Self-cognitions and expressed negative emotions during midadolescence: Contributions to young adult psychological adjustment

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Abstract
This study explored developmentally salient cognitive and emotional facets of personality during adolescence and their contribution to psychological functioning in young adulthood. Specifically, we examined the pattern of relations among two kinds of actual-ideal self-discrepancies, expressed negative emotions, and self-dissatisfaction during midadolescence and assessed their longitudinal contribution to young adult symptoms of hostility and depression, as well as self-worth. We drew upon a dataset that included both a group of youngsters who had been psychiatrically hospitalized at age 14 and a normative comparison group of high school students studied over an 11-year period. Findings demonstrated that the magnitude of particular actual-ideal discrepancies, expressed negative emotions, and self-dissatisfaction differed between the two groups. Contrary to expectation, actual-ideal self-discrepancies were not related to expressed negative emotions during midadolescence. For the psychiatric group, however, both self-discrepancies and expressed negative emotions made unique contributions to individuals' general sense of self-dissatisfaction. Moreover, particular types of actual-ideal self-discrepancies, specific expressed emotions, and self-dissatisfaction differentially predicted symptoms of hostility and depression, as well as diminished self-worth in young adulthood, albeit differently for the two groups. The importance of cognitions and emotions in the course of diverse developmental pathways and future directions of the study are discussed.

Exploring personality antecedents of subsequent developmental adaptations has been the focus of many theoretical and empirical investigations (e.g., Block, Gjerde, &

Block, 1991; Kandel & Davies, 1986; Sroufe & Rutter, 1984). In particular, cognitive and emotional processes have received considerable attention with respect to their roles in the development of psychopathology (see Rolf, Masten, Cicchetti, Nuechterlein, & Weintraub, 1990, for a review). Despite this attention, these two components of personality are often explored as separate systems, or with one having primacy over the other. In most cases, however, both cognitive and emotional characteristics of personality play an important role in the course of normative as well as pathological development (Fischer, Shaver, Carnochan, 1990; Hauser & Smith, 1991; Hesse & Cicchetti, 1982; Sroufe, 1979). As a result,
it is important to examine the degree to which cognitions and emotions operate in interaction with, or independently of, each other.

In the present study, we employed a longitudinal design to examine developmentally salient aspects of adolescents' self-cognitions and emotional experiences and how these two components of personality are associated over time with vulnerability to emotional distress and psychological adjustment. Specifically, we explore the pattern of relations between two kinds of actual–ideal (A–I) self-discrepancies, expressed negative emotions, and self-dissatisfaction during midadolescence, and assess their longitudinal contributions to emotional distress and self-worth during young adulthood. In doing so, we extend previous research by examining the developmental significance of both cognitive and emotional facets of personality without assuming that one necessarily has primacy over the other.

In addition, we draw upon a dataset that includes both a psychiatric and comparison normative sample of high school teenagers studied over an 11-year period. Such an approach is important because most previous investigations utilized either clinical or non-clinical samples, and few subjects have been followed for sufficient time to assess the degree to which specific self-cognitions and emotions that are salient during one period of development contribute to later life outcomes (e.g., Blumberg & Izard, 1985, 1986; Carey, Finch, & Carey, 1991; Higgins, 1987, 1989; Higgins, Bond, Klein, & Strauman, 1986; Higgins, Klein, & Strauman, 1985; Renouf & Harter, 1990; Strauman, 1989; Strauman & Higgins, 1988).

In particular, we focus first on midadolescents' A–I self-discrepancies and expressed negative emotions because during this period cognitive and emotional processes converge to produce important changes in the lives of individuals, including vulnerability to emotional distress (Feldman & Elliott, 1990; Montemayor, Adams, & Gullotta, 1990). During this time, youngsters develop the capacity to think abstractly, which brings with it increasing differentiation of the self-concept and awareness of potential inconsistencies within the self-system (Fischer & Lamborn, 1989; Harter, 1990; Rosenberg, 1986). Representations of actual and ideal selves are particularly relevant because a developmentally salient task concerns both differentiation of the self one is, as well as construction of the self one hopes to become (Erikson, 1968; Harter, 1990; Hauser & Follansbee, 1984; Markus & Nurius, 1986). Although midadolescents can evaluate whether their actual and ideal self-representations are inconsistent, they do not yet have the cognitive skills to integrate seeming contradictions within the self-system. Thus, potentially inconsistent aspects of their actual and ideal selves are likely to be salient, as well as conflictual and distressing during this time (Harter, 1990; Harter & Monsour, 1992).

Prior investigations suggest further that midadolescents have frequent daily experiences of negative emotions, are often dissatisfied with themselves, and are vulnerable to increased rates of behavioral and psychological problems (e.g., Harter, 1983, 1990; Larson & Lampman-Petraitis, 1989; Rutter, 1980). Together these developments suggest that midadolescence is an optimal period for studying both the interplay of concurrent self-cognitions and negative emotions, as well as their longitudinal contributions to young adult emotional and psychological functioning (Harter & Monsour, 1992; Hauser & Follansbee, 1984; Oyserman & Markus, 1990; Powers, Hauser, & Kilner, 1989).

In addition, previous research has, for the most part, relied on self-report inventories of underlying emotional states (e.g., Differential Emotions Scale, Izard, 1972; Multiple Affect Adjective Checklist, Zuckerman & Lubin, 1965). Although shown to be reliable, self-report inventories measure cognitions associated with the subjective experience of discrete emotions. As a result, there is a question about the distinction between cognitive appraisals of emotional experience as opposed to the experience or ex-
pression of an emotional response (Ekman & Friesen, 1975; Izard, 1993). A number of researchers have suggested further that self-reported experiences are likely to be biased by concerns about social desirability and self-presentation (Crandall, Crandall, & Katkovsky, 1965; Schlenker & Leary, 1982). Another approach to evaluating emotional experience, therefore, focuses on observational ratings of actual behavior (e.g., Izard, 1971; Lewis & Michalson, 1975).

In this study, we utilized the observational approach in light of our interest in exploring concurrent relations between cognitions and emotions during midadolescence, and explicating their shared and independent contributions to young adult psychological adjustment (i.e., self-worth) and vulnerability to particular types of emotional distress (i.e., depression, hostility). Our measure of specific emotion expressions does not rely on self-reported appraisals of emotional experience; the coding system (elaborated below) identifies specific emotional states operationalized through two informational channels: the voice and the speech content. By using voice cues and specific content, we assume that we are detecting emotional expressions that are likely to be salient experiences observable to others, while minimally subject to self-report biases.

Background

The role of cognitive self-appraisals in vulnerability to emotional distress has received considerable attention from Higgins and his colleagues in research based on self-discrepancy theory (Higgins, 1987, 1989; Higgins et al., 1986; Higgins et al., 1985; Strauman, 1989; Strauman & Higgins, 1988). Within this theory, discrepancies among aspects of individuals' self-representations are presumed to have specific emotional consequences based on the underlying psychological significance of differences in particular self-representations (see Higgins, 1987, 1989, for a discussion). Of interest to the present study are differences in two basic self-domains: the actual self, which is the representation of attributes that individuals believe they actually possess, and the ideal self, which is the representation of attributes to which individuals aspire. Within the ideal self-domain, in addition, individuals can view their aspirations from their own perspective, as well as from the perspectives of significant others (e.g., parents, friends). Thus, potential disparities between adolescents' actual and ideal selves include: (a) discrepancies between actual self-representations as viewed from their own perspective and representations of their own ideals, as well as (b) discrepancies between actual self-representations as viewed from their own perspective and internalized representations of significant others' ideals for them.

In particular, self-discrepancy theorists posit that these two kinds of A-I self-discrepancies are associated with individuals' beliefs that they have failed to meet the goals to which they aspire, and, thus, with vulnerability to dejection-related emotions, including sadness, disappointment, and dissatisfaction, as well as low self-worth (Higgins, 1987, 1989). A number of correlational and experimental investigations have tested these relations, and results have largely been supportive (Higgins, 1987, 1989; Higgins et al., 1986; Higgins et al., 1985; Moretti & Higgins, 1990; Strauman, 1989; Strauman & Higgins, 1988). For the most part, however, this support derives from studies conducted during late adolescence, from either clinical or nonclinical samples, or from analyses of information provided over a relatively short period of time (approximately 2 months). We are not aware of any studies that have (a) focused on the psychological significance of these two kinds of A-I discrepancies during midadolescence; (b) compared long-term sequelae of such discrepancies on diverse samples of individuals, including those who were psychiatrically hospitalized as adolescents; or (c) prospectively followed subjects for sufficient time to assess how A-I discrepancies experienced during midadolescence relate to young adult life outcomes.
Like most general cognitive theories of development, in addition, self-discrepancy theory emphasizes cognitive determinants of vulnerability to emotional distress and diminished self-worth. Alternative accounts are offered by other major theories. For example, the belief that emotions have inherently adaptive functions and are fundamental motivators of intra- and interpersonal behaviors has stimulated a burgeoning of studies exploring relations between emotions and the development of psychopathology (see Fischer et al., 1990; Hauser & Smith, 1991; Izard, 1993; Rolf et al., 1990). A guiding assumption of these theoretical approaches is that emotions function both as momentary states within individuals and as more enduring dimensions of personality (Izard, 1977; Malatesta, 1990).

