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Late-Adolescent Social Experience:

Correlates with Success

in Young Adulthood

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Abstract

This study examines life paths with a focus on patterns of functioning across multiple domains (school, family, peers, dating and work roles) and continuity and change across time. Longitudinal data were used to answer three questions: (1) How does an individual's constellation of social experiences in 5 domains during the last year of high school relate to concurrent mental health? (2) How do these social experiences relate to mental health 6 years later in young adulthood (3) How do those clusters correlate with the individual's status as they make the transition into adulthood?

Cluster membership was related with psychological functioning and status in the transition into adulthood. Late Bloomers, who were still engaged in school at age 18 and had not yet moved on to the more adult-like realms of dating and work, were doing well psychologically at both age 18 and age 24, as were Well-Rounded Adolescents who were on positive trajectories in all domains at age 18. These groups also looked the best in their relationships, educational attainment and a history of pregnancy at age 24. Those adolescents who showed competence in only one domain at 18, Daters and Workers, were not doing as well as the other groups on any indicator, psychologically or socially, at age 24. Although Early Starters, who had disengaged from school and moved into the more adult-like realms of work and dating at age 18, were highly planful for their future employment at age 18, they fared less well than the other groups on self esteem and low depressive affect at age 18.

Late-Adolescent Social Experience:

Correlates with Success in Young Adulthood

The transition to adulthood should no longer be conceptualized as a predetermined passage from one social institution to another, like school to work place or singlehood to marriage (Andres, 1999). However, many studies of transitions to adulthood are based on this institutional perspective: locating individuals participating in one institutional sector, like the school system, and focusing on the entry into, duration of participation within and exit out of that sector (Andres, 1999). There is a great need for new perspectives in the study of this life transition that look more broadly at the process of the transition to adulthood (Marini, 1984), the multiple contexts that affect and are affected by the transition, and a broader definition of successfully reaching "adulthood." From a developmental perspective, looking at life paths requires a focus on patterns of functioning across multiple domains (school, family, peers, dating and work roles) as well as on continuity and change across time. In this study, two waves of data from the Michigan Study of Adolescent Life Transitions, an ongoing longitudinal study, and a person-centered analytical approach were used to answer three questions: (1) Do individuals' constellation of experiences across 5 domains during the last year of high school relate to their concurrent mental health? (2) Do these constellations relate to mental health 6 years later in young adulthood? (3) Does constellation (cluster) membership predict individuals' status as they make the transition into adulthood?

If developmental transitions are periods when the individual and his or her social and physical environment are open to new influences (Rogala & Schulenberg, 2002) as well as periods of developmental challenge that are relatively universal and require new models of adaptation to changes (Graber & Brooks-Gunn, 1996), then the transition to adulthood with all its concomitant changes in the individual and their environment is a developmental transition.

Arnett (2000) proposed that a new name for this age period is critical to emergence of a new perspective on the transition to adulthood. By christening this age group "Emerging Adulthood," he set it apart as a distinct period of the lifespan, demographically, subjectively and in terms of identity exploration. Arnett emphasized the quantitatively and qualitatively distinct nature of emerging adulthood from adolescence before it and young adulthood after it. Arnett attributed the emergence of this new life stage to sweeping demographic shifts in industrialized societies in the second half of the 20th century, particularly the shift of the average age of marriage and parenthood to the mid- or late twenties. According to Arnett (2000), these emerging adulthood years are the most volitional years of the lifespan for most white, middle-class Americans. Having left the dependency of adolescence, but not yet having entered the relative stability of adulthood, emerging adulthood is a time of exploring ever-more-complex options and trying on life roles in love, work, and world-views.

In contrast, other researchers stress continuity in the transition to adulthood. For example, Rutter (1989) stressed heterotypic continuity, in which the manifestation of a trait or attribute changes but the underlying structure remains the same. This would cause a continuous characteristic to *look* discontinuous. From this point of view, the transition to adulthood is not a turning point but a continuation of a rather smooth developmental progression. For example, a middle class 18-year-old may retain his/her middle class values into adulthood, though the behavioral manifestation of these values change dramatically from high school to age 25.

A third possibility is that the transition to adulthood is a turning point for some and not for others, or that the transition is a turning point in some domains, but not all. Lifespan developmentalists (Baltes, 1987; Lerner, 1984; Rutter, 1989) agree that the process of development during the transition from adolescence to adulthood involves both continuities and

discontinuities. It follows, then, that some adolescent competencies are predictors of the changes that occur as one becomes an adult. This is the hypothesis that I will test. By clustering individuals according to relative functioning in five important domains (family, school, work, peers, dating) as they are finishing high school, right before the transition to adulthood, and then following up with the subjects in each of these clusters six years later (at age 24-25), I hope to demonstrate that the kinds of lives individuals lead before the transition are related with relative continuity to the status of their transition to adulthood at age 24.

Domains of Late Adolescence

Most psychologists interested in adolescence point to family, school, work, romantic relationships, peers, and extracurricular activities as critical contexts of adolescence (Brown, 1990; Eccles, Barber, Stone, & Templeton, 2002; Elder & Conger, 2000; Jessor, 1993; Larson, 2000; Mortimer, Finch, Ryu, & Shanahan, 1996; Schulenberg, Bachman, O'Malley, & Johnston, 1994). I discuss each of these in the following section. Finally, because I use a particular study, the Michigan Study of Adolescent Life Transitions (MSALT; P.I.s: J. Eccles and B.L. Barber) I also discuss the roles of historical time and place on development.

It is important to remember that these domains may affect adolescents' lives differently according to gender, socioeconomic status and race/ethnicity. Though individuals' beliefs about gender roles become more flexible as they move through adolescence and emerging adulthood, the social pressures associated with these roles continue to influence behavior. These differentiated expectations and pressures likely affect how each developmental context affects each individual's development.

Family. In adolescence and the transition to adulthood, parent-child relationships change dramatically (Buchanan, Eccles, & Becker, 1992; Collins, 1990). Individuals spend less time with their families and the function of the family context begins to change (Larson &

Richards, 1994); for example, there is an age increase in family conversations about interpersonal matters, particularly for girls (Larson, Richards, Moneta, Holmbeck, & Duckett, 1996). The age decline in family time has been found to be mediated not by quality of family interactions but by the pulls adolescents experience outside the family (Larson et al., 1996). In late adolescence and the transition to adulthood, parents and families still matter a great deal (B. K. Barber & Olsen, 1997); parental involvement in their children's academic, social, and sports activities remains a strong predictor of the adolescents' subsequent interest (Eccles, 1994). The overall quality of the natal family relationship is critical to well-being during the transition to adulthood (Roberts & Bengtson, 1996; Schultheiss & Blustein, 1994).

School. Clearly, school is a major context of adolescent development (Roeser, Eccles, & Sameroff, 1998). Adolescents spend a great deal of their day in school and experiences at school are quite important as a context for development. Unfortunately, for some adolescents, the school environment is marked by a downward spiral in academic achievement and interest in school (Eccles et al. 1993). The transition to middle school has been extensively researched, and although the transition to high school has received less attention, the research suggests that the problems are quite similar (Wigfield, Eccles, & Pintrich, 1996). Some suggest that the coincidence of many life changes happening at once causes the downward spiral in achievement (Simmons & Blyth, 1987). Others believe poor stage-environment fit between what the school offers and what the adolescent needs is responsible (Eccles, Midgley, Wigfield, Buchanan, & et al., 1993).

One major difference between middle school and high school is the number of social and educational choices offered to the student (Wigfield et al., 1996). These choices can be both positive and negative. A student can choose to continue on an academic track or focus on vocational classes. Some students choose to drop out of school entirely. These outcomes are

motivated by a number of factors. Eccles and colleagues stress the role of expectancies and values (Eccles et al., 1983; Wigfield & Eccles, 2002): Students who both expect to do well and place high value on schooling are most likely to remain in and do well in high school and college (Wigfield et al., 1996). Students with low ability, low academic achievement, and an impoverished family background, who also either work too many hours or have an early pregnancy, are most likely to disengage from school by dropping out (Entwisle, 1990). Others suggest that those who participate less in academic and nonacademic activities will identify less with school, leading to disengagement, and ultimately to dropping out (Finn, 1989). Like Eccles et al. (1983), Finn stressed the importance of valuing schooling. Disengagement from school can seriously reduce an adolescent's chance of obtaining a well-paying job in the future.

Gender differences in school success are affected by both gender differences in beliefs about competence and in the value placed on achievement tasks (Wigfield & Eccles, 2002). Boys hold higher competence beliefs than girls for math and sports; in contrast, girls have higher competency beliefs than boys for reading, English, and social activities (Wigfield & Eccles, 2002). However, research looking at long-term change in beliefs of competence show that these gender differences narrow by the end of high-school (Wigfield & Eccles, 2002). These gender-role stereotypic differences also emerged in adolescents' valuing of different school subjects. By adolescence, girls report less interest in physical science than do boys and are much less likely to enroll in physical science classes or pursue these areas for their careers (Wigfield & Eccles, 2002). These differences in value and belief are important for understanding the development of gender differences in achievement in the school domain.

Work. In the United States, part-time employment during adolescence has increasingly become an integral piece of the relatively unstructured transition from education to work (Mortimer & Johnson, 1999). Mortimer and Johnson (1999) found important outcomes of part-

time adolescent employment on educational attainment, post-secondary work experience and family formation. Controversy over the advisability of work during the high school years continues. Research has shown that the type and amount of work are crucial factors. Too much work (more than 20 hours/week) particularly in low-quality jobs can undermine school achievement and stimulate involvement in problem behaviors (Steinberg & Dornbusch, 1991). Greenberger and Steinberg (1986) stressed that adolescent workers prematurely take on adult roles and responsibilities without adequate coping skills. Job stressors can pose risks to physical and mental health (Greenberger & Steinberg, 1986). Employment may also foster unhealthy relationships outside the workplace. For example, relationships with older coworkers could introduce adolescents to substance use and provide them with the financial resources necessary to support these unhealthy habits (Finch, Mortimer, & Ryu, 1997).

Other researchers point to the positive outcomes of quality work experiences (Finch et al., 1997; Mortimer, Finch, Shanahan, & Ryu, 1992; Shanahan, Mortimer, & Krueger, 2002). From this perspective, working part-time during high school constitutes a transitional, preparatory phase. Adolescents in this phase are often provided opportunities to experience adult roles, like work, in a limited capacity that facilitates development. Adolescents who were stably employed for a limited number of hours (fewer than 20 hours/week) achieve more post-secondary education than those with more or no labor-force participation during high school (Mortimer & Johnson, 1998).

Yet another perspective on the risks and benefits of adolescent work focuses on the possibility that early extensive work is more a product than a cause of being turned off to school. In this selection effects argument, work represents an alternative developmental context to school for some adolescents, and the connection between work and problem

behaviors is due to early disengagement from school rather than the actual work experience (Bachman, Safron, Sy, & Schulenberg, in press).

If the transition to more adult-like work roles signifies progress in the broader transition to adulthood, then one would expect it to have positive implications for mental health including positive self-concept and a positive sense of self-efficacy (Finch et al., 1997), both of which are important resources for coping with risks during the transition to adulthood. In addition, a positive part-time job experience facilitates the learning of valuable job skills like time management and prioritization. Because these skills should make the adolescents more valuable employees when they reach the full-time labor market, these experiences may increase their employability and earning potential.

In addition to paid work, many adolescents have chores and unpaid responsibilities within the family (Elder & Conger, 2000; Grusec, Goodnow, & Cohen, 1996). These chores show adolescents that they are counted on by their family, nurturing their sense of significance (Elder & Conger, 2000). Research has shown that *developmentally appropriate* chores have a wide range of benefits ranging from acquiring sound work habits to developing a sense of helping others and having responsibility for the welfare of others, a sense of agency, and an appreciation of the needs and feeling of others (Grusec et al., 1996). Chores also clarify adolescents' priorities and promote skills for working with others, and enhance integration into adult roles (Elder & Conger, 2000).

Research on differences between males' and females' experiences in part-time work show that by the 12th grade practically all employed males and females are working in formal settings; in contrast, at 9th grade females are more likely than males to be employed, particularly in informal jobs (e.g. babysitting) (Finch et al., 1997). In addition, girls show a more gradual increase than boys in work over the high school years (Finch et al., 1997). Thus,

girls appear to have a more gradual transition from informal work to formal work than boys. These differences in quality and quantity of work are important for understanding gender differences in the meaning and impact of experience in the work domain.

Peers. Peer relationships are another domain of development. Research has shown that characteristics of one's peers influence a person's behavior (Newcomb, Bukowski, & Bagwell, 1999). This influence becomes more powerful in adolescence, as individuals spend an increasing amount of time with friends, and less time with family (Csikszentmihalyi & Larson, 1984). Although families still play an important role in the lives of adolescents, some adolescents list peers as the *most* important people in their lives (Brown, 1990). By the end of high school, both males and females rate their relationship with their best friend as more important than any other relationship, including those with family members, romantic partners, and school adults (Brown, Dolcini, & Leventhal, 1997). This preference, however, may not reflect the actual influence of peers in decision making and preference for peers seems to peak in early adolescence and decline through middle and late adolescence (Berndt, 1979). Adolescent friendships are qualitatively different from childhood friendships in their autonomy from adult guidance or management: adolescents often feel it is no longer legitimate for parents to control their selection or pursuit of friendships (Brown et al., 1997).

