2001

Mutual influences of personality and life experiences during the transition to adulthood

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Mutual influences of personality and life experiences during the transition to adulthood

by

Yumei Sun

A dissertation submitted to the graduate faculty

in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

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2001
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For the Major Program
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INTRODUCTION

The potential for change in personality during the transition from late adolescence to early adulthood is a central issue in developmental research. Does personality continue to develop during and after adolescence, or is it so firmly set by adolescence that it is resistant to change? If change occurs, what are possible mechanisms of change? This study examines these questions using a cohort of rural youth who were interviewed on several occasions from their early adolescent to early adult years.

Earlier Research on Change in Personality

Evidence for Change

There are two traditional approaches to evaluating personality change over time in a sample or population. One involves the estimation of mean level changes and the other relies on Pearson product-moment correlations. Mean level statistics are usually used to assess developmental changes in personality traits at the aggregate or group level. Correlations reflect linear relationships between earlier and later personality. They are used to assess the stability of personality across time. Lack of high stability indicates more change in personality at the individual level of analysis.

Developmental change. Developmental changes in personality traits refer to normative, age-related changes in personality characteristics. They are typically assessed by examining group means across time for specific personality traits. Despite the absence of consistent evidence for developmental changes in personality traits during adulthood (Costa & McCrae, 1988), absolute changes have been observed when individuals experience transition from adolescence to young adulthood. For example, Stevens and Truss (1985) administered the Edwards Personal Preference Survey (EPPS) to two samples of college
alumni, one 12 years and the other 20 years after initial completion of the inventory while in college. The investigators reported: (1) mean increases in both samples for Achievement, Autonomy, and Dominance; (2) consistent mean decreases in Affiliation and Abasement; and (3) no consistent changes in Aggression or the other EPPS scales. Using the Bentler Personality Inventory Scales, Stein, Newcomb, and Bentler (1986) reported significant mean increases in Law Abidance, Congeniality, Diligence, Generosity, Invulnerability, Attractiveness, Leadership, Orderliness, and Self-acceptance from the early teen years to the early twenties in a large and broadly representative school-based sample; but no changes in other personality traits such as ambition and extraversion. Similarly, Helson and Moane (1987) found significant mean changes in personality assessed by the California Psychological Inventory (CPI). From the college years (21) to age 27, their sample increased in self-control, tolerance, psychological mindedness, and femininity and decreased in socialization. Hann, Millsap, and Hartka (1986) also examined personality through both relatively unstable and stable portions of the life span. They found that during the period from late adolescence (age 17 years) to early or middle adulthood (30 to 37 years), there were significant mean level increases on three (dependability, outgoing/aloofness, and warmth/hostility) of six California Q-Sort (Block, 1962) factor-derived composite scores.

More recently, McGue, Bacon, and Lykken (1993) used the Multidimensional Personality Questionnaire (MPQ) to examine the extent to which personality stability and change in early adulthood (from 20 years to 30 years) are associated with either genetic or environmental factors. They reported significant mean decreases in measures of negative emotionality, increases in measures of constraint, but no significant mean changes for measures of positive emotionality.
Although there are some variations among personality measures across different time points, these studies provide considerable support for the idea that several changes occur in personality characteristics during the transition from adolescence to early adulthood. In general, the evidence points to normative age-related decreases in personality traits related to negative emotionality and increases in personality traits related to the demands of adult life. The evidence suggests that, from late adolescence through early adulthood, most people become less emotionally labile, more responsible, and more cautious. They also become more autonomous, experience an increase in self-confidence or self-control, place a higher priority on achievement and social potency, and become more accountable as well as more outgoing in their relationships with others. The direction of these changes indicates the assumption of increasingly positive adult roles and expectations over time.

**Individual change.** In the last section, we reviewed studies that examined average levels of specific personality traits in a population or sample over time. However, absence of change in group means doesn't necessarily indicate that individuals are not changing. Many individual scores on traits may change even if the group mean remains constant over time. Mean level statistics will not detect these individual changes when the mean does not change (Stevens & Truss, 1985). Individual changes in trait scores are typically evaluated using correlation coefficients. High correlations between early and later personality traits indicate a high degree of individual stability over time. That is, when the time 1, time 2 correlation for a particular trait is high, the rank order of scores in the population remains relatively constant. This situation may occur even when the group mean changes, a fact that underscores the distinction between group or developmental change and individual change. A moderate or low correlation on the other hand, indicates there is individual variation in personality change.
over time. A low stability coefficient indicates that the rank ordering in individual personality scores changes significantly over time, such that members of the population are changing relative to one another, even if the group mean remains constant over time.

Most of the studies we discussed earlier also reported retest correlations between personality traits during adolescence and early to middle adulthood. The results show two general trends. First, the stability of personality traits tends to decrease as the time interval between observations increases. This suggests that more changes occur if the study period is longer. Second, different dimensions of personality exhibit different degrees of stability. For example, traits related to extraversion tend to show high stability and traits associated with self-image tend to have low stability (Stein et al., 1986). However, in general, the retest correlations suggest only a modest degree of stability in personality during the transition from late adolescence to early adulthood or from early to middle adulthood. The average retest correlation across multiple traits was around .30 to .50 for several of the studies cited earlier: .51 (Helson & Moan, 1987), .41 (Stevens & Truss, 1985), .32 (Stein et al., 1986), .37 (Haan et al., 1986), and .36 (Carmichael & McGue, 1994). These results suggest that personality undergoes significant changes during the transition into early adulthood or during the early adult years. We are especially interested in individual change that involves asking whether individuals who score highest on one time are also among the highest scores at other point in time. Based on studies we reviewed, we would expect a moderate or low stability in the way respondents' personality scores were ordered from one year to the next.

In addition to the results reviewed above, research evidence also reveals that certain individuals are more likely than others to exhibit change in personality characteristics. Block (1971), for example, found that youth characterized as belated adjusters, those who were
maladjusted during adolescence, became effectively functioning adults whereas anemic extraverts showed the opposite trend. The combined findings for developmental and individual change indicate that the transition to young adulthood may bring with it a major reorganization and consolidation of personality that requires scientific investigation and explanation.

Possible Mechanisms of Change

Several factors likely account for these changes in personality characteristics. According to Clausen (1993), change may be brought about when persons encounter new responsibilities and demands as they assume new roles and relationships. The transition from late adolescence to young adulthood involves enormous change in an individual’s social roles and relationships. After graduating from high school, young adults move into a new and more complex environment, interact with new people, and enter into new social relationships. All of these changing life circumstances introduce new demands and responsibilities that may become significant elements contributing to personality change. Moreover, personality change also may be brought about by significant negative and positive life events that persons experience, such as having broken or improved personal relationships with friends and family members. According to W. I. Thomas, life events may represent a disturbance of habit in which customary behaviors can no longer be maintained, thus resulting in the modification and change of these behaviors. Based on these views, we proposed that a young adult’s post-high school life experiences in the domains of work, school, interpersonal relationships, positive and negative life events, and risky behaviors would lead to changes in personality traits assessed using the MPQ dimensions of negative emotionality, positive emotionality, and constraint. This prediction is consistent with the
social causation hypothesis which suggests that social conditions and processes largely account for variations in individual development (Caspi, 1998; Conger, 1997).

Life experiences during this transitional period, however, are not independent from the individual's earlier personality characteristics, which may partially exist during infancy and which develop throughout childhood and adolescence. An individual’s personal dispositions can lead the person to select situations that are compatible with such dispositions (Caspi et al., 1989). This is consistent with the social selection hypothesis, which proposes that individuals' personality traits largely determine the social events or conditions that they experience (Caspi, 1998; Conger, 1997; Thoits, 1994). Because it is likely that neither the social selection nor social causation hypothesis adequately reflects the true complexities of individual development across adolescence and early adulthood, we combined these two hypotheses. Considered together they suggest that individual personality characteristics will be reciprocally interrelated with the social conditions that individuals experience. That is, early personality dispositions provide a basis for a young adult's reactivity and adaptability to changing environmental events, which in turn may lead to enhancement or deterioration in specific personality characteristics. Theoretical underpinnings for this reciprocal relationship can be found within the investigations of researchers interested in interactionism (Diener, Larsen, & Emerson, 1984; Pervin, 1968) – the idea that there is a bidirectional influence between situations and persons (Emmons, Diener, & Larsen, 1985). From this perspective, individuals create environments that are consistent with their inherent capabilities and potentiality and exposure to these environments reinforces earlier personality traits (Plomin & Bergeman, 1991; Scarr, 1992; Scarr & McCartney, 1983).
The prediction of reciprocity is also consistent with the notion of the cumulation of advantage or disadvantage across time in a reinforcing process between social conditions and personal characteristics. That is, early personality dispositions set in motion processes of social interchange that reinforce or sustain a particular disposition across time and circumstances. Based on this view, we also proposed that personality at late adolescence would influence post high school life experiences, which, in a reciprocal process, would affect later personality traits. The next section considers earlier empirical findings that illustrate this proposed reciprocal process between personality and life experiences during the transition to adulthood.

Reciprocal Relationships between Personality and Life Experience

As noted earlier, life experiences related to work, school, interpersonal relationships, positive and negative life events, and involvement in risky behaviors such as substance use and antisocial activities are expected to influence and be influenced by personality characteristics during the transition to adulthood. These domains of life experience are consistent with developmental theory that describes the psychosocial tasks of young adulthood (Erikson 1950; Havighurst, 1953). Previous research and theory suggests that these life experiences should be related to the continuing development of personality. We consider empirical findings in each of these life domains in turn.

Personality and Instrumental Behaviors Involving Work and Education

Kohn and Schooler (1969) identified two central components of work and education that have pervasive impacts on psychological functioning. The first is education self-direction, which "provides the intellectual flexibility and breadth of perspective that are essential for self-directed values and orientation"(Kohn & Schooler, 1969: 676). The second,
which receives much greater emphasis in their work, is occupational self-direction, as indexed by closeness of supervision, the substantial complexity of work with data, things, and people, and the complexity of the organization of work as a whole. These two components of work and education are associated with social class position. They are also highly proximal to the person, impinging directly on individual behaviors and psychological functioning.

**Personality and work experiences.** According to Adler (1996), work behavior is an ideal “life arena” in which to test personality models, as well as to understand the psychological nature of work. Kohn (1981) notes that the effects of work conditions on personality are a simple process of generalization, “a direct translation of the lessons of the job to outside the job realities” (Kohn, 1981:290). According to this “learning-generalization model”, attitudes, values, and ways of thinking at work are abstracted and generalized to daily life pressures and situations to affect basic attitudes toward the self, values, orientations to other people, and intellectual flexibility. Following this line of reasoning, Kohn and Schooler’s longitudinal analyses of employed men over a 10 year period provided considerable evidence that work experiences have significant impacts on adult personality. Kohn and Schooler (1978) first demonstrated that occupational self-direction has significant positive effects on intellectual flexibility. Since then, research has demonstrated the effects of occupational self-direction on a wide range of psychological constructs, including standards of morality, trustfulness, ideas of conformity, self-deprecation, and anxiety (Slomczynski et al., 1981). Kohn and Schooler’s (1981, 1983) research moved beyond occupational self-direction and showed that the diverse conditions of work which promote occupational self-direction also have positive psychological implications that include increasing intellectual
flexibility. In contrast, factors restricting self-direction and those generating pressure and uncertainty (such as closeness of supervision, being responsible for things that are beyond one's control, and the demandingness of work) have negative psychological consequences. Most important, the work of Kohn and his colleagues has demonstrated the existence of reciprocal relationships between work conditions and psychological functioning. For example, Kohn and Schooler (1983) have shown that workers who are intellectually flexible tend to select substantively complex work; in turn, substantively complex jobs continue to nurture the intellectual flexibility of workers and contribute to the development of autonomy values in adulthood.

In another longitudinal investigation of the reciprocal process between work experience and psychological development, Mortimer, Lorenz, and Kumka (1986) found that adolescent psychological characteristics significantly influence the kinds of occupational experiences which men will have in their early work lives. Work experiences, particularly work autonomy, in turn, influence their psychological attributes (e.g., self-competence) at a later point in time as men pursue their adult occupational careers. These findings demonstrate the mutually supportive dynamics of two processes in life course development: individuals are likely to selectively enter specific work contexts, which, in turn, are likely to shape subsequent behavior. However, these studies have mainly focused on reciprocal relationships between work and personality among men. This study extends previous research by examining the reciprocal influence between work experience and personality traits among both men and women.

Personality and school experiences. According to Kohn and Schooler’s “learning generalization model”, the conditions of work that affect one's personality would apply as
well to the conditions that adolescents and young adults experience in school. Kohn and Schooler thus created a second concept called educational self-direction to represent the use of initiative, thought, and independent judgement in school. They found evidence for significant reciprocal influences between education self-direction and measures of personality characteristics. For example, using a linear structural equation model with cross-sectional data, Miller, Kohn, and Schooler (1985) found that the exercise of self-direction by students in their schoolwork has a positive effect on their intellectual flexibility and that their intellectual flexibility, in turn, has a positive effect on their exercise of self-direction in schoolwork. Miller, Kohn, and Schooler (1986) extended the analyses to assess the relationships between educational self-direction and noncognitive aspects of personality. They found that greater self-direction in schoolwork increased students’ self-directedness of orientation and decreased their sense of distress. Distress, in turn, negatively affected educational self-direction. In general, they found that school experience matters for personality for much the same reasons as does work experience: “people learn from their experiences, and learn most of all from having to cope with complex and demanding experiences” (p.152, Kohn, 1995). However, these studies were not longitudinal; therefore, it is difficult to determine whether school experience affects personality, personality affects school experience, or the two are mutually influenced. The longitudinal design of the present study helps to shed new light on the possible processes involved.

**Personality and Social Relationships**

An important challenge during the transition from late adolescence to early adulthood involves the maintenance or establishment of close and supportive relationships with others. Close relationships can help individuals through life difficulties, promote psychological well-
being, and reduce risk for psychopathology (Robinson & Garber, 1995; Van Aken, van Lieshout, Scholte, & Branje, 1999). These relationships may involve close ties with parents, friends or romantic partners.

**Personality and parental support.** Parental behaviors have been found to play a central role in child and adolescent development, including the development of personality characteristics (Block, 1971; Mortimer et al., 1986; Ge & Conger, in press). One might reasonably expect to find that parental influence would diminish, following the "launching" of children, as the primacy of relations with parents is supplanted by the young adult's acquisition of marital, parental, occupational, and other life involvements. It is also possible, however, that a positive parent-child relationship would be a significant source of support and encouragement to the youth in early adulthood, as they enter new social roles. In fact, some research evidence has supported the proposition that parental support continues to modulate individual differences into adulthood.

For example, Mortimer et al. (1986) found that the father-son relationship is a significant source of psychological development in early adulthood. Using adults' retrospective recall of their relations with their parents, McCrae and Costa (1988) also found that parent-child relations were significantly associated with adult personality traits. In a study based on a twin and sibling design, Vernon, Jang, Harris, and McCarthy (1997) found that sibling differences in personality measures such as autonomy, neuroticism, and conscientiousness were associated with differential parenting behaviors such as parental affection, control, and acceptance-rejection. More recently, Ge and Conger (in press) reported that observed parental behaviors (warmth and hostility) are significant predictors of adolescent personality measured by the MPQ superfactors.
While parental behaviors were found to predict young adult personality traits, individuals’ early personality dispositions may also affect the behavior of parents. Several studies have shown that children’s behavior can affect disciplinary strategies and subsequent interactions with their parents. For example, as part of a longitudinal study, Buss, Block and Block (1980; Buss, 1981) found that parents of highly active children were impatient and hostile with their children and frequently got into power struggles with them. When children became older, they were described by their teachers as aggressive, manipulative, noncompliant, and more likely to push limits and stretch the rules. Similarly, several other studies (e.g., Campbell, Pierce, March, Ewing, & Szumowsky, 1994; Hartup & van Lieshout, 1995) have shown that impulsive and irritable children elicited more negative or hostile behaviors from parents, which, consequently, increased the child’s irritability.

These findings suggest a possible reciprocal relationship between parental behavior and child personality development. That is, characteristics of the child influence parents’ behavior toward them, which, in turn, affects the later development of personality. However, most studies have focused on younger children and, to the best of my knowledge, none of them have examined the reciprocal relationship between parental influence and personality development from adolescents to young adults. This study extends previous research by examining how personality characteristics affect and are affected by parental support during the transition to early adulthood.

Personality and relationships with romantic partners and friends. As part of his psychosocial stages of development, Erikson (1968) proposed that developing a close and supportive relationship with an important other person is a major milestone in early adulthood. He also suggested that this relationship makes a significant contribution to
identity development. He referred to this stage as intimacy vs. isolation, and argued that it is vital that the early adult be capable of forming an intimate relationship, for the alternative is isolation. Sullivan (1953) traced the continuous growth of the capacity for closeness through adulthood, emphasizing the challenges a developing person faces in meeting changing interpersonal needs. For him, the security derived from having satisfying relationships is what holds together a sense of self and acts as a buffer against emotional maladjustment. These perspectives suggest that intimate relationships with romantic partners or close friends play an important role in personality development; however, they have stimulated very little empirical research on personality and close relationships, especially among young adults.

