

A Psychiatric Perspective on Narratives of Self-Reflection in Resilient Adolescents

Ayelet R. Barkai* and Nancy Rappaport

Harvard Medical School and Cambridge Health Alliance, Massachusetts, USA

Abstract: Self-reflection is a developmental competence that fully emerges in adolescence. In this paper, self-reflection development is explored from the perspectives of developmental psychology, resilience studies, and developmental psychopathology as a way to deepen clinicians' understanding of the clinical relevance of self-reflection development. Literature on narrative identity formation in normative adolescence is reviewed, and research on self-reflection in narratives of high-risk adolescents participating in a 30+ year ongoing longitudinal study of adolescent developmental psychology and psychopathology is presented. A theoretical synthesis is proposed to account for the relations between self-reflection, competence and resilient outcome.

Keywords: Self-reflection, agency, development, adolescence, resilience, narrative, borderline personality disorder, autism.

The capacity for self-reflection -- the ability to observe oneself from one's own and others' point of view-- has been considered by some as "the most precious achievement of our species" (Csikszentmihalyi, 2006, p. 9). Self-reflection is widely regarded as marking an unfolding developmental competence fully emerging in adolescence (Bell, Wieling, & Watson, 2004). The capacity for self-reflection becomes possible as adolescents' cognitive capacities enlarge (Keating, 1990) and they become increasingly self-aware (Damon & Hart, 1988; Hobson, *et al.*, 2006). However, despite its critical role in development there is limited research that looks at how self-reflection emerges, and how it differs in normal and psychopathological development. We know little about developmental antecedents facilitating the growth of this uniquely human attribute. We need to explore more about how the healthy expression of self-reflective capacities mitigates resistance to adverse life circumstances. In teenagers with psychopathology, enhanced self-reflective capacities may operate as a general buffer, diminishing the deleterious effects of their illness by enhancing positive functioning.

SELF-REFLECTION AS A DEVELOPMENTAL PROCESS

The reciprocity between an infant and his primary caretakers is the foundation of self-reflection (Hobson, 1994; Siegel, 2004). Self-reflection is thus tied to attachment, and occurs through a process termed mirroring. The securely attached child sees that his parent regards him as desirable, and internalizes this positive image of himself. Such children come to know themselves through the eyes of their sensitive, responsive and reflective parents, in daily interactions where they are provided with myriad opportunities for their internal

states to be mirrored back. The lack of a nurturing connection with caretaking adults in infancy has been linked with psychopathology in later life. However, this lack can be compensated for by corrective intimate relationships throughout the life span.

As children mature, the metacognitive processes (Flavell, 2003) supporting self-exploration and motivated by self-curiosity (Trapnell & Campbell, 1999) catalyze self-knowledge acquisition. Changes in the nature of thinking starting in early adolescence include increases in abstract representation, enhanced multidimensional appreciation, and increases in self-reflective and self-aware thought (Keating, 1990). Self-reflection consequently increases as adolescents' capacity for self-awareness increases (Damon & Hart, 1982, 1988; Hobson, *et al.*, 2006). The emergence and growth of self-reflection is thus associated with both relational and cognitive aspects of development.

The capacity for self-reflection is linked to human agency (the ability to exercise control over one's life experience) and self-efficacy (the beliefs underlying this competence) (Bandura, 2001). As an increased sense of personal-agency (Bandura, 1989) is realized, adolescents feel a greater sense self-control, and this self-reflective "awareness of awareness" affords them better impulse-control and improved emotion regulation (Fonagy & Target, 1998). Both are key components of resilience (Fergus & Zimmerman, 2005).

FINDINGS FROM DEVELOPMENTAL PSYCHOLOGY

Studies of how an understanding of one's own and others' subjective experiences proceeds through adolescence provide a more fine-grained picture of the development of self-reflection. Two empirical research groups have studied and defined stages of self-reflection, and have presented developmental models extending from childhood into late adolescence.

*Address correspondence to this author at 328 Broadway, Cambridge, Massachusetts, 02139, USA; Tel: (617) 480-7480; Fax: (314) 480-7486; E-mail: ayelet_barkai@hms.harvard.edu

These developmental models provide both the basis for a fuller understanding about how self-reflection development is adversely affected by psychopathological states and serve to illustrate a rationale for the common finding in various psychiatric syndromes of poor self-efficacy (e.g. Maciejewski, Prigerson & Mazure, 2000; Mueser *et al.*, 2002) and limited sense of personal agency (e.g. Resnick, Rosenheck & Lehman, 2004), since the development of these attributes are linked to that of self-reflection.

Selman's Work

Selman (1980) outlines a developmental progression of self-awareness from childhood to late adolescence (and into adulthood), the stages of which have been labeled levels 0 through 4. Level 0 takes place about ages 3-6 years, level 1 at ages 5-9 years, level 2 at ages 7-12 years, level 3 at ages 10-15 years and level 4 at ages 12 to adulthood. In level 0, children do not appear to view the character of psychological experience as different from that of physical, thus the conception of a psychological self is undifferentiated from that of a physical self.

In level 1 self-awareness, there is an emerging understanding of the difference between actions and intentions, and an acknowledgement that they are separate entities. At this level, children lack awareness that they can deliberately misrepresent their internal experiences, such as thoughts, feelings or motives, to themselves or others. In addition, at level 1 children seem to believe that a person's actions are by necessity a reflection of the person's inner experience. While this may at times be true, it is not always the case, for example, acting bravely in the face of fear. Children functioning at this level also seem unable to comprehend that a person may be unaware of what he or she is feeling or thinking.