Differential emotions theory, in particular, views emotions as discrete entities that have distinct motivational properties that affect self-evaluations and tend to characterize individuals’ style of adapting to emotion-eliciting situations (Izard, 1972, 1977). For example, negative emotional experiences adversely affect children’s attributions of self-worth (Masters, Arend, & Ford, 1979), and anger increases individuals’ sensitivity to frustrating events or can create obstacles to goal-oriented behavior (Izard, Libero, Putnam, & Haynes, 1993). Previous research suggests further that individuals differ in their tendencies to express particular emotions. These emotional biases presumably become consolidated over time and thus, have the potential of shaping development along a specific developmental pathway (Malatesta, 1990; Malatesta & Wilson, 1988). A tendency toward negative emotionality is likely to be associated with a risk of psychopathology, and a tendency toward positive emotionality is likely to be associated with sociability and adaptive functioning (Collins & Gunnar, 1990; Emde, 1991; Hauser & Smith, 1991; Safer & Hauser, 1994).

Given the complexities of cognition-emotion linkages, however, elucidating the directionality of effects is difficult. Moreover, contemporary theoretical analyses oppose any assumption of simple linear relationships between cognition and emotion (e.g., that emotions are consequences of cognitive processes, or vice versa). Theories now persuasively advance a more complex view, citing both continuous interplay as well as parallelism between the two domains (Hesse & Cicchetti, 1982; Hauser & Smith, 1991; Hoffman, 1986; Lewis, Sullivan, & Michelson, 1984; Sroufe, 1979). Research examining cognitive and emotional characteristics associated with patterns of maladaptive functioning also underscores the importance of each dimension. For example, Blumberg and Izard (1985) found that internalizing attributional styles (i.e., a tendency to make internal, stable, and global attributions for negative events), self-reported anger, and sadness made unique contributions to self-reported depression among 10- and 11-year-old boys from a normative sample. On the other hand, externalizing cognitive attributional styles (i.e., a tendency to make external attributions for negative events) and expressions of irritability, anxiety, and sadness have frequently been found to characterize children and adolescents with symptoms of character disorder or hostility (Capaldi, 1991, 1992).

The evidence suggests, therefore, that attributional styles in relation to external events (e.g., task-related performance, interactions with others) and emotions make unique contributions to the differential prediction of concurrent symptoms of emotional distress. Less is known about the rules played by cognitive evaluations associated with internal events—discrepancies between actual and ideal selves—and emotions in the course of normative and pathological development over time. Toward that end, the present study examines relations between self-discrepancies and emotions during midadolescence, and how these two components of personality are associated concurrently and longitudinally with psychological adjustment and vulnerability to emotional distress.

The Present Study

The goal of this study is threefold: (a) to examine the magnitude of A-I self-
discrepancies and specific expressed emotions (i.e., anger, anxiety, and sadness) during midadolescence and assess the degree to which they differ in psychiatrically hospitalized adolescents compared to a nonpsychiatric group of high school students; (b) to assess concurrent relations among A-I self-discrepancies, specific expressed emotions, and ratings of self-dissatisfaction during midadolescence; and (c) to evaluate the relative contributions of adolescent self-discrepancies, expressed emotions, and self-dissatisfaction to young adult symptoms of hostility, depression, and diminished self-worth.

Specifically, we focus on two kinds of discrepancies between adolescents' actual and ideal selves, including discrepancies between their actual and ideal selves as viewed from their own perspective (i.e., A-I/own), as well as discrepancies between their actual selves as viewed from their own perspective and their internalized representations of their parents' ideals for them (i.e., A-I/parent). Although previous research has examined the magnitude of discrepancies between actual and ideal selves during adolescence (Strachan & Jones, 1982), the underlying psychological significance of these discrepancies during midadolescence is unclear. As described earlier, self-discrepancy theorists posit that A-I discrepancies reflect self-perceived failure to meet important aspirations (e.g., Higgins, 1987, 1989). Presumably, this assertion is based on the notion that individuals have attempted to attain their aspirations, and subsequently perceived themselves as having failed. Given that midadolescents are in the process of constructing their ideal selves, however, the question arises whether perceived failure is necessarily associated with discrepancies between actual and ideal selves at this time.

Instead, Markus and Nurius (1986) have suggested that the formation of ideal selves may serve a positive motivational function, encouraging youngsters to move toward desired goals. To the degree that midadolescents are motivated to attain their aspirations, then A-I self-discrepancies are not likely to be associated with vulnerability to dejection-related emotions. For individuals who are unsure of their abilities to attain their aspirations, however, the work of Bandura (1989) and others suggests that such discrepancies may be associated with concerns about self-efficacy (e.g., "Can I meet these goals?"). Self-doubting individuals may then appraise A-I self-discrepancies as being particularly challenging, or ego-threatening, thereby giving rise to feelings of anxiety (Lazarus & Launier, 1978).

Discrepancies between midadolescents' actual self-representations and their representations of parental ideals are of particular interest because the process of defining the self as separate from, yet to some degree, in concert with parental expectations is increasingly being recognized as a critical, stage-salient task (Allen, Hauser, Bell, & O'Connor, 1994; Collins, 1990; Grotevant & Cooper, 1986; Hill & Holmbeck, 1986; Steinberg, 1990). Given the importance of this process, considerable attention has been given to the sources and nature of adolescent-parent conflicts and how they contribute to adolescents' emergent autonomy (see Laursen & Collins, 1994, for a recent review). Despite this attention, relatively little is known about the psychological significance of internal conflict among adolescents' own self-representations and their internalized representations of parents' ideals for them, or about the emotions likely to be associated with such discrepancies.

To the degree that A-I/parent discrepancies reflect self-perceived failure to meet parents' goals or self-doubts about abilities to attain these goals, as described earlier, then feelings of disappointment or anxiety are likely consequences. Alternatively, to the degree that discrepancies between adolescents' representations of their actual self and their parents' ideals reflect the process of emergent adolescent autonomy, such a discrepancy may reflect disengagement from, or rejection of parental standards (Collins, 1990; Laursen & Collins, 1994; Montemayor, 1983; Steinberg, 1990). If this occurs, then adolescents may appraise such a discrepancy as rebellion, placing themselves at risk for feelings of anger (Van Hook & Higgins, 1988).
According to differential emotions theorists, in contrast, feelings of anxiety during midadolescence are not limited to being consequences of self-doubts associated with A–I self-discrepancies (e.g., Izard, 1972, 1977, 1991). Instead, individuals who tend to be anxious may worry about their abilities to attain their aspirations, irrespective of the magnitude of the discrepancy between who they are now and who they hope to become. Similarly, individuals who tend to be anxious may worry about their abilities to attain their parents' ideals for them, irrespective of the magnitude of the discrepancy between their representations of who they are now and their parents' ideals. Research examining cognitive processes likely to be associated with feelings of anxiety further suggests that individuals who tend to be anxious may make external attributions about the causes of their distress (e.g., “my parents' ideals are unreasonable”), thereby placing themselves at risk for feelings of anger (Weiner, 1986). Alternatively, individuals who tend to be angry may appraise discrepancies between their actual and ideal selves as being frustrating, irrespective of their appraisal of the underlying psychological significance of, or reason for, such discrepancies (Malatesta & Wilson, 1988).

In this study, we explore these alternative linkages between emotional experience and these two kinds of A–I self-discrepancies during midadolescence. Given the limitations in the extant literature, however, we made no specific predictions with respect to the cognition–emotion linkages most likely to be found in our sample. However, previous theory and research suggests that clinically referred individuals tend to view their actual selves as discrepant from their ideal selves, and to express frequent negative emotions (e.g., Block & Thomas, 1955; Rogers & Dymond, 1954). Therefore, we expected that the magnitude of A–I discrepancies, and the risk for emotional distress would be greater for psychiatrically hospitalized adolescents compared to the high school freshmen.

