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Markers of Resilience and Risk: Adult Lives in a Vulnerable Population

J. Heidi Gralinski-Bakker and Stuart T. Hauser
Harvard Medical School
Judge Baker Children's Center

Cori Stott and Rebecca L. Billings
Judge Baker Children's Center

Joseph P. Allen
University of Virginia

In this report, we drew on data from an ongoing longitudinal study that began in 1978 (Hauser, Powers, Noam, Jacobson, Weiss, & Folansbee, 1984). Focusing on late, young-adult life among individuals who were psychiatrically hospitalized during adolescence, we examined markers of resilience empirically defined in terms of adult success and well-being. The study includes a demographically similar group recruited from a public high school. Major goals were to (a) develop preliminary models of adaptive functioning among adults in their 30s, (b) examine the extent to which adults with histories of serious mental disorders can be characterized by these models, and (c) explore predictors of successful adult lives from indicators of individuals' psychosocial adjustment at age 25.

Results showed significant cohort effects on indexes of adaptive functioning, especially for men. Findings suggest that social relations as well as self-views of competence and relatedness play important roles in characterizing adjustment during the adult years. In addition, indexes of psychosocial adjustment as well as symptoms of psychiatric distress and hard drug use at age 25 made a difference in adult social functioning and well-being, providing hints of possible mechanisms likely to facilitate the ability to "bounce back" after a difficult adolescence.

Over the past 20 years, reports in epidemiological, public health, psychological, and psychiatric literatures have reflected a heightened interest in the etiology, pa-

Requests for reprints should be sent to J. Heidi Gralinski-Bakker, Judge Baker Children's Center, Harvard Medical School, 3 Blackfan Circle, Boston, MA 02115. E-mail: jheidi@hms.harvard.edu

thology, and treatment of adolescent mental disorders (U.S. Public Health Service, 1999, 2000). Considerable attention has been devoted to analyses of personal and societal costs of mental disorders including links with adolescents' capacities to carry out their personal, educational, family, and social responsibilities. In general, these analyses have suggested that adolescent-era mental disorders place some individuals at risk for a variety of maladaptive outcomes in their own lives as well as with friends and family, at school, and in the community (Cicchetti & Cohen, 1995). From a developmental perspective, these findings prompted questions about the longer term roles of adolescent mental disorders in adult psychological growth and functioning over time (Gralinski-Bakker, Hauser, Billings, & Allen, 2004; The National Advisory Mental Health Council Workgroup on Child and Adolescent Mental Health Intervention Development and Deployment, 2001).

To address these questions, some recent attention has focused on understanding vulnerabilities that characterize a substantial number of those with a history of mental disorders (U.S. Public Health Service, 2000). This knowledge can be vital in designing intervention programs aimed at identifying risk factors and avoiding undesirable outcomes. At the same time, a growing literature on resilience has suggested that it is equally important to understand positive developmental outcomes among those who have faced significant adversity including the ability of high-risk individuals to "bounce back" in later life after a difficult youth (Garmezy, Masten, & Tellegen, 1984; S. T. Hauser, 1999; S. T. Hauser & Allen, 2004; Masten, Best, & Garmezy, 1990; Rutter, 1987; Werner & Smith, 2001). In particular, knowledge about the ability to bounce back is essential for helping individuals with histories of mental disorders develop satisfying relationships with family and friends, competence in important life roles, and a sense of psychological well-being (Bornstein, Davidson, Keyes, & Moore, 2003). With this interest in mind, our longitudinal study is among the few that have conducted long-term follow-up of adults who were troubled during adolescence (S. T. Hauser, 1999; Vaillant & Vaillant, 1981; Werner & Smith, 2001). However, additional work is needed to build a foundation for understanding capacities to function adaptively in different developmental eras among an especially vulnerable population—those with histories of psychiatric symptoms sufficient to result in psychiatric hospitalization.

In our own research, begun in 1978, we have been interested in development among individuals who experienced psychiatric hospitalization during adolescence. Not only did these individuals suffer from serious psychopathology during an important developmental era, the majority (96%) reported potentially traumatic experiences during their childhood and adolescence. There is little doubt that the general stigma associated with the label of mental illness was made even more deleterious by their living in a psychiatric hospital (S. T. Hauser, 1999; S. T. Hauser & Allen, 2004). In addition, our data have provided evidence of adoles-

cents' relative failure to attain important developmental milestones including performing well in school, acquiring capacities to deal adaptively with stress, developing an increasingly complex and integrated sense of self, and attaining both emotional and behavioral autonomy in relation to parents (Allen, Hauser, Bell, & O'Connor, 1994; S. T. Hauser & Bowlds, 1990).

Despite such evidence of a difficult and troubled youth, Hauser and Allen have drawn on data from this longitudinal study to find instances of positive functioning among some individuals who overcame the adversities they faced in adolescence to live relatively successful lives at age 25 (S. T. Hauser, 1999; S. T. Hauser & Allen, 2004). In this process, Hauser (1999) empirically defined resilience in terms of individual outcome profiles encompassing early adult psychosocial development, relationship functioning, and social competence. Extending this research to participants in a new developmental era (i.e., the "30s"), we now focus on profiles of competence in major life roles that typically define success in late, young-adult lives including those that carry developmental and social significance. In addition to manifest competence in these roles, we consider aspects of psychological well-being especially relevant to adult life. With these interests in mind, there are three overarching goals of the analyses presented in this article: (a) to develop preliminary models of adaptive functioning among adults in their 30s, (b) to examine the extent to which adults with histories of serious mental disorders can be characterized by these models, and (c) to explore predictors of successful adult lives from indicators of individuals' psychosocial adjustment at age 25.

As discussed further below, major life roles for adults in our Western cultural context typically involve work, family, friends, marriage, and parenting (Levinson, Darrow, Klein, Levinson, & McKee, 1978; Levinson & Levinson, 1996). Important aspects of psychological well-being include a sense of overall self-worth as well as an integrated sense of identity and purpose in life (for a recent discussion, see Leary & Tangney, 2003). Psychological well-being also includes beliefs about one's abilities to manage one's life and the surrounding world effectively as well as to develop and sustain meaningful relationships (Keyes & Waterman, 2003; Ryff & Keyes, 1995). In addition to their contributions to well-being, beliefs about competence and relatedness reflect basic psychological needs that are central motives helping to initiate and maintain behavior over time (Baumeister & Leary, 1995; Deci & Ryan, 1991; Ryan & Deci, 2000, 2003). People want to function competently in various life domains; they also want to experience warm, close, and accepting relationships embedded in communal networks. At the same time, those who believe they can manage their lives effectively and maintain supportive relationships have psychological resources for dealing with life challenges (Hobfoll, 2002). Exploring the nature of people's self-views as well as how they function in life domains may therefore provide a meaningful framework to understand critical aspects of adult psychosocial adjustment.

RESILIENCE AS A CONSTRUCT

Recent reviews have emphasized the importance of providing a clear definition of resilience, with particular attention paid to its operationalization in empirical work (Kaplan, 1999; Luthar, Cicchetti, & Becker, 2000). Broadly speaking, resilience has been inferred on the basis of successful adaptation among individuals who faced challenging or threatening circumstances (Luthar et al., 2000; Masten, 2001; Masten et al., 1990; Rutter, 1987). Despite a general consensus about such markers, there is limited agreement about the extent to which external or internal criteria might serve as a basis for defining outcomes as markers of resilience (Luthar, 1999; Luthar et al., 2000; Masten, 2001). For some researchers, manifest competence (such as positive peer relations or freedom from symptoms of substance abuse) is an important indicator of resilient functioning (Rutter, 2000). Others have suggested that internal criteria (such as psychological well-being or low levels of distress) are important determinants of the degree to which individuals are "doing well" in the context of risk (Ryff & Singer, 2003). Recently, Luthar and her colleagues (2000) emphasized the importance of a balanced interpretation of both external and internal criteria. Following some adverse experiences, manifest competence despite some underlying distress may reflect successful adjustment. On the other hand, unremitting distress can jeopardize a person's capacity to function adaptively in everyday life and contribute to deterioration in levels of adaptive functioning over time (Kaplan, 1999). Within these perspectives, most researchers agree that it is important to consider adjustment in domains that are socially and psychologically meaningful to a wide range of people who share a set of cultural traditions. At the same time, it is essential to pay special attention to the population being studied and to set reasonable standards as evidence of success (Luthar et al., 2000; Masten, 1999). As Masten (2001) noted, these are highly complex issues that have only recently received empirical attention.

To examine resilience in this study, we take a life-course perspective focusing on outcomes that might reasonably differentiate people who are comparable to the average general population from those who are experiencing difficulties in their lives (Masten, 2001; Masten & Coatsworth, 1995). In addition, we consider emotional and motivational self-evaluative processes likely to contribute to psychological well-being and to guide behavior and development over time (Baumeister & Leary, 1995; Baumeister & Vohs, 2003; Deci & Ryan, 1991, 2000; Epstein, 1991). In these contexts, we examined the absence of negative outcomes as well as the presence of positive outcomes. For researchers who have focused on the absence of negative outcomes, low levels of impairment typically translate to positive outcomes and therefore to indicators of resilience under conditions of risk (Rutter, 1987, 2000). From this perspective, markers of resilience may include freedom from social deviance or psychopathology such as substance abuse, crime, or psychiatric distress. For participants in this study, we hypothesized that

the absence of diagnoses of psychiatric disorders during the past year was such an indicator.

At the same time, an emphasis on the absence of negatives does not necessarily signify the presence of positives (Antonovsky, 1987). People who are free from symptoms of dysfunction may not have developed the competencies needed to address adequately their personal, social, and familial needs. They may not be functioning well at work, at home, or in the community. In addition, they may not be satisfied with the lives they lead or perceive themselves as people of worth. As a result, focusing merely on the absence of negative outcomes tells us little about those who successfully adjust to the challenges of adult roles and responsibilities, achieve long-term favorable outcomes, and live fulfilling adult lives (Bornstein et al., 2003; Seligman & Csikszentmihalyi, 2000).