Level 2 self-awareness heralds the emergence of an introspective self. Here, children understand better the difference between outer appearances and inner reality, such that inner experience is prioritized. Inner experience (how one "really feels") becomes more important than outer appearance. The perspective-taking that characterizes level 2 self-awareness ushers in the appearance of the child's ability to constantly monitor his or her own thoughts and actions, such that self-deception is more difficult. Because of this self-aware self-monitoring, it is no longer possible to "fool" oneself into feeling what one does not truly feel. By extension, though, the child at this level becomes aware of their ability to consciously mislead *others* about their internal states through hiding their inner feelings. Another posited, sometimes painful, result of this enhanced self-monitoring is the emergence of self-consciousness.

The hallmark of level 3 is the introduction of the concept of *mind*, what Selman calls a *third-person perspective on the self*. Level 3 self-awareness thus marks the manifestation of concepts of the self as both observed and observer (analogous to objective and subjective self-awareness). The most salient difference between level 2 and 3 self-awareness is the pivotal shift from viewing the self as passive observer to being an active psychological agent of one's inner life. This development is critical for a child's feeling of self-control.

The most important recognition in level 4 self-awareness is of the existence of unconscious mental processes in oneself as well as in others. Individuals functioning at this level recognize that others may have thoughts, feelings and motivations that are not accessible *via* introspection, even in the best of circumstances. Adolescents do not need to have a psychological vocabulary to demonstrate their understanding of the unconscious; they can develop a practical understanding of this insight without an explicitly organized theory. As adolescents mature, they come to appreciate the concept of the unconscious and how behavior can be shaped by unconscious psychological causes and defenses (Selman, 1980).

Damon and Hart's Model

Damon and Hart's (1982, 1988) model of the development of self-understanding similarly identifies self-development as happening at different developmental stages spanning early childhood through late adolescence. It includes two dimensions of self-understanding, i.e. "self-as-object" and "self-as-subject", spanning early childhood (level 1), middle childhood (level 2), early adolescence (level 3) and late adolescence (level 4). The "self-as-object" dimension is broken down into four constituent "self-schemes": the physical, active, social and psychological self. These refer to different aspects of self-understanding, such that physical and active (one's awareness of capacity for action) self-understanding is characteristic of infancy and childhood, whereas social and psychological self-understanding is more salient in childhood and adolescence. The self-as-subject dimension is broken down into three subjective processes of awareness: the sense of continuity of the self, the sense of distinctness of the self, and the sense of self-agency. The development of self-understanding progresses hierarchically from level 1 through level 4. For example, on the "self-as-object" dimension, level 1 psychological self-understanding is characterized by momentary moods, preferences and aversions, where these experiences shape in-the-moment self-conceptions, whereas level 4, or late adolescent psychological self-understanding involves a more developed sense of individual beliefs and a better understanding of one's thought processes. On the "self-as-subject" dimension, agency in level 1 self-understanding is characterized by the notion of self as being controlled by outside factors, whereas by late adolescence, level 4 self-agency is expressed *via* personal and moral evaluations that influence the self-experience. These stages correspond to the developmental shifts that are seen clinically: the beginning of adolescence is often characterized by a tendency to externalize responsibility and to see the self as controlled by external factors such as parents, peers and teachers (Level 1). To some degree this is true, but a crucial aspect of growth for adolescents is to recognize themselves as active agents in their lives rather than passively in the control of others.

THEORY OF MIND RESEARCH

There are other productive developmental research studies into how interpersonal understanding develops, in particular "Theory of Mind" research (e.g., Baron-Cohen, 1995; Flavell, 2003). "Theory of Mind" refers to "childhood

acquisition of our commonsense, folk knowledge and beliefs about the mental world” (Flavell, 2003, p. 1). It functions to provide a coherent theory regarding the connection between mental-states and the actions that result from them (Baron-Cohen, 1995). By age 5 years, children have mastered the basics of theory of mind development (Flavell, 2003).

THE RELATIONSHIP BETWEEN SELF-REFLECTION AND RESILIENCE

Resilience is positive adaptation in the face of significant risk or adversity (Masten & Powell, 2003; Luthar, 2006). The central focus of resilience research is the study of the effects of vulnerability and protective factors on outcomes in the face of adverse life circumstances. The quality of overcoming adversity distinguishes resilience from *competence* or *ego resiliency*, defined as a person’s ability to control impulses in accordance with situational demands (Luthar, 2006). *Ego resiliency* describes a personality characteristic or trait of an individual, whereas *resilience* describes a more dynamic developmental process (Luthar & Cicchetti, 2000). Resilience is studied by discerning how competence develops in the face of adversity, where both *competence* and *adversity* are clearly defined (Luthar & Cicchetti, 2000). Psychiatric illness can be considered one such adversity (Hauser, Golden & Allen, 2006).

Adolescents’ vulnerability to adverse events is increased by factors such as cognitive impairment or poverty, and protected by factors such as intelligence or financial resources. Self-regulation and self-efficacy are adaptive systems that predict resilience across varied situations (Masten & Obradović, 2006). We view these adaptive systems as part of self-reflection (Hauser, 1999; Masten & Obradović, 2006).