Although very few studies have directly examined the association between personality development and relationship quality with romantic partners or friends, there is some suggestive evidence regarding the link between them. For example, Adam and Archer (1994) have shown that a strong sense of personal identity significantly predicted adolescents’ true and mutual psychological intimacy in relationships. Other personality traits such neuroticism and extraversion have also been found to predict adults’ close relationships in marriage (Kelly & Conley, 1987; Bouchard, Lussier, & Sabourin, 1999; Russell & Wells, 1994). This research evidence suggests that personality traits may predispose people to enter into relationships that are consistent with their personality dispositions. Consistent with the social causation hypothesis, close relationships with significant others may also affect personality development. Although fewer studies have examined the influence of close relationships on changes in personality, which may be because adult personality traits have been found to be very stable after the 30s (McCrae & McCrae, 1990). However, Sampson and Laub (1993) argue that having a supportive spouse may lead to a reduction in persistent
criminal behavior. Pals (1999) also found that experience of identity in marriage predicted young adult's personality change. In addition, Burisk (1991) showed that marital separation can lead to either an increase or a regression in ego development for women, depending on their level of adjustment. Based on this evidence and earlier discussion of our theoretical framework, we proposed that personality traits and relationship quality with friends or romantic partners would affect each other in a dynamic, reciprocal process.

**Personality and Risky Behavior**

Entrance into early adulthood provides young adults with a greater sense of independence. This growing sense of social freedom can lead to experimentation with a variety of risky behaviors, ranging from promiscuous sex to drug and alcohol use. For example, various personality traits have been found to be significantly related to substance use and antisocial behavior, the empirical foci for the present study. In previous research, both higher-order personality factors such as low constraint / less conscientiousness, negative emotionality/neuroticism, extraversion, and psychoticism (e.g., Caspi et al., 1997; Ge and Conger, 1999; Krueger, 1999; Heaven 1996; Farrington, 1986, 1992), as well as lower-order or narrowly defined personality factors such as low control, low social conformity, less traditionalism, danger or sensation seeking, impulsiveness, aggression, hostile attitudes, alienation, and low self-esteem/self-concept have been linked to substance use and antisocial activities (e.g., Caspi et al., 1997; Hawkins, Catalano, & Miller, 1992; Jessor, Van Den Bos, Vanderryn, Costa, & Turbin, 1995; Huba & Bentler, 1982; Stein, Newcomb, & Bentler, 1987).

In general, these studies have found that personality traits may serve either as predisposing factors for involvement in risky behavior or as consequences of substance use
and antisocial behavior. For example, Caspi et al. (1997) found that adolescents who at age 18 were characterized by low scores on traditionalism, harm avoidance, control, and social closeness, and by high scores on alienation and aggression, were significantly more likely to be involved in health-risk behavior at age 21. At the MPQ superfactor level, they found that young adults who are characterized by high negative emotionality and low constraint are predisposed to engage in health-risk behaviors including substance use and delinquent acts. Similarly, Krueger (1999) found that prior negative emotionality and low constraint predicated young adults' later substance dependence and antisocial personality disorder. Moreover, Ge and Conger (1999) found that delinquency and substance use over the adolescent years led to low constraint and high negative emotionality in young adulthood. Although these results indicate that personality traits may predict or be predicted by experiences of substance use and antisocial behavior, few studies (for exceptions see Stein et al., 1987) have examined the possible reciprocal effects of personality traits and risky behavior. The present study adds to previous research by addressing this issue.

**Personality and Life Events**

Young adulthood is typically characterized by many age-graded normative transitional life events (e.g., Baltes, Reese, & Lipsitt, 1980), such as entrance into the labor force, attending college, and changes in close relationships. Non-normative life events (both positive and negative), such as developing an important new friendship, receiving an honor, award or recognition, career change, unemployment, relationship disruption or other crisis-like circumstances, may also be more likely to occur during this period than previously because of young adults' growing independence and experimentation with a variety of life
styles and social situations. These events, disrupting earlier environmental stability, could lead to a redirection in the course of personality development.

Within the life events literature, a substantial amount of research has been conducted to determine the extent to which life events or circumstances are associated with psychological distress or maladjustment. Some studies have been consistent with the social selection hypothesis and found that psychological distress leads to life events (e.g., Dohrenwend, 1973; Dohrenwend & Dohrenwend, 1974; Fergusson & Horwood, 1984; Ormel & Wohlfarth, 1991). Others found support for the social causation hypothesis that life events or life changes lead to depression or psychological distress (e.g., Cohen et al., 1987; DuBois et al., 1992; Sigel & Brown, 1988) and other psychiatric symptoms (Andrews, 1981). Several studies have also examined the reciprocal relationship between life events and psychological conditions. For example, Kaplan and Damphouse (1997) found that high levels of psychological distress at time 1 led to both the establishment and disruption of social relationships at time 2, and to decreases in the likelihood of achievement in school and work. Negative life events at time 1 also showed independent effects on psychological distress at time 2.

Recently, there has been an increase in research on the associations between life events or life changes and personality traits (e.g., Fergusson & Horwood, 1987; Heady & Wearing, 1989, 1991; Swearingen & Cohen, 1985; Hammen, 1992; Magnus, Diener, Fujita, & Pavot, 1993). Most of this research has focused on individual differences that lead to a greater likelihood of experiencing certain life events. For example, using data from a 4-year longitudinal study of young adults, Magnus et al (1993) found that extraversion predisposed individuals to experience more positive life events, whereas neuroticism predisposed people
to experience more negative life events. Similarly, Headey and Wearing (1989) analyzed personality and life events using data from four waves of an Australian panel study. They found that individuals with higher levels of extraversion reported more favorable life events and individuals with higher levels of neuroticism reported more adverse events. In addition, they also found that openness to experience was significantly associated with both positive and negative life events. These findings are consistent with the social selection hypothesis which suggests that personality characteristics lead to the occurrence of life events or life changes. According to the social causation hypothesis, life events or life changes would also lead to personality change. Demo (1992) has shown that major life events, such as divorce or the death of a significant other, often lead to change in a person's identity and self-concept. Using data from a sample of high school students, Youngs, Rathge, Mullis, and Mullis (1990) examined the association between life events and adolescent self-esteem. Their findings indicate that as the number of negative life events increased, the level of self-esteem decreased.

These results indicate that personality traits may affect or be affected by life changes. However, fewer studies have examined a possible reciprocal relationship between personality and life events. The present study addresses these deficits in previous research by examining the reciprocal influence between both positive and negative life events and personality traits.

Summary

In summary, research evidence has indicated significant individual change in personality traits during the transition from late adolescence to young adulthood. Life experiences, particularly those involved in work, school, interpersonal relationships, involvement in risky behaviors and significant life events, are seen as having the potential to
evoke personality change (social causation). These life experiences may also be contingent on the earlier personality dispositions that persons bring to the adolescent-adult transition (social selection). Based on this view, we proposed that late adolescent personality would influence the course of early adult life experiences which, in turn, would affect the development of early adult personality. Caspi et al. (1989) call this process 'cumulative continuity', whereby behavior patterns are sustained across time by the progressive accumulation of their own consequences. The longitudinal design of this study enables an analysis that would be impossible with only cross-sectional data. It allows examination of the effects of early personality on life experiences as well as the implications of these life experiences for later personality.

Methodological Limitations in Previous Research

In evaluating the theoretical model, we were concerned with specific methodological issues not adequately addressed in earlier research. According to Caspi (1998), it is important to use personality data from multiple sources (e.g., parent, spouse/partner, peer and self-reports) to assess personality change because they can reduce the likelihood that estimates of change will be contaminated by method variance (Brody, 1990) and separate correlated method variance from true change scores (Patterson, 1993). Moreover, multisource longitudinal assessments can also be used to distinguish change in self-perception from behavioral change as it registers on significant others (Caspi, 1998). Therefore, in the present study we use parents' report of targets' personality at late adolescence and others' report (partner, boyfriend/girlfriend, or peer) of targets' personality at young adulthood. Since our data also provide self-report of personality both in adolescence (MPQ long-form) and in
young adulthood (MPQ short-form), we can assess whether life experiences are related to personality traits in the same fashion regardless of who provides the relevant data.

The Present Study

Based on the theory and research evidence reviewed, the present study investigated the reciprocal relationship between personality traits measured by the MPQ and young adult life experiences in work, school, interpersonal relationships, risky behaviors, and life events. Figure 1 provides a graphic illustration of the theoretical model. We hypothesized that personality characteristics at late adolescence would help shape life experiences during early adulthood which, in turn, were expected to lead to further growth, stability, or regression on these personality traits.

The personality measures used in the present study involve three superfactors derived from the MPQ: constraint, negative emotionality and positive emotionality. Positive emotionality is similar to the Extraversion dimension of the Eysenck Personality Questionnaire (EPQ, Eysenck & Eysenck, 1975) and the Person-Orientation superfactor of the California Psychological Inventory (CPI, Gough, 1975). Higher scores on positive emotionality result from high scores on the MPQ scales labeled well being, social potency, achievement, and social closeness and reflect a tendency to be actively and pleasurably engaged with one's social and work environments. Negative emotionality relates to the ubiquitous Neuroticism dimension (the MPQ’s stress reaction scale is strongly correlated with Neuroticism on the EPQ) combined with alienation and aggression. Individuals high on this dimension have a low general threshold for the experience of negative emotions such as fear, anxiety, and anger and tend to break down under stress (Tellegen Lykken, Bouchard, Wilcox, Segal, & Rich, 1988). The constraint superfactor derives from these subscales:
Figure 1. The Conceptual Model
harm avoidance, control, and traditionalism. Individuals high on this factor tend to endorse social norms, act in a cautious and restrained manner, and avoid thrills. The constraint factor corresponds closely to the conscientiousness domain of the NEO (Costa & McCrae, 1985).

We proposed that individuals with high levels of negative emotionality and low levels of positive emotionality and constraint at late adolescence would be more likely to have stressful work and school experiences, have poor relationship quality with their parents and friends or romantic partners, have fewer positive and more negative life events, and engage more in substance use and antisocial behavior. We reasoned that individuals with these personality characteristics tend to focus on their negative experiences and make pessimistic inferences that reduce their effective problem solving skills and inhibit their ability to achieve. We also predicted that these negative life experiences, in turn, would increase their negative emotionality and decrease their positive emotionality and constraint at a later point in time. In contrast, we predicted that individuals with low levels of negative emotionality and high levels of positive emotionality and constraint in late adolescence would have more positive or successful work and school experiences, have higher levels of relationship quality with their parents and friends or partners, have less involvement with substance use and antisocial activities, and have more positive life events and fewer negative life events. We reasoned that individuals with these characteristics are more likely to be satisfied, self-secure, and calm, and to focus less on, and be more resilient in response to, life’s daily frustrations and demands. Consistent with our reciprocal hypothesis, we predicted that positive life experiences would be associated with increased positive emotionality and constraint during early adulthood.
METHOD

Sample and Procedures

The data come from the Family Transitions Project. The Transitions Project uses a combined sample of participants from two earlier studies, the Iowa Youth and Families Project (IYFP) and the Iowa Single Parent Project (ISPP). The IYFP is a panel study that began in 1989. It involves 451 families, all containing two parents, a target adolescent (a seventh grader), and a sibling within 4 years of age of the target child at study initiation.

The IYFP sample was recruited through the cohort of all 7th grade students, male and female, who were enrolled in public or private schools during the winter and spring of 1989 and who lived in eight counties in North Central Iowa. This rural sample was strongly affected by the economic downturn in agriculture of the 1980s. Seventy-eight percent of the eligible families agreed to participate in the study (see Lorenz & Melby, 1994, for additional details).

The ISPP was initiated 2 years after the IYFP began. The ISPP is a panel study of 207 mother-headed households containing target adolescents, one-half of whom were in the same grade as target youth in the IYFP in 1991. The sample was generated through lists of students provided by schools. The lists identified the name of each student’s parent. Telephone calls were made to residences where the parent’s name suggested the single parent was female. Mothers were screened according to the criteria that they had divorced within the past 2 years, that their former spouse was the biological parent of the target child, and that the target child had a sibling within 3 years of his or her age. The study site centered around the same counties as in the IYFP, but was expanded to include enough counties to produce the needed sample meeting the study criteria; 99% of eligible families agreed to participate (Simons,
In 1994, the ISPP target adolescents who matched the IYFP targets on grade level in 1991 were combined with the IYFP target youth into a single cohort of adolescents for the present study, now called the Family Transitions Project. The combined cohort of adolescents can be considered a community epidemiological sample that represents a broad background of socialization experiences for the youth in the study. The target youth averaged 17.5 years of age in 1994. The present analyses were based on data from 1994, 1995, 1997 and 1999, spanning the years from late adolescence (twelfth grade) to early adulthood (five years post high school).

Participants in the Family Transitions Project were visited twice in 1994 at home. During the first visit, each family member (target, mother, father – if present) completed a set of questionnaires focusing on family processes, individual family member characteristics and economic circumstances. On average, it took approximately 2 hours to complete the first visit. Between the first and second visits, family members completed questionnaires left with them by the first interviewer. These questionnaires dealt with information concerning the parents’ parents; beliefs about parenting, work, and earnings; and plans for the future. Each family member was instructed to place his or her completed questionnaire in an envelope, seal it, and give it to the interviewer at the time of the second visit.

During the second visit, which usually occurred within 2 weeks of the first, the family completed additional questionnaires and was videotaped while engaging in several different structured interaction tasks. These observational data from 1994 are not used in the present analyses; thus we do not consider them further here, however, in 1997, 1999, adolescents in the study families, now young adults, completed a similar battery of questionnaires and were
videotaped with their romantic partners or friends. Other members of the families of origin
did not participate in these in-person interviews and video-tasks in 1997, 1999.

For the 1997 1999 videotaped discussion tasks, target and partner (spouse, romantic
partner, or a close friend) were given a set of questions on cards that the trained interviewer
 instructed them to read and discuss. The interviewer then went out of earshot of the
discussion and did not return until the time allotted for the task was up. The tasks were
designed to stimulate social interactions in order to obtain information regarding the social
skills and emotional affect exhibited in the relationship between both parties.

The first task involved a young adult-romantic partner or friend discussion that lasted
25 minutes. Young adult and spouse, significant others, or friends were asked how the pairs
spend time together, similarities and differences in their goals, and relationships with each
others' families. The second task involved a young adult-romantic partner or friend problem
solving task that lasted 15 minutes. The two people discussed and tried to resolve problems
regarding 2 of 28 possible topics selected for them based on the questionnaires they
completed earlier. Topics included future plans, time use, sexual behavior, and activities with
friends. In 1997, there were 122 spouses/partners, 124 boy/friends, and 243 friends. In 1999,
there were 252 spouses/partners, 52 boy/girlfriends, and 140 friends.

Trained observers coded the videotapes using a global rating system assessing
behavioral exchanges based on a 9-point scale. The system taps into nonverbal and verbal
behaviors. Each task was randomly assigned to an independent observer for coding. Each
observer underwent approximately 200 hours of extensive training and was required to pass a
battery of written and viewing tests before coding the tapes. The observers who coded
interactions between the early adult romantic partners were different than those who coded interactions in the families of origin.

Measures

Personality

Measures of personality were assessed in 1994 when the targets were high school seniors and again in 1999 when the targets were young adults. For the initial self-report measure of personality, we used the 300 item Multidimensional Personality Questionnaire (Tellegen, 1982) on a scale of 1 (true) and 2 (false). In the analyses, we coded 2 into 0. Late adolescent personality was also assessed using parents' reports on a short version of the MPQ, which included the 10 subscales for the self-report measure, each of which has three items. The response categories are from 1 (lowest 5% compared to other of his/her age or sex) to 5 (highest 5% compared to other of his/her age or sex). In 1999, self-reports and other persons' (spouse/partner, boy/girl friend, friend) reports of the short version of the MPQ were used to assess young adult personality. The 1999 MPQ short version personality measures are slightly altered with response categories range from 1 (I am not at all like this trait) to 5 (I am extremely high on this trait). Following the self and parent report measure in 1994, the 1999 self and other person report MPQ measures also included the 10 subscales, each of which has three items (except control). One item in the control scale was not correlated with the other two items. With that item in the scale, the reliability was .26 for self report and .34 for other person report; therefore, we removed that item and the reliability for control was up to .51 for self-report and .63 for other report (see Table 1).

There are several reasons for using the MPQ. First, it was developed and standardized with nonclinical populations. Second, it yields a comprehensive profile of human
Table 1. MPQ Scale Descriptions

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<td>#. of items</td>
<td>α</td>
<td>#. of items</td>
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<td>.63</td>
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<td>.87</td>
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<td>.84</td>
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<tr>
<td>Constraint</td>
<td>80</td>
<td>.81</td>
<td>9</td>
<td>.83</td>
<td>8</td>
</tr>
</tbody>
</table>

- Is optimistic; tends to experience positive emotions; is motivated and sociable
- Prone to be stressed; tends to experience negative emotion; antagonistic
- Is safety-conscious, self-restrained; is conventional
psychological differences among multiple personality dimensions. Third, its reliability and validity are well-established (Caspi & Silva, 1995; McGue, Bacon, & Lyken, 1993; Tellegen et al., 1988).

The MPQ was designed to assess a broad range of individual differences in affective and behavioral styles. This instrument provides a comprehensive profile of scores on three general superfactors of personality: constraint, negative emotionality, and positive emotionality, which are defined by ten scales (scale names and descriptions of higher scores on each scale are presented in Table 1). Positive emotionality is associated with the achievement, social potency, well-being, and social closeness scales. According to Tellegen and Waller (1993), individuals with high scores on positive emotionality have a tendency to experience positive emotions, to be efficacious, and to be actively involved in their social environments.

