

**Examining the Impact of the Ego Impairment Index (EII-2) and Psychopathology on  
Childhood Psychiatric Symptoms: Interactions with Developmental Indicators**

**Mary Catherine Healy**

**A Doctoral Project Submitted in Partial Fulfillment of the Requirements for the Degree  
of Doctor of Psychology in the Department of Psychology at Pace University**

**New York, NY**

**2009**

UMI Number: 3374254

Copyright 2009 by  
Healy, Mary Catherine

#### INFORMATION TO USERS

The quality of this reproduction is dependent upon the quality of the copy submitted. Broken or indistinct print, colored or poor quality illustrations and photographs, print bleed-through, substandard margins, and improper alignment can adversely affect reproduction.

In the unlikely event that the author did not send a complete manuscript and there are missing pages, these will be noted. Also, if unauthorized copyright material had to be removed, a note will indicate the deletion.

UMI<sup>®</sup>

---

UMI Microform 3374254

Copyright 2009 by ProQuest LLC

All rights reserved. This microform edition is protected against  
unauthorized copying under Title 17, United States Code.

---

ProQuest LLC  
789 East Eisenhower Parkway  
P.O. Box 1346  
Ann Arbor, MI 48106-1346

PREVIEW

©

Copyright

2009

by

Mary Catherine Healy

iii

## TABLE OF CONTENTS

LIST OF TABLES.....	vi
ACKNOWLEDGEMENTS.....	viii
ABSTRACT.....	ix
CHAPTER	
1. INTRODUCTION.....	1
Overview	
Literature Review	
The Ego Impairment Index (EII-2) and Child Psychopathology	
Rorschach and Child Psychopathology	
Developmental Indicators and Psychopathology	
Rorschach Measures of Development	
The Relationship Between Developmental Arrest and EII-2 and	
Psychopathology	
Statement of Purpose	
Hypothesis	
2. METHOD.....	66
Participants	
Materials	
EII-2	
Rorschach Measures of Developmental Indicators	
Psychopathology	
Internalizing Disorders	
Externalizing Behaviors	
Social Skills Deficits	
Psychotic Disorders	
Procedure	

<b>3. RESULTS.....</b>	<b>88</b>
Demographics	
Correlations: EII-2, CI and EA	
Developmental Complexity (CI)	
Developmental Resources (EA)	
<b>4. DISCUSSION.....</b>	<b>115</b>
Correlative Data: EII-2	
Correlative Data: CI and EII-2	
Predicting Internalizing Disorders Using EII-2 and Developmental Indicators	
Predicting Externalizing Behaviors Using EII-2 and Developmental Indicators	
Predicting Social Skills Deficits Using EII-2 and Developmental Indicators	
Predicting Psychotic Disorders Using EII-2 and Developmental Indicators	
Conclusions	
Limitations of Present Study and Suggestions for Further Research	
Implications for School/Child Clinical Psychology	
<b>5. REFERENCES.....</b>	<b>131</b>

## LIST OF TABLES

Table	Page
1. Calculation of EII-2 from Perry, Viglione & Meyer (2003).....	12
2. DEPI Criteria from Exner (2003).....	34
3. CDI Criteria from Exner (2003).....	36
4. PTI Criteria from Exner (2003).....	45
5. Inter-rater Reliability of EII-2 Components at One and Three Years from Exner (2003).....	67
6. Calculation of the Complexity Index Adapted from Viglione & Meyer (1998).....	70
7. Scales and Items Used to Measure Internalizing Disorders.....	74
8. Means and Standard Deviations for CPSRS Variables Measuring Internalizing Disorders.....	76
9. Scales and Items Used to Measure Externalizing Behaviors.....	77
10. Means and Standard Deviations for CPSRS Variables Measuring Externalizing Behaviors.....	78
11. Scales and Items Used to Measure Social Skills Deficits.....	79
12. Means and Standard Deviations for CPSRS Variables Measuring Social Skills Deficits .....	80
13. Scales and Items Used to Measure Psychotic Disorders.....	81
14. Means and Standard Deviations for CPSRS Variables Measuring Psychotic Disorders.....	85
15. Number of Participants for Each Measure.....	89
16. Distribution of Population across EII-2 Ranges.....	90
17. Correlations between Independent Variables and Demographic Variables.....	91
18. Significant Correlations between EII-2, CI, EA, and Dependent Variables.....	92
19. Significant Regression Equations Predicting Internalizing Disorders with CI and EII-2.....	96