COMPETENT FUNCTIONING

For the most part, competence in major life roles becomes increasingly significant when adults are in their 30s. Markers of success are typically reflected in manifest indicators of work performance, supportive relationships with family and friends, intimate relationships with significant others, and childbearing (Levinson et al., 1978; Levinson & Levinson, 1996). In addition to being at risk for a range of mental health problems, a substantial minority of those with a history of serious mental disorders is at high risk of failing to attain success in these roles. Evidence of such risk comes from a number of studies that have examined community samples for symptoms of psychiatric disorders. These data suggest that people with a history of mood disorders are at increased risk of repeated unemployment, poor work performance, early or unplanned parenthood, and problematic relationships with romantic partners (Fergusson & Woodward, 2002). Relative to their peers, those with histories of antisocial behavioral disorders have poor work histories in low-status, unskilled jobs and a trend toward early, albeit unstable, marriages and youthful childbearing (Sampson & Laub, 1993). Facing the possibility of such failures, the avoidance of such undesirable outcomes might indeed translate into relative success for some adults with histories of serious mental disorders. At the same time, achievements comparable to the average general population may be even more noteworthy (Masten, 2001), suggesting a metric to be applied to our criteria for evaluating adult success.

Based on our understanding of resilient outcomes among our participants at age 25 (when 13.3% of the hospital group fit empirically defined profiles of resilience; S. T. Hauser, 1999; S. T. Hauser & Allen, 2004), we predicted that a small minority of the previously hospitalized group would show evidence of competent functioning in domains critical to adult success. In contrast, we hypothesized that the presence of severe mental illness in adolescence is sufficiently disruptive of

normal developmental processes as to produce lifelong deficits in adult role functioning for a significant minority of those who required psychiatric hospitalization. Because interpersonal relationships are an important element of work life, we predicted further that those adults who experience difficulty in social relations would show evidence of impaired functioning in the work role. Based on previous research that suggested that men tend to be vulnerable to risk conditions during this developmental era (Werner & Smith, 2001), we also hypothesized that men from the hospital group would be at greatest risk for poor outcomes.

PSYCHOLOGICAL WELL-BEING

In modern Western societies, multiple aspects of personal well-being gain importance during the adult years. Consistent with a multidimensional model of well-being (Keyes & Waterman, 2003; Ryff & Keyes, 1995), these include self-evaluations of overall worth, a sense of meaning and purpose in life, perceived efficacy or beliefs about one's abilities to manage life effectively, and beliefs about one's acceptance and involvement in social relationships. There is little doubt that positive evaluations about one's own life and sense of purpose are critical dimensions of subjective well-being (Diener, 1984; Keyes & Waterman, 2003). Not only are perceived efficacy and belonging important aspects of well-being, they are important components of a motivational perspective on psychological needs that guide behavior and development over time and play a significant role in the organization and regulation of people's everyday lives (Deci & Ryan, 1985, 1991; Ryan & Deci, 2003). Broadly speaking, proponents of this perspective have suggested that people are motivated to develop or maintain a perception of themselves as competent, which involves feeling capable of performing goal-directed behaviors (Deci & Ryan, 1985, 1991; White, 1959). People presumably also have a strong need to affiliate or belong as reflected in having a few close, mutually caring, and supportive relationships with others (Baumeister & Leary, 1995; Deci & Ryan, 2000). Moreover, empirical support for links between adult well-being and the important roles of perceived competence (or agency) and relatedness is overwhelming (for a recent review, see Ryan & Deci, 2001).

With respect to a competence motive, people who believe they are capable are more likely to behave effectively in many areas of life (for a recent discussion, see Baumeister & Vohs, 2003). In contrast, those who have doubts about their abilities are likely to view many aspects of their adult lives as full of challenges that are difficult to achieve. For example, beliefs about personal abilities influence job performance and occupational success (Bandura, 1997). When people have confidence in their abilities, they are more likely to persist in the face of work-related challenges than those who doubt their abilities to do well and anticipate the futility of their efforts. In a similar vein, people's beliefs about their abilities to

develop and maintain interpersonal relationships make a difference in the relationships they have with others (Caprara et al., 1998). When people believe that they are socially competent, they tend to engage effectively with friends and intimate partners. Similarly, those who have developed and maintained close, mutually supportive relationships are likely to experience themselves as capable of future social success. In addition to satisfying an individual's need to belong, such relationships can be sources of support in challenging circumstances. For those who believe their social skills are limited, however, it may be difficult to form and maintain mutually satisfying relationships. As a result, experiences of acceptance and connectedness to others may be restricted, and potential sources of social support may be lacking (Baumeister & Leary, 1995).

Because links from adolescent-era serious mental disorders and aspects of adult psychological well-being have gone almost completely unexamined to date, our hypotheses are speculative. For some adults with histories of serious mental disorders, positive self-views may indeed reflect overall satisfaction with themselves and healthy well-being (Keyes & Waterman, 2003). Alternatively, overly positive self-views might be considered defensive and potentially maladaptive. For adults who are experiencing difficulties in their lives, such positive self-views may mask less conscious self-doubts and feelings of inadequacy (Brown & Bosson, 2001; Kohut, 1971). They may also reflect an assortment of maladaptive techniques such as pervasive self-serving biases and the denial of responsibility for failure (Kernis & Paradise, 2002). Thus, we hypothesized that positive self-views in concert with evidence of competent functioning in major life roles were likely indicators of well-being. On the other hand, we reasoned that positive self-views in the absence of indicators of adult success were less likely indicators of mental health.

Finally, we considered the role played in successful adult development by indexes of psychosocial adjustment at age 25. Drawing on the research with young adults in our sample (S. T. Hauser, 1999; S. T. Hauser & Allen, 2004), we examined both indicators of adult psychosocial development, relationship functioning, and social competence as well as indicators of social deviance and psychopathology. The first set of indicators included psychological maturity (as reflected in scores of ego development; Loevinger, 1976), ego resiliency as judged by friends (Kobak & Sceery, 1988), self-worth, perceived competence, and perceived sociability (Messer & Harter, 1989)[1] and attachment representation coherence (Main & Goldwyn, 1998). The second set of indicators included hard drug use and criminal behavior in the past 6 months (Elliott, Ageton, Huizinga, Knowles, & Canter, 1983) and total symptoms of psychiatric distress (Derogatis,

[1]In previous work, Hauser (1999) examined indexes of relationship closeness. Because the measures of self-worth, perceived competence, and perceived sociability were conceptually similar to the indexes of psychological well-being included in this study, we included them in the analyses presented in this article.

1983). Given relatively robust findings in research on development in low-risk populations, we predicted that relatively high levels of the psychological resources at age 25 would be associated with markers of successful adult functioning and well-being in the 30s. We also predicted that relatively high levels of social deviance and psychiatric distress would be associated with diminished success.

METHOD

Participants

In this study, we included 118 adults (65 female, 53 male) whose data were complete.[2] These adults represent 83% of the living members ($n = 142$) of an original sample of adolescents first enrolled between 1978 and 1980 in an ongoing longitudinal study of individual and familial development over time (Allen, Hauser, & Borman-Spurrell, 1996; S. T. Hauser, Jacobson, Noam, & Powers, 1983; S. T. Hauser et al., 1984). The original sample included two groups: adolescents who had a nonpsychotic, nonorganic impairment serious enough to require hospitalization ($n = 70$, M age = 14.4 years) and adolescents drawn from 250 volunteers in the freshman class of a public school ($n = 76$, M age = 14.2 years). Participants in this study included 49 members of the original hospital group (26 women, 23 men) and 69 members of the original school group (39 women, 30 men). At the time of the adult assessments, the participants ranged in age from 26 to 35 years, with an average age of 30.35 ($SD = 2.26$) and 31.10 years ($SD = 1.24$) in the hospital and school groups, respectively.

As reported in previous work by Hauser and colleagues (Allen et al., 1996; S. T. Hauser et al., 1983), adolescents from the hospital and school groups did not differ significantly in terms of age, gender, or ethnicity. Although both groups came from families in the middle-class to upper middle-class range, approximate family social status based on Hauser–Warren coefficients (R. M. Hauser & Warren, 1997) indicated significant group differences, $F(1, 144) = 13.50$, $p < .001$, with mean status levels lower in the hospital sample ($M = 44.24$, $SD = 13.90$) than in the school sample ($M = 56.44$, $SD = 17.92$).[3]

Originally, the sampling procedure was used to examine adolescents across a broader range of levels of social functioning than would typically be available in a representative community sample. Psychiatric hospitalization was thus used as a criterion to obtain a sample likely to be at lower levels of individual and family

[2]Data were collected from 9 additional original participants. Because the protocol was not complete, data from these participants were excluded from this study.

[3]Given these significant differences, adolescent-era family social class has been entered into analyses where it is theoretically plausible that adult outcomes (e.g., educational attainment, occupational prestige) may be confounded with or explained by family social class differences.

functioning (for a more complete description of sampling procedures and rationale, see S. T. Hauser, 1991). Initially, the hospitalized adolescents were given diagnoses based on the second edition of the *Diagnostic and Statistical Manual of Mental Disorders* (*DSM–II*; American Psychiatric Association, 1968). In 1992, we updated these diagnostic classifications using criteria from the revised third edition of the *DSM* (*DSM–III–R*; American Psychiatric Association, 1987). Based on a review of the hospital charts (including previous diagnoses), these adolescents' psychiatric symptoms were classified as being conduct disorders (46%), depression and other mood disorders (25%), anxiety disorders (10%), and diverse other classifications (18%).

Preliminary comparison of this follow-up sample with the original sample showed no significant differences in terms of mean current age or percentage male. In the hospital group, those in the follow-up and original samples did not differ in terms of the percentage receiving particular diagnoses as part of the hospital admission process. Within the follow-up sample, the adult lives of participants from the hospital and school groups differed along several developmentally salient dimensions (see Table 1). By their 30s, only 9% of the hospital group had received baccalaureate or advanced degrees, whereas more than half of the school group had completed 4 years of university (43%) or advanced graduate education

TABLE 1
Rates of Participant Educational Attainment, Occupational Status, and Family Structure

	Total[a]		*Men*[b]		*Women*[c]	
Variable	*Hospital*	*School*	*Hospital*	*School*	*Hospital*	*School*
Educational attainment						
Less than high school	.14	.01	.19	.03	.04	.00
High school only	.23	.03	.24	.03	.23	.03
Some postsecondary	.53	.25	.43	.33	.64	.18
Bachelor's degree	.07	.43	.10	.37	.07	.47
Advanced degree	.02	.28	.05	.23	.00	.32
Occupational status						
Imprisoned	.06	.00	.13	.00	.00	.00
Unemployed	.08	.03	.09	.03	.08	.03
Employed	.76	.88	.78	.97	.73	.82
Homemaker	.10	.06	.00	.00	.19	.10
Student	.00	.03	.00	.00	.00	.05
Family structure						
Single	.31	.36	.43	.50	.19	.26
Partnered	.43	.56	.39	.40	.46	.69
Divorced/separated	.20	.03	.13	.03	.27	.03
Currently a parent	.42	.23	.26	.16	.57	.28

[a]In the full sample, $N = 118$: hospital $n = 49$, school $n = 69$. [b]For the men, $n = 53$: hospital $n = 23$, school $n = 30$. [c]For the women, $n = 65$: hospital $n = 26$, school $n = 39$.