Fonagy’s Reflective Self-Function

Fonagy *et al.*, (1994) examined links from their construct “reflective self-function,” (abbreviated RF or “reflective function”) to subsequent resilient outcomes. RF is a measure of how people express their thoughts about their own minds and the minds of their attachment figures. This capacity characterizes an individual’s ability to invoke mental state constructs--feelings, beliefs, intentions, and conflicts-- in his or her accounts of current and past attachment experiences. These researchers developed a theoretically guided empirical scale for RF (Fonagy *et al.*, 1998) applicable to data generated by the Adult Attachment Interview (AAI; George, Kaplan, & Main, 1984), a research interview protocol assessing security of attachment by rating various aspects of verbal discourse, (e.g. coherence of narrative, metacognitive monitoring) present when subjects discuss primary attachment relationships. It is theorized that the more securely parents were attached to their own primary caregivers, the more competently they could think about and reflect upon their own and other’s minds, thereby facilitating their children’s secure attachment to them. In this framework, the infant’s mental experience is acquired through careful study of his caregiver’s mental state. Reflective function is frequently misunderstood to be synonymous with self-reflection; though overlapping, they are not interchangeable. Fonagy & Target (1997) point out

that unlike self-reflection, which directly shapes one’s conscious self-experience, reflective function is automatic and unconscious, and “lends a shape and coherence to self-organization which is outside awareness” (p. 681).

In their study of the intergenerational transmission of attachment security (Fonagy *et al.*, 1994), 27 out of 100 mothers meeting criteria for deprivation in childhood (measured by scores on the Adult Attachment Interview where childhood experiences were described as the least loving and characterized by rejection and neglect) were assessed with regard to the relation of their RF scores to their own children’s attachment security. A number of measures from the prenatal evaluation (such as spouse support and socioeconomic status) appeared to differentiate the deprived mothers who had secure children from those who did not. Yet among the group, 100% of the children of the deprived group of ten mothers high in reflective function were securely attached, compared with only one out of 17 of the deprived mothers low in reflective function. The observations in this research suggest that the mother’s capacity for reflective function fosters secure attachment to her child, a quality facilitating resilience.

Self-reflection, Agency and Self-Efficacy: Interrelations and Relevance to Resilience Theory and Psychopathological Development

The capacity for assuming authorship over one’s life, also termed *agency*, is considered the “essence of humanness” (Bandura, 2001, p. 1). In his social cognitive theory of human development, Bandura (1989, 2001) elaborates a model in which self-efficacy beliefs, examined *via* self-reflection, operate through motivational, cognitive and affective processes. Individuals thus look at the adequacy of their own thoughts and actions, through self-reflection, as a way of evaluating their self-efficacy. Belief in self-efficacy reduces vulnerability to stress and strengthens resistance to the effect of adversity *via* the belief that one can effect change by generating favorable outcomes. Psychoanalytic theory (e.g. Loewald, 1973; Aron, 2000; Fonagy & Target, 1997) similarly links self-reflection to personal agency as a core feature of human adaptation and associates deficits in personal agency to psychopathological outcomes.

Fonagy and Target (1997) link reflective self-function to personal agency using the framework of attachment theory. A reflective caregiver, one who provides adequate mirroring of the infant’s emerging self, is necessary for the infant to eventually come to understand the links between his or her own mental states and actions. This ability then determines, among other important self-regulatory functions, the capacity for personal agency, as the growing child eventually realizes that her own thoughts, intentions and motivations underlie her behavior.

ADOLESCENT SELF-REFLECTION, NARRATIVE AND IDENTITY

The capacity to form a coherent story of one’s life, to form a narrative identity, begins during adolescence (Cohler, 1982; McAdams, 1985). The capacity to build a narrative is a key aspect of resilience. Psychotherapy often involves

facilitating the self-reflection needed to foster agency in the narrative. Although self-reflective capacity is acknowledged in educational psychology literature as a critical skill (Howard, Dryden & Johnson, 1999), and is crucial to forming a narrative, as discussed above it has rarely been studied empirically.

Autobiographical memory, also critical to constructing a life narrative (Fivush & Hayden, 2003), has been conceptualized in terms of psychological capacities and mental states including self-reflection and self-agency (Klein *et al.*, 2004). Self-defining memories have been found to be vital in adolescent identity formation because of the self-explanatory function they serve (McLean, 2005). These memories are revisited countless times, especially during stressful times, and invested with new meanings over time, contributing to an evolving narrative and identity.

Conflictual relationships or stressful life events tend to promote self-reflection in late adolescents (Thorne, McLean & Lawrence, 2004). This finding lends credence to the notion that self-reflection represents an adaptive psychosocial capacity preferentially engaged as a way to overcome adversity. A study of self-concept among recent Israeli adolescent immigrants (Ullman & Tatar, 2001) showed the length of time adolescent immigrants had spent in Israel correlated positively with life satisfaction and negatively with self-reflection. The researchers suggested that the stress of immigration during adolescence may hasten and escalate the normative quest for identity exploration seen in this age group: as new immigrant adolescents attempted to assimilate, they engaged in adaptive self-reflection, which helped them form a new identity. Eventually, as they identified with their new home, their life satisfaction increased, and they became less self-reflective.

In the following sections we summarize our program of resilience studies, and present preliminary data from our empirical explorations. In our research we are examining relations between self-reflection in self-expressed narratives (within longitudinal adolescent interviews) and later young adult resilient outcomes in a group of high-risk adolescents. We hypothesize that greater self-reflection--empirically defined as specific instances and intensity of adolescents' verbally expressed consideration of their thoughts and emotions--were evident in the first year interviews of adolescents who, in young adulthood, met criteria for resilient outcome.