We were also interested in the degree to which A–I discrepancies and negative emotions were associated with midadolescents' psychological adjustment, indexed by their sense of general dissatisfaction with themselves. In Rosenberg's (1979) conceptualization of self-satisfaction, or self-worth, he suggests that "it is not simply how good a person thinks he is with regard to some quality, but how good he wants to be that counts" (p. 342). Thus, indices of discrepancies between the actual and ideal selves have been both used to measure self-worth (e.g., Block & Robins, 1993), and found to correlate with extant measures of self-worth (e.g., Coopersmith Self-Esteem Inventory, 1967; Rosenberg Self-Esteem Scale, 1979; Moretti & Higgins, 1990). Recent findings from a normative sample of midadolescents at risk for psychological disturbance indicate further that sadness and anger tend to co-occur with low levels of self-worth (Renouf & Harter, 1990).

Although together these findings are suggestive of associations among A–I discrepancies, negative emotions, and self-worth, we are not aware of any studies directly explicating the nature of these linkages, particularly during midadolescence. Toward that end, this study (a) explores the concurrent pattern of relations among A–I discrepancies, negative emotions, and a general sense of self-dissatisfaction; and (b) considers the relative contributions of self-discrepancies, negative emotions, and dissatisfaction experienced during the first year of study to self-dissatisfaction 1 year later. Based on previous research, we expected that self-discrepancies and expressed emotions, particularly anger and sadness, would make unique contributions to adolescents' self-dissatisfaction. In predicting self-dissatisfaction 1 year later, however, we had no specific hypotheses, although previous research suggests relative stability in adolescents' levels of general dissatisfaction with self (Rosenberg, 1986).

Turning to young adult vulnerability to emotional distress and psychological adjustment, we focused on the contributions of midadolescent A–I self-discrepancies, expressed negative emotions, and self-dissatisfaction both separately and within
more complex models. With respect to young adult symptoms of depression, we expected that adolescent-era discrepancies between their actual self and their own ideals, high levels of expressed negative emotions, and a general sense of self-dissatisfaction would place some individuals at risk in both the psychiatric and normative samples. We based this prediction, in part, on research regarding the motivational and self-evaluative process (e.g., feelings of hopelessness) associated with self-doubts regarding one's abilities to attain particular ideals (Schwarzer, 1985). We also considered the relatively large body of evidence suggesting that the emotional correlates of depression include sadness, anger, and to a lesser degree, anxiety, and the cognitive correlates include thoughts of self-depreciation and worthlessness (Izard & Schwartz, 1986; Rutter, 1986). Given the exploratory nature of this study, however, we made no specific predictions regarding the degree to which these self-cognitions and emotions would make unique contributions to the prediction of depression, after controlling for their shared variance.

In addition, we posited that young adult symptoms of hostility might be likely consequences of relatively large discrepancies between adolescent-era representations of actual self and parents' ideals to the degree that such discrepancies are associated with externalizing self-evaluative styles described earlier. Research regarding the stability of hostile tendencies with time also suggests that high levels of expressed anger during midadolescence are likely to place individuals at risk for later symptoms of hostility (Huesmann, Lefkowitz, Eron, & Walder, 1984).

We were also interested in the relative contributions of midadolescent self-discrepancies, expressed emotions, and self-dissatisfaction in predicting young adult psychological adjustment, indexed by global assessments of self-worth. In a recent longitudinal investigation of self-esteem change from adolescence to young adulthood in a normative sample, Block and Robins (1993) reported that self-dissatisfac-

tion and anxiety at age 14 were among the characteristics of men whose self-esteem decreased at age 23, whereas expressions of anxiety and anger were among the characteristics of women whose self-esteem decreased over time. In this earlier study, however, congruence between actual and ideal selves was considered an index of self-esteem, and results were based on a series of zero-order correlations. As a result, the degree to which actual–ideal discrepancies during midadolescence contribute to young adult overall judgments of self-worth was not directly examined; and the independent contributions of self-dissatisfaction, anxiety, and anger (controlling for their shared variance) were not assessed.

The present study builds upon this research by assessing the degree to which (a) differences between adolescents' actual self-representations and their own ideal self-representations, as well as differences between adolescents' actual self-representations and their representations of parents' ideals for them, (b) expressions of anger, sadness, and anxiety, and (c) self-dissatisfaction add unique variance to the prediction of young adult global self-worth. In general, we expected to replicate the Block and Robins (1993) findings with respect to adolescent antecedents of young adult self-worth in both the psychiatric and normative samples. We also expected to find stability in individuals’ global self-evaluations over time.

In sum, the present study examines the possible underlying psychological significance of two kinds of A–I self-discrepancies during midadolescence by assessing their concurrent linkages with expressed anger, anxiety, and sadness. We also explore the relative contributions of these A–I self-discrepancies and expressed negative emotions to adolescents' general sense of self-dissatisfaction, concurrently as well as 1 year later. Finally, we assess the degree to which A–I self-discrepancies, specific expressed negative emotions, and self-dissatisfaction during midadolescence operate in conjunction with, or independently of, each other in predicting young adult symptoms.
of depression and hostility, as well as diminished global self-worth 11 years later.

**Method**

**Subjects**

The 59 participants included in the present study are a subsample of the participants in a larger longitudinal investigation ($n = 146$) exploring individual and familial contributions to adolescent and young adult psychosocial development. In order to examine multiple pathways of psychosocial development, the larger investigation included two groups: psychiatrically hospitalized adolescents ($n = 70$) likely to be at risk for problems in later development and high school freshmen ($n = 76$) unlikely to be at foreseeable risk.

The psychiatrically hospitalized adolescents consisted of successive admissions to an inpatient children's unit at a private psychiatric hospital who agreed to participate in the study. Patients with psychoses or organic impairments were excluded. Hospitalized adolescents were originally diagnosed under *Diagnostic and Statistical Manual* (DSM-II), and rediagnosed for this study from a chart review under DSM-III-R (American Psychiatric Association, 1987). Hospitalized adolescents carried a range of DSM-III-R diagnoses, including oppositional defiant disorder (21%), conduct disorder (19%), major depression (19%), other mood disorders (8%), and a diverse assortment of other disorders (33%, Allen, Hauser, & Borman-Spurell, 1994). The high school subjects were drawn from 230 volunteers from a suburban high school and matched as closely as possible to the psychiatrically hospitalized adolescents in terms of gender, age, social class (SES), and family structure (i.e., single- vs. two-parent families).

Only participants from two-parent families ($n = 85$) were considered for inclusion in the present analyses in order to directly test hypotheses related to adolescents' representations of parents' ideals (including those of both mothers and fathers). Of these, 26 subjects who failed to complete all relevant aspects of data collection were excluded. Preliminary analyses of the variables included in this study revealed no significant differences between the present subsample and the 26 subjects who were excluded. Additional analyses revealed no significant differences in the variables of interest in the present subsample compared with the total sample of participants in the larger longitudinal investigation.

The present sample consisted of 28 boys and 31 girls, with 13 boys and 12 girls in the hospitalized group, and 15 boys and 19 girls in the high school group. The mean age at entry into the study was 14.53 years ($SD = 0.80$), with participants in the psychiatrically hospitalized group 14.56 years old ($SD = 1.08$), on average, and participants in the high school group 14.50 years old ($SD = 0.51$). The sample was primarily White, and both groups were in the upper middle-class range, differing only slightly, although significantly, in average social class (hospitalized sample mean = 2.58; high school mean = 1.62), $t(57) = 3.81$, $p < .001$, Hollingshead, 1975).

**Procedure**

As part of the larger investigation, individual participants were assessed at age 14 in private rooms at either their high school or psychiatric hospital. In the initial session, adolescents completed measures of ego development and self-esteem. In a second session, conducted within 1 month of the first, each of the adolescents participated in a semistructured clinical research interview that was conducted by an experienced mental health professional. These exploratory interviews lasted approximately 45 min, and covered a number of specific topics, including family life, school experience, peer relationships, illness experience, and future aspirations. Although the order of topics and particular probes varied, all of the topics were covered in some natural order in each interview. Our assessment of adolescent emotional expressions are based on these interviews which were audiotaped, and subsequently transcribed.