Negative Emotionality is a combination of the aggression, alienation, and stress reaction scales. Individuals with high scores on this dimension have a tendency to experience negative emotions such as fear, anxiety, and anger, and tend to be involved in antagonistic interpersonal relationships either as the victim or the victimizer. They also tend to describe themselves as often stressed and harassed. Constraint is primarily associated with the traditionalism, harm avoidance, and control scales. Individuals high on this factor are reserved and are reluctant to be expansive and intrusive. They tend to endorse social norms, adhere to traditional values, act in a cautious and restrained manner, and avoid thrills. These three superfactors of personality are also internally consistent. In this study, for example, the alphas for self-reports of the long-form MPQ scales in 1994 were .89 for positive emotionality, .78 for negative emotionality, .81 for constraint (Table 1). The alphas for the
parent reports of the short-form MPQ in 1994 were .87 for positive emotionality, .84 for negative emotionality and .83 for constraint. Self reports and other (spouse/partner, boy/girlfriend or friend) reports of the short-form MPQ in 1999 also provided good or reasonably reliability coefficients for the three superfactors: .82 (self-report) and .83 (other report) for positive emotionality, .65 (self-report) and .72 (other report) for negative emotionality, and .63 (self-report) and .66 (other report) for constraints.

Most longitudinal studies of personality have used a single source of data to construct the measure of personality. Thus, associations reported between early personality dispositions and later personality traits may be, at least in part, a function of shared methods variance (Baucom, Steven, & Duhe, 1989; Brody, 1990; Lorenz, Conger, Simons, Whitbeck, & Elder, 1991). To avoid this problem, parent reports were used to construct a measure of targets’ personality at late adolescence, whereas other person (e.g., partner, boyfriend/girlfriend, or friend) reports were used to form measures of personality at young adulthood.

**Work Experience**

Work experience was assessed in 1997 when the target youth were 22 years of age. The measure tapped many aspects of work experiences that have been shown to play an important role in the development of personality. For example, the items asking respondents to indicate whether they felt relaxed and confident in their work, whether they had a flexible work schedule, and whether they had control over work tasks reflect Kohn and Schooler’s (1981, 1983) concept of occupational self-direction and Mortimer et al. (1986)’s concept of work autonomy. The work experience measure also included other items asking respondents whether they felt tense and worried at work, felt secure in their job, enjoyed the people they
work with, and how well they did in their work. These items also captured job experiences that have been found to be related to personality characteristics (e.g., Van de Berg and Feij, 1993). Targets responded to these ten items on a scale of 1 (strongly agree) to 5 (strongly disagree). The alpha coefficient for these items was .75. Thus the items were summed to form an index of work experiences.

**School Experience**

School experience was assessed in 1997 for those targets who attended college. They were measured by targets' self reports on how well they keep up with their school work (on a 5 point scale with 1 = very behind to 5 = ahead of most classmates) and their grade point average (GPA). These two items were standardized and summed to create a single scale measuring school experiences. Higher scores indicate higher positive school experiences.

**Relationships with Partners or Friends**

Measures accessing romantic relationships with spouses/partners, boy/girlfriends, or friends were based on both self and observers’ reports in 1997. Self-reports of relationship quality included two items asking targets to indicate how happy (on a 6 point scale) and satisfied (on a 5 point scale) they were with their relationships with spouses/partners, boy/girlfriends, or friends. The relationship measures also included observers’ ratings (on a 9 point scale of low to high) of overall relationship quality between a young adult and his/her spouse, boyfriend/girlfriend, or friend across the two tasks in 1997. A high score indicated the observers’ impression that the relationship was warm, open, happy and emotionally satisfying, and a low score indicated an unhappy, emotionally unsatisfying, or brittle relationship (Melby et. al., 1993). The items for both self and observer reports (r = .63) were standardized and summed to create a composite scale.
Parental Support

Parental behavior was assessed in 1997 using targets’ self-reports of their parents’ behavior toward them. The scale included ten items on a 7-point scale that asked respondents to indicate how often their parents listened carefully to their point of view, asked them for their opinions, showed really caring behavior, acted loving and affectionate toward them, appreciated them, their ideas or things they do, helped do something that was important, had a good laugh with them about something that was funny, and acted supportive and understanding toward them. Scores for some items were recoded so that higher scores reflect higher levels of parental support. The alpha coefficient for all items was .93.

Risky Behaviors

Risky behaviors included substance use and antisocial behavior. Substance use (1997) was measured by asking the targets to indicate (1 = never to 6 = every day) how often during the past 30 days they smoked or chewed tobacco; drank beer, wine or wine coolers; drank hard liquor such as bourbon, vodka, whisky or gin; had 3 or 4 drinks in a row; had 5 or more drinks in a row; smoked marijuana; used some other illegal drug; got drunk; got ‘high’ on marijuana; got ‘high’ on some other illegal drug; used prescription drugs for fun or to get ‘high’ without a doctor’s prescription; and used gasoline, glue, or other inhalants to get high. The alpha coefficient for the items was .78. Antisocial behavior was measured (1997) by asking the targets to indicate how many times they stole money or took something that did not belong to them, beat up or fought with someone, got picked up by the police, purposively damaged or destroyed property that did not belong to them, attacked or threatened to attack someone with weapon, used a weapon, force, or strong arm methods to get money or something, drove a car recklessly, drank and drove, cheated at school or other places, told
ties to people, sold illegal drugs, sold stolen goods, wrote bad checks, used someone else's credit card without permission, or spent time in jail for violating the law.

**Negative Life Events**

Negative life events were assessed in 1997. Young adult stressful life experience were evaluated using items primarily from the PERI (Dohrenwend et al., 1978). Although checklists have been criticized for tapping only a thin slice of the stressors in an individual's life (Coyne & Downey, 1991; Monroe & McQuaid, 1994), they do capture important changes that require major behavioral adjustments. Therefore, life event checklists remain the dominant method of investigation for researchers who believe that the undesirability of events is the most important issue and that stress accumulation has a generic effect separate from content differences among events (Turner & Wheaton, 1997).

In the present study, targets' self reports of the occurrence of 35 events that happened to targets, targets' family, or friends over the past 12 months (1 = yes, 0 = no) were summed to form an index of negative life events. The events included items such as the breakup of a steady, romantic relationship, divorce or separation from a spouse, breakup of a close friendship, a serious illness or injury, victimization in a violent crime, having a suspended driver's license, suing or being sued by someone, and having trouble with the police or the law.

**Positive Life Events**

According to Swearingen and Cohen (1985, also see Zautra & Reich, 1983), it is also important to measure positive life events because they have a distinctly different impact from negative events. Therefore, we constructed a positive life event checklist to capture such life changes. In 1997, the target youth indicated positive things that happened to them in the past
12 months (1 = yes, 0 = no), including having developed a new important friendship, having improved personal relationships with their family members, having good things happen to their close friends and family members, having received any kind of honor, award or recognition, and having achieved an important personal goal. The items were summed to form an index of positive life events.

**Control Variables**

Control variables assessed in 1994 include family income, parental education, and gender of targets. These variables were included in the analyses to assure that other background characteristics wouldn’t account for the hypothesized causal processes.
RESULTS

Stability Analyses

As the first step in our analyses, we investigated individual differences in the stability of personality. As mentioned earlier, the correlation coefficients between personality traits at time 1 and time 2 can be used to assess relative stability in personality. However, the personality instruments are not perfectly reliable; therefore uncorrected stability coefficients tend to underestimate personality stability (Costa & McCrae, 1997). To provide a more accurate estimate of stability, the correlations were corrected for attenuation using multiple indicators of personality measures. According to Bentler (1987, 1989) and Joreskog and Sorbon (1986), when using multiple indicators of a given personality trait obtained on at least two occasions of measurement, we can fit a latent model to the data using techniques for covariance structure analysis. Stability coefficients can be estimated using the correlations between the latent constructs representing the personality attribute at each time of measurement. Taking self-report of well-being as an example, we used three indicators for the construct to evaluate the stability coefficients. Since at time 1 we have only the measures of the long form of well-being consisting of 11 items, we randomly assigned these items into three indicators. At time 2, the well-being scale contains only three items each of which was used as an indicator of well-being. The error terms of each indicator across time are correlated if they are significant. The model fits the data well ($\chi^2 = 5.24$ with 8 degrees of freedom) and the loadings (standardized coefficients) of well-being are significant, ranging from .74 to .69. For well-being reported by other persons, the short version of the MPQ at both time 1 and time 2 were used. That is, well-being at time 1 and time 2 both have three items each of which was used as an indicator.
It is important to keep in mind that the stability coefficients presented here are estimates of "true" scores across time. Correlations that have been corrected for unreliability and measurement error are always higher than the raw or unadjusted cross-time correlations. For measures with relatively low reliability, the differences between the raw cross-time correlations and the stability estimates can be substantial.

Table 2 presents observed correlations and stability coefficients between the MPQ personality traits (superfactor and subscale scores) over a 5-year interval for all subjects. Stability coefficients are derived from the measurement models. As expected, the stability coefficients when corrected for attenuation are higher than the raw correlations in all cases for both self and other person reports. Also, the stability coefficients for self-report of 10 primary traits of MPQ personality measures over the two time points generally show moderate to low individual differences in stability, ranging from .26 for alienation to .64 for social potency, with a median value of .37. These results indicate personality changes across the transition years with more change in some traits, such as alienation and traditionalism, and less change in others, such as social potency and social closeness.

At the superfactor level, the stability coefficients for self-report positive emotionality and constraint between time 1 and time 2 are .59 and .65, respectively, indicating moderate stability (.40 ≤ r ≤ .70). Because the loadings of stress reaction and aggression on the negative emotionality latent construct at time 2 are very low and the model using a latent construct for negative emotionality did not fit the data well, we did not report a stability coefficient for self-report negative emotionality. The raw correlation between negative emotionality at time 1 and time 2 is relatively low (.19), which may largely result from the low correlation between the time 1 and time 2 alienation measures. Since alienation has good
Table 2. Correlations and Stability Coefficients for the Latent Personality Variables

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Note: ** p < .01.
reliabilities at the two time points and the model using multiple indicators for alienation fits the data very well ($\chi^2 = 5.24$ with 8 degree freedom), the low stability coefficients after correction for attenuation may reflect true individual change in alienation. In some other studies involving the MPQ (e.g., McGue et al., 1993), alienation also has the lowest stability coefficients among all the primary traits, although it is higher than our results. The low stability of alienation may be consistent with Conley’s (1984) contention that self-opinion is less stable than other personality measures.

Although our personality measures in 1999 are slightly different than those used in 1994 (see Appendix), the stability coefficients for most self-report personality measures (except alienation and negative emotionality) in this study are generally comparable with those of studies with similar-aged participants and similar test-retest intervals (e.g., Bachman, O’Malley, & Johnson, 1978; Mortimer, Finch, & Kumka, 1982; Stein et al. 1986, see Table 3). However, we would expect slightly higher stability coefficients if the exact same measures of personality across time had been used. Also note that Table 3 did not report corrected stability coefficients for personality traits because not all the studies reported corrected stability coefficients and the method of computing the corrected stabilities are different.

Previous research also suggests the possibility that self-reported personality may inflate personality stability. Self-reported personality may depend on one’s self-image, which, in turn may be more stable than the actual personality (Costa & McGrae 1997; Finn, 1986). To avoid this positive bias, we also used parents’ report of targets’ early personality traits and spouse/partner, boy/girlfriend or friends’ report of targets’ later personality. In general, results from table 2 show that different reporters from time 1 to time 2 produce
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<tr>
<td></td>
<td>BPI (E)</td>
<td></td>
<td>4</td>
<td>18-21</td>
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<td><strong>.27-.55</strong></td>
</tr>
<tr>
<td></td>
<td>BPI (other scales)</td>
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<td>BPI (E)</td>
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<td>8</td>
<td>14-27</td>
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<td><strong>.40-.71</strong></td>
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<td>BPI (other scales)</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Watson and Walker (1996)</td>
<td>PANAS-general (NE)</td>
<td>6(mean)</td>
<td>19(mean)</td>
<td>M,F</td>
<td>237</td>
<td><strong>.42-.43</strong></td>
</tr>
<tr>
<td></td>
<td>PANAS-year(NE)</td>
<td></td>
<td>7(mean)</td>
<td>18(mean)</td>
<td>M,F</td>
<td>99</td>
<td><strong>.36-.46</strong></td>
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</tbody>
</table>

Note: 16PF – Sixteen Personality Factor Questionnaire, BPI – Bentler Personality Inventory, PANAS – Positive and Negative Affect Schedule, N = Neuroticism, E = Extraversion O= Openness to Experience.
relatively lower stability than do self-reports. For example, other's report of well-being, achievement, social potency, social closeness, stress reaction, aggression, harm avoidance and the higher order factors (positive emotionality and constraint) has a lower stability coefficient than self-report. However, in several instances, other report produces even higher stability coefficients (e.g. alienation, control, and traditionalism) than self-reports.

Interestingly, other report of stress reaction produces the lowest stability coefficient (.26) among all the other report personality traits and self-report of stress reaction produces a relatively high stability coefficient among self-reported personality traits. In another case, self-report of alienation produces the lowest stability coefficient among self-report personality traits, but other report of alienation produce a relatively high stability coefficient. Since there are few studies of adolescent and early adult personality that involve data from both self report and other report as our study does, it is hard to judge whether self-reports, parents' reports, spouses' reports or friends' reports produce the most valid results.

Some studies of other report of adult personality show no differences between self-reports and other person reports. For example, Costa and McCrae (1992) found that the seven-year retest correlations for the big five factors in single peer ratings of adults ranged from .63 to .81. They (1988) also found that the six-year retest correlations for spouse ratings on the five factors ranged from .77 to .80. These high retest correlations exist not only because studies of adult personality involving the "Big Five NEO" by Costa and McCrae tend to find higher stability coefficients than other studies (Ardelt, 1998), but also because it is possible that these correlations represent a fixed image of the target in the rater's mind, just as stability in self-reports might be attributed to a crystallized self-concept (McCrae & Costa, 1982). The stability coefficients in this study using different sets of reporters at different time
periods would be unaffected by such fixed images, so we expected that the stability
coefficients would be lower than those using the same reporter over time. Considered all
together, the parent reports and other person reports of personality measures generally
produce reasonable stability coefficients, ranging from .50 for traditionalism to .26 for stress
reaction.

In summary, regardless of who provides the personality information, results in table 2
indicate a moderate to low stability between personality traits over a 5-year interval. We
found moderate individual differences in stability among positive emotionality (.59 for self-
report and .39 for other report) and constraint (.65 for self-report and .47 for other report) and
a lower stability for negative emotionality (.38 for other report). This indicates that time 1
personality measures account for less than half the variance in time 2 measures, suggesting as
much change as stability. Therefore we conclude that personality continues to develop and
evolve not only during the adolescent years, but also through the early adult years. This
notion is also consistent with Hann et al’s (1986) conclusion that the greatest shift in
personality “occurs, not during adolescence, but at its end when most people make the
profound role shifts entailed by entry into full-time work and marriage” (p.225). Next, we
examined the degree to which life experiences during the transition to adulthood account for
these personality changes.

Life Experiences and Personality Changes

The Amos software package (Arbuckle, 1997) was used to generate a series of
structural equation models. We evaluated various life experiences separately in estimating
their relationships with each of the three MPQ superfactors (Constraint, Positive
Emotionality, and Negative Emotionality) reported by different reporters. Each of the
superfactors (except negative emotionality) was used as a latent construct with its subscales as their indicators. For example, positive emotionality was a latent construct with well-being, achievement, social potency, and social closeness as its indicators. We then ran a series of separate analyses to examine the associations between each MPQ superfactor and each domain of life experience as illustrated in Figure 1. In most cases (except stress reaction and alienation with delinquency and substance use), results of the models with control variables did not change the pattern and the significance of paths of interest and the models fit the data much better than the models with control variables; therefore, we did not include the control variables in the final analyses. Tables 4 through 8 provide the results for the associations between each domain of life experience and each personality factor. The sets of structural coefficients (standardized regression coefficients) in the tables indicate the degree of association between each predictor and response variable as illustrated in Figure 1. In addition, we also report the loadings for the latent variables and the model fit indices in the tables. For the models presented in the tables, all the loadings of the latent constructs are statistically significant and most models fit the data reasonably well.