METHOD

Study Subjects and Interviews

This research was part of a larger ongoing longitudinal research project on adolescent development involving a group of formerly hospitalized adolescents (Hauser *et al.*, 1991). The psychiatrically hospitalized teens met criteria for a range of internalizing and externalizing psychiatric diagnoses (DSM III; American Psychiatric association, 1980), including character disorders (Noam *et al.*, 1984). Over 80% of the original sample, beginning in 1976, participated annually during 3-4 successive years, in intensive semi-structured interviews covering family history,

current school and peer experience, handling of emotions, and visions of the future.

We examined audio taped and transcribed semi-structured clinical research interviews for levels of self-reflection. Eleven years later, at ages 25-26, 100% of these adolescents were located, and over 98% participated in the young adult phase of this longitudinal project (Allen, Hauser & Borman-Spurrell, 1996).

INSTRUMENTS

Measurements of Resilience

At young adulthood (ages 25-26 years) participants were scored on indices of relationship functioning and social competence that have been empirically found to be related to resilience. Indices of positive functioning included peer-rated ego resiliency (Kobak & Sceery, 1988), relationship closeness (Berscheid, Snyder & Omoto, 1987), attachment representation coherence (Main & Goldwyn, 1998), and ego development (Loevinger, 1976; Hy & Loevinger, 1996). Ego development is a psychological construct measured using Loevinger's well-validated scoring system for the sentence completion test, a projective test where sentence stems are completed by respondents in ways that are meaningful to them and which are indications of inner states such as attitudes, beliefs, motivations and emotions. Measures of delinquency/crime and substance abuse in the last six months (Elliot *et al.*, 1983), and global psychiatric symptoms (Symptom Checklist-90 (SCL-90), Derogatis, 1983) were used to assess the presence or absence of problematic functioning. Former patients showing positive functioning scores above the 50th percentile, and problematic functioning scores below the 50th percentile, for the entire sample (patients plus high school students), were identified as resilient young adults. Thus, our empirical definition of resilience includes relatively increased positive functioning combined with a relatively decreased problematic functioning. Nine former patients met these resilience criteria. A contrast group consisted of 7 former high-risk adolescents showing--relative to all previously hospitalized patients--young adult outcome scores between the 40th and 60th percentile of this high-risk sample.

Measures of Self-Reflection

A basic level of self-reflection was operationally defined for the purpose of narrative identification as a self-reference (cf. Rock, 1975):

- 1) imparting self-knowledge judged to be unique to the individual; and
- 2) evidencing the speaker's regard for his or her own internal experiences and states as objects of inquiry.

In addition, self-references were characterized as complex if they manifested one or more of the following:

- 1) Encompassed acknowledgment or evidence of the self as complex, for example as reflected in verbal expression of ambivalent feelings
- 2) Involved the capacity to perceive relations among thoughts, feelings and actions.

- 3) Were elaborated and abstract.
- 4) Recognized the self as changing in time, from the past to the present, from the present to the future, or both.
- 5) Recognized the impact of others on the self, or of oneself on others.

These qualities of complexity are not necessarily in ascending hierarchical order. Self-references meeting *any* of the above operational definition criteria were scored as one instance of self-reflection. Where self-references were longer than one sentence or utterance, if deemed to be continuous with regard to subject, they were counted as one continuous self-reflection. These were then categorized as level 1, 2 or 3 self-reflections, as follows:

Level 1 self-reflections (SRs), meeting at least criteria 1 and 2, are very simple and basic self-reflections, lacking in complexity, abstract thought and elaboration. Level 2 SR meet at least one of the criteria denoting complexity (3-7) in addition to 1 and 2. Evidencing the speaker's improved capacity to recognize internal experiences and exhibiting a basic sense that inner ideas affect their outer experiences, they fall short of exhibiting a fuller understanding of one's inner world as would be expressed in Level 3 SR. Level 3 SR meets most or all criteria for self-reflection, such that it shows more highly elaborated, sophisticated and complex explanations and descriptions of inner experience, and a more fully thoughtful sense of how inner experience shapes current sense of self.

Statistical Analysis

Using the entire (N = 142) sample at age 25-26 years, z-scores were separately computed for the positive functioning and problematic functioning measures above. The individual z-scores were then averaged to obtain a mean z-score for each participant for both positive and problematic functioning indices. An overall z-score, reflecting a composite measure of both positive and problematic functioning measures, was computed for each participant by averaging the positive and problematic z-scores for each participant.

A Pearson product-moment correlation coefficient (r) was computed to assess the relationship between SR scores at early adolescence (mean age 14 years) and concurrent ego development Item Sum Scores (ISS). Pearson product-moment correlation coefficients (r) were also computed to assess the relationships between SR scores at early adolescence (mean age 14 years) and positive, problematic and overall z-scores (described above) at young adulthood (ages 25-26 years).