Self-referent statements expressed dur-
ing these interviews were used to construct a self-image Q-sort task (the basis of our measures of adolescents' self-representations, described below) that was administered during a third session, approximately 2 months after the initial session. The same procedures were used for assessments at both age 14 and a year later, although at age 15 assessments were conducted in private rooms at the research site, at schools, or when necessary, in psychiatric facilities.

Following an extensive relocation effort approximately 11 years after the first wave of data collection, 100% of the original sample were relocated and 97% were reassessed at ages 24–25. During a single session, conducted in private rooms at the research site or in hotels located near participants' residences, participants completed measures of ego development, close relationships, social competence, and attachment. In addition, the Hopkins Symptom Checklist (SCL-90, Derogatis, 1977) and the Adult Self-Perception Profile (Messer & Harter, 1987) were administered.

The data from the adolescent-era self-esteem measure, clinical interviews, and Q-sort task, as well as the young adult symptom checklist and measure of global self-worth form the basis for the analyses reported here. The adolescent data has been previously analyzed in several reports identifying parental contexts of adolescent self-esteem (Isberg et al., 1989), as well as adolescent coping strategies (Hauser, Borman, Jacobson, Powers, & Noam, 1990), emotional expression (Safer & Hauser, 1994), and self-image complexity (Hauser, Jacobson, Noam, & Powers, 1983). We now use these data to (a) assess linkages between midadolescents' A-I self-discrepancies, expressed negative emotions, and self-dissatisfaction; and (b) predict specific young adult sequelae of these adolescent-era self-cognitions and emotions.

Measures

Self-discrepancies. A specially designed and administered Q-sort procedure was employed to assess adolescents' self-representations viewed from different perspectives (Hauser et al., 1983). In contrast to other studies that use standardized decks of self-descriptive cards and a forced distribution (e.g., Block, 1961; Block & Robins, 1993; Stephenson, 1953), subjects were asked to sort a deck of 40 self-descriptive cards consisting of "I" statements that he or she had made during the clinical interview described above. Each card thus contained an I statement that explicitly expressed the adolescent's self-descriptions, personal positions, and self-evaluations. By using idiosyncratically derived self-statements, we presumably increased the likelihood that the Q-sort descriptions obtained would be relevant and important for each subject.

To assess the range of self-representations included in this report, each subject was asked to sort the cards into 10 piles in terms of their relevance to a series of self-representations viewed from different perspectives, placing at least two cards on the extreme piles (0 and 9) with no other distribution requirements. For example, subjects' actual self-representations were assessed by asking them to sort each card into piles ranging from 0 to 9 (least to most relevant) according to whether the statement was something they would "say, think, or feel" about themselves. Ideal self-representations were derived from asking the subjects' to sort the identical statements imagining themselves to be "a perfect person if all your dreams came true" (ideal self), and again by imagining themselves as "a perfect son or daughter" in the eyes of their mother (mother ideal) and father (father ideal).

To obtain indices of discrepancies between various kinds of self-representations, we calculated differences between the Q-sort descriptions of actual/own versus ideal/own self (A-I), actual/own versus mother ideal (AMI), and actual/own versus father ideal (AFI). AMI and AFI scores were then averaged to produce actual/own-ideal/parent discrepancies scores (A-IP), theoretically ranging from 0 to 9 (least to most discrepant). In the present sample, these scores ranged from 0.30 to 4.57.

Self-dissatisfaction. All adolescents completed the Coopersmith Self-Esteem Inven-
tory (Coopersmith, 1967), a widely used self-report instrument assessing attitudes that children and adolescents hold toward themselves. In keeping with current theory and research suggesting that self-esteem is not a unidimensional construct tapped by summing a wide range of items (see Harter, 1985; Rosenberg, 1979), however, we used a theoretically relevant subset of items in the present study. These items reflect adolescents' general sense of self-dissatisfaction, operationalized as the degree to which they reported feeling discouraged, dissatisfied, and having low opinions of self (see the Appendix for a list of items). Moreover, the items encouraged adolescents to think about their global self-dissatisfaction, consistent with many extant measures of global self-worth (e.g., Harter, 1982; Messer & Harter, 1987; Rosenberg, 1979). The internal reliability coefficients (Cronbach's alphas) for this subscale were 0.73 for year 1, and 0.76 for year 2, with scores theoretically ranging from 0 (unlike me) to 1 (like me).

Expressed emotions. The Adolescent Emotion Coding System (AECS; Safyer & Hauser, 1992) is based on a cultural informants approach to identifying specific emotions (Gottman, 1988). This approach assumes that a fixed finite set of physical features characterizing each emotion does not exist, but that trained judges within a culture, coding independently, can agree about particular emotions at levels that exceed chance. The specific coding criteria described within the AECS build upon Gottman's Specific Affect Coding System (1988) for assessing emotional communication in marital interaction and extend it to adolescents. Other important influences on the construction of the AECS include Scherer's (1979) analysis of vocal indicators of emotional states and Shaver, Schwartz, Kirkson, and O'Connor (1987) hierarchical organization of emotion terms and their prototypical causes.

The coding manual (Safyer & Hauser, 1992) provides guidelines for identifying the presence of particular emotions within a speech turn (i.e., everything the adolescent says before the interviewer vocalizes) based on the consideration of vocal cues and interview content. Raters were trained to use the AECS to categorize each speech unit as being positive, negative, or neutral in tone. If the speech unit was positive or negative, it was further classified into one of five specific emotion codes (i.e., enthusiasm, affection, sadness, anger, and anxiety). Coders worked with the audiotaped records of the clinical interviews and with a verbatim transcript that identified the speech units.

The interviews were scored by three independent coders, blind to any of our research questions or hypotheses, and with no other information about the subjects. Interrater reliability for the five emotion variables (enthusiasm, affection, sadness, anger, and anxiety) and neutral tone was judged acceptable using Cohen's kappa statistic (overall $\kappa = 0.71$, $p < .001$). Reliability was also checked periodically by a fourth coder to evaluate rater drift with reanalysis demonstrating continued acceptable levels (e.g., 0.68 to 0.70).

Each speech unit was scored for the presence or absence of each of the given basic emotions and neutral tone as described in the AECS manual. The total for each emotion (within a given interview) was then calculated. To allow for comparison across subjects, all raw scores were transformed into proportions by dividing individuals' emotion scores by their total number of speeches. Inspection of these proportions indicated normal distributions of the emotions included in this study (i.e., anger, anxiety, and sadness).

Emotional distress. The Hopkins Symptom Checklist (SCL-90, Derogatis, 1977) was used to assess subjects' perceptions of emotional distress in young adulthood. This checklist consists of 90 items describing symptoms frequently identified by psychiatric and medical populations and asks the subject to indicate on a five-point scale how much he or she had recently been bothered by the given symptom (i.e., during the past
6 months), ranging from 0 to 4 (not at all to extremely).

The indices of distress used in the analyses reported here include: (a) the hostility subscale, consisting of the mean of 6 items (e.g., feeling easily annoyed or irritated, having urges to break or smash things, shouting or throwing things); and (b) the depression subscale, consisting of the mean of 13 items (e.g., feeling blue, feeling no interest in things, feeling hopeless about the future). For this sample, Cronbach’s alpha internal consistency coefficients were 0.83 and 0.88 for the hostility and depression subscales, respectively.

**Global self-worth.** Young adults’ perceptions of global self-worth were tapped by six items from the Self-Perception Profile for Adults (Messer & Harter, 1987). Using a structured alternative format, this measure asked subjects to decide whether they were more like one group of adults or another and then to rate whether the statement was “sort of” or “really” true for them. This format results in a 4-point scale with subjects assessing the degree to which they liked the kind of person that they are, were dissatisfied with themselves (reverse scored), and felt worthwhile. In the present sample, Cronbach’s coefficient alpha for this subscale was 0.89.

**Results**

In our analysis, we first examined the magnitude of adolescents’ (a) own A-I discrepancies; (b) A-IP discrepancies; (c) expressed anger, anxiety, and sadness; and (d) self-dissatisfaction scores, separately for years 1 and 2; as well as young adults’ (e) ratings on the hostility and depression subscales of perceived emotional distress; and (f) ratings of global self-worth. In addition, group and gender effects were assessed. Patterns of relations among the variables were then examined by first computing zero-order correlations, followed by a series of regressions examining (a) A-I self-discrepancies as predictors of expressed emotions at age 14; (b) the relative contributions of self-discrepancies and expressed emotions to concurrent ratings of self-dissatisfaction, as well as self-dissatisfaction 1 year later; and (c) the degree to which the co-occurrence of self-discrepancies, self-dissatisfaction, and specific expressed emotions during middle-adolescence contribute to symptoms of hostility and depression, as well as global self-worth during young adulthood.

