Identifying Resilience Through Narratives of Self-Reflection

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1. INTRODUCTION

•The human capacity for "self-reflective consciousness," considered "the most precious achievement of our species" (Csikszentmihalyi, 2006), is linked to the evolution of human brain structure (Csikszentmihalyi, 2006; Klein, et al., 2004). Little is known about developmental antecedents facilitating the growth of this uniquely human attribute.

•**Self-reflection (SR)** is defined conceptually here as those metacognitive processes (Flavell, 2003) employed in the service of exploring the self, for the purpose of attaining greater self-understanding, motivated by self-curiosity (Trapnell & Campbell, 1999). SR is widely regarded as marking an unfolding developmental competence emerging in adolescence (Bell, Wieling & Watson, 2004). Increased self-awareness in adolescence (Damon & Hart, 1988; Hobson, et al., 2006), resulting, in part, from developing cognitive capacities (Keating, 1990), makes SR possible.

•SR may be conceived of as one aspect of Ego Development (Rock, 1975; Loevinger, 1976), and is a narrative theme in preliminary findings from our longitudinal study of resilience (Hauser, 1999)

•Resilience, defined as relatively positive adaptive outcome despite significant adversity (Luthar, 2006), has rarely been studied by systematically examining possible influences of prospective narrative accounts on subsequent resilient outcomes.

•The contribution of SR to resilience, while acknowledged (Howard, Dryden & Johnson, 1999), has rarely, save for one known exception (Fonagy et al., 1994), been empirically studied.

2. STUDY AIMS

1. To assess construct validity of operationalized SR, we will examine whether higher ego development (psychosocial maturation) scores (Hy & Loevinger, 1996) at year one, in a sample of high and low risk adolescents, are associated with higher adolescent self-reflection at year one in adolescent semi-structured research interview data.

2. To examine whether higher levels of adolescent self-reflection predict resilience status in the same sample.

3. METHODS

A. Participants
•16 participants (9 meeting criteria for resilience and 7 from a defined "average outcome" contrast group), all former psychiatric inpatients, were drawn from a longitudinal study of 70 psychiatrically hospitalized non-psychotic teens, and 76 demographically-matched volunteers from a local public high school.

• 9 of the 16 former patients met resilience criteria by showing *positive functioning* scores above the 50th percentile, and *problematic functioning* scores below the 50th percentile for the entire sample (patients plus students), identified during young adulthood (ages 25-26 years).

• A contrast group consisted of 7 of the 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.

B. Measurements

1. Measures Defining Resilience (at young adulthood, ages 25-26):

Positive Functioning Measures above the 50th percentile for the entire sample:
•Ego Development Item Sum Score (Loevinger, 1976)
•Coherence of Attachment Representations (Main & Goldwyn, 1998)
•Peer Q-Sort Ego Resilience (Kobak & Sceery, 1988)
•Closeness Inventory (Berscheid, Snyder & Omoto, 1987)

Problematic Functioning Measures below the 50th percentile for the entire sample:
•Hopkins Symptom Checklist (SCL-90; Derogatis, 1983)
•Delinquency/Crime Questionnaire (Elliot et al., 1983)
•Substance Abuse Questionnaire (Elliot et al., 1983)

Positive Functioning Indices Composite Z-Score
Using the entire (N = 142) sample at age 25-26 , z-scores were computed for the positive functioning measures above. The individual z-scores were then averaged to obtain an overall mean z-score for each participant.

2. Self-Reflection Coding Scheme (Barkai, et al., unpublished manuscript)
Instances of self-reflection in the year one semi-structured research interviews of all 16 study participants were identified and quantified using the following criteria:

a. Operational Definition of Self-Reflection in the Narrative of Adolescents:
Self-reflection is operationally defined for the purpose of narrative identification as *self-references* bearing the following qualities:
  1. Imparting self-knowledge judged to be unique to the individual.
  2. Evidencing the speaker's regard for themselves as an object of inquiry.
  3. Encompassing some acknowledgment or evidence of the self as a complex entity, for example as reflected in verbal expression of ambivalent feelings.
  4. Involving the capacity to perceive relations among thoughts, feelings and actions.
  5. Are highly elaborated and abstract.
  6. Recognize the self as changing in time.
  7. Recognize the impact of others on the self, as well as the impact of oneself on others.

b. The Procedure for Mining the Interviews for Narratives of Self-Reflection:
Embedded in the interview data are instances of self-reflection. These will be identified and coded using the following guidelines:
• Self-references are identified in the interview data.
• Self-references meeting any of the above operational definition criteria for self-reflection will be counted as an instance of self-reflection.
• Where self-references are longer than one sentence or utterance, if they are deemed to be continuous with regard to subject of self-reflection, they will be counted as one continuous self-reflection.