(28%). Consistent with extensive prior research, participants' educational attainment was associated with their occupational success, $r = .61$ and .60, $p < .001$ for the hospital and school group, respectively. Those employed outside of the home included 76% and 88% of the hospital and school groups, respectively. Of those employed, members of the hospital group, on average, held jobs with lower occupational prestige ($M = 34.04$, $SD = 12.84$) than the jobs held by members of the school group ($M = 48.23$, $SD = 16.61$), $F(1, 95) = 19.49$, $p < .001$. Occupational prestige did not differ by gender or the association between gender and previous psychiatric status. Moreover, the effect of psychiatric status on educational attainment and occupational prestige remained significant after controlling for the effect of adolescent era family social class. Additional comparisons of relationship and childbearing status showed that members of the hospital group were less likely to be in committed relationships, more likely to be separated or divorced, and more likely to have experienced early childbearing than were members of the school group.

Procedures

When participants were in their 30s, on average, they took part in the "adult era" of the larger investigation. Consistent with the informed consent procedures, the adult era included a 6- to 8-hr battery of assessments conducted in private rooms either at our research site or for those participants living at a distance who preferred not to travel, in private rooms at universities near their residences. In general, these assessments included an array of observations, structured and semistructured interviews, and questionnaires covering a broad range of domains of functioning as well as a psychiatric assessment. As part of this process, participants provided information about their educational attainment and occupational status. They took part in a structured clinical interview focusing on psychiatric symptoms as well as an interview asking about their behavior, feelings, and satisfactions in five role areas: work, social and leisure, extended family, marriage, and parenting (Weissman & Paykel, 1974). In addition, they completed a questionnaire describing their self-views (O'Brien & Epstein, 1987).

In the "early adult phase" of the larger investigation, 142 participants (50% women, M age = 25.8 years) gave their informed consent to participating in a 4-hr battery of assessments focused on developmentally and socially salient domains. Assessments were conducted in private rooms at our research site or at universities within geographic proximity to participants' residences (for a more complete description, see Allen et al., 1996). Of relevance to this study, measures of psychosocial functioning included indexes of ego development, representations of early emotionally significant relationship experiences, self-worth, self-perceptions of competence and sociability, and self-reported hard-drug use, criminality,

and symptoms of psychological distress. Using the California Q-sort (Block, 1978), two peers also provided ratings of participants' ego functioning.

Measures

Participant characteristics, adult era. Information about education, employment, relationship status, and childbearing was obtained from a structured interview. Scores for educational attainment were derived from criteria commonly used in developmental research (Entwistle & Astone, 1994). These scores ranged from 0 to 4 reflecting "less than school," "school diploma or equivalent," "some postsecondary education," "university baccalaureate degree," and "graduate or professional degrees." Scores for occupational success were based on ratings assigned by coders to the jobs described by participants. These ratings were given assigned coefficients drawn from the Hauser–Warren total-based socioeconomic index (SEI) (R. M. Hauser & Warren, 1997).

Psychopathology, adult era. Information about current symptoms of diagnostic relevance were assessed with the Structured Clinical Interview for *DSM–III–R* (Spitzer, Williams, Gibbon, & First, 1990). This interview is designed to approximate the differential diagnostic process performed by an experienced clinician. Research assistants who had not been given any information about participants or their psychiatric history conducted the interviews. They were carefully selected, rigorously trained, and closely supervised by expert clinicians. A clinical psychologist or board certified psychiatrist with extensive diagnostic experience reviewed all interviews and diagnoses in research diagnostic conferences. It was the "expert" diagnoses that were used in this study.

Role performance, adult era. A semistructured interview, the Social Adjustment Scale (Weissman, 1995; Weissman & Paykel, 1974), was used to assess five major areas of functioning: work, social and leisure activities, relationships with extended family, marital role, and parenting. The interview asks questions that fall into four major categories: instrumental role performance; the amount of friction with others; interpersonal behaviors such as reticence, withdrawal, and dependency; and feelings such as disinterest or distress. The validity and reliability of the interview has been well demonstrated (Weissman, 1993). Responses to the individual questions were scored using a 5-point scale ranging from 1 to 5 that, in the interviewer's opinion, characterizes the quality of functioning expressed. The first point is used to reflect excellent status, the second point is considered an average rating for the general population, and the remaining three points indicate increasing degrees of impaired functioning. A second set of scores was used to characterize judgments about overall functioning in each role area as

well as overall adjustment. These judgments are reflected in scores ranging from 1 to 7, with higher scores indicating a greater degree of impairment.

Research assistants who had not been given any information about participants or their psychiatric history conducted interviews. They were trained to reliability by J. Heidi Gralinski-Bakker who had first established interrater reliability (ranging from 65% to 80%) using data collected as part of a study assessing the discriminant validity of the Adult Attachment Interview (Crowell et al., 1996). Before gathering data used in the current study, interviewers conducted practice interviews and achieved satisfactory interrater agreement, averaging 80% for the individual items and 73% for the global scores. For this study, scores were reversed so that higher scores reflect more competent functioning than do lower scores; only global scores were included in analyses. Participants met the criterion of overall competent functioning in the areas of work, social relations, and extended family relations[4] when they received a global rating indicating excellent or average functioning for the general population.

Self-evaluations, adult era. The 116-item Multidimensional Self-Esteem Inventory (O'Brien & Epstein, 1987) was used to provide measures of psychological well-being. Using a 5-point scale ranging from "almost never" (1) to "very often" (5), participants evaluated their feelings of self-esteem and a sense of identity including a tendency to know what one wants out of life and to have clear long-term goals. Participants also described themselves in terms of their perceived competence and self-control as well as their perceptions of likeability by peers and beliefs about their abilities to love and be loved. Individual scores were created by summing the ratings given to each relevant item. Each score ranged from 10 to 50, with higher scores reflecting more positive self-perceptions than lower scores.

To determine whether these scores were in the high (+2, +1), normal (0), or low (–1, –2) range, participants' ratings on each dimension were transformed into *T* scores using indexes developed by O'Brien and Epstein (1987). For each *T* score at or above 0 (indicating self-ratings at least within the normal range), the participant was considered to have a positive self-view in that domain. Judgments about positive self-views were then organized into three categories. Consistent with a hierarchical model of the self, the first category included evaluations of global self-esteem as well as a sense of identity and purpose. The other two categories included self-perceptions of agency (as reflected in personal ratings of competence and self-control) and perceived relatedness (involving ratings of acceptance and involvement in peer relationships as well as the capacity to express and receive feelings of love).

[4]Because a relatively large percentage of participants were not in a marital or parenting role, these indexes were not included.

Ego development, early adult phase. The assessment of ego development was conducted utilizing a 36-item sentence completion test and theoretically derived scoring system (Hy & Loevinger, 1996; Loevinger & Wessler, 1970). Individual differences in ego development represent varying degrees of complexity, openness, and depth in ways that individuals conceptualize self and interpersonal experiences (S. T. Hauser, 1976, 1993; Hy & Loevinger, 1996; Loevinger, 1976). In this study, item sum scores were used to best represent young adults' stage of ego development, with higher scores reflecting increasing psychosocial maturity.

Self-worth and self-perceptions of competence, early adult phase. These self-evaluations were assessed using the Adult Self-Perception Profile (Messer & Harter, 1986), a 50-item scale that taps self-reported ratings of overall self-worth as well as multiple dimensions of an individual's self-perceptions. In addition to overall self-worth, relevant self-ratings used in this study included perceived competence and sociability.

Coherence of representations of early relationships, early adult phase. The Adult Attachment Interview was used to assess representations of early childhood relationships with parents and the possible influence of those representations on personality and development. In addition to overall classifications, the scoring system includes specific scales regarding current states of mind and discourse style (Main & Goldwyn, 1998). In this study, we included the coherence score reflecting individuals' overall ability to organize, integrate, and present a clear, convincing picture and evaluation of past attachment experiences. All interviews were rated by a coleader of the Adult Attachment Institute Workshops (E. Hesse); based on 21 transcripts, interrater reliability for the coherence score was .72. The validity and reliability of the interview and scoring system are well documented (Cassidy & Shaver, 1999).

Peer-rated ego resiliency, early adult phase. Each participant named two peers who were described as "knowing him or her well." These peers were then contacted and asked to rate participants using the California Q-sort (Block, 1978). Peers' ratings were averaged together, and from these ratings, a score for ego resiliency was constructed. This score, ranging from –1.00 to +1.00, was obtained by correlating the sort for each young adult with a criterion sort for the maximally ego-resilient individual provided by Block (1978).

Antisocial behavior, early adult phase. Hard-drug use and criminal behavior were measured with an instrument initially validated and normed in a study (Elliott, Huizinga, & Menard, 1989) of a national probability sample of adolescents. Hard-drug use was measured as the total number of instances of illicit use

of five classes of hard drugs (heroin, cocaine, hallucinogens, amphetamines, and tranquilizers) in the previous 6 months. Criminal behavior was measured as the total number of times individuals reported engaging in each of 30 nonoverlapping classes of illegal behavior during the previous 6 months. Measures of both hard-drug use and criminal behavior were highly skewed and were thus transformed using logarithmic transformation.

Symptoms of psychological distress, early adult phase. Using a 4-point rating scale on the Symptom Checklist–90–Revised (Derogatis, 1983), participants indicated the degree to which they experienced distress associated with each of 90 items describing symptoms commonly identified by psychiatric patients. The total number of symptoms endorsed was used as an index of psychological distress.