In addition to spending more unsupervised time with friends and age-mates in more stable, intimate, affectively oriented attachments (Brown et al., 1997), adolescents become more concerned with peer acceptance in early adolescence, leaving them more susceptible to peer influence, both positive and negative (Berndt, 1979). For some adolescents, peer acceptance and activities become more important than academic achievement. This can lead to drops in academic performance that can compromise the transition to adulthood (Fulgini, Eccles, Barber, & Clements, 2001).

Dating. A fifth domain, romantic partnerships, becomes increasingly important in adolescence as shifts in friendships are accompanied by new orientations toward opposite sex peers with a focus on romance and sexual activity (Brown et al., 1997). Pubertal changes heighten this interest in the opposite sex as a means of exploring and satisfying new sexual impulses. In the U.S.A. adolescents' social environments nurture romantic interests with school dances, waning parental control and media images of teenagers in love.

Erikson's psychosocial theory charts development through the lifespan (Erikson, 1964). Of his eight psychosocial stages, stage 5 and 6 (identity and intimacy) are most crucial for the transition to adulthood (Markstrom & Kalmanir, 2001). The addition of dating as a fifth domain is an attempt to measure this developing sense of intimacy, defined as the ability to make and sustain interpersonal commitments (Erikson, 1964). There is strong evidence that involvement in a romantic relationship in late adolescence and early adulthood is related to greater mental health and physical well-being for both sexes (Dimitrovsky, Schapira-Beck, & Itskowitz, 1994; Werner & Smith, 1992).

Much less is known about the characteristics and outcomes of early marriage and cohabitation. Working-class life trajectories and early maturation are both associated with earlier romantic partnering, whereas more middle-class trajectories and higher education are associated with later commitments to romantic partnerships (Eccles et al., 2002). The literature on what predicts successful partnerships suggests that when early romantic relationships are experienced in a positive way, they facilitate good intimate relationships in adulthood (Moeller & Stattin, 2001). Indeed, satisfying and secure adolescent romantic experiences are quite meaningful for the development of positive adult romantic relationships (Moeller & Stattin, 2001). In addition, affectionate and trustful relationships between the adolescent and their

parents lead to greater satisfaction with the adolescent's later romantic partner in midlife (Moeller & Stattin, 2001).

Historical time and place. As with the first five contexts, historical time and place can influence the course of individual development. The study itself was embedded in Southeastern Michigan during the 1980s and 1990s. As all the individuals were from the same geographical region and time, this context was not included in analyses, but it is worthwhile to keep in mind its overarching influence. The participants in this study grew up in the wake of declines in the car industry, which dominates the economy of Southeastern Michigan. Until the 1970s, non-college educated young adults in this region could expect to provide well for a family with a well-paying unionized job. Since then many of the factories and plants have downsized, closed down or moved elsewhere; many of our participants experienced a changed job market and parental job-loss, which could adversely affect adolescents and their development (Elder & Rockwell, 1979; Galambos & Silbereisen, 1987).

I expect that each of these important developmental domains, family, school, work, peers, dating and historical time/place will act, in interaction with each other to play a critical role in shaping the course and success of an individual's adolescence and transition into adulthood. I use a person-centered approach to examine these different patterns of functioning across the transition to adulthood so that I can investigate the diversity of patterns of functioning and their relation to adolescents' transition to adulthood. In the next section I will explore this transition to adulthood as it links with patterns of psychological well-being.

Linking the Transition to Adulthood with Psychological Well-Being

Longitudinal evidence supports the predictive importance of adolescent mental health and planfulness for subsequent well being in young adulthood (Eccles et al., 2002).

Past studies of the transition to adulthood have included measures of psychological well-being, including emotional state (Larson et al., 1996), self-esteem and depressive symptoms (Way & Pahl, 2001), and self-worth (Harter, Waters, & Whitesell, 1998). The following characteristics have emerged repeatedly as important predictors of successful transition into adulthood: high self-esteem, low depressive affect (Eccles et al., 2002) and planfulness (Clausen, 1991).

Over the past 50 years, the concept of self esteem has assumed an important place in the field of psychology (Rosenberg, Schooler, Schoenbach, & Rosenberg, 1995). Much of the research on self esteem focuses on global self esteem: the individual's general positive or negative attitude toward the self as a whole (Rosenberg, 1979). Research has repeatedly demonstrated that global self esteem is associated both concurrently and longitudinally with both psychological well-being and low depressive affect (Rosenberg et al., 1995).

The prevalence of depression in adolescence is between 15% and 20% (Cicchetti & Toth, 1998). The consequences of adolescent depression should not be underestimated. 40% to 70% of depressed children and adolescents develop an additional disorder, and depression is linked with suicide and suicidal ideation.

Planfulness for future employment is also an important psychological asset in adolescence. Clausen (1991) found that a personal orientation toward "planfulness" that entails goal setting and preparation predicts the direction that adolescents' lives take as they move into and through adulthood. In the United States, we leave the development of planfulness up to the individual and the family; we provide very little formal training or instruction regarding either how to be planful or the specific information needed to be planful. A highly planful adolescent may seek out quality part-time work opportunities and higher education, but those adolescents who either do not know how to be planful or who do not have the social capital to be given opportunities for high quality part-time work and appropriate education are unlikely to

have these experiences. Many of our youth, especially those who do not go to college, are ill prepared for the adult world of work (Shanahan et al., 2002). Most find that their high-school education is largely irrelevant for existing economic opportunities (Shanahan et al., 2002). In the United States, much of secondary education is not vocationally specific; the general character of secondary education in the United States does not encourage or support serious vocational exploration (Hamilton, 1990). Because most U.S. adolescents expect to earn a 4-year college degree (Csikszentmihalyi & Schneider, 2000), they often postpone serious planning for work until their early 20s, perhaps too late for those who do not end up earning a college education. Consequently, being planful in adolescence should be an asset for the successful transition to the adult world of work.

I expect functioning in the critical context of development in adolescence to affect and to be affected by psychological well-being. Self-esteem and low depressive affect are important for positive youth development (Rosenberg et al, 1995). I expect that these two variables will work in concert to promote success at many stages of the transition to adulthood, including ages 18 and 24. As there is no research to suggest that planfulness is linked with high self-esteem or low depressive affect, I do not expect to find this association in this population; however, I do expect high planfulness for future employment as an individual transitions into the work world.

Young Adulthood Status Variables

What does it mean to be an adult? Articles in Newsweek, USA Today and the Atlantic Monthly define adulthood in terms of self-sufficiency and successfully establishing a family and career (Parker, 2001; Powers, 2002; Tyre, 2002). Researchers use similar criteria, though many focus on only one or two aspects of adulthood. Some (Heinz, 1999; Leventhal, Graber, & Brooks-Gunn, 2001; Shanahan, 2000) consider successful employment as the marker of a

successful transition. Some focus on marriage and relationship patterns (Clarkberg, Stolzenberg, & Waite, 1995; Larson, 2000; Waite, Goldscheider, & Witsberger, 1986). Osgood et al. (2002) list the five major role domains of young adulthood as romantic relationships, residence, parenthood, employment, and education. In this study, I focus on 4 indicators of the transition to adulthood: Educational attainment, income, relationship status, and parenthood.

Attainment in each of these domains is likely to be influenced by the demographic characteristics of the individual. Csikszentmihalyi & Schneider (2000) found that gender and race/ethnicity makes little difference in the path one takes one year after leaving high school. Social class, however, was strongly related to postsecondary education (Csikszentmihalyi & Schneider, 2000). Adolescents, regardless of gender, race or ethnicity, or social class, expect to work, marry, have children and retire at age sixty-five (Csikszentmihalyi & Schneider, 2000). I will assess the relation of demographic characteristic and educational attainment, income, relationship status and parenthood *several years* after high school.

Summary

Research on adolescence points to family, school, work, romantic relationships and peers as five critical domains of development that should influence the transition to adulthood. I hypothesize that these domains work together to describe specific clusters of adolescents and that these clusters will significantly relate to concurrent psychological functioning including self-esteem, low depressive affect and planfulness. I also expect that these clusters will relate to the adolescents' transition to adulthood as measured by psychological variables and status variables including educational attainment, income, relationship status and parenthood.

Method

Description of Larger Study and Sample

The data in this study come from the Michigan Study of Adolescent Life Transitions [MSALT] data set (B. L. Barber & Eccles, 1999). In 1983, Eccles et al. began the MSALT longitudinal study of adolescent development. The participants were 5th and 6th graders from 10 school districts in Southeastern Michigan. The majority of the sample participants are white (87%) from working- or middle-class families in small communities surrounding Detroit. There have been 9 waves of data collection. The sixth wave, in 1990, included data collected from the high school seniors remaining in the studied school districts. These 1,384 remaining adolescents were followed as they made the transition into adulthood. The eighth wave of data collection, in 1996, included data from 1,406 of the young adult participants. Mailed questionnaires were used to gather specific quantitative and qualitative information. The concerted effort to maintain the longitudinal sample involved a variety of strategies including tracking individuals via the State Motor Vehicle Department and using the subjects' social security numbers. More detailed discussion on methods and procedures of the whole sample and data collection can be found on the MSALT website (*Gender and achievement research program, 2003*).

In this study, I used data from the 895 participants with complete data at both Wave 6 (age 18) and Wave 8 (age 24). These waves were chosen because age 18 represents the end of high school and the beginning of whatever comes next: college, technical school, work, family. Age 24 represents an "approximate midpoint in the transition to adulthood, falling roughly halfway between the completion of high school and the end of the twenties" (Osgood et al., in press). The Wave 8 (age 24) questionnaire included a subset of the constructs assessed during Wave 6 (age 18) in high school, and a set of new constructs focusing on young adulthood outcomes.

As with all longitudinal studies, missing data and attrition were a concern. Two issues may have biased the sample: (1) because participants were required to have data for each of the domain measures to be included in the cluster analysis, participants missing over one-half of variables in any particular domain were not included in the analysis; (2) participant attrition occurred unevenly throughout the sample, skewing longitudinal sample towards the better functioning participants. Despite these concerns the 895 participants included in the analysis nearly mirrored the broader sample in terms of gender (53% female in total population; 58% female in analyzed population), race (13% minority in total population; 9% minority in analyzed population), and mother's education level (32% of mothers had at least a college degree in total population; 29% of mothers had at least a college degree in analyzed population). The missing participants were more likely to be minority males with college educated mothers.

Measures

All scales except grade-point average were taken from youth self-report questionnaires. For specific items see Appendix A.

Measuring Competence in the Five Domains at Age 18

The domain scores were all aggregates of multiple relevant scales. Each domain score was calculated in three steps: (1) each scale was averaged allowing for 33% missing items, (2) z-scores were created for each scale, (3) the multiple scales' z-scores were averaged to obtain a final domain score.

Family domain. A positive family environment must be both connected and allow for autonomy (B. K. Barber & Olsen, 1997). Research has shown the importance of connection, defined as a positive interpersonal relationship with others with whom adolescents can connect emotionally (Collins & Repinski, 1994). The three items in the Connection with Family scale (α

=.76) reflect this aspect of parent-child relationships, including "Our family enjoys doing things together (1=never true; 7=always true)."

Lack of psychological control is also an important indication of a positive family environment, especially for 18 year olds (B. K. Barber & Olsen, 1997). The lack of psychological control refers to the extent to which parenting facilitates without intruding on a child's development of an independent sense of identity, efficacy, and worth (B. K. Barber & Olsen, 1997). The six items in the Lack of Parental Psychological Control scale ($\alpha=.82$) measure facilitation without intrusion, including "My parents encourage me to give my ideas and opinions even if we might disagree (1=never true; 7=always true)."

School domain. A positive school context is defined as one in which the adolescent both enjoys him/herself and succeeds. The two measures averaged for this scale were overall grade point average at the end of high school, obtained from school record data, and a scale of how much the adolescent liked school ($\alpha=.82$) that included two items: "How much do you like school the year?" (1=not at all; 7=very much); "Compared to last year, how much do you like school this year?" (1=much less; 7=much more than last year). Z-scores were created for the two scales and the mean of these two z-scores was used to represent the domain.

Work (adult economic role) domain. As it is important for adolescents to gain positive work experiences in and out of the home, two scales are used to measure competence in this domain. A positive part time job is defined as one that allows the adolescent to learn new skills in a supportive environment ($\alpha=.71$). This three-item Likert-scale included items such as: "I can learn new skills at my job" (1=not at all true; 7=very true). A positive chore experience at home is defined as feeling valued and counted on for one's work in the home ($\alpha=.78$). This two-item Likert-scale included items such as: "If I did not do my chores, it would be very difficult for my family" (1=strongly disagree; 7=strongly agree).