**Positive Emotionality: Self-report and Other Report**

Table 4 provides the results for the associations between each domain of life experience and positive emotionality reported by self and others (parents, spouses/partners, boy/girlfriends, or friends). For self report of the positive emotionality construct, we found that positive emotionality at late adolescence was a strongly significant predictor of positive emotionality in early adulthood. The standardized coefficients across each domain of life experience range from .60 for close relationship and risky behavior to .55 for work. These coefficients indicate a substantial (but moderate) degree of individual continuity in positive
Table 4. Life Experiences and Both Self-report and Other Report (in parentheses) of Positive Emotionality Construct

<table>
<thead>
<tr>
<th>Positive Emotionality (PS.)</th>
<th>Work</th>
<th>School</th>
<th>Close Relationship</th>
<th>Parental Support</th>
<th>Negative Life Events</th>
<th>Positive Life Events</th>
<th>Antisocial behavior</th>
<th>Substance Use</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Self report (Other report)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Early PS. → Later PS.</td>
<td>.55** (.37**)</td>
<td>.58** (.22**)</td>
<td>.60** (.38**)</td>
<td>.57** (.41**)</td>
<td>.59** (.40**)</td>
<td>.58** (.38**)</td>
<td>.60** (.42**)</td>
<td>.60** (.42**)</td>
</tr>
<tr>
<td>Early PS. → Young Adult Life Exp.</td>
<td>.25** (.27**)</td>
<td>.10 (.25**)</td>
<td>.16** (.17**)</td>
<td>.21** (.19**)</td>
<td>.03 (-.09)</td>
<td>.33** (.22**)</td>
<td>.01 (-.15**)</td>
<td>.07 (-.13**)</td>
</tr>
<tr>
<td>Young Adult Life Exp. → Later PS.</td>
<td>.13** (.13**)</td>
<td>-.01 (.14**)</td>
<td>.05 (.12**)</td>
<td>.10 (+.01)</td>
<td>.01 (-.05)</td>
<td>.06 (.15**)</td>
<td>-.08 (.08)</td>
<td>-.02 (.06)</td>
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</tbody>
</table>

**Fit indices**

<table>
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<tr>
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<th>20.8/15</th>
<th>8.1/15</th>
<th>32.2/15</th>
<th>17.10/15</th>
<th>21.6/15</th>
<th>18.0/15</th>
<th>29.9/15</th>
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<tbody>
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<td>Chi-square/df</td>
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<td>(35.8/19)</td>
<td>(23.3/19)</td>
<td>(24.6/19)</td>
<td>(33.4/19)</td>
<td>(26.2/19)</td>
<td>(24.4/19)</td>
<td>(40.4/19)</td>
</tr>
<tr>
<td>p-value</td>
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<td>.14 (.01)</td>
<td>.92 (.22)</td>
<td>.01 (.17)</td>
<td>.31 (.02)</td>
<td>.12 (.12)</td>
<td>.26 (.18)</td>
<td>.01 (.01)</td>
</tr>
<tr>
<td>GFI</td>
<td>.98 (.99)</td>
<td>.98 (.97)</td>
<td>1.00 (.99)</td>
<td>.98 (.99)</td>
<td>.99 (.98)</td>
<td>.99 (.99)</td>
<td>.99 (.99)</td>
<td>.98 (.98)</td>
</tr>
<tr>
<td>AGFI</td>
<td>.93 (.97)</td>
<td>.95 (.93)</td>
<td>.99 (.97)</td>
<td>.95 (.97)</td>
<td>.97 (.96)</td>
<td>.97 (.97)</td>
<td>.97 (.97)</td>
<td>.95 (.95)</td>
</tr>
<tr>
<td>RMSEA</td>
<td>.06 (.00)</td>
<td>.04 (.06)</td>
<td>.00 (.02)</td>
<td>.05 (.03)</td>
<td>.02 (.04)</td>
<td>.03 (.03)</td>
<td>.02 (.03)</td>
<td>.05 (.05)</td>
</tr>
</tbody>
</table>

**p<.05 (two-tailed test)**  **p<.05 (one-tailed test). PS. Represents positive emotionality construct.**
Table 4. continued.

<table>
<thead>
<tr>
<th>Positive Emotionality (PS.)</th>
<th>Work</th>
<th>School</th>
<th>Close Relationship</th>
<th>Parental Support</th>
<th>Negative life Events</th>
<th>Positive Life Events</th>
<th>Antisocial behavior</th>
<th>Substance Use</th>
</tr>
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<tbody>
<tr>
<td><strong>Loadings</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T1 Well-being</td>
<td>.60 (.86)</td>
<td>.48 (.77)</td>
<td>.51 (.88)</td>
<td>.52 (.86)</td>
<td>.51 (.87)</td>
<td>.51 (.86)</td>
<td>.52 (.87)</td>
<td>.52 (.83)</td>
</tr>
<tr>
<td>T1 Social Potency</td>
<td>.54 (.76)</td>
<td>.53 (.80)</td>
<td>.54 (.77)</td>
<td>.54 (.78)</td>
<td>.54 (.78)</td>
<td>.58 (.79)</td>
<td>.53 (.78)</td>
<td>.53 (.80)</td>
</tr>
<tr>
<td>T1 Achievement</td>
<td>.48 (.51)</td>
<td>.54 (.45)</td>
<td>.53 (.45)</td>
<td>.50 (.46)</td>
<td>.42 (.46)</td>
<td>.50 (.46)</td>
<td>.53 (.46)</td>
<td>.54 (.46)</td>
</tr>
<tr>
<td>T1 Social Closeness</td>
<td>.39 (.48)</td>
<td>.27 (.37)</td>
<td>.27 (.45)</td>
<td>.34 (.45)</td>
<td>.28 (.45)</td>
<td>.24 (.45)</td>
<td>.28 (.45)</td>
<td>.26 (.44)</td>
</tr>
<tr>
<td>T2 Well-being</td>
<td>.78 (.74)</td>
<td>.66 (.73)</td>
<td>.74 (.73)</td>
<td>.73 (.73)</td>
<td>.74 (.73)</td>
<td>.75 (.73)</td>
<td>.74 (.72)</td>
<td>.74 (.73)</td>
</tr>
<tr>
<td>T2 Social Potency</td>
<td>.71 (.74)</td>
<td>.73 (.82)</td>
<td>.72 (.76)</td>
<td>.72 (.77)</td>
<td>.71 (.77)</td>
<td>.72 (.76)</td>
<td>.71 (.77)</td>
<td>.71 (.77)</td>
</tr>
<tr>
<td>T2 Achievement</td>
<td>.55 (.65)</td>
<td>.48 (.68)</td>
<td>.57 (.64)</td>
<td>.55 (.65)</td>
<td>.56 (.65)</td>
<td>.56 (.65)</td>
<td>.56 (.65)</td>
<td>.56 (.65)</td>
</tr>
<tr>
<td>T2 Social Closeness</td>
<td>.47 (.61)</td>
<td>.61 (.59)</td>
<td>.52 (.56)</td>
<td>.55 (.56)</td>
<td>.52 (.56)</td>
<td>.50 (.56)</td>
<td>.53 (.56)</td>
<td>.52 (.56)</td>
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</table>
emotionality. This means that an individual's position, relative to others being studied, remains similar to some degree. In spite of this high degree of stability, we still found some significant influence of life experiences on changes in positive emotionality.

Consistent with the selection hypothesis, self-report of positive emotionality at late adolescence was a significant predictor of work experience ($\beta = .25, t = 3.30$), close relationships with spouses, significant others or friends ($\beta = .16, t = 2.39$), parental support ($\beta = .21, t = 3.11$), and positive life events ($\beta = .33, t = 4.51$). These results suggest that individuals with higher levels of positive emotionality at late adolescence are more likely to have successful work experiences, more satisfying relationships with romantic partners or friends, receive more parental support, and have more positive life events during the transition to adulthood. Moreover we also found that work experiences ($\beta = .13, t = 2.00$) and parental support ($\beta = .10, t = 1.85$) significantly predict change in positive emotionality in early adulthood. Although these path coefficients of .13 and .10 are not large, according to Kohn and Schooler (1978), a small influence on a highly stable personality trait may be of greater significance for individual development than a large effect on an unstable attribute. Therefore, these findings are consistent with our hypothesis that positive emotionality will be reciprocally interrelated with early adult life experience.

The above analyses involved only one source (self-report) of data for the measures of personality and life experiences. In order to reduce shared method variance, we also use data from different reporters to evaluate the associations between personality and life experiences. Personality measures are based on parent reports in 1994 and spouses/partners, boy/girlfriends or friends report in 1999. Life experience measures (except the close relationships measure which is based on both self and observers reports) were all based on
self-report. Similar to results for self-report, we found that early positive emotionality reported by parents was a significant predictor of later positive emotionality reported by spouses/partners, boy/girlfriends, and friends. The standardized stability coefficients range from .22 for school experience to .42 for antisocial behavior and substance use. Surprisingly, parent report of personality was a better predictor of life experiences than self-reported personality. Parent report was significantly related to every domain of life experience but one (negative life events), whereas self-report personality predicted only four of the eight areas of life experience. Especially important, parent reported personality predicted both positive experiences (e.g., school success, $\beta = .25, t = 3.52$) and negative experiences (e.g., antisocial behavior, $\beta = -.15, t = -2.72$), whereas self-report only predicted positive experiences. Moreover, experiences in the domains of work, school, close relationships and positive life events also predicted change in positive emotionality reported by spouses/partners, boy/girlfriends or friends. These results indicate that work and school experience, close relationships, and positive life events are most likely to be reciprocally related to other report of positive emotionality. These results suggest that other report of personality is a more robust measure of positive emotionality both in terms of predicting later life experiences and in terms of evaluating the influence of life experiences on change in personality.

In sum, on many occasions, results of self-report and other report of positive emotionality and life experiences yield similar results. For example, both self-reports and parent reports of early positive emotionality were found to significantly predict early adult work experience, close relationships with spouses, significant others or friends, parental support, and positive life events. We also found that work experience was significantly associated with change in both self and other report of later positive emotionality. However,
results also show some differences between life experiences and different reporters of positive emotionality. For example, we found that school experience and close relationships with spouses/partners, boy/girlfriends, or friends were significantly related to change in other reports (but not self-report) of target positive emotionality and parental support was related to self-reports (but not other reports) of positive emotionality. Despite these differences, in several cases, the results support our reciprocal hypothesis that early positive emotionality is significantly related to an array of life experiences, which, in turn lead to increased positive emotionality at a later point in time.

Negative Emotionality: Self-report and Other report

As mentioned earlier, the model for the negative emotionality construct did not fit the data well and the loadings of time 2 stress reaction and aggression on negative emotionality are very low (around .20). In addition, as we noted earlier, the raw correlation between negative emotionality at two points in time is lower than we expected, which may result from very low stability in alienation for males. Considered all together, we evaluated the associations between life experiences and negative emotionality in term of its subscales (stress reaction, alienation and aggression). Results are shown in Table 5 through Table 7. In each model, stress reaction, alienation, and aggression are all used as a latent construct, each of which has three indicators.

Stress reaction. Table 5 presents the results of the associations between both self and other report stress reaction and life experiences. Note that for the models of stress reaction with antisocial and substance use (the last two columns), we present the results with gender controlled because without that control we found a significant negative association between risky behavior and later stress reaction. That is, risky behavior is associated with a reduction
Table 5. Life Experiences and Both Self-report and Other Report (in parentheses) of Stress Reaction Construct

<table>
<thead>
<tr>
<th>Stress Reaction (SR)</th>
<th>Work</th>
<th>School</th>
<th>Close Relationship</th>
<th>Parental Support</th>
<th>Negative Life Events</th>
<th>Positive Life Events</th>
<th>Antisocial Behavior</th>
<th>Substance Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-report (Other report) SR</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Early SR → Later SR</td>
<td>.62**</td>
<td>.59**</td>
<td>.58**</td>
<td>.57**</td>
<td>.55**</td>
<td>.58**</td>
<td>.59**</td>
<td>.58**</td>
</tr>
<tr>
<td></td>
<td>(.24**)</td>
<td>(.17**)</td>
<td>(.29**)</td>
<td>(.30**)</td>
<td>(.26**)</td>
<td>(.29**)</td>
<td>(.21**)</td>
<td>(.21**)</td>
</tr>
<tr>
<td>Early SR → Young Adult Life Exp.</td>
<td>-.27**</td>
<td>-.03</td>
<td>-.13**</td>
<td>-.04</td>
<td>.13**</td>
<td>-.06</td>
<td>-.07</td>
<td>-.05</td>
</tr>
<tr>
<td></td>
<td>(-.19**)</td>
<td>(-.14**)</td>
<td>(-.14**)</td>
<td>(-.14**)</td>
<td>(-.18**)</td>
<td>(-.14**)</td>
<td>(-.19**)</td>
<td>(.12**)</td>
</tr>
<tr>
<td>Young Adult Life Exp. → Later SR</td>
<td>-.14*</td>
<td>.03</td>
<td>-.04</td>
<td>-.07</td>
<td>.20**</td>
<td>-.05</td>
<td>.12*</td>
<td>-.03</td>
</tr>
<tr>
<td></td>
<td>(-.09)</td>
<td>(.05)</td>
<td>(-.01)</td>
<td>(-.06)</td>
<td>(.17**)</td>
<td>(-.12*)</td>
<td>(-.01)</td>
<td>(.02)</td>
</tr>
</tbody>
</table>

**Fit indices**

<table>
<thead>
<tr>
<th></th>
<th>Chi-square/df</th>
<th>p-value</th>
<th>GFI</th>
<th>AGFI</th>
<th>RMSEA</th>
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<tr>
<td></td>
<td>14.85/9</td>
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<td>.99 (.98)</td>
<td>.96 (.96)</td>
<td>.05 (.04)</td>
</tr>
<tr>
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<td>(15.06/10)</td>
<td>(.13)</td>
<td>(.98)</td>
<td>(.96)</td>
<td>(.04)</td>
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<tr>
<td></td>
<td>6.21/9</td>
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<td>.99 (.99)</td>
<td>.98 (.96)</td>
<td>.00 (.04)</td>
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<td>(.16)</td>
<td>(.99)</td>
<td>(.96)</td>
<td>(.04)</td>
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<td>(.26)</td>
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<td>(.98)</td>
<td>(.02)</td>
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<tr>
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<td>1.23/9</td>
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<td>(.11)</td>
<td>(.99)</td>
<td>(.97)</td>
<td>(.04)</td>
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<td>5.18/9</td>
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<td>1.00 (.97)</td>
<td>.99 (.92)</td>
<td>.00 (.08)</td>
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<td>(50.0/14)</td>
<td>(.00)</td>
<td>(.97)</td>
<td>(.92)</td>
<td>(.08)</td>
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<td>.99 (.97)</td>
<td>.98 (.91)</td>
<td>.01 (.08)</td>
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<td>(53.8/14)</td>
<td>(.00)</td>
<td>(.97)</td>
<td>(.91)</td>
<td>(.08)</td>
</tr>
</tbody>
</table>

Note: **p<.05 (two tailed test) *p<.05 (one-tailed test). SR. represents stress reaction construct.
Table 5. continued.

<table>
<thead>
<tr>
<th>Stress Reaction (SR)</th>
<th>Work</th>
<th>School</th>
<th>Close Relationship</th>
<th>Parental Support</th>
<th>Negative Life Events</th>
<th>Positive Life Events</th>
<th>Antisocial Behavior</th>
<th>Substance Use</th>
</tr>
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<tbody>
<tr>
<td><strong>Loadings</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T1 SR1</td>
<td>.74 (.86)</td>
<td>.79 (.55)</td>
<td>.73 (.83)</td>
<td>.73 (.85)</td>
<td>.73 (.83)</td>
<td>.73 (.85)</td>
<td>.73 (.79)</td>
<td>.73 (.82)</td>
</tr>
<tr>
<td>T1 SR2</td>
<td>.67 (.56)</td>
<td>.69 (.59)</td>
<td>.64 (.61)</td>
<td>.64 (.60)</td>
<td>.64 (.61)</td>
<td>.64 (.60)</td>
<td>.64 (.63)</td>
<td>.64 (.62)</td>
</tr>
<tr>
<td>T1 SR3</td>
<td>.86 (.46)</td>
<td>.86 (.47)</td>
<td>.89 (.46)</td>
<td>.89 (.45)</td>
<td>.89 (.46)</td>
<td>.89 (.45)</td>
<td>.89 (.48)</td>
<td>.89 (.47)</td>
</tr>
<tr>
<td>T2 SR1</td>
<td>.53 (.72)</td>
<td>.58 (.88)</td>
<td>.56 (.72)</td>
<td>.55 (.72)</td>
<td>.56 (.71)</td>
<td>.56 (.66)</td>
<td>.56 (.63)</td>
<td>.56 (.63)</td>
</tr>
<tr>
<td>T2 SR2</td>
<td>.59 (.47)</td>
<td>.56 (.40)</td>
<td>.60 (.50)</td>
<td>.61 (.49)</td>
<td>.60 (.50)</td>
<td>.61 (.54)</td>
<td>.60 (.47)</td>
<td>.60 (.47)</td>
</tr>
<tr>
<td>T2 SR3</td>
<td>.26 (.33)</td>
<td>.35 (.31)</td>
<td>.32 (.29)</td>
<td>.30 (.29)</td>
<td>.32 (.29)</td>
<td>.31 (.29)</td>
<td>.31 (.41)</td>
<td>.31 (.41)</td>
</tr>
</tbody>
</table>
in stress reaction. With gender controlled, however, we found no significant path from risky behavior to change in stress reaction.

For self-report, we found that early stress reaction is a significant predictor of later stress reaction, with standardized stability coefficients ranging from .55 for negative life events to .62 for work experience. As expected, early stress reaction at late adolescence was significantly associated with life experiences involving work experiences, close relationships, and negative life events. Moreover, work experiences (β = -.14, t = -1.80), negative life events (β = .13, t = 2.27), and antisocial behavior (β = .12, t = 1.90) significantly predicted changes in stress reaction.

Like self-report, early stress reaction reported by parents was found to be significantly related to later stress reaction reported by spouses/partners, boy/girlfriends, or friends. However, the stability path coefficients (from .17 for school to .30 for parental support) are smaller than those in the self-report models. Results also indicate that parent reports of early stress reaction were significantly related to all the domains of life experience. And two domains of life experiences (negative life events and positive life events) significantly predicted change in stress reaction reported by spouses/partners, boy/girlfriends, or friends. The findings again demonstrate that parent-report personality is a better predictor of later life experiences than self-report. Moreover, both self and other report of stress reaction also show the expected influence of life experience (negative life events) on personality change. These results provided some support for a reciprocal process between life experiences and personality.