RESULTS

Overview of the Plan of Analyses

The analyses were organized around questions regarding indicators of resilience among adults who had been hospitalized psychiatrically during adolescence. To provide an overview of adjustment in the two cohorts, we first examined the effects of cohort and gender on presence of psychopathology in the past year (see Table 2). We also examined mean level indicators of competent functioning and

TABLE 2
Rates of Psychopathology Reflected in Psychiatric Diagnoses Within the Past Year

	Total		*Men*		*Women*	
Diagnosis	*Hospital*	*School*	*Hospital*	*School*	*Hospital*	*School*
Any diagnosable disorder[a]	.39	.18	.61	.13	.19	.21
Specific types of disorders[b]						
Mood disorders	.14	.33	.13	.17	.16	.44
Psychotic disorders	.06	.00	.07	.00	.00	.00
Substance disorders	.31	.40	.31	.67	.33	.22
Anxiety disorders	.20	.20	.17	.17	.33	.22
Eating disorders	.03	.06	.00	.00	.16	.11
Antisocial personality	.20	.00	.24	.00	.00	.00
Borderline personality	.06	.00	.07	.00	.00	.00

[a]These rates are based on the full sample, $N = 118$: hospital $n = 49$, school $n = 69$. For the men, $n = 53$: hospital $n = 23$, school $n = 30$. For the women, $n = 65$: hospital $n = 26$, school $n = 39$. [b]These rates include only those who received diagnoses, $n = 50$: hospital $n = 35$, school $n = 15$. For the men, $n = 35$: hospital $n = 29$, school $n = 6$. For the women, $n = 15$: hospital $n = 6$, school $n = 9$.

psychological well-being using multivariate analyses of variance (MANOVAs) to reduce the probability of Type I errors. Significant multivariate findings ($p < .05$) were examined with follow-up univariate analyses of variance (ANOVAs). Table 3 presents the means and standard deviations of these variables as well as results of the univariate significance tests.

Because individual patterns of adjustment are the focus of this report (and they are concealed too easily in group means), we then used loglinear multiway frequency analyses to develop models of competent functioning and well-being for the complete sample. In exploratory analyses, we then applied these to each cohort as a whole and then separately for men and women by cohort. In the final analysis, we examined canonical correlations focusing on patterns of association between early adult indexes of psychosocial adjustment and indexes of adult competent functioning and psychological well-being.

Indicators of Current Psychopathology

Most of the participants did not meet criteria for psychiatric diagnoses within the past year (61% and 82% in the hospital and school groups, respectively). However, these group frequencies obscure significant differences between men who were previously hospitalized and those from the school group: 39% of the men from the hospital group did not receive diagnoses of current psychopathology compared with 87% of the men from the school group. In contrast, the percentages of hospital and school women without diagnoses did not differ (hospital = 81%, school = 79%).

Table 2 shows the overall rates of current psychopathology in the sample as well as rates of different diagnostic categories that characterized their psychiatric symptoms. These data show that mood, substance, and anxiety disorders tended to be relatively common among those with diagnoses, irrespective of group or gender. At the same time, 31% of the hospital men who reported current psychopathology received diagnoses of personality disorders including antisocial behavior as well as borderline personality disorders (24% and 7%, respectively).

Cohort and Gender Effects on Mean Level Indicators of Functioning and Self-Views

Competent Functioning

A 2 × 2 multivariate ANOVA was used to examine cohort and gender effects on global judgments of functioning. These analyses showed only significant multivariate cohort effects, $F(3, 112) = 13.00$, $p < .001$. Follow-up MANOVAs revealed significant cohort differences in functioning in all role areas, with adults from the hospital group functioning at lower levels on average when compared

TABLE 3
Mean Level Indicators of Competent Functioning and Psychological Well-Being

	Total					*Men*				*Women*			
	Hospital		*School*			*Hospital*		*School*		*Hospital*		*School*	
	M	*SD*	*M*	*SD*	*F(1, 116)*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Competent functioning[a]													
Work	5.33_a	1.81	6.13_b	0.95	09.74*	4.83	2.06	6.17	1.15	5.77	1.48	6.10	0.79
Social relations	5.04_a	1.35	5.99_b	0.81	22.32**	4.74	1.42	5.93	0.83	5.31	1.26	6.03	0.81
Family relations	5.38_a	1.20	6.23_b	0.79	21.16**	5.30	1.15	6.43	0.63	5.46	1.27	6.08	0.87
	M	*SD*	*M*	*SD*	*F(2, 115)*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Psychological well-being[b]													
Self-regard	32.60_a	7.41	35.62_a	6.01	02.01	30.93	7.88	35.80	6.36	34.08	7.25	35.47	5.82
Agency	35.45_a	5.58	37.56_a	4.98	02.35	35.30	5.26	38.68	4.62	35.58	5.95	36.70	5.13
Relatedness	33.97_a	6.18	37.90_b	5.27	08.79*	32.67	5.07	37.01	6.24	35.11	6.91	38.58	4.35
	M	*SD*	*M*	*SD*	*F(3, 114)*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Defensive self-enhancement[c]	46.97	8.38	50.30	6.05	09.10*	43.02_a	6.72	49.43_b	6.43	50.45_b	8.26	50.97_b	5.64

Note. Different subscripts indicate that means are significantly different from each other.

[a]Range = 1–7. High scores indicate competent functioning. [b]Numbers reflect least-square means controlling for defensive self-enhancement. Range = 10–50. High scores indicate positive self-views. [c]There was also a significant interaction effect, $F(3, 114) = 5.50$, $p < .05$.

*$p \leq .01$. **$p \leq .0001$.

with the school group. Although there were no significant multivariate gender main effects or interactions, Table 3 provides descriptive information including means and standard deviations for men and women in each cohort.

Psychological Well-Being

The Cohort × Gender MANCOVA examining the set of variables representing participants' self-views revealed significant cohort, $F(3, 111) = 2.96$, $p < .05$ and gender, $F(3, 111) = 2.74$, $p < .05$ main effects. For these analyses, we controlled for the effects of defensive self-enhancement. As shown in Table 3, follow-up 2 × 2 (Cohort × Gender) analyses of covariance revealed only a significant cohort effect on participants' perceived relatedness; other differences were not significant after controlling for the effects of defensive self-enhancement. To better understand the role of defensiveness in these self-reports, a Cohort × Gender ANOVA was performed. Results showed a significant interaction effect, $F(1, 114) = 5.50$, $p < .05$, with men from the hospital group reporting lower levels of self-enhancement when compared with men from the school group and women.

Patterns of Adjustment

Competent Functioning

A three-way frequency analysis was performed to develop a hierarchical linear model of global assessments of functioning in role areas. Dichotomous variables analyzed were whether the participants were rated as functioning at least as well as the average general population at work, in social and leisure activities with friends, and with extended family members. All two-way contingency tables provided expected frequencies in excess of five. Stepwise selection by simple deletion of effects produced a model that included all first-order effects and two-way associations. The model had a likelihood ratio, $\chi^2(1, N = 118) = .04$, $p = .84$, indicating a good fit between observed frequencies and expected frequencies generated by the model. A summary of the model with results of tests of partial likelihood chi-square and loglinear parameter estimates appears in Table 4. Because of a small sample size, we were unable to develop separate models for each group. Therefore, Table 5 shows results of exploratory two-way contingency tables comparing the observed frequencies in the hospital and school groups as a whole and separately for men and women.

As Table 4 shows, most of the participants were functioning well at work (75%), with friends (64%), and with extended family members (70%). In addition, at least half of the sample showed evidence of competent functioning across multiple role areas. Among those who were rated as being competent in the work role, 54% described competent functioning with friends, whereas 57% received

TABLE 4
Summary of Hierarchical Model of Global Assessments of Competent Functioning

Effect	*Partial Association* χ^2	*Parameter Estimate*	*SE*	*Rates of Competent Functioning* (+,+)	(–,–)
First order					
Work	14.50***	–0.44	.12	.75	
Social relations	0.47	–0.08	.12	.64	
Family relations	5.70*	–0.27	.11	.70	
Second order					
Work × Social Relations	6.66**	0.30	.12	.54	.15
Work × Family Relations	3.51	0.22	.12	.57	.13
Social × Family Relations	5.41*	0.25	.11	.51	.17

Note. Overall evaluation of the model was based on the likelihood ratio, χ^2 (1, N = 118) = 0.04, p = .84.

*$p \leq .05$. **$p \leq .01$. ***$p \leq .0001$.

ratings indicating competence with extended family members. About half (51%) were rated as competent in the two interpersonal domains, with friends as well as extended family members. In contrast, a small minority (13% to 15%) showed evidence of impairment at work and in social relations, whereas 17% described deficits in social functioning with friends as well as extended family.

Extending this model to explore possible group and gender effects, Table 5 shows first-order effects indicating that about half of the adults in the hospital group showed evidence of competent functioning at work (61%), with friends (49%), and with family members (49%). At the same time, a majority of those in the school group were rated as functioning well at work (84%), with friends (75%), and with family (84%). Consistent with our hypotheses, the observed frequencies of success in each of these role areas were significantly lower among men who were previously hospitalized when compared with men in the school group. In contrast, women in both groups were rated as relatively competent in all role areas, with only one significant group difference in extended family relations (50% and 77% for the hospital and school women, respectively).

When examining second-order effects, the data showed that about one third of the adults who were previously hospitalized showed evidence of across-role competencies. Despite comprising a substantial minority, these rates of success are in contrast with nearly two thirds of the adults in the school group who showed competencies across multiple roles. This group difference is most striking when comparing the rates of men functioning competently across multiple roles: Less than one third of the men who were previously hospitalized were rated as being com-

TABLE 5
Summary of Rates of Competent Functioning Separately by Group and Gender

	Total			*Men*			*Women*		
Effect	*H*	χ^2	*S*	*H*	χ^2	*S*	*H*	χ^2	*S*
First order									
Work	.61	7.88**	.84	.44	13.37**	.90	.77	0.06	.80
Social relations	.49	8.70**	.75	.44	6.10*	.77	.54	2.93	.74
Family relations	.49	16.63***	.84	.48	13.87**	.93	.50	5.05*	.77

	(+,+)			*(–,–)*		*(+,+)*			*(–,–)*		*(+,+)*			*(–,–)*	
Effect	*H*	*S*	χ^2	*H*	*S*	*H*	*S*	χ^2	*H*	*S*	*H*	*S*	χ^2	*H*	*S*
Second order															
Work × Social Relations	.37	.67	12.78**	.27	.07	.26	.70	14.05**	.39	.03	.46	.64	2.05	.15	.10
Work × Family Relations	.39	.70	21.49***	.29	.02	.30	.83	18.86***	.39	.00	.46	.59	5.23	.19	.03
Social × Family Relations	.33	.64	21.03***	.35	.04	.30	.70	15.60**	.39	.00	.35	.59	6.80*	.31	.08

Note. H = hospital group; S = school group.
*$p \leq .05$. **$p \leq .01$. ***$p \leq .0001$.

petent in multiple roles compared with nearly three fourths of the high school men. Moreover, about one third of the previously hospitalized men (39%) did not describe competent functioning across multiple role areas, whereas few men from the school group (0% to 3%) were rated as failing to meet criteria for success in two role areas. Among women, rates of competent functioning both at work and interpersonally were similar in the two groups. However, the occurrence of success in both social and extended family roles was lower for those in the hospital group (35%) compared with those in the school group (59%). Moreover, about one third of the women from the hospital group showed evidence of impairment in both of these interpersonal roles.