Peer domain. Peers can support both good and bad values and behaviors. Competence in the peer domain was defined as having peers that support good decision making as measured by the Socially Supportive Peer Group Scale ($\alpha=.77$) and are not, themselves, antisocial or delinquent as measured by the Anti-Social Peer Group Scale ($\alpha=.80$). The Social Supportive Peer Group Scale consisted of five Likert-scale items including: "My friends encourage me to make the right choices" (1=never true; 7=always true). The entire Anti-Social Peer Group Scale was reverse coded to indicate a desirable non-anti-social peer group and consisted of seven Likert-scale items including: "What percentage of your friends do the following: Regularly use drugs" (1=none; 3=half; 5=all). Additionally, it's important for late adolescents to be able to make their own decisions and not be unduly influenced by their peers. This is measured by Fuligni et al.'s Extreme Peer Focus Scale (Fuligni et al., 2001) ($\alpha=.68$). This four-item Likert-scale includes items like: "It's okay to break parents' rules to keep your friends" (1=never; 7=always). These items were reverse coded to indicate a desirable non-extreme peer focus.

Dating domain. There are two major dating patterns for the late adolescents in this sample: steady dating (monogamy) and non-monogamous dating. In order to learn the lessons offered by dating it is important that one engage in at least one of these dating patterns. Therefore, a competent 'dater' is defined as one who either has (1) no steady partner but an active dating life, or (2) a steady partner of whom one's parents approve. The dating domain was assessed with three variables: "How often do you go out on dates without other couples or friends" (1=never; 3=very often) is a measure of active dating life. "Are you currently going out with only one person" (1=no; 2=yes) is a measure of monogamous dating. "How much do your parents approve of this person?" (1=not very much; 3=very much) is a measure of parent approval of the adolescent's partner. Though parents may not always make correct judgments

as to partner quality, parental approval is an important indicator of a quality partner and was the only variable at this wave of the data set that allowed for such a partner quality assessment. Competency in the dating domain was scored as a dichotomous variable (1=quality experience; 2=not-quality experience). An adolescent with a steady partner was scored "1" only if they indicated approving parents with a "2" or "3" score. An adolescent without a steady partner was scored "1" only if they indicated active dating with a "2" or "3." In order for an adolescent to be healthfully exploring the dating domain they must have experiences in this domain, either with a quality partner or through active dating.

Mother's educational attainment & gender. Family socio-economic status (SES) was measured using the adolescent self-report of mother's highest education level with the item "What is the highest level of education that you mother received?" This was translated into a dichotomous variable for ease of interpretation (Low=high-school or less, High=some college or more). Maternal educational attainment was used because it is a crucial intervening link between social background of individuals and their later class destination and is the single most important determinant of occupational success in industrialized societies (Mueller & Shavit, 1998). Mother's educational attainment, specifically, was used instead of father's educational attainment or a combined measure because the link between educational attainment and labor force participation are stronger for women than for men (Mueller & Shavit, 1998). Gender was measured with the self-report question "sex (circle one): girl, boy."

Psychological Variables

Measured at age 18 and age 24, self-esteem and depressive affect were both the mean of three 7-point Likert scale items. The self-esteem items included "How often do you feel good about yourself" and "How often do you feel satisfied with yourself the way you are?" ($\alpha_{age 18}=0.81$; $\alpha_{age 24}=0.83$). The depressed mood scale included items like "How often do you feel

difficulties are piling up so high they can't be overcome?"; these were reverse coded to assess low depressive affect ($\alpha_{\text{age } 18}=0.73$; $\alpha_{\text{age } 24}=0.73$).

Domain specific planfulness, measured only at age 18, is measured with regard to future employment. This scale consisted of four 7-point Likert scale items including "How much have you thought about your future job choice" ($\alpha=0.82$).

Status Variables at W8

All status variable data at age 26 was obtained with mailed, self-report questionnaires. Educational attainment is measured with the question "What is the last year of school you have completed?" Household income was assessed with 7-point scale and the question "Please indicate your total household income" (1=less than \$5,000; 3=between \$10,000-19,000; 5=between \$30,000-39,000; 7=more than \$50,000). All clusters' averages fell near the fourth value on the scale representing an income between \$20,000 and \$29,999. Relationship status was a single item: subjects indicated "I am married," "I am living with someone in a steady, marriage-like relationship," "I am not living with him or her, but I have a steady, romantic relationship with one person," or "None of the above." Married and cohabitating were combined for the purposes of this analysis. Pregnancy history was measured with the question "Have you (or your partner) ever been pregnant?"

Analysis

There are three types of analysis in this report. First, I used a person-centered cluster analysis technique to differentiate profiles of competence across the five adolescent domains. An investigation into how individuals cluster into groups according to five critical life domains of adolescence reveals a more complex picture of how these variables come together to define a person. Because my focus is on grouping individuals, cluster analysis is a more appropriate way to examine the degree of association within individuals than a variable-centered approach. In

using this person-centered approach, I can assess the extent to which different patterns of adaptation during late adolescence predict emerging adulthood adjustment six years later. Using a pattern centered approach respects the fact that individuals who manifest poor functioning in one domain may compensate with a constellation of protective functioning in other domains and that the five domains interact with each other to create unique combinations of functioning that should affect individuals' transition to adulthood.

I used the Ward agglomeration procedure because it increases the variance between groups and decreases the variance within groups (Blashfield & Aldenderfer, 1978). It is important to note that there is no statistical significance testing in cluster analysis.

Additional consideration was given to the assumptions made in a cluster analysis procedure. I used the Euclidian metric method to calculate the distance matrix, although the assumption of independence of the five domains of development is technically violated, the correlations across-domains are quite small (less than .22). It is striking how independent these domain actually are (see Table 1).

I selected the Five-Cluster solution because it created the most theoretically coherent and interesting groups. More clusters split meaningful groups into less theoretically interesting subgroups, and fewer clusters created profiles that were too large and amorphous to be psychologically meaningful.

Following the cluster analysis, I used variance analyses (ANOVA) and Chi-square analyses to assess the relation of cluster membership with: (1) demographic characteristics, (2) psychological variables, and (3) adulthood status variables 6 years later. I conducted additional Tukey Post-Hoc analyses to find significant mean differences between the clusters' scores on psychological measures.

Results

First, I detail the discovery, replication and description of the profiles of competence at age 18. Then I describe the relations between the profiles and the early adulthood outcomes.

Derivation and Replication of Profiles of Competence

Using Ward cluster-analysis on age 18 data, I identified five distinct profiles of competence across the five domains (see Figure 1 & Table 2). I used ANOVA to characterize each of the five profiles. The Early Starters (n=81) were disengaged from school but had positive scores in the more “adult” domains of work and dating as well as in the family domain. Conversely, the Late Bloomers (n=193) had high scores in school, with their families, and with peers but were not yet exploring dating. The Well Rounded adolescents (n=169) had high scores in all domains except work where they were only slightly above average. The Workers (n=232) showed competence only in work, had very low scores for dating, and below average scores in the family and peer contexts. Finally, the Daters (n=220) had high scores in the dating domain and below average scores in the family and peer contexts.

In order to confirm the clusters, I used a sub-sample procedure, randomly selecting a sub-sample of 547 subjects and re-running the Ward procedure. This resulted in nearly identical results (see Appendix B for descriptive statistics of the sub-sample clusters). The resulting sub-sample clusters were significantly associated with the original cluster solution, $X^2(16, n=547) = 750.84, p=.00$, confirming that the clusters are stable and non-arbitrary.

Exploring Demographic Correlates of Profiles of Competence

I did a series of chi-square analyses and analyses of variance (ANOVA) to explore the relations among each profile of competence, race/ethnicity and gender. First, cluster membership, was crossed with gender and SES. Gender was significantly associated with cluster membership, $X^2(4, n=895) = 30.33, p=.00$. Females were overrepresented in the Well-

Rounded and Early Starter groups; males were overrepresented in the Worker and the Dater groups. The Late Bloomers are evenly divided between the sexes (see Table 3). Mother's Educational Attainment was not significantly related with cluster membership $X^2(4, n=895) = 6.89, p=.55$.

Next, I used ANOVA to examine the relation of gender and Mother's Educational Attainment with the age 18 life domains that were assessed with continuous scales: family, school, peers, and work. Family and peer context were significantly associated with gender (see Table 4). Females had higher scores than males in the family context ($M=.08, SD=1.05$) than males ($M=-.06, SD=.93$). Females also had higher scores in the peer context ($M=.24, SD=.87$) than did males ($M=-.41, SD=.91$). Mother's Educational Attainment was not significantly associated with any of the domains, nor were any of the interactions between Mother's Educational Attainment and gender significant.

Exploring the Relation of Psychological Competence at Age 18 and Age 24 to the Age 18 Competence Clusters

Analysis of variance (ANOVA) was used to explore the relations among each profile of competence and the psychological variables: self-esteem, depressive affect and planfulness at age 18 and 24 (see Table 7, see Appendix C for graphical representation). Interaction effects of gender and Mother's Educational Attainment with each cluster were assessed.

Self-esteem and depressive affect at age 18. Cluster membership was associated with psychological functioning at age 18 and 24 (see Table 7 for means and SD for psychological variables by each domain, Table 8 for ANOVA results for psychological variables by gender by Mother's Educational Attainment, Table 9 for means of Self-Esteem by cluster by gender by Mother's Educational Attainment). Concurrent (age 18) low Depressive Affect and Self-Esteem showed similar patterns of differences across the competence clusters: Late Bloomers and Well

Rounded Adolescents had the highest psychological functioning. The Daters and Workers at age 18 had the lowest psychological functioning, though Daters were not significantly different than the other groups. Early Starters fell at the population mean for both variables.

Gender as a main effect was significantly associated with both Self-Esteem and Depressive Affect at age 18, $F(1, 347)=8.10$, $p=.001$ and $F(1, 347)=28.81$, $p=.00$, respectively. Mother's Educational Attainment was not significantly associated as a main effect with either Self-Esteem or Depressive Affect at age 18. Gender and Mother's Educational Attainment were significantly associated with Self-Esteem at age 18 in the three-way interaction of cluster x Mother's Educational Attainment x gender, $F(7, 347)=2.526$, $p=.02$ (See Table 8). Female Daters whose mothers had a low level of education had lower than average Self-Esteem scores at age 18 than those whose mothers had a high level of education (see Table 9). All female Workers had lower Self-Esteem scores than males regardless of mother's education level. All the Well-Rounded Adolescents showed higher Self-Esteem than the other groups but those males and females whose mothers had a high level of education had the highest self esteem of all. The Early Starter females fared as poorly as the female Workers regardless of Mother's Educational Attainment.

Planfulness for future work. At age 18, the Early Starters and Well Rounded Adolescents were doing the most future job planning; the Well Rounded Adolescents' scores were significantly higher than the Late Bloomers and Workers.

Gender was significantly associated with Planfulness for Future Jobs, $F(1, 347)=8.929$, $p=.003$, with girls showing slightly higher Planfulness (see Table 8). Mother Educational Attainment was not significantly associated with Planfulness, $F(2, 347)=.67$, $p=.51$.

Self-Esteem and Depressive Affect at age 24. Six years later the clusters continued to be associated with psychological functioning (See Table 7 & 8). Again, Late Bloomers and Well

Rounded Adolescents had the highest psychological functioning scores on these two indicators. The Well Rounded Adolescents were significantly different than Workers on both psychological indicators. Workers also reported more Depressive Affect scores than the Late Bloomers.

Exploring Longitudinal Status Implications of Profile Membership

I used ANOVA to assess the relation of the clusters to income at age 24. I used Chi-Square analysis to assess the relation of age 18 cluster memberships to age 24 Educational Attainment, Partnership Status and Pregnancy History.

Educational attainment at age 24. A significant relation emerged between cluster membership and Educational Attainment at age 24, $X^2(20, n=630) = 42.75, p=.00$ (see Table 10, see Appendix D for graphical representation). As expected, the Late Bloomers were underrepresented in the groups that stopped their education at a high school diploma, post-high school vocational training and some college, and overrepresented amongst college graduates and graduate students. Workers were overrepresented amongst those who stopped their education with a high school diploma, and but not significantly underrepresented amongst college graduates and those with graduate degrees. The Early Starters were also overrepresented among those who stopped their education with a high school diploma; they were also underrepresented among those who had completed any graduate school by age 24. Surprisingly, the Well Rounded Adolescents were only underrepresented amongst those who stopped their education at a high school diploma and were not significantly overrepresented amongst college graduates.

Chi-squares for Educational Attainment by cluster membership were analyzed separately for male and females. Only the females showed a significant relationship, $X^2_{\text{female}}(20, n=381)=40.99, p=.004$. The most striking gender difference was among the Late Bloomers;

the women, but not the men, in this group were far more likely than expected to have had some post-baccalaureate education by age 24 (see Table 11).