RESULTS

In both groups (resilient and contrast adolescents) we expected that higher ego development scores would be associated with higher adolescent self-reflection. Consistent with this hypothesis, we found that at age 14 years, self-reflection scores significantly correlated with concurrent ego development item sum scores ($r=.75, p=.001$; Barkai, *et al.*, 2008), a first indication of the construct validity of our operationalized definition of self-reflection. A significant

positive correlation ($r=.82, p=.006$) was found between self-reflection in interviews done at age 14 years, and overall resilience composite scores at young adulthood (ages 25-26 years) for the resilient outcome group alone. A significant positive correlation ($r=.50, p=.05$) was also found between self-reflection in interviews done at age 14 years and overall resilience z-scores in young adulthood for the whole group. Additionally, while no statistically significant correlation was found between self-reflection in interviews at age 14 years and overall resilience composite scores from young adulthood in the average outcome group, if one outlier in the average outcome group who was the highest self-reflection scorer were removed from the analysis, a significant correlation ($r=.98, p=.0004$) would be found between self-reflection in the year one interviews and overall resilience scores for the average outcome group. This is a possible indication, in this preliminary data, that with a larger sample size, self-reflection might in fact be predictive of overall resilience scores.

Clinical Vignette # 1

The following vignette is provided to demonstrate the deficit in self-reflective capacity of an adolescent patient who meets criteria for borderline personality disorder (it should be noted that these vignettes are composite interviews from the authors' clinical practice, as participant confidentiality forbids use of lengthy interview material from the research study). Also evident is the effect of a therapeutic encounter aimed at enhancing self-reflection primarily through empathic understanding.

L is a 16-year-old girl who presents with a recent history of suicidal ideation, self-mutilation and disordered eating. She smokes marijuana regularly and is doing poorly in school, despite neuropsychological testing showing above average intelligence and no learning disorder. She reports a history of sexual assault by an older male companion who she met on the Internet 6 months ago. Early history is remarkable for maternal post-partum depression and anxiety, and parental conflict ending in divorce when the patient was 2 years old. An excerpt from the initial interview transcript is as follows.

- Therapist: L, can you tell me what brings you here to see me today?
- L: I don't know, my parents want me to come.
- Therapist: Why is that?
- L: They're on my case about my grades, and they think I'm starving myself.
- Therapist: What do you think?
- L: I don't care about school...and I don't want to be here.
- Therapist: Where would you prefer to be?
- L: At home watching TV.
- Therapist: Well, I heard from your parents that you seemed depressed, and have been hurting yourself. Is that the case?

- L: Yeah, but it was no big deal. They make such a big deal about everything.
- Therapist: There must be something bothering you for you to hurt yourself, even if it wasn't a serious injury. Can you tell me what is bothering you?
- L: No, I really can't talk about it.
- Therapist: I really think it would help a lot if you could talk about it with me.
- L: I can't even talk about it with my parents...they just get angry at me for being upset and make me feel stupid.
- Therapist: I won't get angry and I won't make you feel stupid. You must be in a lot of pain to be hurting yourself and smoking so much pot.
- L: I am, I just can't talk about it.

Although a brief vignette, this simulated transcript illustrates how an initially un-reflective adolescent may become more reflective as the therapist shows increasing empathic understanding. It would likely take many sessions before the therapist's empathy has a significant effect on the patient's ability to be more self-reflective.

Clinical Vignette #2

This vignette illustrates the deficit in self-reflective capacity and interpersonal awareness of an adolescent patient who meets criteria for an autistic-spectrum disorder. As with the previous case material, the therapeutic encounter aims to enhance self-reflection primarily through empathic understanding. This adolescent lacks the capacity to understand his effect on others thus unwittingly behaves in an inappropriate way and is perceived as threatening by his peers. His therapist understands the nature of this adolescent's misunderstanding of his own and other's minds and is able to use this knowledge to interpret his actions in an empathic way, which in turn helps this adolescent be more self-reflective.

A 15 year-old boy, R, diagnosed with Asperger's disorder presented with social anxiety and difficulty making friends. He tended to be very awkward interpersonally, acting in socially inappropriate ways (e.g. telling sexually explicit jokes to girls he found attractive). The incident that precipitated R's treatment involved the school principal reprimanding R after he sent a sexually inappropriate text message to a girl he liked, thinking she would find it humorous. Instead she felt he was stalking her, and she reported the incident to the principal. The rejection he experienced in episodes like these compounded his poor self-esteem and increased his social anxiety. He was otherwise intelligent and verbal and performed reasonably well in school. An excerpt from an initial psychotherapy session follows:

- Therapist: How did you feel when the girl called the principal?
- R: I don't know...I didn't expect her to do that. I was joking around and didn't think she'd take it that way.

- Therapist: But it sounded like you were trying to get her attention.
- R: It was just a joke. Dumb to think she would like it, I guess.
- Therapist: It seems like you couldn't think of a different way to get her attention.
- R: I thought she would like it.
- Therapist: Do you understand why she didn't?
- R: Not really. Why do you think she didn't?
- Therapist: It sounded like she felt threatened by it. She probably doesn't know you too well and so doesn't know your sense of humor. Or that you really liked her and that's why you were trying to get her attention.
- R: Yeah, maybe. I was just trying to get her to like me.