Taken together, the indicators of success in adult roles revealed a number of participants who were functioning well in all areas including 29% of the hospital group and 55% of the school group. From the hospital group, those attaining success in all roles included 22% of the men ($n = 5$) and 35% of the women ($n = 9$). The school group included 63% of the men ($n = 19$) and 49% of the women ($n = 19$).

Psychological Well-Being

A three-way frequency analysis was performed to develop a hierarchical linear model of psychological well-being. Dichotomous variables analyzed were whether the participants reported overall positive self-regard, agency, and relatedness. All two-way contingency tables provided expected frequencies in excess of five. Stepwise selection by simple deletion of effects produced a model that had a likelihood ratio, $\chi^2(1, N = 118) = 1.23$, $p = .27$, indicating a good fit. The model included all first-order effects and two-way associations.

In the summary presented in Table 6, the model showed that most of the study participants reported relatively positive self-views reflected in ratings of positive self-regard, agency, and relatedness. Consistent with a hierarchical model of well-being, most participants also reported positive self-views across various self-aspects. Of those who characterized themselves as having relatively high self-regard, 79% also described themselves as being agentic and 71% described themselves as having a sense of belonging or relatedness. A substantial majority (76%) who described themselves as agentic also described themselves as having close, supportive relationships with others.

When exploring the model applied separately to the two groups, Table 7 shows that a majority of the members of both groups characterized themselves as having positive self-views. Relatively high proportions of participants in each group also reported multiple positive self-views reflected in the two-way associations of self-regard by agency (hospital = 63%, school = 90%), self-regard by relatedness (hospital = 51%, school = 86%), and agency by relatedness (hospital = 63%, school = 86%). Despite these high proportions, significant cohort differences were evident in the percentages of men who described themselves as having positive self-views across a number of dimensions. Of those men in the hospital group who reported

TABLE 6
Summary of Hierarchical Model of Participants' Psychological Well-Being

Effect	Partial Association χ^2	Parameter Estimate	SE	Proportion Responding Positively
First order				
Self-regard	5.19	–0.38	.17	.83
Agency	15.60***	–0.75	.19	.88
Relatedness	0.09	–0.06	.19	.79

Effect	Partial Association χ^2	Parameter Estimate	SE	Rates of Positive Responses (+,+)	Rates of Positive Responses (–,–)
Second order					
Self-regard × Agency	7.83**	0.51	.18	.79	.08
Self-regard × Relatedness	3.32	0.29	.16	.71	.09
Agency × Relatedness	12.48**	0.67	.19	.76	.09

Note. Overall evaluation of the model was based on the likelihood ratio, $\chi^2(1, N = 118) = 1.23$, $p = .27$.

**$p \leq .01$. ***$p \leq .0001$.

positive regard, 44% also described themselves as agentic, and 35% described themselves as having a sense of relatedness; 57% characterized themselves as having both a sense of agency as well as supportive, accepting relationships. This is in contrast to the substantial majority of men in the school group who rated themselves as having multiple positive self-views. Rates of women having multiple positive self-views did not differ significantly in the hospital and school groups.

Overall, a majority of the participants reported positive self-views across the three aspects of well-being examined in this study. These included 51% and 84% of the hospital and school groups, respectively. Those in the hospital group included 35% of the male ($n = 8$) and 65% of the female ($n = 17$) participants. In contrast, the school group included 86% of the male ($n = 26$) and 82% of the female ($n = 32$) participants.

Competence in Concert With Well-Being

In the final exploratory analysis, we conducted two-way frequency analyses to examine the extent to which participants in each group showed evidence of competent functioning across the role areas of work and relationships with friends and family as well as psychological well-being. As shown in Figure 1, we examined these rates for each cohort as a whole and then separately for men and women.

TABLE 7
Summary of Rates of Psychological Well-Being Separately by Group and Gender

	Total			*Men*			*Women*		
Effect	*H*	χ^2	*S*	*H*	χ^2	*S*	*H*	χ^2	*S*
First order									
Self-regard	.69	11.11**	.93	.52	11.91**	.93	.85	0.96	.92
Agency	.82	3.39	.93	.74	5.88*	.97	.89	0.03	.90
Relatedness	.65	9.16**	.88	.61	4.68*	.87	.69	4.36*	.90

	(+,+)			*(–,–)*		*(+,+)*			*(–,–)*		*(+,+)*			*(–,–)*	
Effect	*H*	*S*	χ^2	*H*	*S*	*H*	*S*	χ^2	*H*	*S*	*H*	*S*	χ^2	*H*	*S*
Second order															
Self-Regard × Agency	.63	.90	12.30**	.12	.04	.44	.93	16.08**	.17	.03	.81	.87	0.49	.08	.05
Self-Regard × Relatedness	.51	.86	16.65**	.16	.04	.35	.87	15.49**	.22	.07	.65	.85	3.76	.12	.03
Agency × Relatedness	.63	.86	8.36*	.16	.04	.57	.87	6.69*	.22	.03	.69	.85	2.21	.12	.05

Note. H = hospital group; S = school group.
*$p \leq .05$. **$p \leq .01$.

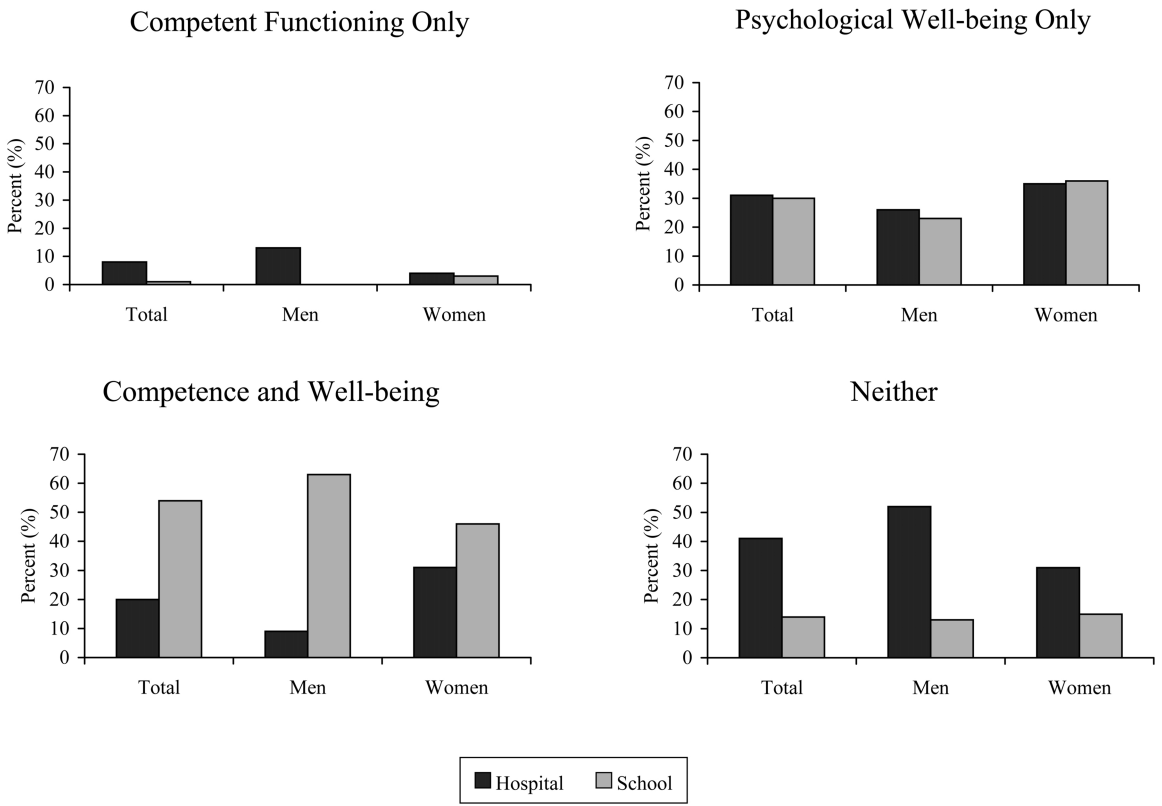

FIGURE 1 Percentage of the full sample with evidence of diverse indicators of resilience.

Separate analyses focused on (a) those who met the criteria of competent functioning only, (b) those who met the criteria of psychological well-being only, (c) those who met both sets of these criteria, and (d) those who did not meet either of these criteria. Overall, these results were consistent with findings reported separately for competent functioning and well-being: Rates of psychosocial adjustment were lower in the hospital group when compared with the school group, men in the hospital group tended to be least successful, and women in the hospital group were similar to those from the school group. In particular, a small minority of the participants showed evidence of competent functioning in the absence of positive self-views. These rates were relatively similar among men and women in each group. An additional 30% to 31% of the participants reported positive self-views in the absence of competent functioning in role areas. Among these, rates of men and women from each group ranged from 23% to 36% with no significant group differences. In contrast, the presence of both competent functioning and well-being showed a significant group effect, $\chi^2(1, N = 118) = 13.19$, $p < .001$, evident in higher rates of adjustment among members of the school group compared with the hospital group. For the most part, this effect was reflected in significantly different rates of positive outcomes, $\chi^2(1) = 16.25$, $p < .001$ among men in the hospital group (9%) compared with those in the school group (63%). Similarly, rates of those who appeared to fare poorly revealed a significant group effect, $\chi^2(1) = 10.47$, $p < .001$. This effect was evident in the relatively high rate of men in the hospital group (52%) who did not show evidence of positive outcomes measured in this study. Rates of positive adjustment as well as the absence of indexes of adjustment did not differ significantly between women in the hospital and school groups.