Alienation. Table 6 presents the results of life experience and self and other reports of alienation. For self-report of the alienation construct, the stability coefficients range from .13
### Table 6. Life Experiences and Both Self-report and Other Report (in parentheses) of Alienation Construct

<table>
<thead>
<tr>
<th>Alienation (Ali)</th>
<th>Work</th>
<th>School</th>
<th>Close Relationship</th>
<th>Parental Support</th>
<th>Negative Life Events</th>
<th>Positive Life Events</th>
<th>Antisocial Behavior</th>
<th>Substance Use</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Self-report (Other Report) ALI</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Early Ali → Later</td>
<td>.13**</td>
<td>.19**</td>
<td>.25**</td>
<td>.20**</td>
<td>.23**</td>
<td>.24**</td>
<td>.22**</td>
<td>.25**</td>
</tr>
<tr>
<td>Ali</td>
<td>(.37**)</td>
<td>(.37**)</td>
<td>(.40**)</td>
<td>(.44**)</td>
<td>(.43**)</td>
<td>(.43**)</td>
<td>(.45**)</td>
<td>(.43**)</td>
</tr>
<tr>
<td>Early Ali → Young Adult Life Exp.</td>
<td>-.31**</td>
<td>-.16**</td>
<td>-.11**</td>
<td>-.17**</td>
<td>.12**</td>
<td>-.05**</td>
<td>.16**</td>
<td>.17**</td>
</tr>
<tr>
<td>Young Adult Life</td>
<td>(-.18**)</td>
<td>(-.13')</td>
<td>(-.21')</td>
<td>(-.21**)</td>
<td>(-.17')</td>
<td>(.16')</td>
<td>(-.17')</td>
<td>(.15')</td>
</tr>
<tr>
<td>Exp. → Later Ali</td>
<td>-.24**</td>
<td>-.05</td>
<td>-.10**</td>
<td>-.25**</td>
<td>.12**</td>
<td>-.06</td>
<td>.14**</td>
<td>-.01</td>
</tr>
</tbody>
</table>

| **Fit indices** | | | | | | | | |
| Chi-square/df | 16.97/12 (13.90/11) | 11.62/12 (27.63/11) | 7.11/12 (14.96/11) | 7.61/12 (22.01/11) | 13.58/12 (11.53/11) | 12.67/12 (14.36/11) | 15.58/12 (14.64/11) | 10.51/12 (36.54/15) |
| p-value | .15 (.24) | .48 (.01) | .85 (.18) | .82 (.02) | .33 (.40) | .39 (.21) | .21 (.20) | .57 (.00) |
| GFI | .99 (.99) | .99 (.97) | 1.00 (.99) | 1.00 (.98) | .99 (.99) | .99 (.99) | .99 (.97) | .99 (.98) |
| AGFI | .96 (.97) | .97 (.93) | .99 (.97) | .99 (.96) | .98 (.98) | .98 (.97) | .98 (.97) | .98 (.95) |
| RMSEA | .04 (.030) | .00 (.08) | .00 (.03) | .00 (.05) | .02 (.01) | .01 (.03) | .03 (.03) | .00 (.06) |

Note: **p<.05 (two tailed test) * p<.05 (one tailed test). Ali. represents alienation construct.
Table 6. continued.

<table>
<thead>
<tr>
<th>Alienation (Ali)</th>
<th>Work</th>
<th>School</th>
<th>Close Relationship</th>
<th>Parental Support</th>
<th>Negative Life Events</th>
<th>Positive Life Events</th>
<th>Antisocial Behavior</th>
<th>Substance Use</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Loadings</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T1 Ali1</td>
<td>.81 (.91)</td>
<td>.82 (.88)</td>
<td>.80 (.90)</td>
<td>.81 (.88)</td>
<td>.81 (.91)</td>
<td>.81 (.90)</td>
<td>.81 (.92)</td>
<td>.81 (.91)</td>
</tr>
<tr>
<td>T1 Ali2</td>
<td>.86 (.68)</td>
<td>.81 (.68)</td>
<td>.84 (.67)</td>
<td>.85 (.68)</td>
<td>.85 (.66)</td>
<td>.85 (.67)</td>
<td>.85 (.66)</td>
<td>.85 (.67)</td>
</tr>
<tr>
<td>T1 Ali3</td>
<td>.81 (.66)</td>
<td>.80 (.64)</td>
<td>.81 (.65)</td>
<td>.81 (.66)</td>
<td>.81 (.65)</td>
<td>.81 (.66)</td>
<td>.81 (.64)</td>
<td>.81 (.65)</td>
</tr>
<tr>
<td>T2 Ali1</td>
<td>.68 (.63)</td>
<td>.78 (.72)</td>
<td>.71 (.66)</td>
<td>.71 (.69)</td>
<td>.73 (.69)</td>
<td>.69 (.69)</td>
<td>.72 (.70)</td>
<td>.72 (.71)</td>
</tr>
<tr>
<td>T2 Ali2</td>
<td>.53 (.57)</td>
<td>.55 (.70)</td>
<td>.56 (.60)</td>
<td>.56 (.58)</td>
<td>.57 (.58)</td>
<td>.57 (.57)</td>
<td>.57 (.58)</td>
<td>.56 (.58)</td>
</tr>
<tr>
<td>T2 Ali3</td>
<td>.62 (.63)</td>
<td>.56 (.53)</td>
<td>.58 (.56)</td>
<td>.59 (.54)</td>
<td>.57 (.54)</td>
<td>.59 (.54)</td>
<td>.57 (.53)</td>
<td>.58 (.52)</td>
</tr>
</tbody>
</table>
for work to .25 for close relationships and substance use, which are substantially lower than
those of different person reports of alienation (.37 to .45). As expected, results indicate that
work experiences, young adult close relationships with spouses/partners, boy/girlfriends, or
friends were significantly and reciprocally related to both self and other report of alienation.
In addition, we also found significant reciprocal influences between self-reports (but not
other reports) of alienation and parental support, negative life events and positive life events.
These results are consistent with our reciprocal hypothesis that individuals with high levels
of alienation are more likely to have an array of unsuccessful life experiences, which, in turn,
are associated with increased alienation over time.

Aggression. Table 7 presents results for the associations between life experience and
self and other report aggression. We found that both self and parent report of aggression
during adolescence are significantly related to six of the eight domains of life experience.
The stability coefficients are not very high for aggression, but none of the proposed life
experiences are significantly related to changes in self-report of aggression. However, we
found that work, close relationships, and parental support were significantly related to
changes in aggression reported by spouses/partners, boy/girlfriends, or friends. For other
report of aggression, close relationships was most likely to be reciprocally associated with
aggression. That is, higher levels of aggression reported by parents at an early point in time is
associated with less satisfying relationships with spouses/partners, boy/girlfriends, or friends
during early adulthood, which in turn leads to an increase in later aggression reported by
spouse, boy/girlfriends, or friends.

In sum, some of the results from self and other report of the three aspects of negative
emotionality support our reciprocal hypothesis, indicating that individuals high in negative
Table 7. Life Experiences and Both Self-report and Other Report (in parentheses) Aggression Construct

<table>
<thead>
<tr>
<th>Aggression (Agg)</th>
<th>Work</th>
<th>School</th>
<th>Close Relationship</th>
<th>Parental Support</th>
<th>Negative Life Events</th>
<th>Positive Life Events</th>
<th>Antisocial Behavior</th>
<th>Substance Use</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-report (Other Report) Agg.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Early Agg → Later Agg</td>
<td>.33**</td>
<td>.38**</td>
<td>.36**</td>
<td>.35**</td>
<td>.36</td>
<td>.36</td>
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<td>.36**</td>
</tr>
<tr>
<td></td>
<td>(.30**)</td>
<td>(.24**)</td>
<td>(.24**)</td>
<td>(.28**)</td>
<td>(.29**)</td>
<td>(.30**)</td>
<td>(.29**)</td>
<td>(.30**)</td>
</tr>
<tr>
<td>Early Agg → Young Adult Life Exp.</td>
<td>-.13**</td>
<td>-.26**</td>
<td>-.10**</td>
<td>-.09**</td>
<td>.02</td>
<td>-.04</td>
<td>.26**</td>
<td>.38**</td>
</tr>
<tr>
<td></td>
<td>(-.04)</td>
<td>(-.17**)</td>
<td>(-.22**)</td>
<td>(-.17**)</td>
<td>(.13**)</td>
<td>(-.09)</td>
<td>(.18**)</td>
<td>(.21**)</td>
</tr>
<tr>
<td>Young Adult Life Exp. → Later Agg</td>
<td>-.01</td>
<td>.00</td>
<td>-.02</td>
<td>-.07</td>
<td>-.06</td>
<td>.02</td>
<td>-.01</td>
<td>.00</td>
</tr>
<tr>
<td></td>
<td>(-.12*)</td>
<td>(-.03)</td>
<td>(-.26**)</td>
<td>(-.11*)</td>
<td>(-.06)</td>
<td>(.04)</td>
<td>(.04)</td>
<td>(-.01)</td>
</tr>
</tbody>
</table>

Fit Indices

<table>
<thead>
<tr>
<th></th>
<th>Chi-square/df</th>
<th>p-value</th>
<th>GFI</th>
<th>AGFI</th>
<th>RMSEA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>7.82/11 (12.25/12)</td>
<td>.73 (.43)</td>
<td>.99 (.99)</td>
<td>.98 (.97)</td>
<td>.00 (.01)</td>
</tr>
<tr>
<td></td>
<td>6.27/11 (21.77/12)</td>
<td>.85 (.04)</td>
<td>.99 (.98)</td>
<td>.98 (.95)</td>
<td>.00 (.05)</td>
</tr>
<tr>
<td></td>
<td>10.47/11 (18.01/12)</td>
<td>.49 (.12)</td>
<td>.99 (.99)</td>
<td>.98 (.97)</td>
<td>.00 (.04)</td>
</tr>
<tr>
<td></td>
<td>10.78/11 (10.65/12)</td>
<td>.46 (.56)</td>
<td>.99 (.99)</td>
<td>.98 (.98)</td>
<td>.00 (.00)</td>
</tr>
<tr>
<td></td>
<td>9.45/11 (14.55/12)</td>
<td>.58 (.27)</td>
<td>.99 (.99)</td>
<td>.98 (.98)</td>
<td>.00 (.02)</td>
</tr>
<tr>
<td></td>
<td>10.83/11 (12.80/12)</td>
<td>.46 (.38)</td>
<td>.99 (.99)</td>
<td>.98 (.98)</td>
<td>.00 (.01)</td>
</tr>
<tr>
<td></td>
<td>11.72/11 (15.56/12)</td>
<td>.46 (.21)</td>
<td>.99 (.99)</td>
<td>.98 (.97)</td>
<td>.01 (.03)</td>
</tr>
<tr>
<td></td>
<td>12.13/11 (12.41/12)</td>
<td>.35 (.41)</td>
<td>.99 (.99)</td>
<td>.98 (.98)</td>
<td>.02 (.01)</td>
</tr>
</tbody>
</table>

Note: * p<.05 (two tailed test)  ** p<.05 (one-tailed test).  '+' p<.1 (one-tailed test). Agg. represents aggression construct.
Table 7. continued

<table>
<thead>
<tr>
<th>Loadings</th>
<th>Aggression (Agg)</th>
<th>Work</th>
<th>School</th>
<th>Close Relationship</th>
<th>Parental Support</th>
<th>Negative Life Events</th>
<th>Positive Life Events</th>
<th>Antisocial Behavior</th>
<th>Substance Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>T1 Agg1</td>
<td>.77 (.78)</td>
<td>.82 (.76)</td>
<td>.80 (.71)</td>
<td>.79 (.73)</td>
<td>.79 (.71)</td>
<td>.79 (.72)</td>
<td>.79 (.71)</td>
<td>.79 (.71)</td>
<td></td>
</tr>
<tr>
<td>T1 Agg2</td>
<td>.90 (.58)</td>
<td>.88 (.50)</td>
<td>.89 (.58)</td>
<td>.89 (.58)</td>
<td>.89 (.58)</td>
<td>.89 (.58)</td>
<td>.90 (.58)</td>
<td>.90 (.58)</td>
<td></td>
</tr>
<tr>
<td>T1 Agg3</td>
<td>.81 (.76)</td>
<td>.82 (.77)</td>
<td>.83 (.80)</td>
<td>.83 (.77)</td>
<td>.82 (.79)</td>
<td>.82 (.78)</td>
<td>.82 (.79)</td>
<td>.82 (.80)</td>
<td></td>
</tr>
<tr>
<td>T2 Agg1</td>
<td>.60 (.58)</td>
<td>.74 (.60)</td>
<td>.64 (.62)</td>
<td>.66 (.55)</td>
<td>.64 (.56)</td>
<td>.65 (.55)</td>
<td>.64 (.55)</td>
<td>.64 (.55)</td>
<td></td>
</tr>
<tr>
<td>T2 Agg2</td>
<td>.33 (.37)</td>
<td>.40 (.36)</td>
<td>.39 (.34)</td>
<td>.38 (.34)</td>
<td>.38 (.34)</td>
<td>.38 (.34)</td>
<td>.38 (.34)</td>
<td>.38 (.34)</td>
<td></td>
</tr>
<tr>
<td>T2 Agg3</td>
<td>.67 (.71)</td>
<td>.73 (.63)</td>
<td>.70 (.71)</td>
<td>.69 (.71)</td>
<td>.71 (.71)</td>
<td>.70 (.72)</td>
<td>.70 (.72)</td>
<td>.70 (.72)</td>
<td></td>
</tr>
</tbody>
</table>
emotion during adolescence were at risk for frequent negative and infrequent positive life experiences during early adulthood. In some instances, these experiences predicted change in negative emotionality.

**Constraint: Self-report and Other report**

Table 8 shows the results of life experience and both self and other reports of the constraint construct. For both self-report and other report of constraint, early constraint at adolescence was significantly associated with constraint in early adulthood. The stability coefficients for self-reports range from .64 for work to .41 for school and for other report the range from .33 for school to .47 for close relationships, parental support, and antisocial behavior. As expected, both self-reports and other reports of early constraint at adolescence were significantly associated with almost all the domains of young adult life experiences. Moreover, we found life experiences such as school, parental support, positive life events, delinquency and substance use significantly predict changes in later constraint reported by self or others or both. These findings are consistent with our reciprocal hypothesis. That is, individuals with higher levels of constraints at an early point in time are more likely to have positive work and school experiences, good relationships with partners, boy/girlfriends, or friends, receive more parental support, have fewer negative and more positive life events, and be involved in less risky behavior. Positive experiences lead to increased constraint and negative experiences to decreased constraint during early adulthood.
Table 8. Life Experiences and Both Self-report and Other Report (in parentheses) of Constraint Construct

<table>
<thead>
<tr>
<th>Constraint</th>
<th>Work</th>
<th>School</th>
<th>Close Relationship</th>
<th>Parental Support</th>
<th>Negative Life Events</th>
<th>Positive Life Events</th>
<th>Antisocial Behavior</th>
<th>Substance Use</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Self report (Other report)</strong> PS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Early Const. → Later Const.</td>
<td>.64**</td>
<td>.41**</td>
<td>.59**</td>
<td>.51**</td>
<td>.61**</td>
<td>.60**</td>
<td>.56**</td>
<td>.54**</td>
</tr>
<tr>
<td></td>
<td>(.42**)</td>
<td>(.33**)</td>
<td>(.47**)</td>
<td>(.47**)</td>
<td>(.46**)</td>
<td>(.46**)</td>
<td>(.47**)</td>
<td>(.43**)</td>
</tr>
<tr>
<td>Early Const. → Young Adult Life Exp.</td>
<td>.18**</td>
<td>.36**</td>
<td>.11*</td>
<td>.21**</td>
<td>-.13**</td>
<td>.09</td>
<td>-.27**</td>
<td>-.36**</td>
</tr>
<tr>
<td></td>
<td>(.20**)</td>
<td>(.29**)</td>
<td>(.17**)</td>
<td>(.13**)</td>
<td>(.20**)</td>
<td>(.10*)</td>
<td>(.22**)</td>
<td>(.31**)</td>
</tr>
<tr>
<td>Young Adult Life Exp. → Later Const.</td>
<td>-.08</td>
<td>.14**</td>
<td>.07</td>
<td>.15**</td>
<td>.02</td>
<td>.06</td>
<td>-.16**</td>
<td>-.18**</td>
</tr>
<tr>
<td></td>
<td>(.01)</td>
<td>(.24**)</td>
<td>(.07)</td>
<td>(.07)</td>
<td>(-.06)</td>
<td>(.12**)</td>
<td>(-.04)</td>
<td>(-.13**)</td>
</tr>
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</table>

**Fit Indices**

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<thead>
<tr>
<th></th>
<th>Chi-square/df</th>
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<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>7.14/7</td>
<td>10.10/7</td>
<td>13.32/7</td>
<td>8.68/7</td>
<td>7.08/7</td>
<td>18.58/7</td>
<td>7.61/7</td>
<td>28.30/7</td>
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<tr>
<td></td>
<td>(3.66/9)</td>
<td>(5.82/9)</td>
<td>(7.87/9)</td>
<td>(9.36/9)</td>
<td>(8.04/9)</td>
<td>(6.28/9)</td>
<td>(12.18/9)</td>
<td>(17.63/9)</td>
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<td>.18 (.76)</td>
<td>.07 (.55)</td>
<td>.28 (.41)</td>
<td>.42 (.82)</td>
<td>.01 (.70)</td>
<td>.47 (.20)</td>
<td>.01 (.04)</td>
</tr>
<tr>
<td>GFI</td>
<td>.99 (1.00)</td>
<td>.99 (1.00)</td>
<td>.99 (1.00)</td>
<td>.99 (1.00)</td>
<td>1.00 (1.0)</td>
<td>.99 (1.0)</td>
<td>1.00 (1.0)</td>
<td>.98 (1.00)</td>
</tr>
<tr>
<td>AGFI</td>
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<td>.96 (.98)</td>
<td>.96 (.98)</td>
<td>.98 (.98)</td>
<td>.98 (.99)</td>
<td>.95 (.99)</td>
<td>.98 (.97)</td>
<td>.94 (.96)</td>
</tr>
<tr>
<td>RMSEA</td>
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<td>.04 (.00)</td>
<td>.05 (.00)</td>
<td>.02 (.01)</td>
<td>.01 (.00)</td>
<td>.06 (.00)</td>
<td>.02 (.03)</td>
<td>.07 (.05)</td>
</tr>
</tbody>
</table>