**Magnitude of adolescent and young adult variables**

Means and standard deviations for each of the variables are presented separately by group in Table 1. Group and gender effects were first analyzed, when appropriate, in multivariate analyses of variance (MANOVAs) to reduce the probability of Type I errors; significant multivariate findings ($p < .05$) were then examined with appropriate follow-up tests. Given the relatively small sample size, and the exploratory nature of the study, follow-up univariate effects at the 0.10 level of significance will be reported here, however, their meaning will not be further discussed.

**Self-discrepancies.** The group × gender ($2 \times 2$) MANOVA on the two kinds of actual–ideal self-discrepancies, A-I and A-IP, revealed a main effect for group, $F(2, 54) = 3.06, p < .05$. Separate follow-up analyses of variance (ANOVAs) with group as the independent variable revealed a significant effect on A-IP discrepancy scores, $F(1, 57) = 5.55, p < .05$, with psychiatrically hospitalized adolescents evaluating their actual selves as more discrepant from their parents’ ideals when compared with the high school students (see Table 1 for means and standard deviations).

**Expressed emotions.** The group × gender ($2 \times 2$) MANOVA examining the set of variables measuring adolescents’ emotional expressions revealed significant multivariate group, $F(3, 53) = 16.45, p < .001$, and gender, $F(3, 53) = 5.62, p < .01$, main effects. Follow-up ANOVAs on the
Table 1. Descriptive statistics for adolescent and young adult variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Psychiatric</td>
</tr>
<tr>
<td>Adolescent variables</td>
<td></td>
</tr>
<tr>
<td>A-I</td>
<td>2.35 ± 0.82</td>
</tr>
<tr>
<td>A-IP</td>
<td>2.82 ± 1.15</td>
</tr>
<tr>
<td>Anger</td>
<td>0.46 ± 0.17</td>
</tr>
<tr>
<td>Anxiety</td>
<td>0.37 ± 0.22</td>
</tr>
<tr>
<td>Sadness</td>
<td>0.24 ± 0.22</td>
</tr>
<tr>
<td>Self-dissatisfaction-14</td>
<td>0.41 ± 0.29</td>
</tr>
<tr>
<td>Self-dissatisfaction-15</td>
<td>0.23 ± 0.23</td>
</tr>
<tr>
<td>Young adult variables</td>
<td></td>
</tr>
<tr>
<td>Hostility</td>
<td>0.93 ± 0.79</td>
</tr>
<tr>
<td>Depression</td>
<td>0.99 ± 0.85</td>
</tr>
<tr>
<td>Self-worth</td>
<td>2.89 ± 0.85</td>
</tr>
</tbody>
</table>

Values are mean ± SD. Means that have different superscript letters are significantly different from each other, at p < .05 for A-IP, self-dissatisfaction-14, and self-worth, and p < .001 for anger and anxiety.

Separate emotions revealed a significant group difference in anger, $F(1, 57) = 12.93, p < .001$, as well as in anxiety, $F(1, 57) = 28.54, p < .001$, with the psychiatrically hospitalized adolescents expressing more anger and less anxiety than the high school students. Results also showed that girls expressed more sadness than boys, $F(1, 57) = 7.27, p < .01$, with mean expression scores of 0.25 ($SD = 0.17$) and 0.15 ($SD = 0.12$), respectively. There was also a marginally significant effect of gender on anger, $F(1, 57) = 3.60, p < .10$, with girls expressing more anger ($M = 0.41, SD = 0.14$) than boys ($M = 0.35, SD = 0.16$).

**Self-dissatisfaction.** Our $2 \times 2$ (group × gender) ANOVA on self-dissatisfaction scores for year 1 revealed a main effect for group, $F(1, 57) = 3.44, p < .05$. As anticipated, members of the psychiatrically hospitalized group reported more dissatisfaction with self than did members of the high school group. Contrary to prediction, however, there were no significant findings for the year 2 self-dissatisfaction scores. A follow-up paired-comparison $t$ test revealed that self-dissatisfaction scores in the psychiatrically hospitalized group decreased significantly from year 1 to year 2, $t(23) = 2.76, p < .01$.

**Symptoms of emotional distress.** The $2 \times 2$ (group × gender) MANOVA examining the set of variables reflecting self-reported symptoms of emotional distress during young adulthood revealed only a significant gender main effect, $F(2, 54) = 4.11, p < .05$. Follow-up ANOVAs with gender as the independent variable showed significant differences in self-reported symptoms of hostility, $F(1, 57) = 6.25, p < .05$, with young adult men reporting more frequent symptoms of hostility ($M = 0.92, SD = 0.80$) than young adult women ($M = 0.52, SD = 0.36$).

**Self-worth.** Our group × gender ($2 \times 2$) ANOVA on young adult ratings of self-worth revealed a significant group main effect, $F(1, 57) = 4.00, p < .05$, and a marginally significant gender main effect, $F(1, 57) = 3.30, p < .10$. As can be seen in Table 1, young adults who were psychiatrically hospitalized during adolescence had lower
self-worth scores than young adults who were drawn from the high school population. Men’s self-worth scores ($M = 2.93$, $SD = 0.76$) were also somewhat lower than women’s scores ($M = 3.26$, $SD = 0.66$).

**Relations among adolescent-era variables**

We then examined relations among adolescent self-discrepancies, expressed emotions, and self-dissatisfaction by computing Pearson correlation coefficients separately for each group. As shown in Table 2, there is consistency among adolescents’ discrepancy scores, suggesting considerable internal conflict for some individuals.

Contrary to expectation, the correlations showed no significant relations between self-discrepancies and adolescent expressed emotions; therefore, we no longer expected that individual differences in either A–I or A–IP self-discrepancy would explain differences in particular expressed emotions. There remained an open question, however, about the relative contribution of self-discrepancies, and expressed emotions to adolescent self-dissatisfaction. As can be seen in Table 2, the zero-order correlations indicated that lower levels of A–I discrepancies, and higher rates of expressed anger were associated with greater concurrent self-dissatisfaction for the hospitalized individuals. Higher rates of expressed anger were also associated with greater concurrent self-dissatisfaction for the high school students. A regression analysis using a stepwise selection method was then used to examine the relative contribution of self-discrepancies, and expressed emotions to self-dissatisfaction controlling for their shared variance. Stepwise selection was utilized because tests are performed at each step to determine the contribution of each predictor already in the equation if it were to enter last. It is thus possible to determine if predictors entered early into the equation have lost their usefulness when additional predictors are brought into the equation (Pedhazur, 1982, p. 160). Results of analyses performed separately for each group are presented in Table 3.

For the psychiatric group, the data showed that lower levels of discrepancies between adolescents’ actual and ideal selves from their own perspectives (A–I), as well as higher rates of expressed anger, and sadness accounted for 44% of the variance in concurrent self-dissatisfaction, $F(3, 21) = 5.57$, $p < .01$. For self-dissatisfaction ratings 1 year later, however, there were no significant predictors. For the high school group, in contrast, higher levels of expressed anger and lower levels of expressed anxiety accounted for 32% of the variance.

### Table 2. Correlations among adolescent-era self-discrepancies, expressed emotions, and ratings of self-dissatisfaction

<table>
<thead>
<tr>
<th></th>
<th>A–I</th>
<th>A–IP</th>
<th>Anger</th>
<th>Anxiety</th>
<th>Sadness</th>
<th>DIS14</th>
<th>DIS15</th>
</tr>
</thead>
<tbody>
<tr>
<td>A–I</td>
<td>–</td>
<td>0.37*</td>
<td>0.27</td>
<td>–0.03</td>
<td>0.28</td>
<td>–0.33**</td>
<td>–0.18</td>
</tr>
<tr>
<td>A–IP</td>
<td>0.65***</td>
<td>–</td>
<td>0.26</td>
<td>–0.16</td>
<td>0.08</td>
<td>0.11</td>
<td>0.10</td>
</tr>
<tr>
<td>Anger</td>
<td>0.14</td>
<td>0.08</td>
<td>–</td>
<td>–0.24</td>
<td>–0.15</td>
<td>0.39*</td>
<td>0.04</td>
</tr>
<tr>
<td>Anxiety</td>
<td>0.17</td>
<td>0.21</td>
<td>0.45****</td>
<td>–</td>
<td>–0.09</td>
<td>–0.26</td>
<td>0.27</td>
</tr>
<tr>
<td>Sadness</td>
<td>0.07</td>
<td>–0.13</td>
<td>0.03</td>
<td>–0.03</td>
<td>–</td>
<td>0.10</td>
<td>–0.18</td>
</tr>
<tr>
<td>Dissatisfaction-14</td>
<td>0.05</td>
<td>–0.06</td>
<td>0.44****</td>
<td>0.12</td>
<td>0.01</td>
<td>–</td>
<td>0.22</td>
</tr>
<tr>
<td>Dissatisfaction-15</td>
<td>0.01</td>
<td>0.14</td>
<td>–0.03</td>
<td>–0.18</td>
<td>0.20</td>
<td>0.36*</td>
<td>–</td>
</tr>
</tbody>
</table>

*Note: Correlations above the diagonal are for the psychiatrically hospitalized group; correlations below the diagonal are for the high school group. DIS14 = self-dissatisfaction at age 14. DIS15 = self-dissatisfaction at age 15.