Romantic partnership at age 24. A significant relation existed between cluster membership and relationship status at age 24, $X^2(8, N=659)=25.4, p=.001$, (see Table 12). The most striking findings were differences between the Early Starters and the Late Bloomers. As expected, the Early Starters were slightly but not significantly overrepresented in the married or cohabitating category; in contrast the Late Bloomers were significantly underrepresented in the married or cohabitating status category. In addition, the Well Rounded Adolescents were underrepresented amongst the singles.

Of all the contexts, the impact of high school dating on the transition to adulthood should be particularly likely to differ by gender and Mother's Educational Attainment because SES differences in gender roles in male-female romantic relationships have been particularly impervious to historical changes in gender-role identities (Moen & O'Rand, 2002). Therefore I conducted chi-square analyses for each gender and for gender by Mother's Educational Attainment categories. Adult relationship status and high school cluster membership were significantly related only for women low on Mother's Educational Attainment (Table 13 & 14). As expected, Early Starting women with low Mother's Educational Attainment were more likely than expected to be married or cohabitating and less likely to be in a steady relationship. This was not true for high Mother's Education women or for males. As interestingly, the Daters were underrepresented in the steady relationship category and overrepresented in the single category. Apparently they had maintained a dating orientation.

History of pregnancy at age 24. A significant relation between cluster membership and History of Pregnancy (self or partner) existed at age 24, $X^2(8, n=545)=14.52$. The Late Bloomers were underrepresented amongst those with a history of pregnancy. The Daters were

the most likely to have had a pregnancy (see Table 15, Appendix F) but this effect was not significant. The patterns were the same for both sexes (See Table 16).

Income at age 24. At age 24, cluster membership was not significantly related with total household income, $F(4, 537)=1.09, p=.36$.

Discussion

The main hypotheses of this paper were that adolescent functioning at age 18 across five key domains would relate to age 18 and age 24 psychological functioning and age 24 adult status outcomes. The results confirmed these basic hypotheses; however it is in the specifics of results that the most interesting stories emerge. First, I discuss the make up of the clusters and how they relate to psychological functioning at both ages and young adulthood status outcomes at age 24, specifically for males and females and for people from different socio-economic backgrounds, though socio-economic status as indicated by Mother's Educational Attainment was not very predictive for psychological or status outcomes. Finally, I suggest which clusters were best and worst for adolescent and young adult development.

It is clear that individuals can be clustered according to their functioning across the five critical domains of late adolescence: school, family, peers, dating and work roles. The five distinct clusters that emerged are both statistically and intuitively distinct from each other. Each cluster's constellation of functioning across the five domains of late adolescence suggests a unique pattern of selection, optimization and compensation (for a discussion on the processes and theory of selection, optimization, and compensation see Baltes, 1997) across the transition to adulthood. At age 18, the Early Starters have moved beyond the "adolescent" domains of peers and school and appear to be investing in the more "adult" domains of work and dating. In contrast, the Late Bloomers were still very invested in school, natal family, and peers, optimizing their success in these domains and were not very involved in either work or dating.

The Well-Rounded Adolescents seemed to have selected and to be excelling in all of the domains, which runs counter to Baltes' (1997) contention that all gains carry concomitant losses. Perhaps the Well-Rounded Adolescents demonstrate losses elsewhere in domains not measured or in outcomes not assessed. The Workers and the Daters showed the most evidence of compensation in that they excelled in only one domain and had quite low scores in 2-3 of the other domains. It is also possible that these individuals first selected and optimized in only one domain. Whatever the cause for these individuals having only one positive developmental domain out of the five selected for study here, the longitudinal data suggest this strategy is not optimal for positive longitudinal outcomes. More discussion on this point is included later in the paper.

Psychological Well-Being Outcomes

The clusters were predictive of both concurrent and subsequent mental health and psychological functioning. The Late Bloomers and Well-Rounded Adolescents looked better than the other clusters at both points. Both of these clusters had high levels of positive involvement in several domains and success in the most culturally valued domain of school achievement. The Workers and the Daters had the worst scores on my indicators of psychological functioning. Both of these clusters were highly successful in only one domain and were relatively unsuccessful in the family and peer domains at age 18. The Workers and the Daters were the only clusters with worse than average family environments suggesting that having a bad family environment is a powerful risk factor for poor psychological functioning, especially in the absence of other support systems. Apparently, success in one domain did not provide enough support for positive psychological functioning, especially in the face of poor family relationships.

Sameroff et al. (1998) showed that families with more promotive factors are more supportive of positive adolescent development. It seems equally intuitive that an adolescent developing within a constellation of more supportive contexts would show better outcomes. Although my data show that a simple additive model is not sufficient for understanding the promotive affect of positive developmental contexts (the Late Bloomers and Early Starters are both successful in three domains at age 18 but their age 24 outcomes differed), it is still true that those clusters with the fewest positive contexts did the most poorly on the outcomes measured, and those with the most did the best. The special importance of the family domain is supported in the literature (Bradley & Corwyn, 1999; Sameroff et al., 1998). Families provide a source of regulation that allows the adolescent to form a collective unit in relation to society as a whole (Sameroff et al., 1998). The family creates a set of personal assets for the adolescents and regulates the adolescents' development in such a way that the adolescent can succeed in domains other than the family (Sameroff et al., 1998), though competence in each social domain is a result of a complex interplay of individuals within different kinds of families in communities with varying resources (Sameroff, 1995).

It is also important to keep in mind that just as poor functioning in certain domains of development may not provide support for positive well-being, it is also likely that those adolescents with poor psychological well-being are not able to function well in the social domains.

Planfulness for Adult Work

Planfulness for Future Employment, another positive psychological asset (Clausen, 1991) did not evidence the same patterns as Depressive Affect and Self-Esteem. For example, the Late Bloomers, who were very psychologically healthy in terms of Self-Esteem and Lack of Depressive Affect, had a relatively low level of Planfulness for Future Employment. In contrast,

the Early Starters, average on the mental health indicators, reported an unusually high level of Planfulness for Future Work, perhaps because positive work experiences spark thoughts of future employment. Simply by going to work and participating in that life-sphere, high-school students may begin to think more seriously about themselves as future workers, especially if they are also moving into other more adult-like roles as well. But a positive work experience alone does not support planfulness: The Workers, who also reported positive work experiences, had the lowest levels of planfulness. The Workers differed from the Early Starters in their engagement in school and their mental health: Early Starters were both more disengaged from school and psychologically healthy. The prevailing ideology, that high-school students who have disengaged from school are "losers," is not supported by data (Fine & Rosenberg, 1983). Even high-school dropouts are often highly motivated and intelligent individuals (Fine & Rosenberg, 1983). Perhaps, disengagement from school leads psychologically healthy high school seniors to engage in high levels of work related planfulness because the transition to a work role is close at hand. Although full time work is also the next step in life for the adolescents in the Worker group only, these adolescents have less psychological resources to engage in planning.

Alternately, it's likely that the quality and intensity of the work experience differed for the Workers and Early Starters. Research has repeatedly shown that the quality and intensity of the adolescent work experiences are critical for predicting outcomes (Safron, Schulenberg, & Bachman, 2001; Stone & Mortimer, 1998). On the one hand, high intensity work experiences in which high school students work over 20 hours per week have been consistently linked with higher rates of substance abuse (Bachman & Schulenberg, 1993), lower academic performance (Mortimer et al., 1996) sexual involvement (Bachman & Schulenberg, 1993), and delinquent behavior (Bachman & Schulenberg, 1993). Some researchers propose that links between work

intensity and poor outcomes are part of a larger syndrome of behaviors called “precocious development” (Newcomb & Bentler, 1988) wherein adolescents enjoy the freedoms of adulthood without the accompanying responsibilities of marriage, and parenthood (Bachman et al., in press).

On the other hand, research has also shown that early work wherein the adolescent is scaffolded and taught developmentally appropriate work skills is beneficial for an adolescent’s development (Stone & Mortimer, 1998). Adolescents who engage in this kind of work are more likely to be planful for their future employment both because planfulness could be fostered through the work and because planfulness is what allowed the individual to find such a supportive, developmentally appropriate work environment in the first place. Perhaps the Early Starters and Workers had different types of jobs in terms of these characteristics.

Two other groups also differ in their work-related planfulness: the Well-Rounded Adolescents and the Late Bloomers. Unlike the Early Starters and Workers, both of these groups were highly engaged in school but differed in their planfulness. The Well-Rounded Adolescents were both enjoying and succeeding in school at age 18 and being planful about their future work. The Well-Rounded Adolescents differed from the Late Bloomers in two important ways: They had more work experiences and more dating experiences. These differences suggest the Well-Rounded Adolescents were exploring these two contexts to a greater extent than the Late Bloomers. This exploration may have stimulated more thought about one’s future work roles. The Late Bloomers appeared to be in a state of moratorium in the work domain.

Grotevant and Cooper (1988) analyzed adolescents’ career exploration and found that several factors, including self-esteem, ego control and intellectual ability, affect individuals’ propensity to fully explore career options. These researchers, working from an interactionist

perspective, explored the role of family experience in an adolescent's career planning (Grotevant & Cooper, 1988). However, my findings suggest that more than just the family must be considered to understand an adolescent's contextual support. The Workers and Daters had comparably bad family environments, but the Workers showed less work-related planfulness than Daters. Similarly, the Late Bloomers and Well Rounded Adolescents both had supportive family environments, yet the Late Bloomers were less planful than the Well-Rounded Adolescents. Thus, one must explore more than just one social domain to understand the phenomena of support for planfulness.

In the United States, career planfulness is expected to emerge from within the adolescent with the help of adults in the family. Non-college bound youth are supposed to get some help from high school counselors and vocational education teachers. College bound youth may be encouraged to hold off planning until they explore their interests in college. But too often neither high school nor college counselors provide very much support for occupational planning (Hamilton, 1990) and youth in the vocational education track have difficulty getting jobs in the field for which they were trained. Thus, many American adolescents are thrust into the workforce without adequate planning.

In contrast, Germany's non college-bound adolescents are channeled into occupational pathways by a vocational and educational training system that provides specific occupational training through apprenticeships in blue- and white-collar occupations (Heinz, Kelle, Witzel, & Zinn, 1998) and then provides jobs in these fields. Although the process of screening adolescents for future career paths does perpetuate social and gender inequality, the apprenticeship system provides mobility opportunities for adolescents who would have been left behind in the American system (Heinz et al., 1998). The interplay and coordination between the schools and the labor market scaffolds the transition to adulthood by supporting both

planfulness in the school and work context and the future utility of that planfulness. This additional support for planfulness in more than just the family context is sorely missing in the American system. The trade-off in the German system is impermeability. German students who change their mind after beginning an apprenticeship may lose time because they have to start a new apprenticeship from the beginning. This systemic rigidity can force rigid planfulness too early, not allowing for necessary career exploration.

Psychological Well-Being at Age 24

Psychological health was also assessed at age 24. By this age the relative patterns of psychological health across the clusters had changed somewhat. The Daters went from having below average mental health scores to having average mental health scores. Even more interesting are the drops in relative positions on one of our measures of psychological health: The Well-Rounded Adolescents' and the Early Starters' relative scores (z-scores) on the Self-Esteem scale had dropped. These two shifts may reflect two sides of the same phenomena: disappointment in post-high-school reality. For the adolescents who were Well Rounded and truly excelled in high-school, life after college and out of the academic sphere could deprive them of a highly valued and easily identifiable source of self-esteem. Alternatively, the Self-Esteem scores of Well-Rounded Adolescents at age 18 were very high, so much so that the declines could be due to regression to the mean or increases in the Self-Esteem scores of other clusters.

Cluster Membership and Status Outcomes

Cluster membership mediated young adult Educational Attainment, Relationship Status, and Pregnancy History. I discuss each below.

As expected, the Late Bloomers stayed in school the longest and were the only group in which most individuals had earned a Bachelor's degree by age 24. The Well-Rounded Adolescents acquired almost as much education as the Late Bloomers. Thus, lack of work and dating experience in high school was not by itself predictive of high educational attainment. In addition, although positive involvement in only one domain was not protective for psychological health at either age 18 or 24, the Workers and Daters received more education than the Early Starters by age 24. Perhaps the fact that the Early Starters were already disengaged from school and had moved onto other life commitments by age 18 explains their lower levels of college education.

The groups did not differ in total household income at age 24, probably because these individuals are just entering the labor force, especially those with a bachelor's degree, and income has not yet differentiated. However, because educational attainment is likely to be a predictor of total household income a few years later (Krau, 1989; Mueller & Shavit, 1998), the Early Starters are likely to fare worse than the other groups in terms of financial earning by age 30.