Note: **p<.05 (two tailed test) *p<.05 (one tailed test) Const. represents constraint construct.
<table>
<thead>
<tr>
<th>Constraint</th>
<th>Work</th>
<th>School</th>
<th>Close Relationship</th>
<th>Parental Support</th>
<th>Negative Life Events</th>
<th>Positive Life Events</th>
<th>Antisocial Behavior</th>
<th>Substance Use</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
</tr>
<tr>
<td>Loadings</td>
<td>0.80 (.85)</td>
<td>0.73 (.86)</td>
<td>0.81 (.86)</td>
<td>0.76 (.86)</td>
<td>0.84 (.87)</td>
<td>0.83 (.88)</td>
<td>0.77 (.86)</td>
<td>0.78 (.87)</td>
</tr>
<tr>
<td>T1 Control</td>
<td>0.48 (.41)</td>
<td>0.48 (.42)</td>
<td>0.44 (.43)</td>
<td>0.45 (.43)</td>
<td>0.42 (.43)</td>
<td>0.43 (.43)</td>
<td>0.45 (.44)</td>
<td>0.44 (.44)</td>
</tr>
<tr>
<td>T1 Harm Avoidance</td>
<td>0.51 (.82)</td>
<td>0.49 (.78)</td>
<td>0.47 (.83)</td>
<td>0.50 (.82)</td>
<td>0.47 (.81)</td>
<td>0.48 (.81)</td>
<td>0.51 (.82)</td>
<td>0.52 (.82)</td>
</tr>
<tr>
<td>T1 Traditionalism</td>
<td>0.48 (.78)</td>
<td>0.49 (.70)</td>
<td>0.50 (.74)</td>
<td>0.46 (.73)</td>
<td>0.48 (.76)</td>
<td>0.49 (.75)</td>
<td>0.50 (.75)</td>
<td>0.52 (.75)</td>
</tr>
<tr>
<td>T2 Control</td>
<td>0.32 (.36)</td>
<td>0.45 (.48)</td>
<td>0.32 (.36)</td>
<td>0.33 (.38)</td>
<td>0.34 (.39)</td>
<td>0.34 (.36)</td>
<td>0.37 (.38)</td>
<td>0.41 (.41)</td>
</tr>
<tr>
<td>T2 Harm Avoidance</td>
<td>0.82 (.66)</td>
<td>0.78 (.67)</td>
<td>0.72 (.65)</td>
<td>0.81 (.66)</td>
<td>0.76 (.64)</td>
<td>0.75 (.65)</td>
<td>0.72 (.65)</td>
<td>0.66 (.63)</td>
</tr>
<tr>
<td>T2 Traditionalism</td>
<td>0.48 (.78)</td>
<td>0.49 (.70)</td>
<td>0.50 (.74)</td>
<td>0.46 (.73)</td>
<td>0.48 (.76)</td>
<td>0.49 (.75)</td>
<td>0.50 (.75)</td>
<td>0.52 (.75)</td>
</tr>
</tbody>
</table>
DISCUSSION AND CONCLUSIONS

The present study has two main goals: first to examine changes in personality during the critical period from late adolescence to early adulthood, and then to examine specific mechanisms that may help account for personality changes. We proposed that early personality traits at adolescence influence young adult life experiences, which, in turn, influence change in personality at a later point in time.

Findings of Personality Change

Personality change was assessed through comparisons of stability coefficients of personality scores at two different time periods. Large coefficients indicate a high degree of individual stability suggesting less personality change. Moderate or small coefficients indicate moderate or low stability which suggests more individual variations in personality change over time.

Consistent with most previous research, results indicate that stability coefficients between the same personality traits were all quite significant with the average correlation coefficients for self-report and other report measures between time 1 and time 2 for the latent constructs being .54 and .38, respectively. Although these results indicate substantial consistency in personality traits during the transition to early adulthood, they also demonstrate that from 71% to 86% of the variation in personality remains unexplained for these respondents. Therefore, this leaves considerable room for personality change. In fact, earlier studies (e.g., Carmichael & Mcgue, 1994; Hann et al., 1986; Helson & Moan, 1987; Stein et al, 1986; Steven & Truss, 1985) typically have found wide variations in the degree of personality stability during the transition from adolescence to early and middle adulthood.
Findings Consistent with the Reciprocity Hypothesis

Given the evidence of significant change in personality, we then examined whether life experiences during the transition to adulthood would predict personality change (social causation). In addition, we also examined the influence of early personality on life experiences (social selection). We expected that personality during adolescence would predispose youths to certain life experiences, which, in turn, would lead to enhancement or degradation of their young adult personality.

Consistent with our reciprocity hypothesis, we found that early personality traits are significantly related to an array of life experiences, which, in turn, are associated with increases or decreases in specific personality traits over time. Table 9 presents a summary of findings from Tables 4 to 8.

Positive Emotionality

As expected, both self and other report of positive emotionality are significantly and reciprocally related to work experiences. That is, individuals high on positive emotionality in adolescence are more likely to have positive work experiences in young adulthood, which, in turn, lead to increased positive emotionality over time. These results are highly consistent with the findings of Kohn and Schooler (1983) and Mortimer et al. (1986) who found that work is reciprocally related with personality traits (e.g., self-competence, autonomy values). In addition, we also found that other report of positive emotionality is reciprocally related to school experiences, close relationships and positive life events, and self-report is reciprocally related to parental support. These findings are consistent with our reciprocal hypothesis that early positive emotionality is significantly associated with an array of positive life experiences, which then, in turn, reinforce positive emotionality over time. After the
Table 9. Summary of Findings from Table 4 to 8

<table>
<thead>
<tr>
<th>Life Experiences</th>
<th>Positive Emotionality</th>
<th>Stress Reaction</th>
<th>Alienation</th>
<th>Aggression</th>
<th>Constraint</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Self</td>
<td>Other</td>
<td>Self</td>
<td>Other</td>
<td>Self</td>
</tr>
<tr>
<td>Work Experience</td>
<td>Predicted by Pers.</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Predicts Pers.</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>NS</td>
</tr>
<tr>
<td>School Experience</td>
<td>Predicted by Pers.</td>
<td>NS</td>
<td>+</td>
<td>NS</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Predicts Pers.</td>
<td>NS</td>
<td>+</td>
<td>NS</td>
<td>NS</td>
</tr>
<tr>
<td>Close Relationships</td>
<td>Predicted by Pers.</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Predicts Pers.</td>
<td>NS</td>
<td>+</td>
<td>NS</td>
<td>NS</td>
</tr>
<tr>
<td>Parental Support</td>
<td>Predicted by Pers.</td>
<td>+</td>
<td>+</td>
<td>NS</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Predicts Pers.</td>
<td>+</td>
<td>NS</td>
<td>NS</td>
<td>NS</td>
</tr>
<tr>
<td>Negative Life Events</td>
<td>Predicted by Pers.</td>
<td>NS</td>
<td>NS</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td>Predicts Pers.</td>
<td>NS</td>
<td>NS</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Positive Life Events</td>
<td>Predicted by Pers.</td>
<td>+</td>
<td>+</td>
<td>NS</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Predicts Pers.</td>
<td>NS</td>
<td>+</td>
<td>NS</td>
<td>-</td>
</tr>
<tr>
<td>Antisocial Behavior</td>
<td>Predicted by Pers.</td>
<td>NS</td>
<td>-</td>
<td>NS</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td>Predicts Pers.</td>
<td>NS</td>
<td>NS</td>
<td>+</td>
<td>NS</td>
</tr>
<tr>
<td>Substance Use</td>
<td>Predicted by Pers.</td>
<td>NS</td>
<td>-</td>
<td>NS</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td>Predicts Pers.</td>
<td>NS</td>
<td>NS</td>
<td>NS</td>
<td>NS</td>
</tr>
</tbody>
</table>

Note: Pers. presents personality. Plus signs indicate a significant positive relationship, minus signs indicate a significant negative relationship, NS indicates nonsignificant effects.
following review of the findings, we consider why results may differ depending on the person reporting respondent personality.

**Stress Reaction**

Consistent with our hypothesis, results indicate that both self and other report of stress reaction are significantly and reciprocally related to negative life events, indicating that early stress reaction predisposes people to experience more negative life events which, in turn, are associated with increased stress reaction over time. The fact that negative life events are significantly related to both self and other report of stress reaction suggests that biased reporting of negative life events due to negative affect may not be a concern in this analysis. In addition, results also indicate that self-report of stress reaction is more likely to be reciprocally related to work experiences and other report of stress reaction is more likely to be reciprocally associated with positive life events.

**Alienation**

As expected, we found that both self and other report of alienation are significantly and reciprocally related to work experience and close relationships. The significant association between alienation and work experience can be traced back to the work of Karl Marx, and the association between alienation and close relationships can be found in previous research on neuroticism and social relationships (e.g., Kelly & Conley, 1987). In addition, we also found that self-report of alienation is reciprocally related to parental support, negative life events, and antisocial behavior, and other report is reciprocally related to positive life events. These results suggest that individuals high in alienation are likely to have more negative life experiences and less positive experiences, which, in turn, are associated with increased alienation over time.
Aggression

Self-report of aggression failed to show the expected influence of life experiences on personality change, and thus provided no evidence for a reciprocal process between experience and personality. However, results show that other report of aggression is significantly and reciprocally related to close relationships and parental support. These findings suggest that individuals high in aggression are more likely to increase interpersonal conflicts by being more aggressive or by provoking more aggression from others (Patterson, 1982), which, in turn, reinforces aggression over time. It is also possible that the significant reciprocity between other report of aggression and interpersonal relationships may be due to chance. However, the items in the aggression scale including primarily overt behavior that is more likely to be observed by others than themselves; therefore, other report of aggression may be more accurate than self-report. This may explain why we get significant reciprocity between other report of aggression and interpersonal relationships, whereas no reciprocity is demonstrated for self-report.

Constraint

As expected, we found that both self and other report of constraints are significantly related to school experiences and substance use. In addition, we also found that self-report of constraint is more likely to be reciprocally related to parental support and antisocial behavior, and other report is more likely to be reciprocally related to positive life events. These results generally support our hypothesis that individuals who are safety-conscious, self-restrained, and conventional are more likely to do well in school and have more parental support and be less involved in risky behavior. Doing well in school and receiving more parental support
then, in turn, lead to increased constraint, and involvement in risky behavior to decreased constraints over time.

In sum, there are totally 80 possible opportunities to find reciprocity between life experiences and personality constructs. Table 8 shows that 27 out of 80 (or 34%) demonstrate support for the reciprocity hypothesis, which is statistically significant. Therefore, we concluded that the results largely support the mutually supportive dynamic of the two processes of human development as Caspi (1998) proposed: social selection, according to which individuals are more likely to select and enter specific social contexts that are compatible with their dispositions, and social causation, according to which selected social contexts are likely to shape subsequent behavior. Note that the results also showed more supports for the social selection hypothesis than the social causation hypothesis. This may be due to the fact that early personality was used to predict level, but not change, of life experience. Future research needs to examine the influences of personality on change in life experience and change in life experiences on personality change.

As mentioned earlier, the results may differ depending on who reports respondent personality. For example, results showed more support for reciprocity between life experiences and other report of positive emotionality than self-report. Similar to aggression, we reasoned that positive emotionality involving cheerful, social potency, achievement and social closeness may be associated with more overt behavior that is likely to be observed by others. Therefore, other report of positive emotionality may be more accurate, and therefore, there is more support for reciprocity between life experiences and other report of positive emotionality than self-report. For stress reaction and alienation, self-report may provide better descriptions of personality than other report because stress reaction and alienation are
more likely to be related to internal states that are hard for others to observe; therefore, there is more reciprocity for self-report (e.g., five for alienation) than for other report (e.g., three for alienation).

The results of this study also indicate that different domains of personality influence or are affected by different domains of life experiences. For example, we found that positive emotionality and alienation are most likely to be reciprocally related to work experiences. This suggests that individuals who are efficacious, more achievement oriented, and tend to be actively engaged in their social environment during their adolescence are more likely to be satisfied with their work and establish a successful work trajectory, which, in turn, leads to enhancement of positive emotionality over time. In contrast, individuals who feel mistreated and do not trust the people and systems tend to be less satisfied with their work, which, in turn, are associated with increased alienation over time. Moreover, we also found that stress reaction is most likely to be significantly associated with negative life events, suggesting that individuals high in stress reaction tend to experience more negative life events, possibly due to lack of coping skills. Negative life events, in turn, lead to increased stress reaction over time. In addition, results also indicate that school and risky behavior are more likely related to constraint, which suggests that individuals who are safety-conscious, self-restrained, and conventional tend to do well in school and are less involved in antisocial activities and substance use, which, in turn, are associated with change in constraint.

The Strength of the Findings

Previous studies have generally focused on one domain of life experience and its effect on personality or personality’s effect on life experience. These results demonstrate the fruitfulness of extending the scope of investigation to many domains of life experience and
multiple dimensions of personality. Moreover, the study also extends previous research by examining the mutual influences between life experience and personality characteristics.

As Caspi (1998) suggest, it is very important to use multiple measures of personality obtained not only from participants but also from peers, family members, and other reporters. We used multiple indicators of personality measures and obtained stability coefficients between time 1 and time 2 personality constructs reported by both self and other persons (parents, spouses/partners, boy/girlfriends, or friends). Although there are some differences between self-report and other report of personality traits (e.g., stress reaction and alienation), results indicate that other reports generally produce reasonable stability coefficients across time. Moreover, in our analyses of life experiences and personality, we found that there were many significant associations between life experiences and other report of personality traits. In many instances, other reports of personality are related to life experiences in a similar way to self-report. For example, for work, regardless of who provided the information, we found that work experience is significantly related to positive emotionality and alienation.

Implications for Prevention and Intervention

The longitudinal findings reported here have important practical implications for the design of effective prevention and intervention programs. Previous empirical research findings have indicated that the transition from late adolescence to early adulthood is a period of significant change in individual characteristics; therefore, this transitional period may provide a particularly opportune time for effective intervention. Developing programs designed to modify proximal social environments (e.g., work, school, and family) should produce long-term benefits through impact on later personality characteristics. Moreover, the present results suggest that programs delivered early in adolescence that decrease negative
emotionality and increase positive emotionality and constraint should also be powerful in promoting later competence and reducing personality tendencies toward destructive personality characteristics during adulthood.

Limitations and Future Research Directions

Although some findings of the present study are consistent with the hypothesized model, several factors limit the generalizability of the results. First, this research was limited to young adults from rural white families; therefore, the findings must be tested in urban settings and with diverse ethnic groups. Second, we were unable to estimate development change in personality using growth curves because we do not have the data for the same measures across three or more occasions. Thus, future research should estimate individual trajectories of personality using more time points (Caspi, 1998). Third, future research should also extend these findings by using other important transitional events (e.g., divorce, marriage, having a child) to predict change in personality. Fourth, our research design assesses personality measures using different reporters at different time periods to avoid method variance, and we found that different reporters of personality at different time points generally produce lower stability than self-reports. However, it is not clear whether different reporters are more able to discover personality changes or whether they tend to cause higher measurement errors. Therefore, future research needs to further explore which reporters are more likely to provide the most valid results.

Despite these limitations, we believe that the findings presented here enhance our understanding of the linkages of life experiences and personality development during the transition to early adulthood. To summarize, the personality is not firmly set in late adolescence, but rather continues to develop and mature during early adulthood. Life
experiences in domains of work, school, interpersonal relationships, significant life events and risky behaviors play an important role in the development of personality during the transition to adulthood.
APPENDIX

Target Self Report of MPQ (Long-form) Personality in 1994

Please indicate whether each of the following is TRUE or FALSE about you. If a statement is mostly true for you, please circle true; if it is mostly false for you, please circle false. Read each statement carefully, but don't spend too much time deciding your answer.

True................................................................. 1
False ............................................................... 2
Missing............................................................... 9

1. When I work with others, I like to take charge.
2. I keep close track of where my money goes.
3. I often find myself worrying about something.
4. I usually like to spend my leisure time with friends rather than alone.
5. Sometimes I feel and experience things as I did when I was a child.
6. My table manners are not always perfect.
7. If people criticize me, I usually point out their own weaknesses.
8. I am just naturally cheerful.
9. The best way to achieve a peaceful world is to improve people's morals.
10. I often keep working on a problem even if I am very tired.

11. Of the following two situations I would like least:

   Running a steam presser in a laundry for a week ..... 1
   Being caught in a blizzard .................................... 2
   Missing ............................................................. 9

Please indicate whether each of the following is TRUE or FALSE about you.

True................................................................. 1
False ............................................................... 2
Missing............................................................... 9

12. Some people go out of their way to keep me from getting ahead.
13. I often stop one activity before completing it and start another.
14. I can be greatly moved by eloquent or poetic language.
15. My feelings are hurt rather easily.
16. I don't like having to tell people what to do.
17. Smooth is most like:

Rough................................................................. 1
Soft................................................................. 2
Missing .............................................................. 9

Please indicate whether each of the following is TRUE or FALSE about you.

True ................................................................. 1
False ................................................................. 2
Missing .............................................................. 9

18. I could be happy living by myself in a cabin in the woods or mountains.

19. My future looks very bright to me.

20. I am always disgusted with the law when a criminal goes free because of the arguments of a clever lawyer.

21. Of the following two situations I would like least:

Being in a bank when suddenly three masked men with guns come in and make everyone raise their hands................................. 1
Sitting through a two-hour concert of bad music............................. 2
Missing .................................................................. 9

Please indicate whether each of the following is TRUE or FALSE about you.

True ................................................................. 1
False ................................................................. 2
Missing .............................................................. 9

22. When someone hurts me, I try to retaliate (get even).

23. While watching a movie, a T.V. show, or a play, I may become so involved that I forget about myself and my surroundings and experience the story as if it were real and as if I were taking part in it.

