). Adolescent development. *Annual Review of Psychology, 39*, 583–607.
Phinney, J. S. (1990). Ethnic identity in adolescents and adults. *Review of Research. Psychological Bulletin, 108*, 499–514.
Phinney, J. S., Baumann, K., & Blanton, S. (2001). Life goals and attributions for expected outcomes among adolescents from five ethnic groups. *Hispanic Journal of Behavioral Sciences, 23*, 363–377.
Piko, B. F., & Keresztes, N. (2006). Physical activity, psychosocial health, and life goals among youth. *Journal of Community Health, 31*, 136–145.
Pinquart, M., Silbereisen, R. K., & Wiesner, M. (2004). Changes in discrepancies between desired and present states of developmental tasks in adolescence: A 4-process model. *Journal of Youth and Adolescence, 33*, 467–477.
Rainey, L. M., & Borders, L. D. (1997). Influential factors in career orientation and career aspiration of early adolescent girls. *Journal of Counseling Psychology, 44*, 160–172.
Rojewski, J. W., & Yang, B. (1997). Longitudinal analysis of select influences on adolescents' occupational aspirations. *Journal of Vocational Behavior, 51*, 375–410.
Ryan, R. M., Deci, E. L., & Grolnick, W. S. (1995). Autonomy, relatedness, and the self: Their relation to development and psychopathology. In D. Cicchetti & D. J. Cohen (Eds.), *Developmental psychopathology*. Oxford, England: John Wiley & Sons.
Ryan, R. M., Sheldon, K. M., Kasser, T., & Deci, E. L. (1996). All goals are not created equal: An organismic perspective on the nature of goals and their regulation. In P. M. Gollwitzer & J. A. Bargh (Eds.), *The psychology of action*. New York, NY, US: Guilford Press.
Salmela-Aro, K., & Nurmi, J. (1996). Depressive symptoms and personal projects appraisals: A cross-lagged longitudinal study. *Personality and Individual Differences, 21*, 373–381.
Schmuck, P. (2001). Intrinsic and extrinsic life goals preferences as measured via inventories and via priming methodologies: Mean differences and relations with well-being. In P. Schmuck & K. M. Sheldon (Eds.), *Life goals and well-being*. Ashland, OH, US: Hogrefe and Huber Publishers.
Schönpflug, U., & Jansen, X. (1995). Self-concept and coping with developmental demands in German and Polish adolescents. *International Journal of Behavioral Development, 18*, 385–405.
Schoon, I. (2001). Teenage job aspirations and career attainment in adulthood: A 17-year follow-up study of teenagers who aspire to become scientists, health professionals, or engineers. *International Journal of Behavioral Development, 25*, 124–132.
Schoon, I., & Parsons, S. (2002). Teenage aspirations for future careers and occupational outcomes. *Journal of Vocational Behavior, 60*, 262–288.
Schoon, I., Ross, A., & Martin, P. (2007). Science related careers: Aspirations and outcomes in two British cohort studies. *Equal Opportunities International, 26*, 129–143.
Schvaneveldt, P. L., Lee, T. R., Miller, B. C., & Berry, E. H. (2001). Academic goals, achievement, and age at first sexual intercourse: Longitudinal, bidirectional influences. *Adolescence, 36*, 767–787.
Seginer, R. (1992). Future orientation: Age-related differences among adolescent females. *Journal of Youth and Adolescence, 21*, 421–437.
Seginer, R., & Halabi-Kheir, H. (1998). Adolescent passage to adulthood: Future orientation in the context of culture, age, and gender. *International Journal of Intercultural Relations, 22*, 309–328.
Seginer, R., & Halabi, H. (1991). Cross-cultural variations of adolescents' future orientation. The case of Israeli Druze versus Israeli Arab and Jewish male. *Journal of Cross-Cultural Psychology, 22*, 224–237.
Seginer, R., & Vermulst, A. (2002). Family environment, educational aspirations, and academic achievement in two cultural settings. *Journal of Cross-Cultural Psychology, 33*, 540–558.
Seginer, R., Vermulst, A., & Shoyer, S. (2004). The indirect link between perceived parenting and adolescent future orientation: A multiple-step model. *International Journal of Behavioral Development, 28*, 365–378.