DISCUSSION

Our results indicate that a subset of formerly psychiatrically hospitalized adolescents, who at young adulthood showed surprisingly healthy adaptation, evidenced greater self-reflection in clinical interviews done during their adolescent years. We are aware of only one other research program (Fonagy *et al.*, 1994), besides ours (Hauser, 1999; Hauser, Allen, & Golden, 2006; Hauser, Golden & Allen, 2006; Barkai *et al.*, 2007, Barkai *et al.*, 2008), engaged in systematic research exploring whether and how self-reflection, as expressed in semi-structured research interviews, predicts subsequent resilience (defined as competent outcome despite significant adversity). We have preferred to focus on self-reflection, rather than incorporating Fonagy and colleagues' rich reflective function perspective and measure. From a practical perspective, we are measuring self-reflection from semi-structured adolescent interviews, which, unlike the AAI, are not exclusively focused on relationships with important figures, potentially deflating reflective function scores. Moreover, we saw the importance of constructing an assessment of self-reflection not dependent on discourse evoked by AAI probes; but the assessment could also be applied to more varied oral and written expression, including adolescent interviews, responses to projective tests (e.g., ego development stems [Loevinger, 1976]) or psychotherapy sessions. Furthermore, our adolescent interviews are filled with detailed descriptions of adolescents' internal experiences, making them ideal for mining data involving adolescent self-reflection. These interviews helped us to create a template for measuring self-reflective processes within adolescent (and subsequent adult) discourse.

Adolescence is a time of self-exploration and self-definition in the service of identity formation (Erikson, 1950, 1968). We maintain that reflection on the minds of others during adolescence continues to be relevant to ongoing self-exploration and to relationship recruitment and maintenance, another aspect of resilience (Hauser, 1999; Hauser, Allen & Golden, 2006). We believe that our process of narrative

analysis has identified the reciprocal effect between self-reflection and psychopathology. As clinicians, we are curious about how we may enhance the self-reflective capacities of our adolescent patients, and believe that a narrative analytic approach to adolescent interview material can shed light on this question. Expanding on our examination of the narratives of adolescents who demonstrated subsequent resiliency in young adulthood (Hauser, 1999, Hauser, Allen & Golden, 2006; Hauser, Golden & Allen, 2006), we are working on a model through which the maturing expression of self-reflection in adolescence may grant individuals a specifically human strategy for coping with misfortune.

Self-Reflection and Resilient Outcome: A Theoretical Synthesis

Children's capacity for reflecting on mental states affects their resilience in vital and far-reaching ways. Self-reflection enables them to benefit from accessing caretaking individuals, and at the same time is a critical component of autonomy. Self-reflection is crucial to the development of a coherent sense of identity, is an essential aspect of personal-agency, engenders greater interpersonal awareness and contributes to the development of empathy. Positive relationships are a key aspect of resilience (Luthar & Brown, 2007; Hauser, 1999); self-reflection functions reciprocally with reflection on others in enhancing relationships and fostering resilient outcome.

Self-reflection may further resilient outcome by shaping narrative identity. This can provide a means for integrating the meaning of negative life events, which is associated with psychological maturity (McAdams, 2008). This process may be particularly relevant to resilient outcome because self-reflection on the experience of adversity provides an opportunity to make meaning out of these experiences and integrate them into one's narrative identity. McAdams (2008) explains research on autobiographical reasoning about negative events, describing how in-depth exploration of negative experiences, including how the experience felt and what role the event plays in one's overall understanding of self, is the first step of integrating these events into narrative identity. The next phase involves the person's commitment to a positive resolution of the event. Thus, self-reflection on negative events is the primary essential stage in this process.

The part played by self-reflection in personal agency may be yet another avenue through which self-reflection contributes to resilient outcome. Self-reflection endows people with the conviction of their own power over events, similar to the process described earlier, such that finding meaning in one's life experiences through a developing narrative is a way to master negative events. Narrative identity formation in particular functions to optimally position late adolescents to move forward into the complex societal demands of adult life (McAdams, 2008). This is a path especially applicable in our study because we are looking at how self-reflection in adolescence predicts resilient outcome in young adulthood.

We regard self-reflection to be crucial to the function of narrative meaning making, which is essential to identity formation in adolescence. As the cornerstone for narrative construction of the self, it plays a vital role in adaptation to unfortunate circumstances, including psychopathology and other adverse conditions that contribute to poor outcome (cf. Hauser, Golden & Allen, 2006).

Competence in the face of adversity is thus fostered and sustained by a self-reflective consciousness, serving as the basis for narrative identity formation. Through reflection on their personal experiences of adverse circumstances, self-reflective people come to understand themselves, integrate this reflection into their self-conceptions, and ultimately their identity, thereby feeling more control over the resolution of current and future misfortunes. They use their capacity for making personal meaning out of hardship to their advantage, which, in shaping their future experiences, consequently molds their evolving narrative identity (Hauser, Golden & Allen, 2006).

FUTURE DIRECTIONS

While the previously described preliminary data indicate that self-reflection in adolescence predicts positive outcome in young adulthood, we were not able to establish as clearly how self-reflection in adolescence is related to psychopathology in adulthood. This is important since certain forms of self-awareness, such as narcissistic self-absorption, rumination and self-consciousness can be seen in various psychopathological states. Also, it may be that for different forms of psychopathology, such as internalizing versus externalizing conditions, the influence of self-reflection is different.

Extending these competence/resilience analyses to our whole sample (both the formerly hospitalized adolescents and non-hospitalized control group) would allow us to better understand the meaning of these relations by increasing the sample size and heterogeneity, especially with regard to the presence of psychopathology, and thus could further elucidate the association between SR in adolescence and competent/resilient outcomes, as well as psychopathological outcomes, in young adulthood and beyond.

While we do not have psychotherapy outcome data in our own sample, another potentially fruitful avenue to pursue would be to investigate whether self-reflection predicts psychotherapy outcomes. Our self-reflection coding instrument could be applied to psychotherapy transcripts for this purpose. We are also interested in understanding more about how self-reflection is fostered in the interview situation and/or therapeutic relationship. Systematically examining psychotherapy or interview transcripts for indications of how this is accomplished would be yet another interesting research opportunity.