When absence of current psychopathology was considered in concert with presence of positive outcomes, results showed a significant group effect, $\chi^2(2) = 16.18$, $p < .001$. Those who met all three criteria included 12% of the hospital group (1 man, 5 women) and 46% of the school group (16 men and women).

Early Adult Predictors of Adult Adjustment

A series of four canonical correlation analyses were performed to examine associations between sets of variables reflecting psychosocial adjustment and problematic functioning when participants were 25 years old, on average, and the sets of variables representing adult competent functioning in role areas and psychological well-being. In the first two analyses, we examined patterns of linear associations between adult competent functioning and indexes of early adult psychosocial adjustment and problematic functioning (social deviance and psychiatric symptoms). The second set of analyses examined associations between adult psychological well-being and the sets of variables reflecting early adult psychosocial adjustment and problematic functioning. Results are presented in Tables 8 and 9.

TABLE 8
Summary of Canonical Correlation Analyses Examining Sets of Early Adult Indexes of Psychosocial Adjustment and Adult Indexes of Competent Functioning

	Canonical Variate[a]			*Canonical Variate*[b]	
Index	*Coefficient*	*Correlation*	*Index*	*Coefficient*	*Correlation*
Early adult set			Early adult set		
Ego development	.22	.55	Psychiatric symptoms	.58	.76
Ego resilience	.30	.69	Hard-drug use	.51	.73
Coherence	.46	.71	Criminality	.29	.62
Global self-worth	.01	.59			
Perceived competence	.20	.52			
Perceived sociability	.37	.64			
Percent of overlapping variance with adult set		.18	Percent of overlapping variance with adult set		.13
Adult set			Adult set		
Work	.21	.54	Work	–.17	–.57
Social relations	.77	.94	Social relations	–.79	–.95
Family relations	.28	.57	Family relations	–.26	–.58
Percent of overlapping variance with early adult set		.25	Percent of overlapping variance with early adult set		.11

[a]Overall evaluation of the presence of canonical variates was based on the likelihood ratio, $F(18, 100) = 2.23, p < .0001$ for one variate. [b]Evaluation of the presence of one canonical variate was based on the likelihood ratio, $F(9, 109) = 3.52, p = .0004$.

TABLE 9
Summary of Canonical Correlation Analyses Examining Sets of Early Adult Indexes of Psychosocial Adjustment and Adult Indexes of Competent Functioning

	Canonical Variate[a]			*Canonical Variate*[b]	
Index	*Coefficient*	*Correlation*	*Index*	*Coefficient*	*Correlation*
Early adult set			Early adult set		
Ego development	.20	.41	Psychiatric symptoms	.86	.95
Ego resilience	–.11	.35	Hard-drug use	.12	.38
Coherence	.31	.51	Criminality	.25	.52
Global self-worth	.31	.83			
Perceived competence	.35	.71			
Perceived sociability	.38	.78			
Percent of overlapping variance with adult set		.17	Percent of overlapping variance with adult set		.13
Adult set			Adult set		
Self-regard	–.13	.75	Self-regard	–.62	–.97
Agency	.74	.94	Agency	–.15	–.79
Relatedness	.48	.84	Relatedness	–.33	–.87
Percent of overlapping variance with early adult set		.31	Percent of overlapping variance with early adult set		.14

[a]Overall evaluation of the presence of canonical variates was based on the likelihood ratio, $F(18, 100) = 4.51$, $p < .0001$ for one variate. [b]Evaluation of the presence of one canonical variate was based on the likelihood ratio, $F(9, 109) = 2.90$, $p < .01$.

The first analysis revealed a significant canonical correlation of .50, representing 33% of the overlapping variance for the first pair of canonical variates. As shown in Table 8, for the early adult set, this pair of variates had high loadings on ego resiliency as rated by peers, the coherence score reflecting participants' overall ability to present a believable picture of past attachment experiences and their effects on adult personality and self-reported sociability (.30, .46, and .37, respectively). For the adult set, there was a high loading on social functioning (.77). Thus, high ego resiliency, a coherent discourse style, and perceived sociability at age 25 were related to the quality of adult social functioning.

The second analysis revealed a significant canonical correlation of .46, representing 27% of the overlapping variance for the first pair of canonical variates. Table 8 shows that this pair of variates has high loadings on the presence of psychiatric symptoms and hard-drug use (.58 and .51, respectively) for the early adult set and on social functioning (–.79) for the adult set. Thus, high levels of self-reported psychiatric symptoms and hard-drug use at age 25 were associated with relatively poor adult social functioning.

Results of the third analysis (shown in Table 9) revealed one significant canonical correlation of .65, representing 77% of the overlapping variance for the first pair of canonical variates. For the early adult set, this pair of variates had high loadings on the coherence score characterizing representations of past attachment relationships as well as perceived self-worth, competence, and sociability (.31, .31, .35, and .38, respectively). For the adult set, there were high loadings on perceived agency and relatedness (.74 and .48, respectively). Thus, high levels of attachment coherence and positive self-views at age 25 were related to high levels of adult self-views of agency and belonging.

With respect to association between early adult indicators of difficulty and adult well-being, the analysis revealed a significant canonical correlation of .41, representing 21% of the overlapping variance for the first pair of canonical variates. Table 9 shows that this pair of variates had high loadings on the presence of psychiatric symptoms (.86) for the early adult set and on self-regard and sense of relatedness (–.62 and –.33, respectively) for the adult set. Thus, high levels of self-reported psychiatric symptoms at age 25 were associated with diminished self-regard and feelings of relatedness with others.

DISCUSSION

This study was designed to understand positive outcomes among a group of adults with histories of serious mental disorders during adolescence. In general, we focused on descriptive analyses of development over time among an especially vulnerable population. In particular, we set out to accomplish the following: (a) identify markers of developmentally salient adaptive functioning for adults in

their 30s, (b) examine the extent to which adults from an especially vulnerable adolescent population can be characterized by models of adaptive functioning across multiple domains, and (c) explore predictors of successful adult lives from indicators of individuals' psychosocial adjustment at age 25. Despite the relatively common occurrence of serious mental disorders during adolescence (U.S. Department of Health and Human Services, 1999; U.S. Public Health Service, 2000), previous follow-up research of this kind has been limited.

In general, the results of this study highlight the importance of understanding multiple facets of the ability to bounce back among people who had serious adolescent era mental disorders. Our data showed that 61% of these adults did not have diagnoses of current psychopathology, 29% showed evidence of competent functioning across role areas critical to successful adult lives, and 51% characterized themselves as having a sense of psychological well-being. When these indexes were viewed from a person-oriented perspective, however, only 12% of the adults (1 man, 5 women) met all of these criteria in comparison with 46% of the adults (16 men, 16 women) in the group recruited from a suburban high school. The latter person-oriented finding—showing positive outcomes among 12% of the previously hospitalized group—is strikingly similar to our results obtained when participants were 25 years old. Using empirically defined profiles based on criteria salient during the early adult era, Hauser and Allen have found that 13.3% of the previously hospitalized participants were doing relatively well (Hauser, 1999; Hauser & Allen, 2004). These findings draw attention to the difficulties facing adults with histories of serious mental disorders as they struggle to adjust to the demands of adult life. The data collected from adults in their 30s further suggest significant difficulties for varying and sometimes quite high proportions of men who had adolescent era, serious mental disorders.

In general, the findings are consistent with previous large-scale studies about capacities to bounce back among adults who experienced difficulties during childhood and adolescence. Specifically, rates of current psychopathology are similar to findings about long-term (dis)continuities of symptomatology among people with histories of conduct disorder (Robins, 1966) as well as recovery among high-risk youth on the island of Kauai (Werner & Smith, 2001). In addition, the findings suggest that functioning in role areas is most difficult for adults with histories of serious mental disorders. Both men and women in our high-risk sample experienced difficulty in interpersonal relations with friends and extended family. This finding is consistent with data gathered from these participants at age 25 and examined in other reports (Allen & Hauser, 1996; Allen et al., 1996; Allen, Hauser, O'Connor, & Bell, 2002; Allen & Land, 1999; Allen, Moore, Kuperminc, & Bell, 1998). Taken together, the results suggest that the presence of serious mental illness in adolescence may be sufficiently disruptive of normal developmental processes as to produce lifelong deficits in interpersonal functioning. Alternatively, certain forms of earlier psychiatric symptoms might lead to different

types of deficits—with mood disorders predicting social withdrawal and isolation and antisocial behavior problems predicting active disengagement from socially sanctioned roles as well as hostility in interpersonal relationships. Clearly, disentangling these alternatives will play an important role in understanding possible effects of serious mental disorders on social development over time.

In addition, previous research suggested that successful performance at work requires the abilities to manage one's interpersonal functioning (Vaillant & Vaillant, 1981). The capacity to have relationships that are characterized by low levels of tension or friction is clearly an important element of interpersonal success in the work and social environs (Elder, 1998). For men from the hospital group, in particular, less than one third reported competent functioning both at work and with interpersonal relations with friends and family. Perhaps, as suggested previously, those who are able to get along well with others in the work environment are more likely to be successful than are those who are disengaged or dysregulated. Some speculative support for this assertion comes from the pattern of diagnostic findings indicating that 61% of the men from the hospital group received diagnoses of current psychopathology. Of these, 31% reported competent functioning at work, 36% had ratings indicating social competence with friends, and 43% had reasonable extended family relations. This leaves nearly two thirds of the men with current psychiatric diagnoses facing difficulty in adult role areas. Such a finding underscores the importance of explicating the roles of past and current psychopathology in men's role deficits. Given the importance of success in adult roles, there also is a need for understanding the mechanisms involved in differentiating men who are able to bounce back from those who experience difficulty.

For women, the rates of those who attained success in major life roles were relatively high—and often comparable to the school sample. At least 50% were doing well in one role area, and 35% to 46% met the criteria indicating success in two roles. As noted previously, women from the hospital group were least successful in social and extended family relations. In contrast with men, however, these social deficits did not appear to take a serious toll on women's capacities to be successful at work. Approximately 75% of the women received ratings of competent functioning at work, and nearly half (46%) were rated as competent at work as well as with friends or extended family. Even though a third of the men and women in the hospital group experienced difficulties in relations with both friends and family, less than 20% of the women had overlapping deficits between interpersonal roles and work. In contrast, nearly 40% of the men experienced overlapping work and interpersonal difficulties. These findings raise questions about the effects of gender on the nature and role of interpersonal relationships in successful adult lives. They also suggest that different mechanisms may underlie role success and role deficits for men and women.