The significant association of gender by Mother's Educational Attainment by cluster with relationship status is fascinating. That only females from low Mother's Educational Attainment families showed the cluster relation, namely that the Early Starters were more often married or cohabitating, the Late Bloomers were less often married or cohabitating than expected, and Daters were less often in a relationship and more often single than would be expected, suggests that the position of low Mother's Educational Attainment women is unique with regard to marriage and relationship trajectories. Perhaps women from low Mother's Educational Attainment families have a limited understanding of their options for adulthood. Women from low Mother's Educational Attainment families in the Early Starter cluster had disengaged from

school early and may have had the most limited sense of possibilities for their future. As a result they were more likely to marry early than the other clusters.

Women in the Dater cluster were less likely to be in a steady relationship at age 24 and far more likely to be single than other clusters. This could be because of their unhealthy, early support from only the dating domain has stunted this groups understanding of a healthy relationship and impeded their ability to form positive, mature romantic bonds as they transition into adulthood. It could also be that this group are enjoying active dating and do not want to marry. In fact, this group seems to be escaping the low socio-economic status, female trend of early marriage.

The women in the Late Bloomer cluster also escaped the pattern on early marriage as they were less often married or cohabitating than expected regardless of Mother's Educational Attainment. They may have had the time to explore more options after leaving high school, therefore may have been able to delay marriage more successfully than other clusters. Late Blooming women were also far more likely than expected to obtain some post-baccalaureate education, but not the Late Blooming men, further supporting the conclusion that women in the Late Bloomer cluster took more time to explore options and, as a result, chose to delay marriage and continue their education. Alternately, the Late Blooming women's choice to continue their education could have caused them to delay marriage.

Pregnancy History is also an interesting story for both men and women. As one might expect, the Late Bloomers were the least likely to have gotten pregnant at age 24, perhaps because they had fewer years of dating experience, and were more vocationally planful, or were better users of contraception. Delaying sex increases the likelihood of using contraception when one begins to have sexual relations (Meschke, Zweig, Barber, & Eccles, 2000).

The Early Starters and Daters provide another interesting contrast: While the Early Starters were more likely to be married or cohabitating at age 24, they were less likely to have gotten pregnant than the Daters. In high school, the Daters' only positive context was dating. They seem to have carried this reliance on partnership to a logical conclusion, early pregnancy. The Daters also had lower mental health—a risk factor for early pregnancy and failure to use appropriate contraception (Tubman, Windle, & Windle, 1996). In addition, the Daters may have tried to compensate for a bad family situation by creating their own family; research shows that adolescents who lack adequate and stable emotional support may look to sex and parenthood to provide emotional closeness (Musick, 1993). The Daters' lack of support in other contexts of development is especially problematic if they become pregnant, as research shows that support from family, doing well in school and having positive well-being before the pregnancy are all important predictors of long-term educational success of the mother (Way & Leadbeater, 1999).

Daters' higher rates of early pregnancy should be considered within a larger societal context. Though overall rates for teenage childbearing are much lower now than in the past, teenage pregnancy is still significantly more common in American than in other industrialized countries (Coley & Chase-Lansdale, 1998). This is not due to American adolescents being more sexually active, but rather due to the inadequate use of contraception (Coley & Chase-Lansdale, 1998). Societal structural issues play a role in the contraceptive choices adolescents make. Perhaps Daters' high levels of pregnancy by age 24 are due to poor contraception rather than increase sexual activity. Daters' low levels of Planfulness would support this notion.

Early pregnancy and childbearing may also be linked to a foreclosed identity status, according to Marcia's (1966) identity status theory. Foreclosure indicates commitment to a future path without adequately exploring possible selves (Marcia, 1966). In this situation,

adolescents who have not had the opportunity to explore their options or who have not been exposed to any alternatives to early childbearing, like Daters who's only positive context was in the dating domain, may commit to being a parent without careful evaluation of the meaning and repercussions of that choice.

The literature regarding early maturation is clear that early pubertal development correlates with decreased psychosocial functioning for girls (Wiesner & Ittel, 2002). The literature links early maturation in girls with distress, body dissatisfaction, low self-esteem and deviant behaviors for girls. Early maturers are more likely to become involved with substance use/abuse, delinquent behavior, sexual intercourse at younger ages, and problems in school (Magnusson, Stattin, & Allen, 1985). In general, early maturing girls are more likely to engage in adult-like behaviors considered atypical or premature for their age group (Wiesner & Ittel, 2002). I hypothesize that future analysis of physical maturation data will show that the Daters were not only socially early, but physically early to mature, as well.

Which Cluster Is Best?

The creation of clusters always leads to the question "which is best?" The answer, of course, is: it depends. In high school, the Well-Rounded Adolescents and Late Bloomers have comparable low levels of depressive affect at both ages. These two groups also had quite high Self-Esteem scores but the Well-Rounded adolescents had higher Self-Esteem scores than the Late Bloomers at age 18, though not significantly so. Late Blooming adolescents may not yet be comfortable with themselves until several years after high school. Late Bloomers also receive the most education, which should increase their adult success as workers and wage earners. It would be interesting to follow-up with these clusters and see if those who were married with kids earlier are happier in middle age when their kids are grown and gone and those who chose to forestall marriage and childbearing might be regretting their decision.

Which Cluster is Worst?

The flip side of this question is “which group is worst off?” Compared to the other groups, the Daters and Workers scored lower than the other groups on all measures at both age 18 and 24. Members of the other clusters were doing well in more than one context. In contrast, the Daters and Workers, who had positive experiences in only one context at age 18 and quite negative experiences in two or three of the other contexts. Thus, they did not have enough support to make a successful transition into adulthood by age 24.

Garbarino (1999) found that spiritual, psychological and social anchors are necessary when other systems are failing. These anchors are supported by compensatory relationships: one person or context that compensates for other failing contexts allowing the adolescent to be resilient (Garbarino, 1999). Garbarino’s work, however, focused on children and the emergence of aggressive and delinquent behavior. Perhaps one quality context is enough to keep a child out of the justice system, but not enough to really help them thrive or transition well into adulthood. It is also possible that one context of support is enough for children, but not enough for adolescents.

Limitations and Future Directions

The findings discussed here should be evaluated in the context of the study’s limitations. For example, most of the data reported here are from the youth-report questionnaires. Future research would benefit from using a broader range of data including the parent-report data, peer-report data, more record data, and some qualitative data to flesh out the results of the self-report data. Integrating multiple methods combines the power of the generalizations allowed by broad-based quantitative data with qualitative data’s detailed descriptions. Also, although cluster analysis was an extremely valuable tool in this study, it does have its limitations. New clustering techniques and software allow for more sophisticated analysis and

would be an advisable addition to future analyses. Further, not all participants were included in the analyses because they had to have data for each of the domains measured to be included in the cluster analysis. Those participants eliminated by this requirement were likely to have more problematic life contexts. A theory-based clustering technique would allow more of the participants with incomplete data to be included in the analysis.

The extent to which these findings can be generalized far beyond the sample remains to be determined. A different population in which earning a bachelor's degree is the norm may look very different in terms of the ramifications of disengaging from school early, for example, because breaking from the normative life path carries with it censures. In addition, information and training for finding work that does not require a college degree may not be readily available to upper-middle class adolescents.

It would also be interesting to investigate the individual's own expectations for young adulthood. Norms and an individual's subjective understanding of norms may play a powerful role in shaping development.

Another point for future investigation centers on these developmental norms, specifically early developing girls. The research on pubertal timing and early maturation was useful for interpreting my results, but further investigation into this link is possible with the current data set. Indeed, on-time and off-time life events in regard to pubertal maturation may greatly influence on- or off-time markers of the transition to adulthood, including educational attainment, relationship status, pregnancy, and income. These are questions I hope to answer in the future.

Finally, I hope to follow up with these clusters 4 years later, at age 28, once most have completed the transition to adulthood. The current study shows that cluster membership at age 18 correlates with the individuals' status as they make the transition into adulthood. I

would be interested in investigating how late high school cluster membership correlates with psychological and status variables as one nears completion of the transition into adulthood.

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Table 1

Correlation of Domains

		Work	School	Peers	Family	Dating
Work	Pearson Correlation	1	-.002	.074	.048	.024
	Sig. (2-tailed)	.	.939	.018	.145	.467
	N	1211	1045	1021	941	956
School	Pearson Correlation	-.002	1	.183	.139	.058
	Sig. (2-tailed)	.939	.	.000	.000	.067
	N	1045	1596	1193	1005	1009
Peers	Pearson Correlation	.074	.183	1	.169	.082
	Sig. (2-tailed)	.018	.000	.	.000	.008
	N	1021	1193	1251	996	1044
Family	Pearson Correlation	.048	.139	.169	1	.214
	Sig. (2-tailed)	.145	.000	.000	.	.000
	N	941	1005	996	1006	933
Dating	Pearson Correlation	.024	.058	.082	.214	1
	Sig. (2-tailed)	.467	.067	.008	.000	.
	N	956	1009	1044	933	1048

Table 2

Cluster Analysis of scores in five late-adolescent context measures

Clusters		Five Contexts				
		Family	School	Work	Peers	Dating
Late Bloomers	Mean	.527	.705	-.073	.474	-.448
	N	193	193	193	193	193
	SD	.680	.600	.850	.746	.604
Daters	Mean	-.598	.099	.008	-.558	.498
	N	220	220	220	220	220
	SD	.944	.754	.867	.779	.647
Workers	Mean	-.520	-.078	.279	-.485	-1.121
	N	232	232	232	232	232
	SD	.862	.917	.908	.895	.371
Well Rounded	Mean	.646	.683	.195	.696	1.139
	N	169	169	169	169	169
	SD	.769	.536	1.05	.662	.225
Early Starters	Mean	.711	-1.18	.691	-.050	.583
	N	81	81	81	81	81
	SD	.608	.643	.862	.736	.771
Total	Mean	.018	.178	.158	-.034	.003
	N	895	895	895	895	895
	SD	.998	.905	.934	.939	.993

Table 3

Crosstabulation of Cluster by gender

			Cluster					Total
			Late Bloomers	Daters	Workers	Well Rounded	Early Starters	
Gender	female	Count	118	102	121	120	54	515
		Expected Count	111.1	126.6	133.5	97.2	46.6	515.0
		Residual	6.9	-24.6	-12.5	22.8	7.4	
		Std. Residual	.7	-2.2	-1.1	2.3	1.1	
	male	Count	75	118	111	49	27	380
		Expected Count	81.9	93.4	98.5	71.8	34.4	380.0
		Residual	-6.9	24.6	12.5	-22.8	-7.4	
		Std. Residual	-.8	2.5	1.3	-2.7	-1.3	
Total	Count	193	220	232	169	81	895	
	Expected Count	193.0	220.0	232.0	169.0	81.0	895.0	

Table 4

The relation of Mother Education Level and Gender with score in family, school, work and peer context measures

		Sum of Squares	df	Mean Square	F	P
Family context	(Combined)	8.426	3	2.809	2.803	.039
	Mother's Education (M)	.338	2	.169	.169	.845
	Gender (G)	8.087	1	8.087	8.072	.005
	M x G	3.579	2	1.789	1.786	.169
	Model	12.004	5	2.401	2.396	.036
	Residual	559.053	558	1.002		
	Total	571.057	563	1.014		
School context	(Combined)	2.088	3	.696	.885	.449
	Mother's Education (M)	2.041	2	1.020	1.297	.274
	Gender (G)	.048	1	.048	.060	.806
	M x G	.711	2	.355	.451	.637
	Model	2.799	5	.560	.711	.615
	Residual	439.170	558	.787		
	Total	441.969	563	.785		
Work context	(Combined)	.985	3	.328	.350	.789
	Mother's Education (M)	.417	2	.209	.222	.801
	Gender (G)	.567	1	.567	.605	.437
	M x G	.477	2	.239	.254	.776
	Model	1.462	5	.292	.312	.906
	Residual	523.604	558	.938		
	Total	525.066	563	.933		
Peers context	(Combined)	64.873	3	21.624	29.306	.000
	Mother's Education (M)	1.691	2	.846	1.146	.319
	Gender (G)	63.182	1	63.182	85.626	.000
	M x G	3.218	2	1.609	2.180	.114
	Model	68.091	5	13.618	18.456	.000
	Residual	411.741	558	.738		
	Total	479.832	563	.852		

Table 5

Means of family context for each gender and peer context for each gender

Gender			z-scores	
			Family context	Peer context
Gender	female	Mean	.0765	.2407
		N	515	515
		SD	1.0454	.8681
	male	Mean	-.0615	-.4054
		N	380	380
		SD	.9259	.9051
Total	Mean	.0179	-.0336	
	N	895	895	
	SD	.9982	.9395	

Table 6

Crosstabulation of Dating context by gender

			Dating Context			Total
			1.00	2.00	3.00	
Gender	female	Count	202	178	239	619
		Expected Count	201.4	199.6	217.9	619.0
		Residual	.6	-21.6	21.1	
		Std. Residual	.0	-1.5	1.4	
	male	Count	139	160	130	429
		Expected Count	139.6	138.4	151.1	429.0
		Residual	-.6	21.6	-21.1	
		Std. Residual	.0	1.8	-1.7	
Total		Count	341	338	369	1048
		Expected Count	341.0	338.0	369.0	1048.0