ACKNOWLEDGEMENTS

The research program and data herein described are from the longitudinal study of adolescent development by Stuart T. Hauser, M.D., Ph.D., whose untimely passing on August 5th, 2008 is an enormous loss for the fields of psychiatry and developmental psychology.

Preparation of this manuscript was supported in part by grants from the Research Advisory Board of the International Psychoanalytical Association, the Fund for Psychoanalytic Research, and the Weil Foundation.

REFERENCES

- Allen, J. P., Hauser, S. T., & Borman-Spurrell, E. (1996). Attachment insecurity and related sequelae of severe adolescent psychopathology: an eleven-year follow-up study. *Journal of Consulting and Clinical Psychology, 64*, 254-263.
- American Psychiatric Association (1980). *Diagnostic and Statistical Manual of Mental Disorders (3rd ed.)*, Washington, D.C.: Author.
- Aron, L. (2000). Self-reflexivity and the therapeutic action of psychoanalysis. *Psychoanalytic Psychology, 17*, 667-689.
- Barkai, A. R., Hauser, S. T., Allen, J., Biswas, A., & Burnstine, R. (2007, March). *Identifying Resilience through Narratives of Self-Reflection*. Poster Presentation presented at the biennial meeting of the Society for Research in Child Development, Boston, MA.
- Barkai, A.R., Hauser, S.T., Allen, J., Henry, S., Biswas, A., & Billings, R. (2008). *Identifying Resilience Through Narratives of Self-Reflection: Improving the Method and Establishing Reliability*. Poster Presentation presented at the Winter meeting of the American Psychoanalytic Association, New York, NY.
- Bandura, A. (1989). Human agency in social cognitive theory. *American Psychologist, 44*, 1175-1184.
- Bandura, A. (2001). Social cognitive theory: an agentic perspective. *Annual Review of Psychology, 52*, 1-26.
- Baron-Cohen, S. (1995). *Mindblindness: An Essay on Autism and Theory of Mind*. Cambridge, Massachusetts: MIT Press.
- Bell, N.J., Wieling, E., & Watson, W. (2004). Self-reflecting in developmental context: Variations in level and patterning during the first 2 university years. *Journal of Genetic Psychology, 165*, 451-465.
- Berscheid, E., Snyder, M., & Omoto, A. M. (1987). The relationship closeness inventory: Assessing the closeness of interpersonal relationships. *Journal of Personality and Social Psychology, 57*, 792-807.
- Cohler, B. J. (1982). Personal narrative and life course. In P. B. Baltes & O. G. Brim (Eds.). *Life Span Development and Behavior*, Volume 4. pp. 205-241, New York: Academic Press.
- Csikszentmihalyi, M. (2006). Introduction. In: M. Csikszentmihalyi & I. S. Csikszentmihalyi (Eds.). *A Life Worth Living: Contributions to Positive Psychology*. pp. 3-14, USA: Oxford University Press.
- Damon, W., & Hart, D. (1982). The development of self-understanding from infancy through adolescence. *Child Development, 53*, 841-864.
- Damon, W., & Hart, D. (1988). *Self-Understanding in Childhood and Adolescence*. Cambridge: Cambridge University Press.
- Derogatis, L. R. (1983). *SCL-90 Administration and Scoring Manual*. Towson, MD: Clinical Psychometric Research.
- Elliot, 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.
- Erikson, E. H. (1950). *Childhood and Society*. New York: W. W. Norton and Company.
- Erikson, E. H. (1968). *Identity, Youth and Crisis*. New York: W.W. Norton and Company.
- Fergus, S., & Zimmerman, M. A. (2005). Adolescent resilience: a framework for understanding healthy development in the face of risk. *Annual Review of Public Health, 26*, 399-419.
- Fivush, R., & Hayden, C. A. (2003). Introduction: Autobiographical Memory, Narrative and Self. In Fivush, R., Hayden, C. A., (Eds.). *Autobiographical Memory and the Construction of a Narrative Self: Developmental and Cultural Perspectives*. Mahwah, N.J.: Lawrence Erlbaum Associates, pp. vii-xiv.
- Flavell, J. H. (2003). Development of children's knowledge about the mind. *2003 Heinz Werner Lecture Series, Vol. 25*. Worcester, Massachusetts: Clark University Press.
- Fonagy, P., Steele, M., Steele, H., & Target, M. (1994). The Emmanuel Miller Memorial Lecture 1992: The theory and practice of resilience. *Journal of Child Psychology and Psychiatry, 35*, 231-257.
- Fonagy, P., Steele, M., Steele, H., & Target, M. (1998). *Reflective-Functioning Manual (Version 5) For Application to Adult Attachment Interviews*. Unpublished manuscript, University College London.
- Fonagy, P., & Target, M. (1997). Attachment and reflective function: their role in self-organization. *Development and Psychopathology, 9*, 679-700.
- Fonagy, P., & Target, M. (1998). Mentalization and the changing aims of child psychoanalysis. *Psychoanalytic Dialogues, 8*, 87-114.
- George, C., Kaplan, N., & Main, M. (1984). *Attachment Interview for Adults*. Unpublished document, University of California, Berkeley.
- 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., & Golden, E. (2006). *Out of the woods: tales of resilient teens*. Cambridge, Mass: Harvard University Press.
- Hauser, S. T., Golden, E., & Allen, J. P. (2006). Narrative in the study of resilience. *Psychoanalytic Study of the Child, 61*, 205-226.
- Hauser, S.T., with Powers, S., & Noam, G. (1991). *Adolescents and Their Families: Paths of Ego Development*. New York: Free Press.
- Hobson, R. P. (1994). On Developing a Mind. *British Journal of Psychiatry, 165*, 577-581.
- Hobson, R. P., Chidambi, G., Lee, A., & Meyer, J. (2006). Foundations for self-awareness: An exploration through autism. *Monograph of the Society for Research in Child Development, 71*, 167-179.
- Howard, S., Dryden, J., & Johnson, B. (1999). Childhood resilience: review and critique of the literature. *Oxford Review of Education, 25*, 307-323.
- Hy, L. X., & Loevinger, J. (1996). *Measuring Ego Development: Second Edition*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Keating, D. L. (1990). Adolescent thinking. In S. Feldman & G. Elliott (Eds.). *At the Threshold: The Developing Adolescent*. Cambridge, Massachusetts and London, England: Harvard University Press, pp. 54-89.
- Kobak, R., & Sceery, A. (1988). Attachment in late adolescence: Working models, affect regulation, and representations of self and others. *Child Development, 59*, 135-146.
- Loevinger, J. (1976). *Ego Development: Conceptions and Theories*. San Francisco: Jossey-Bass.
- Loewald, H. (1973). Some considerations on repetition and repetition compulsion. In H. Loewald, (Ed.). *Papers on Psychoanalysis*. New Haven and London: Yale University Press, 1980, pp. 87-101.
- Luthar, S. (2006). Resilience in development: A synthesis of research across five decades. In D. Cicchetti & D. J. Cohen (Eds.). *Developmental Psychopathology Volume 3: Risk, Disorder and Adaptation*. Hoboken, NJ, US: John Wiley and Sons, pp. 739-795.
- Luthar, S., & Brown, P. (2007). Maximizing resilience through diverse levels of inquiry: Prevailing paradigms, possibilities, and priorities for the future. *Development and Psychopathology, 19*, 931-955.
- Luthar, S., & Cicchetti, D. (2000). The Construct of Resilience: A Critical Evaluation and Guidelines for Future Work. *Child Development, 71*, 543-562.
- Maciejewski, P. K., Prigerson, H. G., & Mazure, C. M. (2000). Self-efficacy as a mediator between stressful life events and depressive symptoms. *British Journal of Psychiatry, 176*, 373-378.
- Main, M., & Goldwyn, R. (1998). *Adult Attachment Scoring and Classification System*. Unpublished Manuscript, University of California at Berkeley.