24. I see no point in sticking with a problem if success is unlikely.

25. I enjoy being in the spotlight.

26. When faced with a decision, I usually take time to consider and weigh all aspects.

27. I am easily "rattled" at critical moments.

28. I have always been extremely courageous in facing difficult situations.

29. Many people try to push me around.

30. As young people grow up, they ought to try to carry out some of their rebellious ideas instead of just settling down.
When I am unhappy about something,

I tend to seek the company of a friend ..........1
I prefer to be alone .....................................2
Missing ..........................................................9

Please indicate whether each of the following is TRUE or FALSE about you.

True ..........................................................1
False ..........................................................2
Missing ..........................................................9

If I stare at a picture and then look away from it, I can sometimes "see" an image of the picture, almost as if I were looking at it.

It might be fun and exciting to experience an earthquake.

It is easy for me to become enthusiastic about things I am doing.

I perform for an audience whenever I can.

I play hard and I work hard.

I enjoy violent movies.

Often I get irritated at little annoyances.

Slow resembles:

Sluggish ..........................................................1
Fast .............................................................2
Missing ..........................................................9

Sometimes I feel as if my mind could envelop the whole world.

I often act without thinking.

Most people make friends because they expect friends to be useful.
43. **Of the following two situations I would like least:**

- Attempting to beat a railroad train at a crossing
- Spraining my ankle so that I can't walk on it
- Missing

Please indicate whether each of the following is TRUE or FALSE about you.

- **True**
- **False**
- **Missing**

44. I would be very embarrassed to tell people that I had spent my vacation at a nudist camp.

45. I prefer not to “open up” too much, not even to friends.

46. I often feel happy and satisfied for no particular reason.

47. On most social occasions I like to have someone else take the lead.

48. I suffer from nervousness.

49. I like to watch cloud shapes change in the sky.

50. At times I have been envious of someone.

51. I like to stop and think things over before I do them.

52. When I have to stand in line, I never try to get ahead of others.

53. I am very religious (*more than most people are*)

54. **Of the following two situations I would like least:**

- Standing in line for something
- Getting an electric shock as part of a medical experiment
- Missing

Please indicate whether each of the following is TRUE or FALSE about you.

- **True**
- **False**
- **Missing**

55. I enjoy putting in long hours.

56. I live a very interesting life.

57. People often try to take advantage of me.

58. If I wish I can imagine (or daydream) some things so vividly that they hold my attention as a good movie or story does.

59. I often monopolize conversations.

60. I am a warm person rather than cool and detached.
61. Eagle is most unlike:

| Bird | 1 |
| Fly | 2 |
| Missing | 9 |

Please indicate whether each of the following is TRUE or FALSE about you.

| True | 1 |
| False | 2 |
| Missing | 9 |

62. I often feel lonely.
63. Higher standards of conduct are what this country needs most.
64. I often prefer to “play things by ear” rather than to plan ahead.

65. Of the following two situations I would like least:

| Balancing along the top rail of a picket fence | 1 |
| Walking up four flights of stairs | 2 |
| Missing | 9 |

Please indicate whether each of the following is TRUE or FALSE about you.

| True | 1 |
| False | 2 |
| Missing | 9 |

66. I see no objection to stepping on people’s toes a little if it is to my advantage.
67. I think I really know what some people mean when they talk about mystical experiences.
68. I don’t enjoy problems that can’t be solved quickly and efficiently.
69. Every day I do some things that are fun.
70. My opinions are always completely reasonable.
71. I am (or could be) a very effective sales person.
72. When I want to, I can usually put fears and worries out of my mind.
73. Of the following two statements I agree more with:

Most parents today let their children get away with too much .......................... 1
Most parents today do a pretty good job of raising their children ...................... 2
Missing ................................................................. 9

Please indicate whether each of the following is TRUE or FALSE about you.

True ................................................................. 1
False ................................................................. 2
Missing .............................................................. 9

74. People often just use me instead of treating me as a person.
75. I am usually happier when I am alone.
76. I sometimes "step outside" my usual self and experience an entirely different state of being.
77. I might enjoy riding in an open elevator to the top of a tall building under construction.
78. I don't like to start a project until I know exactly how to proceed.

79. Mountain least resembles:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Hill</td>
<td>Lake</td>
</tr>
</tbody>
</table>

Please indicate whether each of the following is TRUE or FALSE about you.

True ................................................................. 1
False ................................................................. 2
Missing .............................................................. 9

80. People say that I drive myself hard.
81. I would not enjoy being a politician.
82. When I get angry, I am often ready to hit someone.
83. Most of the time I feel at peace with the world.
84. Textures - such as wool, sand, wood - sometimes remind me of colors and music.
85. I often find it difficult to sleep at night.
86. I prefer working with people to working with things.
87. Of the following two situations I would like least:

- Walking a mile when it's 15 degrees below zero
- Being near when a volcano erupts

Please indicate whether each of the following is TRUE or FALSE about you.

True ........................................... 1
False ........................................... 2
Missing ........................................... 9

88. I am almost always treated fairly.

89. I would prefer to see:

- Stricter observance of the Sabbath
- Greater freedom in regard to divorce

Please indicate whether each of the following is TRUE or FALSE about you.

True ........................................... 1
False ........................................... 2
Missing ........................................... 9

90. I am very level-headed and always like to keep my feet on the ground.

91. I have at times eaten too much.

92. Sometimes I experience things as if they were doubly real.

93. It is very easy for me to see the bright side of things.

94. I am quite effective at talking people into things.

95. My mood often goes up and down.

96. I would not enjoy fighting a forest fire.

97. I admit that I sometimes take pleasure in hurting someone physically.

98. I often go on working on a problem long after others would have given up.

99. I have few or no close friends.

100. More censorship of books and movies is a violation of free speech and should be abolished.
101. Anger is least like:

<table>
<thead>
<tr>
<th>Emotion</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Happy</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mad</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Missing</td>
<td>9</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Please indicate whether each of the following is TRUE or FALSE about you.

True ............................................. 1
False ............................................. 2
Missing .......................................... 9

102. When I listen to music, I can get so caught up in it that I don’t notice anything else.

103. I have had a lot of bad luck.

104. I am more likely to be fast and careless than to be slow and plodding.

105. I am very good at influencing people.

106. Of the following two situations I would like least:

<table>
<thead>
<tr>
<th>Situation</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Having to walk around all day on a blistered foot</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sleeping out on a camping trip in an area where there are rattlesnakes</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Missing</td>
<td>9</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Please indicate whether each of the following is TRUE or FALSE about you.

True ............................................. 1
False ............................................. 2
Missing .......................................... 9

107. I sometimes feel “just miserable” for no good reason.

108. I enjoy nearly everything I do.

109. I consider it very important to have a good reputation in my community.

110. I work just hard enough to get by without overdoing it.

111. If I wish I can imagine that my body is so heavy that I could not move it if I wanted to.

112. I can’t help but enjoy it when someone I dislike makes a fool of herself/himself.

113. I am more of a “loner” than most people.

114. I have always been completely fair to others.

115. I almost never do anything reckless.

116. I have personal enemies who would like to harm me.

117. I am not interested in obtaining positions of leadership.

118. Often I have feelings of unworthiness.
119. Of the following two situations I would like least:

- Having a pilot announce that the plane has engine trouble and he may have to make an emergency landing .................... 1
- Working in the fields digging potatoes .................... 2
- Missing .................................................. 9

Please indicate whether each of the following is TRUE or FALSE about you.

True .................................................. 1
False .................................................. 2
Missing .................................................. 9

120. I can often somehow sense the presence of another person before I actually see or hear her/him.

121. I very much dislike it when someone breaks accepted rules of good conduct.

122. Basically I am a happy person.

123. Dark is similar to:

- Black .................................................. 1
- Light .................................................. 2
- Missing .................................................. 9

Please indicate whether each of the following is TRUE or FALSE about you.

True .................................................. 1
False .................................................. 2
Missing .................................................. 9

124. I like to try different things.

125. It is very important to me that some people are concerned about me.

126. When I need to buy something, I usually get it without thinking what more I may soon need from the same store.

127. I would rather turn the other cheek than get even when someone treats me badly.

128. It would be fun to explore an old abandoned house at night.

129. People consider me forceful.

130. The crackle and flames of a wood fire stimulate my imagination.

131. Occasionally I experience strong emotions – anxiety, anger – without really knowing what causes them.

132. People who think primarily of their own happiness are very selfish.

133. I would be more successful if people did not make things difficult for me.

134. I usually find ways to liven up my day.

135. I have at times been angry with someone.

136. I like hard work.

137. It is sometimes possible for me to be completely immersed in nature or in art and to feel as if my whole state of consciousness has somehow been temporarily altered.
138. I tend to value and follow a rational, "sensible" approach to things.

139. Of the following two situations I would like least:

- Being out on a sailboat during a great storm at sea .................................................. 1
- Having to stay home every night for two weeks with a sick relative .................................. 2
- Missing ......................................................................................................................... 9

Please indicate whether each of the following is TRUE or FALSE about you.

True ................................................................................. 1
False ............................................................................... 2
Missing ......................................................................... 9

140. Often I go a whole morning without wanting to speak to anyone.
141. I am easily startled by things that happen unexpectedly.
142. If I try I can usually "wrap people around my finger."
143. I am ready for a fight when someone tries to take advantage of me.
144. The church has outgrown its usefulness and should be radically reformed or done away with.

145. Spider is a kind of:

- Web ................................................................................. 1
- Animal ................................................................................ 2
- Missing ......................................................................... 9

Please indicate whether each of the following is TRUE or FALSE about you.

True ............................................................................. 1
False ............................................................................... 2
Missing ......................................................................... 9

146. Different colors have distinctive and special meanings for me.
147. People often say mean things about me.
148. I have several pastimes or hobbies that are great fun.
149. I would enjoy trying to cross the ocean in a small but seaworthy sailboat.
150. I do not like to be the center of attention of social occasions.
151. I often act on the spur of the moment.
152. For me, one of the most satisfying experiences is the warm feeling of being in a group of good friends.
153. In my work I have learned not to demand perfection of myself.
154. I am often nervous for no reason.
155. My parents' ideas of right and wrong have always proved best.
156. I am able to wander off into my own thoughts while doing a routine task and actually forget that I am doing the task, and then find a few minutes later that I have completed it.
157. I always tell the entire truth.
158. Sometimes I seem to enjoy hurting someone by saying something mean.
159. I seldom feel really happy.

160. Of the following two situations I would like least:

- Riding a long stretch of rapids in a canoe
- Waiting for someone who's late
- Missing

Please indicate whether each of the following is TRUE or FALSE about you.

True
False
Missing

161. I feel that life has handed me a raw deal.
162. I usually make up my mind through careful reasoning.
163. I usually do not like to be a "follower."
164. I can sometimes recollect certain past experiences in my life with such clarity and vividness that it is like living them again or almost so.
165. I often feel fed-up.
166. Even when I have done something very well, I usually demand that I do better next time.
167. People should observe moral laws more strictly than they do.
168. I prefer to work alone.

169. Blossom differs most from:

- Apple
- Flower
- Missing

Please indicate whether each of the following is TRUE or FALSE about you.

True
False
Missing

170. Most mornings the day ahead looks bright to me.
171. It might be fun learning to walk a tightrope.
172. I enjoy a good brawl.
173. Things that might seem meaningless to others often make sense to me.
174. When I am with someone, I make most of the decisions.
175. I sometimes get myself into a state of tension and turmoil as I think of the day's events.
176. I am often not as cautious as I should be.
177. I am disgusted by foul language.
178. I know that people have purposely spread false rumors about me.
179. Sometimes I'm a bit lazy.
180. Some people say that I put my work ahead of too many other things.

181. I would rather live:
In a friendly suburb......................................................1
Alone in the woods ....................................................2
Missing .................................................................9

Please indicate whether each of the following is TRUE or FALSE about you.
True .................................................................1
False ..............................................................2
Missing ..........................................................9

182. While acting in a play, I think I could really feel the emotions of the character and "become" her/him for the time being, forgetting both myself and the audience.
Please indicate whether each of the following is TRUE or FALSE about you.

True ............................................. 1
False .......................................... 2
Missing ........................................... 9

183. Of the following two situations I would like least:

- Being at the circus when two lions suddenly get loose down in the ring............... 1
- Bringing my whole family to the circus and then not being able to get in because a clerk sold me tickets for the wrong night............ 2
- Missing ........................................... 9

Please indicate whether each of the following is TRUE or FALSE about you.

True ............................................. 1
False .......................................... 2
Missing ........................................... 9

184. Most days I have moments of real fun or joy.
185. I get a kick out of really frightening someone.

186. Of the following two statements I agree more with:

- If a boy 6 or 7 years old lies or steals, he should be punished severely.............. 1
- Lying and stealing aren't very serious in boys aged 6 or 7............................ 2
- Missing ........................................... 9

Please indicate whether each of the following is TRUE or FALSE about you.

True ............................................. 1
False .......................................... 2
Missing ........................................... 9

187. I do not like to organize other people's activities.
188. I am often troubled by guilt feelings.
189. Needle is least like:

<table>
<thead>
<tr>
<th>Choice</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Pin</td>
<td>1</td>
</tr>
<tr>
<td>Thread</td>
<td>2</td>
</tr>
<tr>
<td>Missing</td>
<td>9</td>
</tr>
</tbody>
</table>

Please indicate whether each of the following is TRUE or FALSE about you.

190. I plan and organize my work in detail.

191. My thoughts often don’t occur as words but as visual images.

192. Most people stay friendly only as long as it is to their advantage.

193. Of the following two situations I would like least:

<table>
<thead>
<tr>
<th>Situation</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Having to drive alone for a day and a half without stopping for sleep</td>
<td>1</td>
</tr>
<tr>
<td>Jumping from a third-story window into a fireman’s net</td>
<td>2</td>
</tr>
<tr>
<td>Missing</td>
<td>9</td>
</tr>
</tbody>
</table>

Please indicate whether each of the following is TRUE or FALSE about you.

194. I often feel sort of lucky for no special reason.

195. When I have a problem, I prefer to handle it alone.

196. I am not a terribly ambitious person.

197. I am better at talking than listening.

198. I would describe myself as a tense person.

199. No decent person could even think of hurting a close friend or relative.

200. I often take delight in small things like the five-pointed star shape that appears when you cut an apple across the core or the colors in soap bubbles.

201. Never in my whole life have I taken advantage of anyone.

202. Sometimes I hit people who have done something to deserve it.

203. I often start projects with only a vague idea of what the end result will be.

204. I would not like to try skydiving.

205. People rarely try to take advantage of me.

206. I often liven up a dull party.

207. When listening to organ music or other powerful music, I sometimes feel as if I am being lifted into the air.

208. It is easy for me to feel affection for a person.

209. Every day interesting and exciting things happen to me.
210. Of the following two statements I agree more with:

Parents should ignore it when small children use naughty words
Parents should punish small children when they use naughty words
Missing

211. City is least like:

Town
Park
Missing

Please indicate whether each of the following is TRUE or FALSE about you.

True
False
Missing

212. Minor setbacks sometimes irritate me too much.
213. I push myself to my limits.
214. People say that I am methodical (that I do things in a systematic manner).

215. Of the following two situations I would like least:

Finding out my car was stolen when I don't have theft insurance
Riding a runaway horse
Missing

Please indicate whether each of the following is TRUE or FALSE about you.

True
False
Missing

216. Sometimes I can change noise into music by the way I listen to it.
217. I would not hurt others to get what I want.
218. On social occasions I usually allow others to dominate the conversation.
219. I have sometimes felt slightly hesitant about helping someone who asked me to.
220. Whenever I decide anything, I make it a point to refer to the basic rules of right and wrong.

221. I am rather aloof and maintain distance between myself and others.
222. If I have a humiliating experience, I get over it very quickly.
I find it really hard to give up on a project when it proves too difficult.

In my spare time I usually find something interesting to do.

Of the following two situations I would like least:

- Being chosen as the "target" for a knife-throwing act
- Being sick to my stomach for 24 hours
- Missing

Please indicate whether each of the following is TRUE or FALSE about you.

- True
- False
- Missing

Several people would like to take away what success I have.

Some of my most vivid memories are called up by scents and smells.

I am a cautious person.

Sweet is most like:

- Gentle
- Sour
- Missing

Please indicate whether each of the following is TRUE or FALSE about you.

- True
- False
- Missing

It is a pretty callous (unfeeling) person who does not feel love and gratitude toward her/his parents.

I am usually light-hearted.

I like to watch a good, vicious fight.

I am quite good at convincing others to see my way.

I often lose sleep over my worries.

Some music reminds me of pictures or changing color patterns.

I am happiest when I see people most of the time.

I like (or would like) to dive off a high board.

My "friends" have often betrayed me.
239. I generally do not like to have detailed plans.
240. I see no point in spending time on a task that is probably too difficult.
241. I have never felt that I was better than someone else.

242. Of the following two statements I agree more with:
   
   No child should be permitted to strike her/his mother................................. 1
   A mother should not be harsh with a small child who strikes her....................... 2
   Missing........................................................................................................ 9

243. I often know what someone is going to say before he or she says it.
244. I would enjoy being a powerful executive or politician.
245. I worry about terrible things that might happen.
246. I sometimes tease people rather mercilessly.
247. I feel pretty optimistic about my future.

248. Of the following two situations I would like least:
   
   Tying up a truck full of newspapers for a paper sale ....................................... 1
   Seeing a tornado cloud moving toward me when I'm driving in the country ............. 2
   Missing........................................................................................................ 9

249. I tend to keep my problems to myself.
250. I have often been lied to.
251. I often have "physical memories"; for example, after I've been swimming, I may still feel as if I'm in the water.
252. Striving for excellence means more to me than almost anything else.
253. I don't like to see religious authority overturned by so-called progress and logical reasoning.
254. Whenever I go out to have fun, I like to have a pretty good idea of what I'm going to do.
255. Cottage is most unlike:

- Garden
- House
- Missing

Please indicate whether each of the following is TRUE or FALSE about you.