20. Significant Regression Equations Predicting Social Skills Deficits with CI and EII-2.....	98
21. Significant Regression Equations Predicting Psychotic Disorders with CI and EII-2.....	100
22. Summary of EII-2 by CI Group Descriptive Statistics.....	102
24. Table of Dependent Variable Means for Each of the EII-2 x CI Groups.....	104
25. Significant Regression Equations Predicting Internalizing Disorders with EA and EII-2.....	107
26. Significant Regression Equations Predicting Externalizing Disorders with EA and EII-2.....	108
27. Significant Regression Equations Predicting Psychotic Disorders with EA and EII-2.....	109
28. Summary of EII-2 by EA Group Descriptive Statistics.....	111
29. Table of Dependent Variable Means for Each of the EII-2 x EA Groups.....	113

## ACKNOWLEDGEMENTS

I would like to express my gratitude to Dr. John Stokes, who has been a wonderful, supportive and encouraging advisor, as well as a truly fantastic teacher who has contributed enormously to my professional growth throughout the years. I would also like to thank Dr. David Pogge. Without his guidance and support, this project could not have been completed. This acknowledgement section would not be complete without mentioning Dr. Michele Zaccario who provided incredible advice and encouragement, as well as being an excellent teacher. On a personal note, I would also like to thank my parents for their incredible support through this entire process. I would not have made it through this without them. Finally, I would like to thank my fiancée, Jim Cristiano, and all of my friends, particularly Amy Johnson, Janet Rutledge, Lauren Shurtleff and Sarah Fox. Their humor and encouragement helped me through many of the difficult times.



## **ABSTRACT**

This study examined the interaction between the Rorschach Ego Impairment Index (EII-2) and developmental indicators on psychiatric symptoms in children ages 5 to 13. EII-2 was created by Perry & Viglione and consists of variables measuring ego impairment including: poor reality testing, judgment, affect control and regulation and thought disorder and distorted human relationships. Studies have indicated that EII-2 is a valid indicator of psychopathology in children, however it has been suggested that this relationship is not completely linear and that moderator or mediator variables may be present (Viglione, Perry & Meyer, 2003). While there has been limited research on the interaction between EII-2 and developmental indicators on psychopathology, preliminary results have suggested that there is an interaction effect between EII-2 and development in adolescents (Pogge, Stokes, Bilginer & Bertish, 2005). This study attempted to further explore this relationship with children. In this study, it was found that the interaction between developmental resources and EII-2 was effective in predicting a wide range of child psychopathology. Specifically, the group of children who exhibited high EII-2 and developmental indicators were also rated by their therapists and parents to have the highest level of internalizing, externalizing and psychotic disorders and social skills deficits and endorsed their own level of psychotic psychopathology. Therefore, the interaction effect between EII-2 and developmental indicators is effective in predicting internalizing, externalizing, and psychotic disorders and social skills deficits in children. Those children who possess adequate resources and high EII-2 are the most likely to exhibit psychopathology.

## CHAPTER 1

### INTRODUCTION

#### *Overview*

This study explores the use of the Ego Impairment Index (EII-2) as it relates to the presence of psychopathology in a child population. The EII-2 is comprised of Rorschach variables in Exner's Comprehensive System. Previous studies have indicated that EII-2 is a valid and reliable indicator of ego impairment and is linked to adult psychopathology. There has been limited research with EII-2 in a child psychiatric population, but the initial research appears to be positive. This study also explores the interaction effect between EII-2 and developmental indicators in determining and predicting child psychopathology. Viglione, Perry & Meyer (2003) have called for an understanding of variables that influence the relationship between EII-2 and psychopathology. Given the rapid developmental changes that occur in childhood, it would be worthwhile to explore how EII-2 works in conjunction with developmental indicators to explain child psychopathology. It is suggested that there is an interaction effect between EII-2, developmental indicators and psychopathology since those who have impairment are likely to develop maladaptive resources and therefore exhibit psychopathology. Development can be conceptualized in a number of ways and in this study, it will be conceptualized using developmental indicators that are also present in Exner's Comprehensive System. Two developmental indicators will be used: the Complexity Index (CI) (Dean, Viglione, Perry & Meyer, 2007) and EA (Exner, 2003).