*p < .05.

***p < .10.

****p < .001.

*****p < .01.
Table 3. Regression of adolescent self-dissatisfaction ratings on self-discrepancies and expressed emotions

<table>
<thead>
<tr>
<th>Group</th>
<th>Psychiatric B</th>
<th>Partial $R^2$</th>
<th>$F(1, 23)$</th>
<th>High School B</th>
<th>Partial $R^2$</th>
<th>$F(1, 32)$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dissatisfaction at age 14</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A–I</td>
<td>$-0.57_{t}$</td>
<td>0.18</td>
<td>6.12*</td>
<td>$-0.62_{t}$</td>
<td>0.19</td>
<td>7.71**</td>
</tr>
<tr>
<td>Anger</td>
<td>0.58</td>
<td>0.15</td>
<td>4.09*</td>
<td>0.61</td>
<td>0.13</td>
<td>6.06*</td>
</tr>
<tr>
<td>Anxiety</td>
<td>$-0.35_{t}$</td>
<td>0.11</td>
<td>4.04***</td>
<td>$-0.41_{t}$</td>
<td>0.13</td>
<td></td>
</tr>
<tr>
<td>Sadness</td>
<td>$-0.35_{t}$</td>
<td>0.11</td>
<td>4.04***</td>
<td>$-0.41_{t}$</td>
<td>0.13</td>
<td></td>
</tr>
<tr>
<td>Dissatisfaction at age 15</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dissatisfaction–14</td>
<td>$-0.34_{t}$</td>
<td>0.13</td>
<td>4.87*</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Subscript numbers indicate order of entry into the respective regression equations.

*p < .05.

**p < .01.

***p < .10.

In self-dissatisfaction at age 14, $F(2, 31) = 7.50$, $p < .01$; self-dissatisfaction at age 14, in turn, accounted for 13% of the variance in self-dissatisfaction 1 year later, $F(1, 32) = 4.87$, $p < .05$.

Adolescent-era predictors of young adult emotional distress and self worth

We then examined the relations of adolescent-era self-discrepancies, expressed emotions, and self-dissatisfaction with young adult symptoms of emotional distress and global self-worth, separately for each group (see Pearson correlation coefficients presented in Table 4). For the psychiatrically hospitalized group, higher rates of adolescent-expressed sadness were associated with fewer symptoms of hostility and depression, whereas greater self-dissatisfaction at age 15 was associated with more symptoms of emotional distress and lower self-worth in young adulthood. For the high school group, a different pattern of findings emerged. The data showed that greater discrepancies between high school students' actual self-representations and representations of parental ideals (A–IP) were associated with more symptoms of hostility and lower self-worth in adulthood. Higher rates of expressed anger and anxiety were similarly associated with less favorable young adult outcomes, including more symptoms of hostility and depression, as well as lower self-worth.

The more important question, however, was the degree to which the adolescent-era cognitive and emotion variables contributed to young adult outcomes after controlling for their shared variance. Therefore, a series of regressions using a stepwise selection method examined the contributions of adolescent self-discrepancies (A–I, A–IP), expressed emotions (anger, anxiety, and sadness), and self-dissatisfaction to each of the two emotional distress subscales and self-worth. Given extensive previous research indicating the critical role of self-dissatisfaction in symptoms of depression and hostility, as well as global self-worth (see Steinberg, 1983), we included both the age 14 and 15 self-dissatisfaction scores. This decision was supported further by our findings in the psychiatrically hospitalized group that (a) ratings of self-dissatisfaction decreased significantly from ages 14 to 15; and (b) self-dissatisfaction at age 15 showed significant patterns of associations with the young adult variables of interest. Gender was entered first as a control variable in the analyses involving hostility and self-worth because the data showed gender effects on these variables. Results are presented in Table 5.

With respect to symptoms of emotional distress in the psychiatric group, the data
Table 4. Correlations between adolescent-era variables and young adult symptoms of emotional distress and global self-worth

<table>
<thead>
<tr>
<th>Young adult</th>
<th>Psychiatric</th>
<th></th>
<th>High School</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hostility</td>
<td>Depression</td>
<td>SW</td>
<td>Hostility</td>
</tr>
<tr>
<td>Adolescent-era:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A-I</td>
<td>-0.10</td>
<td>-0.25</td>
<td>0.12</td>
<td>0.35*</td>
</tr>
<tr>
<td>A-IP</td>
<td>-0.24</td>
<td>-0.16</td>
<td>0.30</td>
<td>0.48**</td>
</tr>
<tr>
<td>Anger</td>
<td>0.22</td>
<td>0.11</td>
<td>-0.10</td>
<td>0.28***</td>
</tr>
<tr>
<td>Anxiety</td>
<td>0.20</td>
<td>0.24</td>
<td>-0.39**</td>
<td>0.38*</td>
</tr>
<tr>
<td>Sadness</td>
<td>-0.39*</td>
<td>-0.33***</td>
<td>0.12</td>
<td>-0.03</td>
</tr>
<tr>
<td>Dissatisfaction-14</td>
<td>0.13</td>
<td>0.14</td>
<td>-0.08</td>
<td>-0.01</td>
</tr>
<tr>
<td>Dissatisfaction-15</td>
<td>0.45*</td>
<td>0.65****</td>
<td>-0.64****</td>
<td>0.01</td>
</tr>
</tbody>
</table>

SW, global self-worth.
* p < .05.
** p < .01.
*** p < .10.
**** p < .001.

Table 5. Regression of young adult outcome variables on adolescent-era predictors

<table>
<thead>
<tr>
<th></th>
<th>Group</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Psychiatric</td>
<td></td>
<td>High School</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>Partial R²</td>
<td>F(1, 23)</td>
</tr>
<tr>
<td>Hostility</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>0.48</td>
<td>0.20</td>
<td>5.76*</td>
</tr>
<tr>
<td>A-IP</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Anger</td>
<td>0.35</td>
<td>0.14</td>
<td>4.58*</td>
</tr>
<tr>
<td>Anxiety</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dissatisfaction</td>
<td>0.34</td>
<td>0.11</td>
<td>4.15*</td>
</tr>
<tr>
<td>Depression</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A-I</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anxiety</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dissatisfaction</td>
<td>0.65</td>
<td>0.42</td>
<td>16.65***</td>
</tr>
<tr>
<td>Self-worth</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>-0.21</td>
<td>0.10</td>
<td>2.69</td>
</tr>
<tr>
<td>A-IP</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anger</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anxiety</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dissatisfaction</td>
<td>-0.60</td>
<td>0.35</td>
<td>13.92****</td>
</tr>
</tbody>
</table>

Note: Subscript numbers indicate order of entry into the respective regression equations.
* p < .05.
** p < .01.
*** p < .10.
**** p < .001.
showed gender, as well as higher levels of expressed anger and self-dissatisfaction at age 15 accounted for 45% of the variance in young adult symptoms of hostility, $F(3, 21) = 5.67, p < .01$, whereas higher levels of self-dissatisfaction at age 15 accounted for 42% of the variance in young adult symptoms of depression, $F(1, 23) = 16.65, p < .001$. For the high school group, in contrast, gender as well as higher levels of discrepancies between adolescents' actual self-representations and their representations of parents' ideals (A–IP), and expressed anxiety accounted for 36% of the variance in adult symptoms of hostility, $F(3, 30) = 5.69, p < .01$. Higher levels of A–I self-discrepancies and anxiety accounted for 18% of the variance in symptoms of depression, $F(1, 32) = 3.32, p < .05$.