3. Examples of Self-Reflection from the Interviews: Each of these examples would be counted as one instance of SR, despite contrasting complexity, in that Example 1 has more components of SR than example 2.

Example 1: "Not that I was always happy, I remember some times when I was really, you know, unhappy as a child, but happy in that I was only sad when I had a reason to be. Now I just seem sad for no reason at all, but then, you know, I was happy around people, was never conscious of making an impression on anybody." (Meets SR criteria 1,2,3,6 & 7)

Example 2: "I just all of a sudden decide" (Meets SR criteria 1 and 2, above)

4. RESULTS

• **At year 1,** Self-reflection (SR) scores were significantly correlated with ego development item sum scores (ISS) (r=.74, p=.001, N=16) (Figure 1).

•No statistically significant differences, using an independent-samples t-test, were observed between SR and resilience status at young adulthood (measured as a categorical variable, R= Resilient and A=Average outcome); however, a *significant positive correlation, moderate in strength (r = .53, p = .036, N=16)* was observed between SR scores, and the mean of the 4 *positive functioning resilience-components z-scores* (Figure 2).

4. RESULTS (continued)

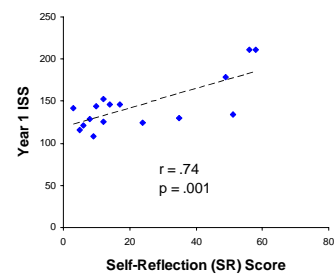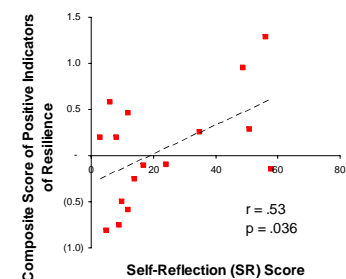Figure 1: Correlation of Self-Reflection Score with Ego Development (ISS) at Year 1

r = .74
p = .001

Figure 2: Correlation of Self-Reflection Score with Composite Score of Positive Indicators of Resilience at Year 5

r = .53
p = .036

5. CONCLUSIONS & DISCUSSION

•Consistent with the hypothesis of the first study aim, SR at year one was significantly correlated with ego development at year one, an indication of construct validity of our operationalized definition of SR.

•While SR scores at year one did not significantly predict resilience status at young adulthood, this may be due to at least two factors. One is that a Type 2 statistical error occurred related to insensitivity of the small sample size to detecting statistical significance. Another is that the ability of SR to predict resilience status is compromised by the categorical nature of the variable.

•In order to address this, a composite mean z-score was devised from z-scores derived from the four individual positive functioning indices which comprised our measures defining resilience. The problematic functioning scores were not included because we were interested in how the conceptually adaptive construct SR compared to the positive functioning indices of our definition of resilience.

•SR was significantly correlated with the mean of four positive functioning resilience component z-scores, partially consistent with the hypothesis that SR is predictive of resilient outcome.

•The finding that SR does not predict resilience status as a categorical variable may be related to the current method of measuring SR. At present, as illustrated previously, instances of SR are counted equally regardless of the amount of SR criteria met. This may artificially deflate SR scores for some participants, as a more sensitive measure, accounting for increased levels of SR, could improve scores in some participants.

•One future direction to pursue will be devising an SR coding scheme accounting for levels of SR, thereby giving more weight to instances of SR including more definitional characteristics of SR.

•Another future direction to pursue would be to conduct a larger study of resilient outcomes using a similar study design, in order to increase the sample size and thus minimize the Type 2 error discussed above.