Dating activity and quality Scale:

1=Poorest: not dating or steady partner without parental approval

2=Medium: moderate dating or steady partner with moderate parental approval

3=Best: active dating or steady partner with high parental approval

Table 7

Psychological Variables by 5-Cluster Solution of Five Domains

Clusters		Planfulness Age 18	Depressive Affect Age 18*	Self Esteem Age 18	Depressive Affect Age 24*	Self Esteem Age 24
Late Bloomers	Mean	5.6028 ^d	4.7785 ^{b,c}	5.0708 ^{b,c,d}	4.9412 ^c	5.0055
	N	120	193	193	136	136
	SD	1.1213	1.1018	1.0754	1.1057	1.2059
Daters	Mean	5.7689	4.2614 ^{a,d}	4.6992 ^{a,d}	4.7155	4.7923
	N	137	220	220	132	132
	SD	1.1775	1.2395	1.1996	.9570	1.0677
Workers	Mean	5.5627 ^d	4.2152 ^{a,d}	4.5467 ^{a,d}	4.5539 ^{a,d}	4.6486 ^d
	N	133	232	232	129	129
	SD	1.1671	1.2322	1.2698	.9687	1.0896
Well Rounded	Mean	6.0404 ^{a,c}	4.8110 ^{b,c}	5.4921 ^{a,b,c,d}	4.9430 ^c	5.0654 ^c
	N	99	168	168	121	121
	SD	1.0014	1.0286	1.1741	1.0585	1.1824
Early Starters	Mean	5.9808	4.4414	4.8930 ^d	4.5676	4.6757
	N	52	81	81	37	37
	SD	.8617	1.3004	1.4614	1.0567	1.2759
Total	Mean	5.7514	4.4806	4.9064	4.7730	4.8629
	N	541	894	894	555	555
	SD	1.1160	1.2041	1.2579	1.0366	1.1554

Superscripts indicate significant differences with: a=Late Bloomers; b=Daters; c=Workers; d=Well Rounded Adolescents; e=Early Starters as indicated by Tukey Post-Hoc analysis

*Depressive affect was reverse coded so that higher scores represent more positive functioning

Table 8

Analysis of Variance (ANOVA) for psychological variables

		Hierarchical Method				
		Sum of Squares	df	Mean Square	F	P
Planful for job age 18	(Combined)	33.685	7	4.812	5.558	.000
	Clusters (C)	24.792	4	6.198	7.158	.000
	Mother's Education (M)	1.162	2	.581	.671	.512
	Gender (G)	7.732	1	7.732	8.929	.003
	(Combined)	15.349	14	1.096	1.266	.227
	C x M	13.622	8	1.703	1.966	.050
	C x G	.774	4	.193	.223	.925
	M x G	2.634	2	1.317	1.521	.220
	C x M x G	5.630	7	.804	.929	.484
	Model	54.665	28	1.952	2.255	.000
	Residual	276.219	319	.866		
Total	330.884	347	.954			
Low Depressive Affect age 18	(Combined)	55.422	7	7.917	10.246	.000
	Clusters (C)	31.728	4	7.932	10.265	.000
	Mother's Education (M)	1.436	2	.718	.929	.396
	Gender (G)	22.258	1	22.258	28.805	.000
	(Combined)	11.618	14	.830	1.074	.381
	C x M	8.588	8	1.073	1.389	.200
	C x G	1.523	4	.381	.493	.741
	M x G	.304	2	.152	.197	.821
	C x M x G	1.914	7	.273	.354	.928
	Model	68.954	28	2.463	3.187	.000
	Residual	246.496	319	.773		
Total	315.450	347	.909			
Self esteem age 18	(Combined)	40.593	7	5.799	6.745	.000
	Clusters (C)	33.569	4	8.392	9.762	.000
	Mother's Education (M)	5.911E-02	2	2.955E-02	.034	.966
	Gender (G)	6.965	1	6.965	8.102	.005
	(Combined)	15.720	14	1.123	1.306	.202
	C x M	9.336	8	1.167	1.357	.215
	C x G	7.404	4	1.851	2.153	.074
	M x G	1.402	2	.701	.816	.443
	C x M x G	15.199	7	2.171	2.526	.015
	Model	71.512	28	2.554	2.971	.000
	Residual	274.243	319	.860		
Total	345.755	347	.996			
Low Depressive Affect age 24	(Combined)	21.208	7	3.030	3.857	.000
	Clusters (C)	16.542	4	4.136	5.264	.000
	Mother's Education (M)	.710	2	.355	.452	.637
	Gender (G)	3.957	1	3.957	5.036	.026
	(Combined)	7.258	14	.518	.660	.813
	C x M	3.667	8	.458	.584	.791
	C x G	2.903	4	.726	.924	.450
	M x G	.348	2	.174	.221	.801
	C x M x G	9.077	7	1.297	1.651	.121
	Model	37.543	28	1.341	1.707	.016
	Residual	250.613	319	.786		
Total	288.156	347	.830			
Self esteem age 24	(Combined)	18.845	7	2.692	3.240	.002
	Clusters (C)	11.677	4	2.919	3.513	.008

Mother's Education (M)	1.323	2	.661	.796	.452
Gender (G)	5.846	1	5.846	7.035	.008
(Combined)	11.546	14	.825	.992	.461
C x M	6.871	8	.859	1.034	.410
C x G	4.242	4	1.060	1.276	.279
M x G	.199	2	9.937E-02	.120	.887
C x M x G	9.875	7	1.411	1.698	.109
Model	40.266	28	1.438	1.731	.014
Residual	265.079	319	.831		
Total	305.345	347	.880		

Table 9 Means of Self Esteem by cluster x gender x mom's ed level

Cluster	Gender	Mother's Educational Attainment	Mean	N	Std. Dev.
Late Bloomers	Female	Low	5.0721	37	1.01573
		High	4.8561	44	1.06239
		Total	4.9547	81	1.04050
	Male	Low	5.1250	16	1.36558
		High	5.1889	30	.91259
		Total	5.1667	46	1.07669
	Total	Low	5.0881	53	1.11928
		High	4.9910	74	1.01131
		Total	5.0315	127	1.05445
Daters	Female	Low	4.3761	39	1.21679
		High	4.7024	28	1.37688
		Total	4.5124	67	1.28620
	Male	Low	5.0098	34	1.09325
		High	4.8450	43	1.19157
		Total	4.9177	77	1.14473
	Total	Low	4.6712	73	1.19605
		High	4.7887	71	1.26018
		Total	4.7292	144	1.22520
Workers	Female	Low	4.3417	40	1.28876
		High	4.3172	31	1.25193
		Total	4.3310	71	1.26381
	Male	Low	5.2099	27	1.17723
		High	4.7297	37	1.44196
		Total	4.9323	64	1.34804
	Total	Low	4.6915	67	1.30824
		High	4.5417	68	1.36449
		Total	4.6160	135	1.33400
Well Rounded	Female	Low	5.3333	37	1.37885
		High	5.6288	44	1.07884
		Total	5.4938	81	1.22600
	Male	Low	5.2083	8	1.14000
		High	5.8095	14	.67576
		Total	5.5909	22	.89639
	Total	Low	5.3111	45	1.32840
		High	5.6724	58	.99412
		Total	5.5146	103	1.16014
Early Starters	Female	Low	4.4394	22	1.54436
		High	4.2143	14	1.73258
		Total	4.3519	36	1.59949
	Male	Low	5.4667	10	.99629
		High	5.4444	9	1.54560
		Total	5.4561	19	1.24826
	Total	Low	4.7604	32	1.46215
		High	4.6957	23	1.73762
		Total	4.7333	55	1.56794
Total	Female	Low	4.7257	175	1.32890
		High	4.8810	161	1.31675
		Total	4.8001	336	1.32340
	Male	Low	5.1509	95	1.14521
		High	5.0326	133	1.22877
		Total	5.0819	228	1.19352
	Total	Low	4.8753	270	1.28140
		High	4.9495	294	1.27778
		Total	4.9140	564	1.27892

Table 10

Crosstabulation of Educational Attainment by Cluster at age 24

		Cluster					Total	
		Late Bloomers	Daters	Workers	Well Rounded	Early Starters		
educational status	some high school	Count	1	2	2	1	1	7
		Expected Count	1.7	1.6	1.7	1.4	.6	7.0
		Residual	-.7	.4	.3	-.4	.4	
		Std. Residual	-.5	.3	.2	-.3	.6	
HS Diploma		Count	8	15	21	6	9	59
		Expected Count	14.1	13.9	14.4	11.9	4.7	59.0
		Residual	-6.1	1.1	6.6	-5.9	4.3	
		Std. Residual	-1.6	.3	1.7	-1.7	2.0	
post-HS vocational training		Count	3	9	8	7	3	30
		Expected Count	7.2	7.0	7.3	6.0	2.4	30.0
		Residual	-4.2	2.0	.7	1.0	.6	
		Std. Residual	-1.6	.7	.2	.4	.4	
some college		Count	48	65	65	51	22	251
		Expected Count	60.2	59.0	61.4	50.6	19.9	251.0
		Residual	-12.2	6.0	3.6	.4	2.1	
		Std. Residual	-1.6	.8	.5	.1	.5	
4 yr college degree		Count	69	44	49	55	15	232
		Expected Count	55.6	54.5	56.7	46.8	18.4	232.0
		Residual	13.4	-10.5	-7.7	8.2	-3.4	
		Std. Residual	1.8	-1.4	-1.0	1.2	-.8	
graduate school		Count	22	13	9	7	0	51
		Expected Count	12.2	12.0	12.5	10.3	4.0	51.0
		Residual	9.8	1.0	-3.5	-3.3	-4.0	
		Std. Residual	2.8	.3	-1.0	-1.0	-2.0	
Total		Count	151	148	154	127	50	630
		Expected Count	151.0	148.0	154.0	127.0	50.0	630.0
		Residual						
		Std. Residual						

Table 11 Crosstabulation for Educational Attainment by cluster by gender

Gender			Clusters					Total	
			Late Bloomers	Daters	Workers	Well-Rounded	Early Starters		
female	some high school	Count	0	2	2	1	0	5	
		Expected Count	1.2	.9	1.2	1.2	.5	5.0	
		Residual	-1.2	1.1	.8	-2	-.5		
		Std. Residual	-1.1	1.1	.8	-2	-.7		
	HS Diploma	Count	8	8	16	5	6	43	
		Expected Count	10.6	8.1	9.9	10.4	4.0	43.0	
		Residual	-2.6	-.1	6.1	-5.4	2.0		
		Std. Residual	-.8	.0	1.9	-1.7	1.0		
	post-HS vocational training	Count	2	6	3	5	2	18	
		Expected Count	4.4	3.4	4.2	4.3	1.7	18.0	
		Residual	-2.4	2.6	-1.2	.7	.3		
		Std. Residual	-1.2	1.4	-.6	.3	.3		
	some college	Count	29	30	39	37	15	150	
		Expected Count	37.0	28.3	34.6	36.2	13.8	150.0	
		Residual	-8.0	1.7	4.4	.8	1.2		
		Std. Residual	-1.3	.3	.7	.1	.3		
	4 yr college degree	Count	39	18	25	40	12	134	
		Expected Count	33.1	25.3	31.0	32.4	12.3	134.0	
		Residual	5.9	-7.3	-6.0	7.6	-.3		
		Std. Residual	1.0	-1.5	-1.1	1.3	-.1		
	graduate school	Count	16	8	3	4	0	31	
		Expected Count	7.6	5.9	7.2	7.5	2.8	31.0	
		Residual	8.4	2.1	-4.2	-3.5	-2.8		
		Std. Residual	3.0	.9	-1.6	-1.3	-1.7		
			Count	94	72	88	92	35	381
			Expected Count	94.0	72.0	88.0	92.0	35.0	381.0
male	some high school	Count	1	0	0	0	1	2	
		Expected Count	.5	.6	.5	.3	.1	2.0	
		Residual	.5	-.6	-.5	-.3	.9		
		Std. Residual	.8	-.8	-.7	-.5	2.5		
	HS Diploma	Count	0	7	5	1	3	16	
		Expected Count	3.7	4.9	4.2	2.2	1.0	16.0	
		Residual	-3.7	2.1	.8	-1.2	2.0		
		Std. Residual	-1.9	1.0	.4	-.8	2.1		
	post-HS vocational training	Count	1	3	5	2	1	12	
		Expected Count	2.7	3.7	3.2	1.7	.7	12.0	
		Residual	-1.7	-.7	1.8	.3	.3		
		Std. Residual	-1.1	-.3	1.0	.2	.3		
	some college	Count	19	35	26	14	7	101	
		Expected Count	23.1	30.8	26.8	14.2	6.1	101.0	
		Residual	-4.1	4.2	-.8	-.2	.9		
		Std. Residual	-.9	.8	-.1	-.1	.4		
	4 yr college degree	Count	30	26	24	15	3	98	
		Expected Count	22.4	29.9	26.0	13.8	5.9	98.0	
		Residual	7.6	-3.9	-2.0	1.2	-2.9		
		Std. Residual	1.6	-.7	-.4	.3	-1.2		
	graduate school	Count	6	5	6	3	0	20	
		Expected Count	4.6	6.1	5.3	2.8	1.2	20.0	
		Residual	1.4	-1.1	.7	.2	-1.2		
		Std. Residual	.7	-.4	.3	.1	-1.1		
			Count	57	76	66	35	15	249
			Expected Count	57.0	76.0	66.0	35.0	15.0	249.0