<table>
<thead>
<tr>
<th>True</th>
<th>False</th>
<th>Missing</th>
</tr>
</thead>
</table>

256. For me life is a great adventure.
257. I don't enjoy trying to convince people of something.
258. I often feel listless and tired for no reason.

259. Of the following two situations I would like least:

- Being in a flood
- Carrying a ton of coal from the backyard into the basement
- Missing

Please indicate whether each of the following is TRUE or FALSE about you.

<table>
<thead>
<tr>
<th>True</th>
<th>False</th>
<th>Missing</th>
</tr>
</thead>
</table>

260. The sound of a voice can be so fascinating to me that I can just go on listening to it.
261. When people insult me, I try to get even.
262. Strict discipline in the home would prevent much of the crime in our society.
263. I often prefer not to have people around me.
264. I have occasionally felt discouraged about something.
265. People consider me a rather freewheeling and spontaneous person.
266. I am a pretty "strong" personality.
267. I like the kind of work that requires my close attention.
268. I know that certain people would enjoy it if I got hurt.
269. I would enjoy learning to handle poisonous snakes.
270. There are days when I'm "on edge" all of the time.
271. At times I somehow feel the presence of someone who is not physically there.
272. Quiet is similar to:

Loud .................................................. 1
Soft ................................................... 2
Missing .............................................. 9

Please indicate whether each of the following is TRUE or FALSE about you.

True .................................................. 1
False ............................................... 2
Missing ............................................. 9

273. Without being conceited, I feel pretty good about myself.

274. Before I get into a new situation I like to find out what to expect from it.

275. I am not at all sorry to see many of the traditional values change.

276. Without close relationships with others my life would not be nearly as enjoyable.

277. I could not feel happy about anybody's bad luck.

278. When it is time to make decisions, others usually turn to me.

279. Of the following two situations I would like least:

Realizing the ice is unsafe when I'm standing in the middle of a frozen lake ............... 1
Finding that someone has slashed all four of my car tires ...................................... 2
Missing ................................................ 9

Please indicate whether each of the following is TRUE or FALSE about you.

True .................................................. 1
False ............................................... 2
Missing ............................................. 9

280. Sometimes thoughts and images come to me without the slightest effort on my part.

281. I am too sensitive for my own good.

282. I don't like to do more than is really necessary in my work.

283. When people are friendly, they usually want something from me.

284. I find it very easy to enjoy life.

285. High moral standards are the most important thing parents can teach their children.

286. Never in my whole life have I wished for anything that I was not entitled to.

287. On social occasions I don't particularly care to "run the show."

288. I find that different odors have different colors.

289. I often like to do the first thing that comes to my mind.
290. Of the following two situations I would like least:

- Being seasick every day for a week while on an ocean voyage
- Having to stand on the ledge of the 25th floor of a hotel because there's a fire in my room
- Missing

Please indicate whether each of the following is TRUE or FALSE about you.

- True
- False
- Missing

291. I could pull up my roots, leave my home, my parents, and my friends without suffering great regrets.

292. I sometimes change from happy to sad, or vice versa, without good reason.

293. Sometimes I just like to hit someone.

294. I set extremely high standards for myself in my work.

295. Carpet is most unlike:

- Wool
- Rug
- Missing

Please indicate whether each of the following is TRUE or FALSE about you.

- True
- False
- Missing

296. I always seem to have something pleasant to look forward to.

297. I can be deeply moved by a sunset.

298. Some people oppose me for no good reason.

299. I admire my parents in all important respects.

300. Of the following two situations I would like least:

- Burning my arm badly by leaning against a hot water pipe
- Swimming where sharks have been reported
- Missing
INSTRUCTIONS: As you answer these items, please think about your target child [ ] who is in the study. Please compare your target son or daughter with other people of his/her age or sex on each of the following traits or characteristics.

Then rank your target son or daughter compared to others of his/her age or sex. This will be difficult for some of these traits but please make the best estimates that you can. For each trait, circle a number from 1 to 5 using the following rating scale:

- Lowest 5% compared to others of his/her age or sex: 1
- Lower 30% compared to others of his/her age or sex: 2
- Middle 30% compared to others of his/her age or sex: 3
- Higher 30% compared to others of his/her age or sex: 4
- Highest 5% compared to others of his/her age or sex: 5

Where do you think you would rate your target son or daughter compared to others of his/her age or sex?

1. **Cheerful:** Persons receiving a high score are basically happy and joyful; they tend to be cheerful, to feel good about themselves; they can even feel light hearted and sort of lucky for no special reason. A low score means that they tend not to have such feelings.

2. **Dominance:** High-scorers are natural leaders, tend to take charge, make decisions, give directions, and other people tend to defer to them. Low-scorers prefer to let someone else run things, would rather be a soldier than a general.

3. **Tense:** High-scorers often feel tense, on edge, nervous; little things may upset, irritate or startle them; they may have difficulty sleeping at night. A low score means that they tend to be calm, unruffled, not easily upset.

4. **Freewheeling:** A high scorer is a spontaneous, freewheeling sort of person who often does things on the spur of the moment without giving it much thought, one who may drop one activity to start another. A low scorer tends to be deliberate and careful, likes to stop and think before acting.

5. **Image-prone:** High-scorers have thoughts that often come as images or pictures; sounds, textures or smells may have distinctive colors for them. Low-scorers don't have such experiences.
6. Interested: High-scorers live an interesting and exciting life; they tend to become enthusiastic about things they are doing; they have interesting hobbies or pastimes or are able to be interested and absorbed in their work. Low-scorers don’t have such an interesting or exciting life.

7. Ambitious: High-scorers set themselves very high standards in their work; they strive for excellence, putting work ahead of many other things. Low-scorers are not overly ambitious and tend not to demand perfection of themselves.

8. Gregarious: High-scorers like to be with people, like to work and spend leisure time with others. Low-scorers are usually happier alone and prefer to work with things rather than with people, and do (or would) not mind living alone.

9. Tough: High-scorers will sometimes pursue their own advantage even if others get hurt; they sometimes get a kick out of teasing or frightening others. Low-scorers would not take advantage of others and could never enjoy other people’s discomfort.

10. Valuing a good reputation: High-scorers believe in good manners and proper behavior, and they value their own good reputation in the community. For low-scorers, reputation and propriety are not terribly important.

11. Feeling treated poorly: High-scorers tend to feel that people have tried to push them around, made things difficult for them, even saying mean and untrue things about them. Low-scorers in general feel that they have been fairly and squarely treated by others.

12. Adventurous: High-scorers like to get into exciting and risky adventures and hobbies (such as skydiving, crossing the ocean in a small sailboat, handling dangerous animals, etc.). Low-scorers do not go for that sort of thing and prefer less risky activities.

13. Conciliatory: High-scorers don’t like to carry a grudge, would rather “make-up” and even turn the other cheek. A low-scorer is someone who tries to get even, who is ready for a show-down or a fight when criticized or taken advantage of.

14. Responsive: High-scorers are readily captured or moved by interesting or beautiful sights or sounds or other happenings (a sunset, a melody, someone’s voice, a movie); they may get so caught up that they seem to forget about everything else. Low-scorers do not tend to have these experiences.

15. Feels Exploited: High-scorers often feel used and taken advantage of and feel that people who are acting friendly usually want something from them. Low-scorers feel that others rarely try to take advantage of them and that people generally mean it when they are friendly.
16. **Hard-driving:** High-scorers enjoy hard work, like to take on challenging tasks, push themselves hard in work and play. Low-scorers prefer to work just hard enough to get by.

17. **People-oriented:** High-scorers seek the company of a friend when they are unhappy or have a problem. Low-scorers prefer to work out their problems alone and generally tend to keep their feelings and thoughts to themselves.

18. **Level-headed:** High-scorers are level-headed, rational sorts of people; they "keep their feet on the ground;" they manage their affairs in a sensible and orderly manner; they keep close track of their money, etc. Low-scorers sometimes don't follow, or care to follow, the most "sensible" or "rational" course of action.

19. **Safety-Conscious:** High-scorers would rather be frustrated or aggravated in some way (like having to wait in line for a long time, or discovering their car was stolen), than put themselves in some dangerous situation (like sleeping outdoors where there are rattlesnakes or being the "target" for a knife-throwing act). Low-scorers actually prefer risky situations to frustrating or aggravating ones.

20. **Feels unlucky:** High-scorers feel they have had a lot of bad luck, that life has handed them a raw deal. Low scorers don't feel this way.

21. **Thrill-seeking:** High-scorers would not mind and might even enjoy being in the middle of an emergency or disaster (such as a bank hold-up, a fire, an earthquake or tornado). Low-scorers, on the other hand, will make it a point to stay away from such situations.

22. **Endorsing strictness:** A high-scorer believes in strict rules and in firm and tough discipline. A low-scorer believes that one has to be flexible about rules and that strictness is often not such a good thing.

23. **Affectionate:** A high scorer is a warm person, finds it easy to feel affectionate toward someone, and values close personal relationships above most things. Low-scorers are rather cool and detached and they would find (or have found) it easy to move far away from friends and relatives.

24. **Respecting parents:** High-scorers admire their parents; they have found their parents' ideas of right and wrong to work best and they feel that children owe their parents love and gratitude. Low-scorers do not share these feelings.

25. **Aggressive:** High-scorers enjoy witnessing a good brawl; they sometimes like to get into fights, and they are ready to hit people when they are angry at them. Low-scorers don't react in these ways.
26. **Even-tempered:** High-scorers have an even temper; their mood is quite stable. A low-scorer has moods that tend to go up and down and sometimes feels anxious or guilty or just miserable for no good reason.

27. **Persuasive:** A high-scorer can be convincing, has a knack for making people see things her or his way and for talking people into things and perhaps is or could be a good salesperson. A low-scorer does not have these characteristics and does not especially like to persuade or influence others.

28. **Optimistic:** High-scorers feel good about their future; they always seem to have something nice to look forward to; they tend to see the bright side of things. A low-scorer does not often have these thoughts and feelings.

29. **Planful:** High-scorers like to have detailed plans before they start something new so that they know what to expect and how to proceed. Low-scorers often prefer to "play things by ear" and often start projects with only a vague idea of what the end result will be.

30. **Absorbed:** High-scorers can become so deeply involved in their thoughts, memories or daydreams that they experience these almost as if they were really happening. Low-scorers do not tend to have such experiences.

31. **Sensitive:** High-scorers may be too sensitive for their own good; their feelings are rather easily hurt; and they seem to worry a great deal. Low-scorers can put worries out of their mind and get over bad experiences rather easily.

32. **Socially visible:** High-scorers often dominate the conversation and enjoy being in the spotlight; they can liven up a dull party. A low score means that they would rather listen than talk and would rather not be the center of attention.

33. **Persevering:** High-scorers like to take on challenging tasks, persist when there are obstacles, find it very hard to give up when a project appears too difficult. Low-scorers prefer projects that are easy enough so that they will run smoothly, and they don't believe in persisting when success is unlikely.
Short Version of MPQ in 1999 (for Both Self and Other Reports)

Please compare yourself with other people of your age and sex on each of the following traits or characteristics. For each trait, circle a number from 1 to 5 using the following rating scale:

<table>
<thead>
<tr>
<th>I am not at all like this.</th>
<th>I am below average on this trait.</th>
<th>I am about average on this trait.</th>
<th>I am above average on this trait.</th>
<th>I am extremely high on this trait.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

Where would you rate yourself compared to others of your age and sex? Circle the correct response.

41. I am not at all happy and cheerful. About average. I am extremely happy and cheerful. Missing ................................................. 9

41a. I am not a leader at all. About average. I am a natural leader; others defer to me. Missing ................................................. 9

42. I am not at all tense, nervous or worried. About average. I am extremely tense, nervous or worried. Missing ................................................. 9

43. I am not at all spontaneous. About average. I am extremely spontaneous and unpredictable. Missing ................................................. 9

44. I have no imagination at all. About average. I have a rich imagination. Missing ................................................. 9

45. I am not at all enthusiastic. I am not interested or excited by life. About average. I am extremely enthusiastic. I am interested in and excited about life. Missing ................................................. 9

46. I am not at all ambitious. About average. I am extremely ambitious, strive for perfection. Missing ................................................. 9

47. I am not at all sociable. I like About sociable. I like
being alone. average. being with people.
Missing .................................9
Where would you rate yourself compared to others of your age and sex?

<table>
<thead>
<tr>
<th>Question</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>48. I am not at all tough. I do not take advantage of others.</td>
<td>Average.</td>
</tr>
<tr>
<td>Missing.........................9</td>
<td></td>
</tr>
<tr>
<td>49. I am not at all interested in good manners, proper behavior.</td>
<td>Average.</td>
</tr>
<tr>
<td>Missing.........................9</td>
<td></td>
</tr>
<tr>
<td>50. I do not feel treated poorly by others at all.</td>
<td>Average.</td>
</tr>
<tr>
<td>Missing.........................9</td>
<td></td>
</tr>
<tr>
<td>51. I am not at all adventurous. I prefer safe activities.</td>
<td>Average.</td>
</tr>
<tr>
<td>Missing.........................9</td>
<td></td>
</tr>
<tr>
<td>52. I carry a grudge. I try to get even.</td>
<td>Average.</td>
</tr>
<tr>
<td>Missing.........................9</td>
<td></td>
</tr>
<tr>
<td>53. I am not at all responsive to beautiful sights or sounds.</td>
<td>Average.</td>
</tr>
<tr>
<td>Missing.........................9</td>
<td></td>
</tr>
<tr>
<td>54. I am not at all suspicious. I do not feel exploited.</td>
<td>Average.</td>
</tr>
<tr>
<td>Missing.........................9</td>
<td></td>
</tr>
<tr>
<td>55. I am not at all hardworking.</td>
<td>Average.</td>
</tr>
<tr>
<td>Missing.........................9</td>
<td></td>
</tr>
<tr>
<td>56. I prefer to work out problems alone.</td>
<td>Average.</td>
</tr>
<tr>
<td>Missing.........................9</td>
<td></td>
</tr>
</tbody>
</table>

I am extremely tough. I take advantage of others.
I am extremely high on good manners, proper behavior.
I feel others treat me very poorly and unfairly.
I am extremely adventurous. I take risks.
I feel others treat me very poorly and unfairly.
I am extremely conciliatory. I turn "the other cheek."
I am extremely responsive to beautiful sights or sounds.
I am extremely suspicious. I feel exploited by others.
I am extremely hardworking. I work and play hard.
I always seek support from others when faced with problems.
Where would you rate **yourself** compared to others of your age and sex?

<table>
<thead>
<tr>
<th>Question</th>
<th>Rating</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>57. What do you think of your level-headedness?</td>
<td>I am not at all level-headed.</td>
<td>About level-headed, sensible, or orderly. Missing 9</td>
</tr>
<tr>
<td>58. Do you consider yourself to be safety-conscious?</td>
<td>I am not at all safety conscious.</td>
<td>About safety-conscious, avoid risks. Missing 9</td>
</tr>
<tr>
<td>60. Do you like thrills and adventures?</td>
<td>I avoid thrills and adventures.</td>
<td>About seek thrills and adventures. Missing 9</td>
</tr>
<tr>
<td>61. How strict are you?</td>
<td>I am not at all strict.</td>
<td>About flexible, believe in rules and discipline. Missing 9</td>
</tr>
<tr>
<td>62. Are you affectionate?</td>
<td>I am not at all affectionate.</td>
<td>About affectionate, value close personal relationships. Missing 9</td>
</tr>
<tr>
<td>63. Do you respect my parents or their ideas?</td>
<td>I do not respect my parents or their ideas.</td>
<td>About respect and admire my parents and their ideas. Missing 9</td>
</tr>
<tr>
<td>64. Are you aggressive?</td>
<td>I am not at all aggressive.</td>
<td>About aggressive, always ready for a fight. Missing 9</td>
</tr>
<tr>
<td>65. Are you emotionally even-tempered?</td>
<td>I am not at all even-tempered.</td>
<td>About emotionally even-tempered. Missing 9</td>
</tr>
</tbody>
</table>
Where would you rate yourself compared to others of your age and sex?

66. I am not at all persuasive or convincing to others. I am extremely persuasive, convincing to others. Missing ........................................ 9

67. I am not at all optimistic. I am extremely optimistic. I see the bright side of things. Missing ........................................ 9

68. I don’t plan for the future at all. I plan carefully for the future. Missing ........................................ 9

69. I don’t daydream at all. I daydream, get lost in my own thoughts. Missing ........................................ 9

70. I am not at all sensitive. My feelings are not easily hurt. I am extremely sensitive. My feelings are easily hurt. Missing ........................................ 9

71. I am not at all socially visible. I would rather not be the center of attention. I am extremely socially visible. I enjoy being in the spotlight. Missing ........................................ 9

72. I am not at all persevering. I do not like a challenge. I am extremely persevering. I like a challenge. Missing ........................................ 9

73. I am not at all sad and depressed. I am extremely sad and depressed. Missing ........................................ 9
REFERENCES


ACKNOWLEDGEMENTS

I would like to express my sincere appreciation to my major professor, Dr. Rand D. Conger, for his guidance, advises, and continual encouragement during the course of this project. I am also grateful to Dr. Fredrick O. Lorenz, Dr. Vernon D. Ryan, Dr. Ronald L. Simons, and Dr. Zha Blong Xiong for their help. Thanks are extended to my fellow graduate students and research scientists from Institute for Social and Behavioral Research. Finally, I would like to thank my husband, Zhenglin Hou, my son, Jack Pu Hou, and my daughter, Emily Hou for their love, patience, and support.