In this literature review, the first broad topic will be EII-2 and child psychopathology. The history of this index, as well as its reliability and validity will be explored. The second topic area that will be covered is the utility of using the Rorschach with a child population. This topic is important within this study because many of the variables that will be used are Rorschach variables from Exner's Comprehensive System. It is therefore necessary to review studies that have examined the use of the Rorschach with children. The third broad topic that will be covered will be the degree to which developmental indicators can be captured on the Rorschach. A brief history of literature in adolescents that supports the relationship between development, specifically ego development, and psychopathology will also be explored. Finally, the relationship between EII-2, developmental indicators and child psychopathology will be explored. Specifically, how developmental indicators in conjunction with EII-2 can predict child psychopathology.

This topic is an important area to study because it will expand the research on the Rorschach as a prognostic and diagnostic tool. Additionally, EII-2 has been shown to be helpful with adults and with children in terms of treatment outcome (Adrian & Kaser-Boyd, 1995; Perry, MacDougall & Viglione, 1995; Perry et al., 2003; Perry & Viglione, 1991; Perry, Viglione & Braff, 1992; Pogge et al., 2005; Viglione, Perry & Meyer, 2003). It has been indicated by researchers in the field that the next important step in EII-2 research is searching for other variables that may mediate or moderate with the relationship between EII-2 and psychopathology (Viglione, Perry & Meyer, 2003). Since there has been limited research in a child population, it is important that this research be conducted within a child psychiatric population.

*Literature Review*

The Ego Impairment Index (EII-2) and Child Psychopathology

*Brief Overview of the Ego and Concept of Ego Impairment*

The first concept that will be explored will be EII-2 and its relation to child psychopathology. As explained by Viglione & Perry, the Rorschach EII-2 originated from the efforts to apply Beres's (1956) theory of ego functioning in children. In order to fully understand EII-2, the concept of the ego and ego development will be briefly explored here. The ego dictates one's ability to meet internal and external demands in everyday life. It is the effectiveness of one's mental activities when mediating between the needs and demands of the external world while directing one's internal behaviors, drives, wishes and ideals. The ego therefore regulates the interplay between the different pressures and forces in the individual's social, physical and emotional worlds (Beres, 1971, Halpern, 1953, Exner, 2003). The ego can be generally divided into four dimensions: impulse control, cognitive complexity, interpersonal relationships and conscious preoccupations (Noam, Young, & Jilnina, 2006). Between these four dimensions, a well-functioning ego is able to regulate and maintain a balance between an individual's inner and outer worlds. In other words, the ego dictates how effectively an individual can mediate between their instinctual drives and external reality. It is a characteristic that is uniquely human and prevents an individual from constantly giving in to their instincts (Beres, 1956). Its level of functioning can be assessed via mental processes such as reality testing, abstract reasoning, language and memory, as well as the ability to mobilize the resources that the individual has available (Noam, Young & Jilnina, 2006, Beres, 1956, Halpern, 1953). Due to the nature of ego's functions and

processes, it is not a stagnant construct and undergoes a process of development. This developmental course takes place over the lifespan of an individual with each of the ego's dimensions developing over the course of time (Noam, Young & Jilnina, 2006).

The concept of ego impairment was first introduced with relation to schizophrenic patients and symptoms in the 1950s. Since the ego is primarily defined by its functions, ego impairment or ego disturbance can be classified as impairment within one or more of the major functions of the ego. Therefore, an individual who is exhibiting ego impairment would have impaired reality testing, thought disorder, impaired object relationships, poor judgment, poor affect control, poor inhibition and/or impulsivity (Beres, 1956; Perry & Viglione, 1991, Bellak, 1955). Although these functions may appear to be discrete, many theorists believed that the ego functions were all interrelated and that no single ego function should be appraised itself without a consideration of the other functions (Bellak, 1955). Bellak believed that there was no common cause of ego impairment and that schizophrenia was "the final common path of a number of conditions which may have lead to a severe disturbance of the ego" (Bellak, 1955, p. 60). He therefore believed that the weakness or impairment of the ego could have come about in a wide variety of manners, but that the common result of this disturbance was a symptom profile that is similar to schizophrenia (Bellak, 1955).