In a similar vein, there were gender differences in the proportions of previously hospitalized men and women who endorsed positive self-views suggesting psy-

chological health or well-being. Those who characterized themselves as having a sense of psychological well-being included 35% of the men and 65% of the women from the hospital group in contrast with 86% and 82% of the school men and women, respectively. In addition to being essential for happiness and a sense of well-being, these positive self-views are likely to serve as psychological resources in dealing with life challenges (Hobfoll, 2002). For example, people who have a sense of agency tend to believe they can manage potentially difficult situations and control their own thoughts, feelings, and behaviors. As a result, they tend to engage actively in new challenges they face and to cope effectively with new demands; they also tend to set reasonable goals and to use their resources effectively (Bandura, 1997; Maddux & Gosselin, 2003). Those with a sense of relatedness or belonging are likely to experience intimacy and support in their relationships (Allen & Land, 1999; Baumeister & Leary, 1995). In this context, they may engage in productive, problem-solving discussions and practice ways of dealing with their emotions; they are also likely to have confidence that their relationships will be enduring yet move freely to establish new relationships.

Overall, about 30% of the adults met the criteria of psychological health even though they experienced difficulties in their life roles. For these adults, positive self-views may indeed reflect healthy well-being because well-adjusted people characteristically maintain positive illusions about themselves (Taylor & Brown, 1988). In this vein, positive self-views have been linked to a number of behaviors that can be viewed as adaptive including realistic optimism, persistence in the face of challenge, and satisfaction with life (Diener, 1984). On the other hand, overly positive or overly negative self-views can be viewed as defensive and potentially maladaptive. In this context, they may reflect self-serving biases aimed either at the denial of responsibility for failure or at protecting the self from disappointments (Kernis & Paradise, 2002). Whether positive self-views among the people in this group reflected healthy well-being or maladjustment merits further attention in our work.

Given our interest in development over time, we had hypothesized links between adult markers of resilience and indexes of early adult psychosocial functioning. In general, the findings support this view; they also highlight the important role of interpersonal relationships, positive self-views, and symptoms of distress. In particular, the abilities to provide a believable account of early attachment relationships and perceived sociability at age 25 predicted the quality of adult social functioning. These findings are consistent with a large body of research that has documented links from representations of early emotionally significant relationships to later social functioning (Cassidy & Shaver, 1999). Coherence and sociability, along with perceived self-esteem and competence, also predicted later perceived agency and relatedness. In addition to the well-established significance of individuals' coherence in describing early caregiver attachment relationships, these patterns of association suggest links with concurrent satisfaction of psycho-

logical needs for relatedness and positive self-regard (Allen et al., 1996; Kobak & Sceery, 1988). From a motivational perspective, satisfaction of these needs can be further understood as sources of support enabling subsequent competent functioning and well-being in adult life (Ryan & Deci, 2001).

From these findings, we can only speculate on some of the processes that might be involved. With psychological resources (perceptions of worth, competence, and sociability), some early adults may have been better equipped to cope with the multiple challenges of adult life (Hobfoll, 2002). In particular, people who have high self-worth as well as confidence in their abilities to make friends and to be successful may feel secure in themselves and therefore, more willing to engage socially with others (Bandura, 1997). In contrast, diminished self-views of overall worth, competence, and sociability may have exacerbated the interpersonal challenges facing young adults and contributed to further declines in beliefs about their abilities to manage their lives and have close, supportive relationships.

Along similar lines, relatively high symptoms of psychiatric distress and hard-drug use at age 25 predicted poor social functioning as well as diminished sense of worth and meaning in life and a sense of relatedness with others. These findings provide some suggestion of a pattern of continuity in difficulties over time. For some early adults, psychiatric distress and hard-drug use may have further derailed their development and heightened the risk of social deficits over time. In particular, those who suffer continuing emotional and developmental disruptions may face decreased odds of "catching up" with age appropriate psychosocial development (Allen & Hauser, 1996; Allen et al., 1996). As a result, they are likely to face a heightened risk that their successful adult functioning will be compromised. Further exploration of these links is warranted.

Overall, the findings from this study should be interpreted with caution. The findings are based on small sample sizes and clearly require replication. The small sample size may have constrained the power of some analyses to detect group differences. Among women, in particular, some variations in outcomes that failed to reach conventional statistical significance in our data might emerge as significant in larger groups. The sample population also was limited to adults who came from White, predominantly middle-class and upper middle-class families. This restricted ethnic group and social class membership may limit the generalizability of the findings to other groups. In addition, the need for hospitalization has been used as an indicator of the severity of psychiatric symptoms facing these adolescents as well as a reflection of potentially traumatic experiences before and during hospitalization. A limitation of this study is that specific indexes of trauma have not been included. In addition, adolescent era psychiatric problems among the high school group have not been addressed.

If replicated, however, these findings are important in highlighting the diversity in development among an especially vulnerable population. Our formulation of markers of resilience may provide a meaningful framework for understanding

risks facing people who experienced adolescent era, serious mental disorders. The results also suggest a number of directions for future research. First, it will be important to consider a more extensive assessment of positive adjustment using multiple informants and methods rather than a single informant and essentially similar method. Second, it will be important to examine the role of adolescent era psychosocial adjustment in later adult development including patterns of continuity and change in both cohorts. Finally, it is essential that we consider the role of the social context, including aspects of the environment likely to facilitate or impede positive outcomes over time. Within these future directions, a critical element includes identifying mechanisms that might explain the results that were found. We are now pursuing these avenues in our research using additional data gathered in the context of our ongoing longitudinal investigation. At this point, we recognize that the data presented in this study are drawn from interviews and self-reports that reflect the psychological constructions of the participants. Although we cannot be certain of the veracity of these reports, we believe that these findings contribute to an important foundation that can be further developed.

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REFERENCES

Allen, J. P., & Hauser, S. T. (1996). Autonomy and relatedness in adolescent-family interactions as predictors of young adults' states of mind regarding attachment. *Development and Psychopathology, 3*, 793–809.

Allen, J. P., Hauser, S. T., Bell, K. L., & O'Connor, T. G. (1994). Longitudinal assessment of autonomy and relatedness in adolescent family interactions as predictors of adolescent ego development and self-esteem. *Child Development, 65*, 179–194.

Allen, J. P., Hauser, S. T., & Borman-Spurrell, E. (1996). Attachment theory as a framework for understanding sequelae of severe adolescent psychopathology: An 11-year follow-up study. *Journal of Consulting and Clinical Psychology, 64*, 254–263.

Allen, J. P., Hauser, S. T., O'Connor, T. G., & Bell, K. L. (2002). Prediction of peer-rated adult hostility from autonomy struggles in adolescent-family interactions. *Development and Psychopathology, 14*, 123–127.

Allen, J. P., & Land, D. (1999). Attachment in adolescence. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (pp. 319–335). New York: Guilford.

Allen, J. P., Moore, C. M., Kuperminc, G. P., & Bell, K. L. (1998). Attachment and adolescent psychosocial functioning. *Child Development, 69*, 1406–1419.

American Psychiatric Association. (1968). *Diagnostic and statistical manual of mental disorders* (2nd ed.). Washington, DC: Author.

American Psychiatric Association. (1987). *Diagnostic and statistical manual of mental disorders* (3rd ed., rev.). Washington, DC: Author.

Antonovsky, A. (1987). *Unravelling the mystery of health: How people manage stress and stay well*. San Francisco: Jossey-Bass.

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

Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin, 111*, 497–529.

Baumeister, R. F., & Vohs, K. D. (2003). Self-regulation and the executive function of the self. In M. R. Leary & J. P. Tangney (Eds.), *Handbook of self and identity* (pp. 197–217): New York: Guilford.

Block, J. (1978). *The Q-sort method of personality assessment and psychiatric research*. Palo Alto, CA: Consulting Psychologists Press.

Bornstein, M. H., Davidson, L., Keyes, C. L. M., & Moore, K. A. (Eds.). (2003). *Well-being: Positive development across the life course*. Mahwah, NJ: Lawrence Erlbaum Associates, Inc.

Brown, R. P., & Bosson, J. K. (2001). Narcissus meets Sisyphus: Self-love, self-loathing, and the never-ending pursuit of self-worth. *Psychological Inquiry, 12*, 210–213.

Caprara, G. V., Scabini, E., Barbaranelli, C., Pastorelli, C., Regalia, C., & Bandura, A. (1998). Impact of adolescents' perceived self-regulatory efficacy on familial communication and antisocial conduct. *European Psychologist, 3*, 125–132.

Cassidy, J., & Shaver, P. R. (Eds.). (1999). *Handbook of attachment: Theory, research, and clinical applications*. New York: Guilford.

Cicchetti, D., & Cohen, D. J. (Eds.). (1995). *Developmental psychopathology*. New York: Wiley.

Crowell, J. A., Waters, E., Treboux, D., O'Connor, E., Colon-Downs, C., & Feider, O. (1996). Discriminant validity of the Adult Attachment Interview. *Child Development, 67*, 2584–2599.

Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. New York: Plenum.

Deci, E. L., & Ryan, R. M. (1991). A motivational approach to self: Integration in personality. In R. Dienstbier (Ed.), *Nebraska Symposium on Motivation: Vol. 38. Perspectives on motivation* (pp. 237–288). Lincoln: University of Nebraska Press.

Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry, 11*, 227–268.

Derogatis, L. R. (1983). *SCL–90 adminstration and scoring manual*. Towson, MD: Clinical Psychometric Research.

Diener, E. (1984). Subjective well-being. *Psychological Bulletin, 95*, 542–575.

Elder, G. H. (1998). The life course and human development. In W. Damon (Ed.), *Handbook of child psychology* (Vol. 1, pp. 939–991). New York: Wiley.

Elliott, D. S., Ageton, S. S., Huizinga, D., Knowles, B. A., & Canter, R. J. (1983). *The prevalence and incidence of delinquent behavior: 1976–1980*. Boulder, CO: Behavioral Research Institute.

Elliott, D. S., Huizinga, D., & Menard, S. (1989). *Multiple problem youth: Delinquency, substance use, and mental health problems*. New York: Springer-Verlag.