We then conducted another set of hierarchical regression analyses examining whether the interaction terms associated with the self-cognitions and emotions identified in the stepwise selection would add unique variance in the prediction of depression and hostility. In all cases, however, the resulting regression coefficients were not significant.

With respect to global self-worth, gender and lower levels of self-dissatisfaction at age 15 accounted for 45% of the variance, $F(2, 22) = 9.06, p < .001$, in the psychiatrically hospitalized group. In the high school group, 52% of the variance in self-worth was predicted by gender, lower A–IP discrepancy scores, less expressed anger and anxiety, and lower levels of self-dissatisfaction at age 15, $F(5, 28) = 6.04, p < .05$.

**Discussion**

The results from this study provide evidence for the independence of particular self-cognitions and emotions during midadolescence, and their unique contributions to the prediction of emotional distress and psychological adjustment in young adulthood. Overall, the findings related to midadolescence are consistent with the theoretical and empirical literatures that explore the cognitive and emotional changes that occur during this developmental period. The adolescents in this study reported moderate levels of discrepancies within the self-system (Harter & Monsour, 1992), expressed frequent occurrences of negative emotions (Larson & Lampman–Petrakis, 1989), and indicated that they were somewhat dissatisfied with themselves (Harter, 1990). The data suggest further that self-discrepancies, negative emotions, and self-dissatisfaction experienced during midadolescence exert significant independent influence on later vulnerability to emotional distress and self-worth, albeit differently for individuals who were psychiatrically hospitalized as adolescents and a normative group.

For the psychiatric group, the study's findings suggest that global, negative self-evaluations during midadolescence played an important part in individuals' subsequent adjustment, whereas the predictive role of negative emotions was less clear. For the high school group, in contrast, young adult outcomes were associated with self-evaluations of the degree to which specific attributes in the actual and ideal selves differed from each other during midadolescence. Anxiety also emerged as the most costly of the negative emotions experienced during midadolescence—placing individuals in the normative group at later risk for symptoms of hostility and depression, as well as diminished self-worth.

**Magnitude of self-discrepancies, expressed negative emotions, and self-dissatisfaction during midadolescence**

Contrary to expectations, in the data collected during midadolescence, we did not find group differences in discrepancies between individuals' representations of their actual self and their own ideals. This unexpected finding may be due to the relatively limited ability of the psychiatric group to reflect upon their own inner experience (McCrae & Costa, 1980; Saffey & Hauser, 1994). Such an explanation converges with our prior research indicating that these youngsters are functioning at lower levels of ego development than the high school
group (Hauser, Powers, Noam, Jacobson, Weiss, & Follansbee, 1984). Individuals at relatively low levels of ego development may be less able to appreciate multiple aspects of themselves due to their less complex cognitive styles (Hauser, 1993).

An alternative explanation suggests that psychological defensiveness may prevent the psychiatrically hospitalized adolescents from acknowledging specific negative attributes within themselves (Block & Thomas, 1955). Support for this explanation comes from the findings in our study that the psychiatric group evaluated their actual selves as more discrepant from their representations of parents' ideals than the high school students. It may be that these youngsters are aware of inconsistencies in their self-representations, but only when they are able to externalize the causes of these conflicts—such as rejecting parental standards as unreasonable (Collins, 1990; Weiner, 1986).

In terms of negative emotions, the psychiatrically hospitalized adolescents expressed more anger and less anxiety than the high school students. These findings comport with previous findings in our own studies (see Safyer & Hauser, 1994). The finding that the psychiatric group expressed more anger than the high school group is also consistent with prior research suggesting that a variety of adolescent psychiatric disorders (e.g., conduct disorders, depression) are associated with high levels of irritability and anger (Blumberg & Izard, 1985; Capaldi, 1991, 1992). We believe that the higher anxiety expressed by the high school students may be related to their greater self-awareness and openness to experience (McCrae & Costa, 1980). The psychological costs of this heightened awareness of inconsistencies within the self-system, however, appears to be the expression of more anxiety (Hauser & Safyer, in press; Lamborn & Fischer, 1990; Safyer & Hauser, 1994).

Finally, the psychiatrically hospitalized adolescents reported more dissatisfaction with themselves than members of the high school group during year 1 of the study. This finding converges with previous theoretical and empirical analyses both in our own studies (e.g., Isberg et al., 1989) and those of others that explore the relation between self-esteem and a variety of behavioral and emotional disorders (see Steinberg, 1983, for a discussion). The finding that the psychiatrically hospitalized adolescents did not express greater dissatisfaction than the high school students during the second year was somewhat surprising. It may speak, however, to the psychological recovery of these adolescents once they were no longer hospitalized.

Relations between self-discrepancies and negative emotions during midadolescence

Contrary to expectation, and to previous research conducted by Higgins and his colleagues (Higgins, 1987, 1989; Higgins et al., 1986; Higgins et al., 1985; Strauman, 1989; Strauman & Higgins, 1988), we found no significant relations between A-I discrepancies and negative emotions during midadolescence. These findings may have occurred, in part, because of methodological differences between our study and those conducted in the past. Our study utilized expressed emotions whereas previous research has relied on the use of self-report inventories of emotional states (e.g., Multiple Adjective Checklist, Zuckerman & Lubin, 1963). Although shown to be reliable, the use of self-report inventories relies on subjective experience of felt emotions, which includes cognitive self-appraisal. Previous findings may, therefore, be somewhat circular in deriving connections between cognitive self-evaluations of discrepancies within the self-system and cognitively based self-reporting of emotional states (Lazarus, 1984). In other words, shared method variance may have inflated correlations in previous research.

On the other hand, self-discrepancy theorists might argue that the degree of accessibility of particular self-discrepancies affected the nature of our findings (Higgins et al., 1986; Strauman, 1989; Strauman & Higgins, 1987). In particular, previous research has found a pattern of relations between self-discrepancies and emotions when
the discrepancies have been primed—or recently activated in individuals’ memories. This explanation seems unlikely, however, because our measure of discrepancies was derived from adolescents’ own self-statements made during a clinical interview; and our measure of emotional expression was based on vocal cues and speech content during these interviews as well. The use of this methodology in our study was based on the assumption that self-statements made during a clinical interview would be salient and important to individuals’ sense of self. Similarly, we assumed that emotions expressed concurrently during the interview would reflect individuals’ emotional experience related to their self-representations.

The absence of significant correlations between self-discrepancies and emotions may, on the other hand, be explained by the theoretical and empirical work of Izard (1972, 1977) and Malatesta (1990). These authors suggest that individuals who tend to be anxious or angry may express these emotions which may, indeed, be associated with inconsistencies between their actual and ideal selves, albeit irrespective of the magnitude of such discrepancies. Moreover, consistent with the work of Blumberg and Izard (1985), our findings indicate that both particular self-discrepancies and emotions make independent contributions to mid-adolescents’ concurrent general sense of self-dissatisfaction.

**Contributions of self-discrepancies and expressed negative emotions to self-dissatisfaction during midadolescence**

The findings with respect to self-dissatisfaction underscore the important roles of self-discrepancies and emotions, particularly for the psychiatrically hospitalized sample. Here, the data showed that low levels of discrepancies in adolescents’ representations of their actual self and their own ideals, and high rates of expressed anger and sadness made independent contributions to self-dissatisfaction, after controlling for their shared variance. The findings that anger and sadness are associated with a general sense of self-dissatisfaction are consistent with previous research by Renouf and Harter (1990). However, the finding with respect to the A–I discrepancies was somewhat surprising. In contrast to our data, previous theoretical and empirical analyses have suggested that high, rather than low, levels of such discrepancies are reflective of a sense of dissatisfaction with self (Block & Robins, 1993; Block & Thomas, 1955; Rogers & Dymond, 1954).

Our finding suggests that self-protective mechanisms may account for the negative relationship between these A–I self-discrepancies and self-dissatisfaction in the psychiatric group. These youngsters may indeed be dissatisfied with themselves based on who they are, but they may be unable to acknowledge the specific attributes that are distressing, either publicly in the Q-sort task or privately to themselves (Block & Thomas, 1955). Thus, low levels of discrepancies between adolescents’ representations of their actual self and their own ideals in association with relatively high self-dissatisfaction may reflect a process of denying specific negative attributes in the self.