Beres (1956) described various cases of ego deviance or impairment in his study of children in a residential treatment facility. He went into detail with each of the ego functions, describing how an impairment of that particular function presents in a child. In this description, he made it clear that none of the ego functions are completely independent from one another. He described relation to reality as comprising adaptation

to reality, testing of reality and the sense of reality (Beres, 1956). The idea of reality testing is one that develops gradually in children and when it is impaired, results in a child appearing psychotic. A level of extreme disturbance in this area of function will result in hallucinations or delusions. At all levels of impairment, there seems to be a level of confusion between inner reality and external reality and the impaired child lacks the ability to distinguish between the two. Transient hallucinatory experiences, transient delusional states and a progressive loss of contact with reality additionally may be present (Beres, 1956).

The ego function that controls the regulation and control of instinctual drives may also be referred to as the inhibition apparatus of the ego. In normal development, a child can postpone gratification of their instinctual drives. Although this ego function has a normal path of development, a child who is impaired will be delayed in the development of this control. Aggressive behavior, outbursts, temper tantrums, or attacks against oneself may be observed in a child who is ego impaired (Beres, 1956). Additionally, a presence of uncontrolled sexual outbursts, eating habits or uncontrolled execratory functions may be present, representing a lack of ability to control one's id drives (Beres, 1956).

The third ego function that can be impaired in a child with ego impairment is object relationships. The development of object relationships is a complex process and in a child with ego impairment, this process becomes very difficult, often resulting in unsatisfactory or disturbed relationships. Children with impaired object relationships lack the ability to connect or relate to other adults and children (Beres, 1956). They may present as withdrawn or lack the ability to identify with others. A disturbed view of the

self, resulting in body-image difficulties or sexual confusion may also be present (Beres, 1956).

A disturbance of thought processes often indicates that a child has not made the normal developmental progression from primary process thinking to secondary process thinking. The child may be stuck in a stage of prelogical and irrational thought that is maladaptive (Beres, 1956). These children lack the boundary between their conscious and unconscious psyche, resulting in unconscious thoughts being much more accessible to the conscious psyche. This disturbance occurs spontaneously and may present as various degrees of distortion in artistic creativity, wit, dreams and slips of the tongue. Magical thinking, language or speech difficulties or illogical thought processes may also be present (Beres, 1956).

The defensive functions of the ego serve to protect the individual and assist them when conflicts between their instinctual drives and reality occur. The development of these defenses is a natural progression in which the defenses become more sophisticated and adaptive for various situations (Beres, 1956). Therefore, when an ego is impaired, these defenses are less mature, less stable, and more primitive. They may also use defense mechanisms that are inappropriate for a situation or maladaptive (Beres, 1956).

The autonomous functions of the ego refers to the functions of the ego that originate independently of conflict, but that may secondarily become involved in psychic conflict. Examples of autonomous functions include perception, intention, object-comprehension, language and motoric skills. These are the functions that are independent of the id impulses and can function autonomously (Beres, 1956). In an impaired child, this disturbance presents as isolated areas of limitations of functions or the

hyperdevelopment of specific functions, such as memory. The uneven progression and regression of individual ego functions is also a manifestation of impairment in autonomy (Beres, 1956).

The synthetic functions of the ego serve to unite, bind and create the various ego functions and parts of the psyche and individual as a whole. According to Beres, synthetic function is the most basic function needed to sustain the individual and protect it from dissolution (Beres, 1956). This function therefore serves to create order out of the individual's internal and external worlds. The binding of instinctual energy, progression from primary to secondary process and controlling the instinctual drives are all under the synthetic functions of the ego, thus making it of high importance (Beres, 1956). In an impaired child, many of the symptoms described earlier may be present if the synthetic functions are disturbed, including confusion, psychotic symptoms, disorganization, and other symptoms (Beres, 1956).