Sheldon, K. M., & Kasser, T. (1995). Coherence and congruence: Two aspects of personality integration. *Journal of Personality and Social Psychology, 68*, 531–543.
Simons, J. (2003). Differential prediction of alcohol use and problems: The role of biopsychological and social-environmental variables. *The American Journal of Drug and Alcohol Abuse, 29*, 861–879.
Simons, J. S., & Carey, K. B. (2003). Personal strivings and marijuana use initiation, frequency, and problems. *Addictive Behaviors, 28*, 1311–1322.
Simons, J. S., Christopher, M. S., & Mclaury, A. E. (2004). Personal strivings, binge drinking, and alcohol-related problems. *Addictive Behaviors, 29*, 773–779.
Skinner, E. A., & Wellborn, J. G. (1994). Coping during childhood and adolescence: A motivational perspective. In L. Featherman & Perlmutter (Eds.), *Life-span development and behavior*. Hillsdale, NJ: Erlbaum.
Skorikov, V., & Vondracek, F. W. (2007). Positive career orientation as an inhibitor of adolescent problem behavior. *Journal of Adolescence, 30*, 131–146.
Slater, M. D. (2003). Sensation-seeking as a moderator of the effects of peer influences, consistency with personal aspirations, and perceived harm on marijuana and cigarette use among younger adolescents. *Substance Use and Misuse, 38*, 865–880.
Somers, C. L., & Gizzi, T. J. (2001). Predicting adolescents' risky behaviors: The influence of future orientation, school involvement, and school attachment. *Adolescent & Family Health, 2*, 3–11.
Stein, K. F., Roeser, R., & Markus, H. R. (1998). Self-schemas and possible selves as predictors and outcomes of risky behaviors in adolescents. *Nursing Research, 47*, 96–106.
Trempała, J., & Malmberg, L.-E. (1998). The anticipated transition to adulthood: Effects of cultural and individual experience on Polish and Finnish adolescents' future orientation. *Journal of Psychology, 132*, 255–266.
Trice, A. D., & Knapp, L. (1992). Relationships of children's career aspirations to parents' occupations. *Journal of Genetic Psychology, 153*, 355–357.
Trommsdorff, G., Lamm, H., & Schmidt, R. (1979). A longitudinal study of adolescents' future orientation. *Journal of Youth and Adolescence, 8*, 131–147.
Vesely, S. K., Wyatt, V. H., Oman, R. F., Aspy, C. B., Kegler, M. C., Rodine, S., Marshall, L., & McLeroy, K. (2004). The potential protective effects of youth assets from adolescent sexual risk behavior. *Journal of Adolescent Health, 34*, 356–365.

Vrugt, A., Oort, F.-J., & Zeeberg, C. (2002). Goal orientations, perceived self-efficacy and study results amongst beginners and advanced students. *British Journal of Educational Psychology, 72*, 385–397.
Wall, J., Covell, K., & Macintyre, P. D. (1999). Implications of social supports for adolescents' education and career aspirations. *Canadian Journal of Behavioural Science, 31*, 63–71.
Watson, C. M., Quatman, T., & Edler, E. (2002). Career aspirations of adolescent girls: Effect of achievement level, grade, and single-sex school environment. *Sex Roles, 46*, 323–335.
Wentzel, K. R. (1994). Relations of social goal pursuit to social acceptance, classroom behavior, and perceived social support. *Journal of Educational Psychology, 86*, 173–182.
Wentzel, K. R., Filisetti, L., & Looney, L. (2007). Adolescent prosocial behavior: The role of self-processes and contextual cues. *Child Development, 78*, 895–910.
Williams, G. C., Cox, E. M., Hedberg, V. A., & Deci, E. L. (2000). Extrinsic life goals and health-risk behaviors in adolescents. *Journal of Applied Social Psychology, 30*, 1756–1771.
Wilson, P. M., & Wilson, J. R. (1992). Environmental influences on adolescent educational aspirations. A logical transformation model. *Youth and Society, 24*, 52–69.
Yowell, C. M. (2000). Possible selves and future orientation: Exploring hopes and fears of Latino boys and girls. *Journal of Early Adolescence, 20*, 245–280.