Table 12

Crosstabulation of Relationship Status by Cluster at age 24

		Cluster					Total	
		Late Bloomers	Daters	Workers	Well Rounded	Early Starters		
relationship status	married or cohabitating	Count	40	60	51	55	25	231
		Expected Count	55.0	53.3	57.1	47.3	18.2	231.0
		Residual	-15.0	6.7	-6.1	7.7	6.8	
		Std. Residual	-2.0	.9	-.8	1.1	1.6	
	steady relationship	Count	71	49	60	60	14	254
		Expected Count	60.5	58.6	62.8	52.0	20.0	254.0
		Residual	10.5	-9.6	-2.8	8.0	-6.0	
		Std. Residual	1.3	-1.3	-.4	1.1	-1.3	
	single	Count	46	43	52	20	13	174
		Expected Count	41.5	40.1	43.0	35.6	13.7	174.0
		Residual	4.5	2.9	9.0	-15.6	-.7	
		Std. Residual	.7	.5	1.4	-2.6	-.2	
Total	Count	157	152	163	135	52	659	
	Expected Count	157.0	152.0	163.0	135.0	52.0	659.0	
	Residual							
	Std. Residual							

Table 13
Chi-Square tests for Relationship Status by Cluster by Gender by SES

Gender	Mother's Educational Attainment		Value	df	Asymp. Sig. (2-sided)
Female	Low	Pearson Chi-Square	18.086	8	.021
		Likelihood Ratio	19.899	8	.011
		Linear-by-Linear Association	6.798	1	.009
		N	135		
	High	Pearson Chi-Square	11.357	8	.182
		Likelihood Ratio	11.680	8	.166
		Linear-by-Linear Association	.279	1	.598
		N	131		
Male	Low	Pearson Chi-Square	7.079	8	.528
		Likelihood Ratio	7.102	8	.526
		Linear-by-Linear Association	.040	1	.841
		N	63		
	High	Pearson Chi-Square	9.603	8	.294
		Likelihood Ratio	8.690	8	.369
		Linear-by-Linear Association	.400	1	.527
		N	97		

Table 14 Crosstabulation for Relationship Status x Cluster x Gender x SES

Gender	Mother's Education	Relationship Status		Ward Method					Total
				Late Bloomers	Daters	Workers	Well Rounded	Early Starters	
female	Low	married or cohabitating	Count	9	13	13	14	10	59
			Expected Count	13.1	11.8	14.4	14.0	5.7	59.0
			Residual	-4.1	1.2	-1.4	.0	4.3	
			Std. Residual	-1.1	.3	-.4	.0	1.8	
		steady relationship	Count	15	5	15	15	3	53
			Expected Count	11.8	10.6	13.0	12.6	5.1	53.0
			Residual	3.2	-5.6	2.0	2.4	-2.1	
			Std. Residual	.9	-1.7	.6	.7	-.9	
		single	Count	6	9	5	3	0	23
			Expected Count	5.1	4.6	5.6	5.5	2.2	23.0
			Residual	.9	4.4	-.6	-2.5	-2.2	
			Std. Residual	.4	2.1	-.3	-1.1	-1.5	
	Total	Count	30	27	33	32	13	135	
		Expected Count	30.0	27.0	33.0	32.0	13.0	135.0	
		Residual							
		Std. Residual							
High		married or cohabitating	Count	9	9	9	14	4	45
			Expected Count	13.1	7.6	8.9	11.3	4.1	45.0
			Residual	-4.1	1.4	.1	2.7	-.1	
			Std. Residual	-1.1	.5	.0	.8	-.1	
		steady relationship	Count	19	7	7	14	2	49
			Expected Count	14.2	8.2	9.7	12.3	4.5	49.0
			Residual	4.8	-1.2	-2.7	1.7	-2.5	
			Std. Residual	1.3	-.4	-.9	.5	-1.2	
		single	Count	10	6	10	5	6	37
			Expected Count	10.7	6.2	7.3	9.3	3.4	37.0
			Residual	-.7	-.2	2.7	-4.3	2.6	
			Std. Residual	-.2	-.1	1.0	-1.4	1.4	
Total	Count	38	22	26	33	12	131		
	Expected Count	38.0	22.0	26.0	33.0	12.0	131.0		
	Residual								
	Std. Residual								
male	Low	married or cohabitating	Count	3	8	5	2	1	19
			Expected Count	3.9	5.7	5.1	2.4	1.8	19.0
			Residual	-.9	2.3	-.1	-.4	-.8	
			Std. Residual	-.5	.9	-.1	-.3	-.6	
		steady relationship	Count	4	6	4	5	2	21
			Expected Count	4.3	6.3	5.7	2.7	2.0	21.0
			Residual	-.3	-.3	-1.7	2.3	.0	
			Std. Residual	-.2	-.1	-.7	1.4	.0	
		single	Count	6	5	8	1	3	23
			Expected Count	4.7	6.9	6.2	2.9	2.2	23.0
			Residual	1.3	-1.9	1.8	-1.9	.8	
			Std. Residual	.6	-.7	.7	-1.1	.5	
	Total	Count	13	19	17	8	6	63	
		Expected Count	13.0	19.0	17.0	8.0	6.0	63.0	
		Residual							
		Std. Residual							
High		married or cohabitating	Count	5	5	5	6	1	22
			Expected Count	5.9	6.6	5.7	2.7	1.1	22.0
			Residual	-.9	-1.6	-.7	3.3	-.1	
			Std. Residual	-.4	-.6	-.3	2.0	-.1	

steady relationship	Count	13	10	12	3	1	39
	Expected Count	10.5	11.7	10.1	4.8	2.0	39.0
	Residual	2.5	-1.7	1.9	-1.8	-1.0	
	Std. Residual	.8	-.5	.6	-.8	-.7	
single	Count	8	14	8	3	3	36
	Expected Count	9.6	10.8	9.3	4.5	1.9	36.0
	Residual	-1.6	3.2	-1.3	-1.5	1.1	
	Std. Residual	-.5	1.0	-.4	-.7	.8	
Total	Count	26	29	25	12	5	97
	Expected Count	26.0	29.0	25.0	12.0	5.0	97.0
	Residual						
	Std. Residual						

Table 15

Crosstabulation of Pregnancy History by Cluster at age 24

		Cluster					Total	
		Late Bloomers	Daters	Workers	Well Rounded	Early Starters		
Pregnancy History	Yes	Count	19	41	34	35	10	139
		Expected Count	33.7	33.2	32.4	30.4	9.4	139.0
		Residual	-14.7	7.8	1.6	4.6	.6	
		Std. Residual	-2.5	1.4	.3	.8	.2	
	No	Count	113	89	92	84	27	405
		Expected Count	98.1	96.6	94.4	88.4	27.5	405.0
		Residual	14.9	-7.6	-2.4	-4.4	-.5	
		Std. Residual	1.5	-.8	-.2	-.5	-.1	
Total	Count	132	130	127	119	37	545	
	Expected Count	132.0	130.0	127.0	119.0	37.0	545.0	
	Residual							
	Std. Residual							

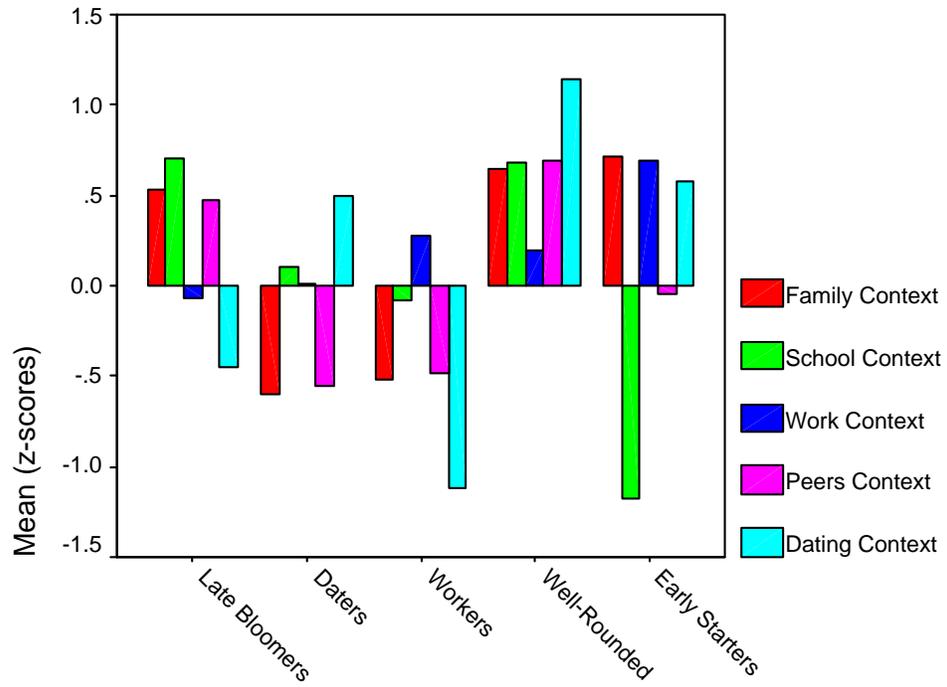
Table 16

Crosstabulation of Gender by Pregnancy History by Cluster at age 24

Gender				Cluster					Total	
				Late Bloomers	Late Bloomers	Late Bloomers	Late Bloomers	Late Bloomers		
Female	Pregnancy History	Yes	Count	16	24	23	28	9	100	
			Expected Count	24.8	19.7	22.2	25.1	8.3	100.0	
			Residual	-8.8	4.3	.8	2.9	.7		
			Std. Residual	-1.8	1.0	.2	.6	.3		
		No	Count	71	45	55	60	20	251	
			Expected Count	62.2	49.3	55.8	62.9	20.7	251.0	
			Residual	8.8	-4.3	-.8	-2.9	-.7		
			Std. Residual	1.1	-.6	-.1	-.4	-.2		
	Total		Count	87	69	78	88	29	351	
			Expected Count	87.0	69.0	78.0	88.0	29.0	351.0	
	Male	Pregnancy History	Yes	Count	3	17	11	7	1	39
				Expected Count	9.1	12.3	9.7	6.3	1.6	39.0
Residual				-6.1	4.7	1.3	.7	-.6		
Std. Residual				-2.0	1.3	.4	.3	-.5		
		No	Count	42	44	37	24	7	154	
			Expected Count	35.9	48.7	38.3	24.7	6.4	154.0	
			Residual	6.1	-4.7	-1.3	-.7	.6		
			Std. Residual	1.0	-.7	-.2	-.1	.2		
Total			Count	45	61	48	31	8	193	
			Expected Count	45.0	61.0	48.0	31.0	8.0	193.0	

Figure 1

Cluster Analysis of scores in five late-adolescent context measures



Appendix A

Scales: (mean of z-scores for individual scales except where coding is noted)

family context

- a. Lack of parental psychological control ($\alpha=0.76$)
 - My parents treat me more like a little kid than like an adult. (1=never true; 7=always true) (*reverse coded*)
 - I have a lot of fights with my parents about their rules and decisions for me. (1=never true; 7=always true) (*reverse coded*)
 - My parents criticize me or punish me a lot more than I deserve. (1=never true; 7=always true) (*reverse coded*)
 - My parents trust me to do what they expect without checking. (1=never true; 7=always true)
 - My parents encourage me to give my ideas and opinions even if we might disagree. (1=never true; 7=always true)
 - My parents want me to follow their directions even if I disagree with their reasons. (1=never true; 7=always true) (*reverse coded*)
- b. Connection with family ($\alpha=0.82$)
 - Our family enjoys doing things together. (1=never true; 7=always true)
 - Members of my family are very close and get along very well. (1=strongly disagree; 7=strongly agree)
 - Family members are supportive of each other during difficult times. (1=never true; 7=always true)

school context

- a. grades
 - GPA on a 4 pt. scale
- b. like school? ($\alpha=0.82$)
 - How much do you like school this year? (1=not at all; 7=very much)
 - Compared to last year, how much do you like school this year? (1=much less; 7=much more than last year)

work context

- a. positive pt job ($\alpha=0.71$)
 - All things considered, how satisfied are you with your present job? (1=completely dissatisfied; 7=completely satisfied)
 - How often do you get a chance to work with a supervisor in planning what your work will be? (1=never; 7=always)
 - I can learn new skills at my job. (1=not at all; 7=very true)
- b. valued contribution to the family ($\alpha=0.78$)
 - If I did not do my chores, it would be very difficult for my family.
 - My parents really count on me to help around the house.

peers context

- a. socially supportive peer group ($\alpha=0.77$)
 - My friends encourage me to make the right decisions.
 - I can count on my friends to keep me from getting into trouble.
 - My friends encourage me to do my best in school.
 - My friends discourage me from making bad decisions.
 - My friends encourage me to give my ideas and opinions even if we might disagree. (1=never true; 4=always true)
- c. anti-social peer group ($\alpha=0.80$)

What percentage of your friends do each of the following? 1=none; 3=half; 5=all

 - Done something illegal in the last year (like stealing or selling drugs) (*reverse coded*)
 - Gotten in trouble with the law (*reverse coded*)

- Regularly use drugs (*reverse coded*)
 - Regularly drink alcohol (*reverse coded*)
 - Sexually active (*reverse coded*)
 - Refuse to use drugs when offered
 - Likely to skip class (*reverse coded*)
- d. Fuligni's extreme peer focus ($\alpha=0.68$)
- Would get lower grade to be popular with friends. (1=never; 7=always) (*reverse coded*)
 - How much time with friends keeps you from things you ought to do? (1=takes away no time; 7=takes away a lot) (*reverse coded*)
 - It's okay to break parents' rules to keep your friends. (1=never; 7=always) (*reverse coded*)
 - Would you act less talented to make someone like you? (1=definitely not; 7=definitely yes) (*reverse coded*)

Dating context-(not meant)

- a. dating activity and quality
- How often do you go out on dates without other couples or friends? (1=never; 3=very often)
 - Are you currently going out with only one person? (2=yes; 1=no)
 - How much do your parents approve of this person? (1=not very much; 3=very much) v20521
 - CODING: If steady partner, parents must approve. If no steady partner, must be dating often.