Beres (1971) believed that normal ego development occurs when the ego functions are stimulated by an interaction between the individual's maturation and environment. This interaction creates situations in which the ego functions confront a conflict. Conflict occurs because the current abilities of the ego functions are no longer adequate to cope with regulating the individual's instinctual drives and defenses (Beres, 1971). When conflict occurs, the normal ego may regress, during which symptoms may present themselves. The ego then reorganizes itself, adapts and moves on to the next level of development (Beres, 1971). An impaired ego may still go through this process and develop, however may reorganize itself in a way that is abnormal or maladaptive. This impairment causes the ego's functions to function inadequately or in a way that is not



adaptive for the individual's environment, thus producing symptoms (Beres, 1971).

Beres's theory of ego impairment is the basis for Viglione and Perry's Ego Impairment Index, which will be further discussed here.

### *The Ego Impairment Index (EII and EII-2)*

The Ego Impairment Index (EII) and its revision (EII-2) is anchored in Beres's (1956) theory of ego impairment and utilizes Rorschach Comprehensive System Variables. The nature of the Rorschach in both adults and children is one in which there is a high processing demand and the individual is asked to use problem solving to solve an abstract task. This problem solving requires the individual to use their cognitive, affective, and perceptual abilities without external structuring. These abilities, along with object relationships are at the core of an individual's ego. Ford (1946) writes that the "Rorschach method is a projective technique through which the individual may be encouraged to reveal himself without restraint because he does not know how he is revealing himself and consequently is not inhibited by the norms of his culture" (Ford, 1946, p.1). The Rorschach is therefore an ideal measure of ego impairment because of its abstract problem solving nature. Responses to these abstract stimuli provide observable signs of disturbed thinking and can be scored for lapses in cognition and perceptual accuracy. Because the Rorschach is a performance-based measure, it is possible to gain more information than can be assessed on other rating scales that utilize self report or structured interviews (Exner, 2003, Weiner, 2003) The Rorschach is therefore the ideal format for measuring ego impairment.

There have been few attempts to measure constructs of the ego impairment and its converse, ego strength, using the Rorschach. One such measure was the Last-Weiss Rorschach Ego-Strength Scale. Last and Weiss (1976) developed a scale using four specific variables on the Rorschach: human movement (M), animal movement (FM), controlled color (FC, CF) and white space (S). These variables were only to be included if they were observed in conjunction with exceptionally good form (+). The reasoning behind this formulation was that an individual who was able to exhibit responses on the Rorschach that are usually indicative of positive adjustment and human relationships while maintaining an exceptionally good form clearly possessed a great deal of ego strength and generally good adaptive abilities (Last & Weiss, 1976). The Last-Weiss scale was calculated by summing the M+, FM+, FC+, CF+, and S+ responses in the record to create a variable called Sum E. Although this idea appeared theoretically sound, research has indicated that Sum E was not predictive of positive outcome (Harder, Greenwald, Ritzler, Strauss & Kokes, 1988). A study that examined the two-year follow-up of 117 adolescent and adult inpatients found that the patients' Sum E scores during hospitalization actually correlated with a negative multi-dimensional outcome (Harder et al., 1988). This study indicated that an individual with these variables actually tended to have a poorer prognostic outcome, thus invalidating the Last-Weiss Ego Strength Scale.

The most current attempt to measure ego impairment is the Ego Impairment Index (EII). The Ego Impairment Index (EII) is a constellation of variables within the Rorschach Comprehensive System (Exner, 2003). The original Ego Impairment Index (EII) was comprised by Perry & Viglione in 1991 of variables in Exner's Comprehensive System based on Beres's (1956) definition of the ego. Specifically, these ego functions

are: relation to reality, defensive regulation and control of drives, thought processes, object relationships, autonomous functions and synthetic functions (Perry & Viglione, 1991, Beres, 1956). Although each of these functions are interrelated, each function has a unique contribution to the overall functioning of the ego. Therefore, in the creation of the EII, each of the individual variables measures a specific ego function. Five variables in the Comprehensive System were chosen to represent a synthesis of Beres' original conceptualization of the ego functions (Perry & Viglione, 1991).