- Masten, A. S., & Obradović, J. (2006). Competence and resilience in development. *Annals of the New York Academy of Science, 1094*, 13-27.
- Masten, A. S., & Powell, J. L. (2003). A resilience framework for research, policy and practice. In S. Luthar (Ed.), *Resilience and Vulnerability: Adaptation in the Context of Childhood Adversities*. Cambridge, UK: Cambridge University Press, pp. 1-25.
- McAdams, D. P. (1985). *Power and intimacy*. New York: Guilford Press.
- McAdams, D. P. (2008). Personal narratives in the life story. In O. P. John, R. W. Robins, & L. A. Pervin (Eds.) *Handbook of Personality: Theory & Research* (3rd ed.). New York: Guilford Press, pp. 242-262.
- McLean, K. C. (2005). Late adolescent identity development: Narrative meaning making and memory telling. *Developmental Psychology, 41*, 683-691.
- Mueser, K. T., Corrigan, P. W., Hilton, D. W., Tanzman, B., Schaub, A., Gingerich, S., Essock, S.M., Tarrrier, N., Morey, B., Vogel-Scibilia, S., & Herz, M. I. (2002). Illness management and recovery: a review of the research. *Psychiatric Services, 53*, 1272-1284.
- Noam, G., Hauser, S. T., Santostefano, S., Garrison, W., Jacobson, A. M., Powers, S. I., & Mead, M. (1984). Ego Development and Psychopathology: A Study of Hospitalized Adolescents. *Child Development, 55*, 184-194.
- Resnick, S. G., Rosenheck, R. A., & Lehman, A. F. (2004). An exploratory analysis of correlates of recovery. *Psychiatric Services, 55*, 540-547.
- Rock, M. (1975). Self-reflection and Ego Development (Doctoral Dissertation, New York University, 1975). *Dissertation Abstracts International, 36*(6-B).
- Selman, R. L. (1980). *The Growth of Interpersonal Understanding*. New York: Academic Press.
- Siegel, D. J. (2004). Attachment and self-understanding: parenting with the brain in mind. *Journal of Prenatal and Perinatal Psychology and Health, 18*, 273-285.
- Thorne, A., McLean, K. C., & Lawrence, A. M. When remembering is not enough: reflecting on self-defining memories in late adolescence. *Journal of Personality, 72*, 513-542.
- Trapnell, P. D., & Campbell, J. D. (1999). Private self-consciousness and the five-factor model of personality: distinguishing rumination from reflection. *Journal of Personality and Social Psychology, 76*, 284-304.
- Ullman, C., & Tatar, M. (2001). Psychological adjustment among Israeli adolescent immigrants: a report on life satisfaction, self-concept and self-esteem. *Journal of Youth and Adolescence, 30*, 449-463.