For the high school group, on the other hand, high levels of expressed anger and low levels of expressed anxiety were associated with high self-dissatisfaction. The finding that anger accompanies a global, negative evaluation of the self is consistent with findings suggesting that anger is associated with thoughts of having failed or disappointed oneself (Izard, 1991; Renouf & Harter, 1990). In contrast, the negative association between anxiety and self-dissatisfaction supports the views of those who have argued that anxiety motivates individuals to take care of the self presumably by causing them to evaluate and avoid threats of a psychological nature (Covington, 1984; Izard, 1991). Thus, anxiety appears to serve an adaptive function in some adolescents’ concurrent psychological adjustment.

**Young adult symptoms of emotional distress**

Turning to young adulthood, the findings with respect to symptoms of emotional distress highlight the independent longitudinal
contribution of particular self-discrepancies, negative emotions and self-dissatisfaction during midadolescence. The level of complexity of the self-cognition that contributes to later psychological functioning, however, appears to be different for the two groups. For the psychiatrically hospitalized group, a general sense of self-dissatisfaction played a significant role in later emotional distress, whereas specific discrepancies within the self-system were more salient longitudinally for the high school students.

For the psychiatric group, our data showed that self-dissatisfaction during midadolescence placed individuals at risk for emotional symptoms in young adulthood. The kind of symptom picture that emerged, however, was differentially predicted by individuals' emotional experiences. Young adult symptoms of hostility were accounted for by the independent influences of anger and self-dissatisfaction, particularly for men. Young adult symptoms of depression, on the other hand, were predicted only by self-dissatisfaction. The role of adolescent anger in young adult hostility comports with previous evidence of longitudinal stability in individuals' hostile tendencies (Huesmann et al., 1984). Similarly, the findings with respect to self-dissatisfaction are consistent with a number of studies indicating that global, negative self-evaluations play a critical role in vulnerability to different types of emotional distress (Steinberg, 1983).

In contrast, the absence of a predictive relationship between sadness during adolescence and young adult symptoms of depression (after controlling for the effects of self-dissatisfaction) was unexpected. Nonetheless, it may have occurred because stability in depressive symptoms between adolescence and adulthood is relatively low (Kandel & Davies, 1986). It may also be that sadness makes individuals responsive to resolving the sources of their distress, a sentiment expressed by Izard (1991). Thus, in the psychiatric sample, sadness experienced during adolescence may play a motivational role in later individual growth rather than maladjustment.

For the high school students, in contrast, the kind of symptom pattern that emerged was related to the possible underlying psychological significance of particular A-I self-discrepancies. Specifically, high levels of discrepancies between adolescents' representations of their actual self and their internalized representations of parents' ideals were associated with relatively high young adult symptoms of hostility. On the other hand, high levels of discrepancies between adolescents' representations of their actual self and their own ideals were associated with relatively high symptoms of depression during young adulthood.

Taken together, these findings suggest that self-evaluative attributional styles may be a critical element in differentiating vulnerability to particular kinds of emotional distress (Weiner, 1986). It may be that discrepancies between actual self-representations and representations of parents' ideals are associated with the belief that parental standards are unreasonable (e.g., an external attribution). Thus, the association between such discrepancies and hostility is consistent with the large body of evidence linking external attributions with anger-related emotions, and externalizing disorders (Dodge & Newman, 1981; Weiner, 1986).

In contrast, discrepancies between adolescents' representations of their actual self and their own ideals may be associated with internal attributions with respect to the cause of the discrepancy, and thus, with internalizing disorders. Such a discrepancy may reflect self-perceived negative attributes in the actual self, or unrealistically high aspirations for the ideal self. In either case, however, blaming one's self for the discrepancy may underlie the contribution of these discrepancies to later symptoms of depression. Similarly, individuals' self-doubts about their abilities to attain their aspirations may be influential in the association between this type of actual-ideal discrepancy and depression (Schwarzer, 1985). Whether self-evaluative attributional styles and self-perceptions of ability predict additional variance in young adult symptoms of distress, however, is an empirical question that warrants attention in future research.

The findings for the high school group also showed that adolescent-expressed anxi-
etry explained unique variance in young adult symptoms of hostility and depression (controlling for the effects of specific self-discrepancies). These findings may be explained, in part, by Izard's (1972) research indicating that anxiety is a complex pattern of feelings, including anger and sadness. Each of these emotions (i.e., anger and sadness) may, therefore, explain the differential contribution of anxiety to hostility and depression, respectively.

It may also be that differences in cognitive processes associated with feelings of anxiety underlie its role in symptoms of hostility and depression. Previous research suggested that anxiety is associated both with perceived threat to the self, as well as self-perceptions of inadequacy, incompetence, and lack of control (see Izard, 1972, 1977; Schwarz, 1985). Thus, the degree to which anxiety is experienced as threat, particularly in situations involving external sources of distress, may explain its contribution to later symptoms of hostility. Alternatively, anxiety experienced as incompetence and lack of control may explain its contribution to feelings of hopelessness and depression (Seligman & Peterson, 1986).

Young adult self-worth

In our findings regarding young adult psychological adjustment, reflected in global self-worth, the data again showed a different pattern of findings for the psychiatrically hospitalized individuals and the normative group. In the psychiatric group, gender and a general sense of self-dissatisfaction accounted for a large proportion of the variance in young adult self-worth. Specifically, young adults with low self-worth were generally dissatisfied with themselves during midadolescence. For the high school group, gender, discrepancies between representations of actual self and parents' ideals, anger, anxiety, and self-dissatisfaction accounted for 52% of the variance in young adult self-worth. The latter finding replicates, to some degree, the work of Block and Robins (1993). It suggests further that discrepancies between representations of actual self and parents' ideals during midadolescence play an important role in young adult development. The process of disengaging from parental standards and developing a sense of autonomy, therefore, has important concurrent and longitudinal implications (Collins, 1990; Steinberg, 1990).

In order to understand this process, it would be helpful to explore further the degree to which the association between young adult self-worth and adolescent discrepancies between representations of actual self and parents' ideals is related to self-perceived inability to meet parental ideals, as described earlier. The link between self-worth and this kind of A-I discrepancy may also reflect adolescents' perceptions of the degree to which their parents are accepting of their bids for autonomy (Steinberg, 1990). A number of researchers have argued that parents' willingness to maintain close ties with their children while encouraging their autonomy is a critical element in adolescents' development of a balanced relationship between relatedness to the family and their emergent autonomy (Allen et al., 1994; Isberg et al., 1989; Steinberg, 1990; Youniss & Smollar, 1983). Questions about parental acceptance of bids for autonomy may, therefore, underlie the relationship between diminished self-worth in young adulthood and discrepancies between representations of actual self and parents' ideals during midadolescence. These data suggest that future research focused on the potentially complex psychological significance of this kind of A-I self-discrepancy during midadolescence is warranted.

The role of emotions in diminished self-worth among the normative sample is also noteworthy. The finding that midadolescent anger independently contributed to diminished self-worth supports a growing body of evidence indicating that anger is related to problematic adjustment (Collins & Gunnar, 1990). In addition, the longitudinal contribution of anxiety to diminished self-worth is of particular interest. This finding, together with the results linking anxiety with symptoms of hostility and de-
pression (described earlier), suggests that anxiety is the most costly of the negative emotions over the long term. Given the complexity of emotions and cognitions likely to be associated with anxiety, however, further research directly exploring the linkages suggested by our findings would be beneficial.

Summary

Overall, the findings from this study highlight the critical, albeit independent, roles of developmentally salient self-cognitions and emotions during midadolescence in young adult vulnerability to particular kinds of emotional distress and diminished self-worth. However, the study has several limitations. The relatively small sample sizes in the psychiatric and high school groups suggest that the results should be interpreted with caution. To address this limitation, further effort is being directed toward analyzing the data of all youngsters in the sample, including those from single-parent families. In addition, the generalizability of these findings to other populations may be limited by the restricted socioeconomic and racial status of the subjects who participated in this study. Results may be generalizable, therefore, only to White adolescents from middle- to upper middle-class families.

Finally, from the perspective of a developmental model, measures of A–I discrepancies, expressed negative emotions, and self-dissatisfaction over the course of the teenage years should be included in future analyses. Although the current data from the first and second years of the study explain a significant amount of the variance in young adult symptoms of hostility, depression, and self-worth, our understanding of these contributions may be enhanced by exploring the degree to which continuities and discontinuities in developmentally salient adolescent-era cognitive and emotional facets of personality contribute to the results that were found during young adulthood.

References


Appendix

Items used to measure midadolescents' general sense of self-dissatisfaction

1. I often wish I were someone else.
2. There are lots of things about myself I'd change if I could.
3. I have a low opinion of myself.
4. I often feel ashamed of myself.
5. I don't care what happens to me.
6. I'm a failure.