In order to assess the individual's relation to reality, the percentage of form quality minus scores (X-%) was included. A high score of X-% is indicative of perceptual inaccuracy or poor reality testing and can thus be thought to be an indicator of an individual's relation to reality (Weiner, 2003; Perry & Viglione, 1991). In order to measure a disturbance in thought processes, the weighted sum of special scores (WSum6) was included. A high score in WSum6 is indicative of strained reasoning, inappropriate condensation of concepts, cognitive slippages and thought distortions (Weiner, 2003). Cognitive slippages are indicative of problem-solving capabilities and are therefore indicative of issues in thought processes (Beres, 1956).

In order to measure an impairment in the "defensive functions and the regulation and control of instinctual drives", it is necessary to find a variable that is representative of a lapse in ego defenses (Beres, 1956, p. 171). A lapse in an ego defense could be indicative of an increase in id or drive-related content. In severe psychopathology, this drive-related content can arise as an increase in aggressive, sexual or primitive contents in Rorschach protocols (Perry & Viglione, 1991). The presence of these de-repressed or critical contents on a Rorschach protocol symbolizes a failure to repress unacceptable

thoughts, wishes and fantasies and thus a lapse in ego defenses (Perry & Viglione, 1991). These critical contents include anatomy, blood, explosions, fire, food, sex and x-ray contents (Perry & Viglione, 1991).

Distorted human movement (M-) is an indicator of a distorted view of people and therefore distorted object relationships. Individuals who have primitive ego structures tend to lack an ability to view others and their relationships with others accurately. This behavior is both indicative of poor object relationships and impaired thought processes and relation to reality and is therefore an appropriate criterion (Perry & Viglione, 1991; Weiner, 2003).

In an additional attempt to incorporate the “object relationships” ego function, the original EII included the Human Experience Variable (HEV), which gives a general idea of how the individual views their relationships. If the individual had a tendency to portray humans as distorted, hurt, or inaccurate, this would be weighted in a positive direction and contributed to their EII score. If the individual portrayed humans in a positive and accurate light, then this would be weighted in a negative direction, decreasing their overall EII score (Perry & Viglione, 1991). Although each of these variables is described by the ego function that they primarily represent, due to the interrelated nature of the ego, each of these variables could also be representative of other ego functions. Therefore, the EII composite score is indicative of an overall level of ego functioning (Perry & Viglione, 1991).

The second version of EII, EII-2 was created in 2003. The primary change that was made with EII-2 was to the Human Experience Variable. It was found that the Human Experience Variable could be modified in order to increase its validity and

psychometric properties. These modifications created a new and similar variable called the Human Representational Variable. These modifications were incorporated into the original EII and created EII-2. EII-2 incorporates both good human representations (GHR) and poor human representations (PHR) (Perry, Viglione & Meyer, 2003). Similar to the original EII, PHR scores count towards an individual's EII-2 score and GHR scores are weighted negatively, decreasing the EII-2 score. Studies indicate that there is a significant difference increase in validity between the EII and EII-2 (Perry, Viglione & Meyer, 2003). See Table 1 for a description of how to calculate the EII-2.

Table 1.

*Calculation of EII-2 from Perry, Viglione & Meyer (2003)*

<i>Weight</i>	<i>Factor</i>
0.141	X-%
0.049	WSum6
0.072	Critical Content
0.198	M-
0.117	Poor H
-0.104	Good H
-0.066	R
-0.038	(Constant)