Entwistle, D. R., & Astone, N. M. (1994). Some practical guidelines for measuring youth's race/ethnicity and socioeconomic status. *Child Development, 65*, 1521–1540.

Epstein, S. (1991). Cognitive-experiential self-theory: Implications for developmental psychology. In M. R. Gunnar & L. A. Sroufe (Eds.), *Self-processes and development* (Vol. 23, pp. 111–137). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.

Fergusson, D. M., & Woodward, L. J. (2002). Mental health, educational, and social role outcomes of adolescents with depression. *Archives of General Psychiatry, 59*, 225–231.

Garmezy, N., Masten, A. S., & Tellegen, A. (1984). The study of stress and competence in children: A buidling block for developmental psychopathology. *Child Development, 55*, 97–111.

Gralinski-Bakker, J. H., Hauser, S. T., Billings, R. L., & Allen, J. P. (2004). Risks along the road to adulthood: Challenges faced by youth with serious mental disorders. In D. W. Osgood, C. Flanagan, & E. M. Foster (Eds.), *Transitions to becoming an adult among vulnerable populations*. Chicago: University of Chicago Press.

Hauser, R. M., & Warren, J. R. (1997). Socioeconomic index of occupational status: A review, update, and critique. *Sociological Methodology, 27*, 177–298.

Hauser, S. T. (1976). Loevinger's model and measure of ego development: A critical review. *Psychological Bulletin, 33*, 933–955.

Hauser, S. T. (with Powers, S. I., & Noam, G. G.). (1991). *Adolescents and their families: Paths of ego development*. New York: Free Press.

Hauser, S. T. (1993). Loevinger's model and measure of ego development: A critical review. II. *Psychological Inquiry, 4*, 23–30.

Hauser, S. T. (1999). Understanding resilient outcomes: Adolescent lives across time and generations. *Journal of Research on Adolescence, 9*, 1–24.

Hauser, S. T., & Allen, J. P. (2004). *Climbing back: Negotiating a perilous adolescence*. Manuscript under contract.

Hauser, S. T., & Bowlds, M. K. (1990). Stress, coping, and adaptation. In S. S. Feldman & G. R. Elliott (Eds.), *At the threshold: The developing adolescent* (pp. 388–413). Cambridge, MA: Harvard University Press.

Hauser, S. T., Jacobson, A. M., Noam, G. G., & Powers, S. I. (1983). Ego development and self-image complexity in early adolescence. *Archives of General Psychiatry, 40*, 325–331.

Hauser, S. T., Powers, S. I., Noam, G. G., Jacobson, A. M., Weiss, B., & Folansbee, D. J. (1984). Familial contexts of adolescent ego development. *Child Development, 55*, 195–213.

Hobfoll, S. E. (2002). Social and psychological resources and adaptation. *Review of General Psychology, 6*, 307–324.

Hy, L., & Loevinger, J. (1996). *Measuring ego development* (2nd ed.). Mahwah, NJ: Lawrence Erlbaum Associates, Inc.

Kaplan, H. B. (1999). Toward an understanding of resilience: A critical review of definitions and models. In M. D. Glantz & J. L. Johnson (Eds.), *Resilience and development: Positive life adaptations* (pp. 17–83). New York: Kluwer Academic/Plenum.

Kernis, M. H., & Paradise, A. W. (2002). Distinguishing between secure and fragile forms of high self-esteem. In E. L. Deci & R. M. Ryan (Eds.), *Handbook of self-determination research* (pp. 339–360). Rochester, NY: University of Rochester Press.

Keyes, C. L. M., & Waterman, M. B. (2003). Dimensions of well-being and mental health in adulthood. In M. H. Bornstein, L. Davidson, C. L. M. Keyes, & K. A. Moore (Eds.), *Well-being: Positive development across the life course* (pp. 477–497). Mahwah, NJ: Lawrence Erlbaum Associates, Inc.

Kobak, R. R., & Sceery, A. (1988). Attachment in late adolescence: Working models, affect regulation, and representations of self and others. *Child Development, 59*, 135–146.

Kohut, H. (1971). *The analysis of self*. New York: International Universities Press.

Leary, M. R., & Tangney, J. P. (Eds.). (2003). *Handbook of self and identity*. New York: Guilford.

Levinson, D. J., Darrow, C. N., Klein, E. B., Levinson, M. H., & McKee, B. (1978). *The seasons of a man's life*. New York: Knopf.

Levinson, D. J., & Levinson, J. D. (1996). *The seasons of a woman's life*. New York: Knopf.

Loevinger, J. (1976). *Ego development: Conceptions and theories*. San Francisco: Jossey-Bass.

Loevinger, J., & Wessler, R. (1970). *Measuring ego development: Construction and use of a sentence completion test*. San Francisco: Jossey-Bass.

Luthar, S. S. (1999). Measurement issues in the empirical study of resilience: An overview. In M. D. Glantz & J. L. Johnson (Eds.), *Resilience and development: Positive life adaptations* (pp. 129–160). New York: Plenum.

Luthar, S. S., Cicchetti, D., & Becker, B. (2000). The construct of resilience: A critical evaluation and guidelines for future research. *Child Development, 71*, 543–562.

Maddux, J. E., & Gosselin, J. T. (2003). Self-efficacy. In M. R. Leary & J. P. Tangney (Eds.), *Handbook of self and identity* (pp. 218–238). New York: Guilford.

Main, M., & Goldwyn, R. (1998). *Attachment scoring and classification systems*. Unpublished manuscript, University of California, Berkeley.

Masten, A. S. (1999). Resilience comes of age: Reflections on the past and outlook for the next generation of research. In M. D. Glantz & J. L. Johnson (Eds.), *Resilience and development: Positive life adaptations* (pp. 282–296). New York: Kluwer Academic/Plenum.

Masten, A. S. (2001). Ordinary magic: Resilience processes in development. *American Psychologist, 56*, 227–238.

Masten, A. S., Best, K. M., & Garmezy, N. (1990). Resilience and development: Contributions from the study of children who overcome poverty. *Development and Psychopathology, 2*, 425–444.

Masten, A. S., & Coatsworth, J. D. (1995). Competence, resilience, and psychopathology. In D. Cicchetti & D. Cohen (Eds.), *Developmental psychopathology: Vol 2. Risk disorder and adaptation* (pp. 715–752). New York: Wiley.

Messer, B., & Harter, S. (1986). *Adult self-perception manual*. Unpublished manuscript, University of Denver, CO.

Messer, B., & Harter, S. (1989). *The self-perception profile for adults.* Unpublished manual, University of Denver, Denver, CO.

The National Advisory Mental Health Council Workgroup on Child and Adolescent Mental Health Intervention Development and Deployment. (2001). *Blueprint for change: Research on child and adolescent mental health*. Washington, DC: National Institute of Mental Health.

O'Brien, E. J., & Epstein, S. S. (1987). *MSEI: The Multidimensional Self-Esteem Inventory. Professional manual*. Odessa, FL: Psychological Assessment Resources.

Robins, L. N. (1966). *Deviant children grown up*. Baltimore: Williams & Wilkins.

Rutter, M. (1987). Psychosocial resilience and protective mechanisms. *American Journal of Orthopsychiatry, 57*, 316–331.

Rutter, M. (2000). Resilience reconsidered: Conceptual considerations, empirical findings, and policy implications. In J. P. Shonkoff & S. J. Meisels (Eds.), *Handbook of early childhood intervention* (pp. 651–682). Cambridge, England: Cambridge University Press.

Ryan, R. M., & Deci, E. I. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist, 55*, 68–78.

Ryan, R. M., & Deci, E. L. (2001). On happiness and human potentials: A review of research on hedonic and eudaimonic well-being. *Annual Review of Psychology, 52*, 141–166.

Ryan, R. M., & Deci, E. L. (2003). On assimilating identities to the self: A self-determination theory perspective on internalization and integrity within cultures. In M. R. Leary & J. P. Tangney (Eds.), *Handbook of self and identity* (pp. 253–272). New York: Guilford.

Ryff, C. D., & Keyes, C. L. M. (1995). The structure of psychological well-being revisited. *Journal of Personality and Social Psychology, 69*, 719–727.

Ryff, C. D., & Singer, B. (2003). Flourishing under fire: Resilience as a prototype of challenged thriving. In C. L. M. Keyes & J. Haidt (Eds.), *Flourishing: Positive psychology and the life well-lived* (pp. 15–36). Washington, DC: American Psychological Association.

Sampson, R. J., & Laub, J. H. (1993). *Crime in the making: Pathways and turning points.* Cambridge, MA: Harvard University Press.

Seligman, M. E. P., & Csikszentmihalyi, M. (2000). Positive psychology: An introduction. *American Psychologist, 55*, 5–14.

Spitzer, R. L., Williams, J. B. W., Gibbon, M., & First, M. B. (1990). *Structured Clinical Interview for DSM–III–R*. Washington, DC: American Psychiatric Press.

Taylor, S. E., & Brown, J. D. (1988). Illusion and well-being: A social psychological perspective on mental health. *Psychological Bulletin, 103*, 193–210.

U.S. Department of Health and Human Services. (1999). *Mental health: A report of the Surgeon General*. Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Mental Health Services, National Institute of Health, National Institute of Mental Health.

U.S. Public Health Service. (1999). *Mental health: A report of the Surgeon General*. Rockville, MD: U.S. Department of Health and Human Services, National Institute of Health, National Institute of Mental Health.

U.S. Public Health Service. (2000). *Report of the Surgeon General's Conference on Children's Mental Health: A national action agenda*. Washington, DC: Department of Health and Human Services.

Vaillant, G. E., & Vaillant, C. O. (1981). Natural history of male psychological health, X: Work as a predictor of positive mental health. *American Journal of Psychiatry, 138*, 1443–1440.

Weissman, M. M. (1995). *Social Adjustment Scale: Reference to publications using the various versions of the scale and information on translations*. Unpublished manuscript, College of Physicians and Surgeons of Columbia University and New York State Psychiatric Institute.

Weissman, M. M., & Paykel, E. S. (1974). *The depressed woman: A study of social relationships*. Chicago: University of Chicago Press.

Werner, E. E., & Smith, R. S. (2001). *Journeys from childhood to midlife: Risk, resilience, and recovery*. Ithaca, NY: Cornell University Press.

White, R. W. (1959). Motivation reconsidered: The concept of competence. *Psychological Review, 66*, 297–333.