OUTCOME SCALES

Self Esteem Wave 6 ($\alpha=0.81$)

How often do you do the following things? (1=never; 7=daily)

- Feel good about yourself?
- Feel satisfied with yourself the way you are?
- Feel sure of who you are (what kind of person you are)?

Low Depressive Affect Wave 6 ($\alpha=0.73$)

How often do you do the following things? (1=never; 7=daily; reversed)

- lose you appetite or eat a lot when you get upset?
- feel unhappy, sad or depressed?
- feel difficulties are piling up so high they can't be overcome?

Planfulness for future employment Wave 6 ($\alpha=0.82$)

- How sure are you that this is the kind of job you would like (1=not at all; 7=very sure)
- How much have you thought about this choice? (1=a little; 7=a lot)
- How likely is it that you will be successful in this kind of job? (1=very unlikely; 7=very likely)
- How likely do you think it is that you will have this kind of job? (1=very unlikely; 7=very likely)

Self Esteem Wave 8 ($\alpha=0.83$)

How often do you do the following things? (1=never; 7=daily)

- feel sure of who you are?
- feel satisfied with yourself the way you are?
- feel good about yourself?
- feel very satisfied with your life the way it is?

Low Depressive Affect Wave 8 ($\alpha=0.73$)

How often do you do the following things? (1=never; 7=daily; reversed)

- lose appetite or eat a lot when upset?
- feel unhappy, sad or depressed ?
- feel lonely?

- feel difficulties are piling up so high they can't be overcome?
- feel tired all the time?

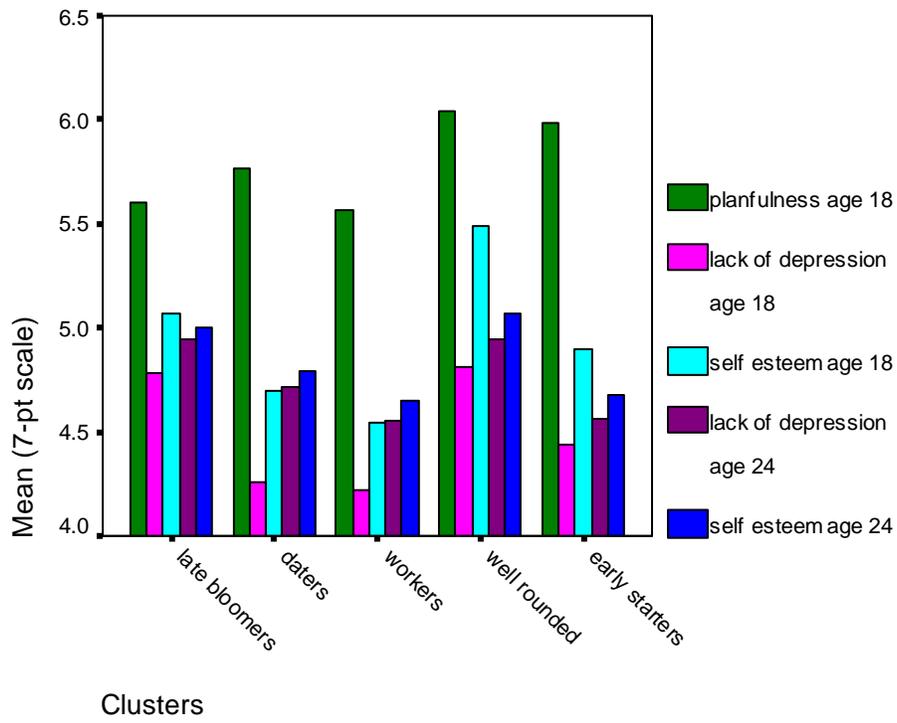
Appendix B

Confirming cluster analysis with sub-sample

Clusters		Five Contexts				
		Family	School	Work	Peers	Dating
Workers	Mean	-.367	-.101	.0312	-.428	-.972
	N	150	150	150	150	150
	SD	1.009	1.030	.847	.911	.529
Late Bloomers	Mean	.5782789	.617	-.635	.215	.210
	N	125	125	125	125	125
	SD	.606	.606	.565	.739	.926
Daters	Mean	-.800	-.005	.029	-.853	.681
	N	80	80	80	80	80
	SD	.860	.662	.685	.715	.602
Well Rounded	Mean	.223	.720	.970	.508	.214
	N	143	143	143	143	143
	SD	.801	.516	.676	.672	.907
Early Starters	Mean	.6238962	-1.183	.100	.253	.786
	N	49	49	49	49	49
	SD	.754	.606	.800	1.038	.576
Total	Mean	.029	.195	.211	-.038	.008
	N	547	547	547	547	547
	SD	.969	.923	.946	.936	.986

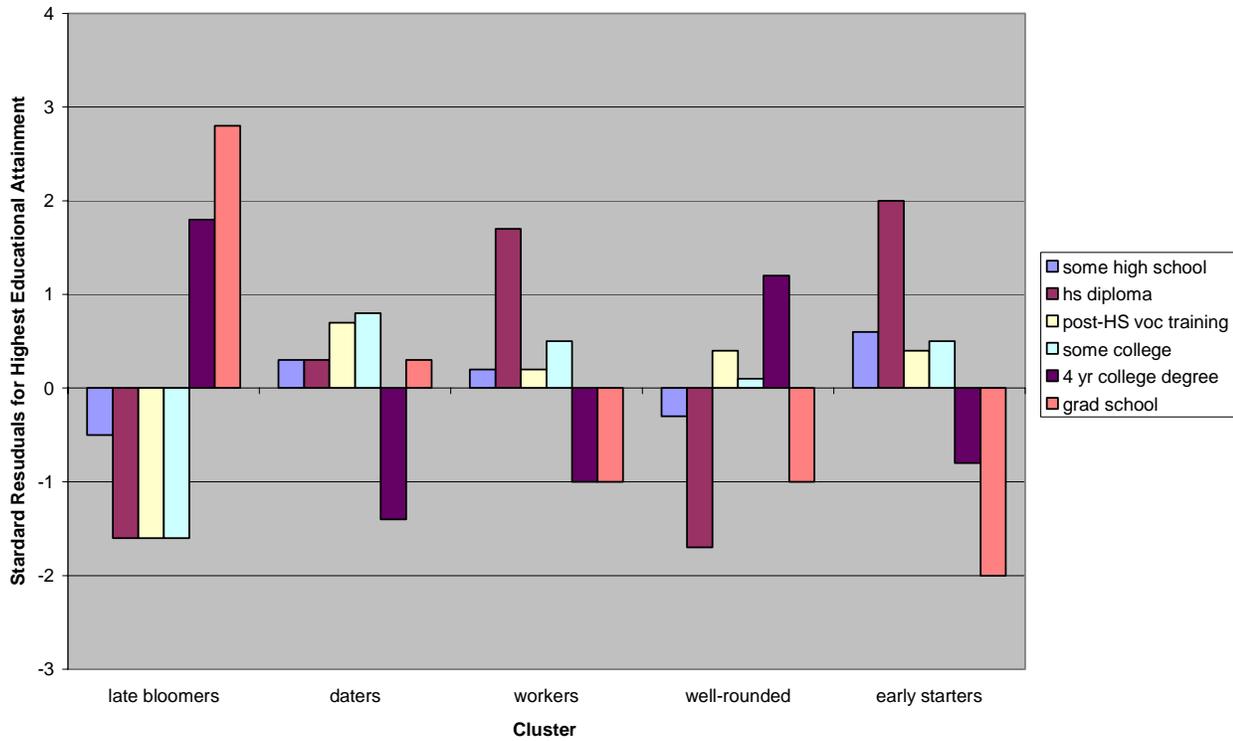
Appendix C

Psychological Variables by 5-Cluster Solution of Five Domains



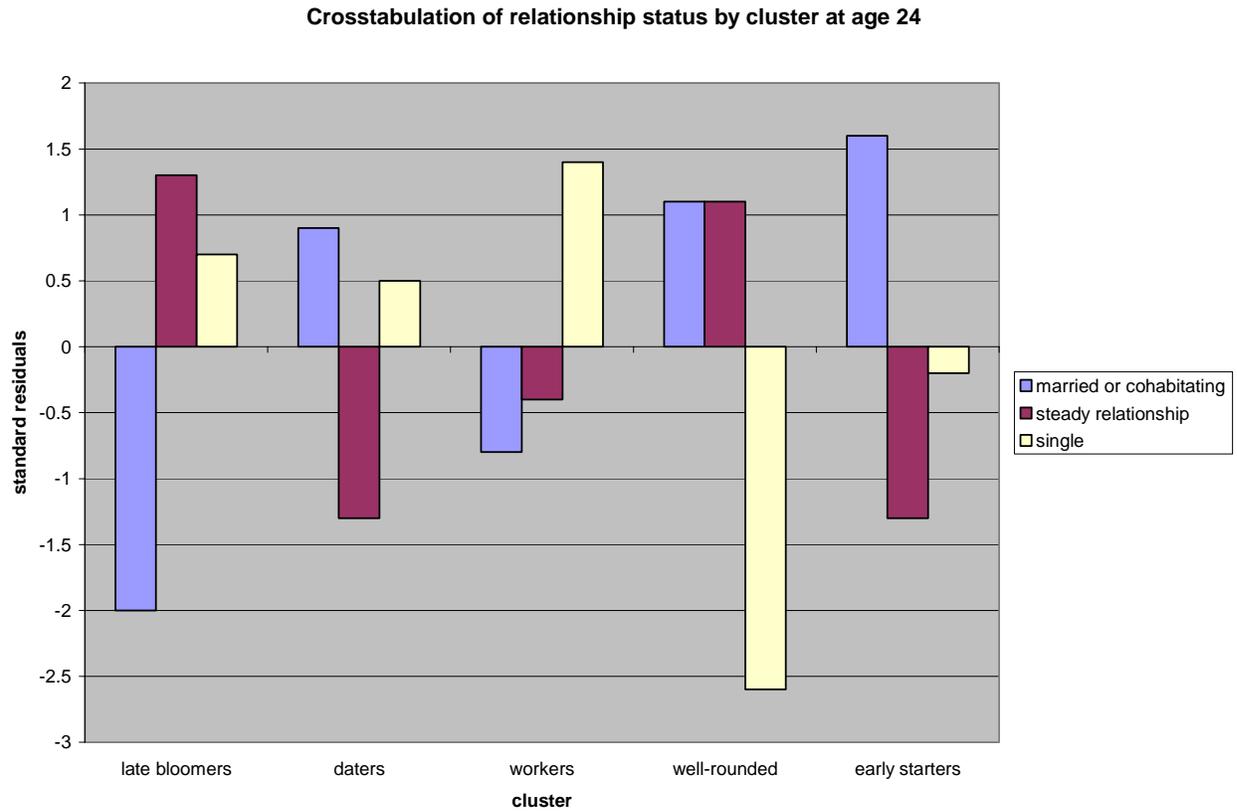
Appendix D

Crosstabulation of Educational Attainment by Cluster at age 24



Appendix E

Crosstabulation of Relationship Status by Cluster at age 24



Appendix F

Crosstabulation of Pregnancy History by Cluster at age 24