#### *Previous Research on EII and Psychopathology*

Since its inception, there have been multiple studies that have validated the Ego Impairment Index (EII) as an indicator of ego impairment. Most of these studies

examined the EII's ability to predict a psychotic (or other) diagnosis or to differentiate between different levels of severity of psychopathology. The initial study that validated the EII was completed by Perry & Viglione (1991) when they examined the use of EII as a predictor of the efficacy of tricyclic anti-depressants in melancholic depressed patients. They hypothesized that those individuals who were melancholically depressed and lacking in ego resources were less likely to benefit from treatment with anti-depressants. They assessed the level of ego impairment using EII before beginning treatment with tricyclic anti-depressants, as well as the level of depression in the participants using the Beck Depression Inventory (BDI) and the Carroll Rating Scale (CRS). All of these measures were then repeated after nine weeks of treatment (Perry & Viglione, 1991). At the end of the nine weeks of treatment, there were two significant findings. The first was that the test-retest reliability of the EII was 0.78, establishing EII as a reliable measure. The second significant finding was that there was a negative relationship between outcome on tricyclic anti-depressants and EII. Those who were lacking in ego resources were therefore less likely to respond to treatment by anti-depressants. This initial study therefore established the prognostic ability of EII. It also suggests that EII has the ability to address a core component of personality as opposed to simply measuring symptoms (Perry & Viglione, 1991).

There have been several studies since this initial finding that have served to validate the EII as a prognostic measure. One such study was completed by Perry, Viglione and Braff (1992) and examined the EII in schizophrenic patients. The purpose of this study was to validate the EII in a sample of heterogeneous schizophrenic patients. They found significant positive correlations between EII and the Magical Ideation Scale,

the Schizophrenic Index and scales on the Minnesota Multiphasic Personality Inventory (MMPI) that best assess disturbed thinking and unusual thoughts (Scales 6, 8, and 9). The EII was also able to distinguish between the higher and lower functioning types of schizophrenia. Those who were diagnosed with disorganized and undifferentiated schizophrenia, which is known to be a lower functioning subtype of schizophrenia, exhibited a higher level of ego impairment than those who were diagnosed with paranoid schizophrenia, a higher functioning subtype (Perry, Viglione & Braff, 1992). This study therefore offered support for the use of the EII as an empirical means of assessing thought disorder and additionally validates that the EII is addressing a core component of personality.

In 1994, Perry & Braff sought to study the relationship between information-processing deficits and thought disorder in schizophrenic patients using the EII – human experience variable as a measure of thought disorder, along with other measures. They assessed 52 subjects by giving them the Magical Ideation Scale, the Scale for the Assessment of Positive Symptoms and the alogia subscale of the Scale for the Assessment of Negative symptoms. They found that elevated responses on the EII – human experience variable were significantly correlated with information processing deficits. They therefore concluded that the human experience variable portion of the EII was significantly related to information processing deficits and therefore is a valid measure for processing difficulties such as those seen in schizophrenics (Perry & Braff, 1994).

In 1995, Perry, McDougall & Viglione assessed the temporal stability of the EII in a five-year follow-up of their initial study in 1991. They found that the EII had a test-

retest reliability of 0.68 over five years, establishing that the EII is a relatively stable trait measure. This study also served to validate the EII. It was found that the EII was negatively correlated with overall daily well-being in terms of physical, mental and social functioning. There was also a positive correlation between problems endorsed by the participant on self report measures such as the Beck Depression Inventory and EII. This study served to validate the EII and establish its reliability (Perry, McDougall & Viglione, 1995). That same year, Perry et al. assessed the stability of the EII after amphetamine use in normal undergraduate men and found that there was no significant difference in their EII scores before and after amphetamine use, further establishing the stability of this index (Perry et al., 1995).

Adrian & Kaser-Boyd (1995) examined the EII as a measure of ego impairment in a heterogeneous psychiatric population. The EII was able to discriminate between inpatients and outpatients in a non-pure research sample, however, it did not correlate significantly with MMPI indices of ego impairment (i.e. Ego Scale, Scale 8). The EII also did not distinguish between psychotic and non-psychotic patients in this particular sample, although the MMPI measures were also not able to do this. This study established that the EII is a more sensitive measure of ego impairment than the MMPI measures of ego impairment. It also validated the use of the EII in distinguishing between inpatients and outpatients in a non-pure research sample (Adrian & Kaser-Boyd, 1995).

In 2002, Auslander, Perry & Jeste examined the use of the EII in paranoid and non-paranoid older schizophrenic patients. They sought to examine if there is a difference between paranoid-schizophrenics, which are known to be higher functioning, and non-paranoid schizophrenics, which are thought to be lower functioning. They examined 44