

ABSTRACT

BROOKS, J. BYRON. The effects of early negative events on self-esteem and treatment outcomes of participants in a drug abuse outcome study. (Under the direction of Stanley B. Baker.)

The developmental age-chronological stage discrepancy is a phenomenon noted by addictions and other mental health professionals for some time yet it is poorly explained and under-researched. According to developmental age-chronological stage discrepancy theory, an individual's cognitive development will stall or slow significantly as a result of abuse, neglect, or substance abuse. This stage-age discrepancy results in behaviors that are congruent with the developmental stage the individual was in when the events occurred but are not congruent with the expectations of a person at the individual's chronological age. The discrepancy presents as a dramatic-erratic personality disorder. A method of promoting cognitive development, deliberate psychological education (DPE) is discussed as well as the 12 Steps commonly used in addictions treatment milieus. Loevinger's cognitive-developmental theory is presented and is paralleled to the 12 Steps in an attempt to merge the accepted 12 Step practice with a sound theoretical model for improved understanding and intervention. Using archival data from the Drug Abuse Outcome Study (DATOS), a 10-year, 10,100 subject longitudinal survey of substance abuse treatment client characteristics and outcomes, responses from participants present at both intake and the 12-month follow-up ($N=2,897$) were analyzed. The primary focus of this study was to examine how early negative environmental events and age of first use impacted self-esteem, what treatment modality resulted in the greatest improvement in self-esteem, and what events

had the greatest impact on self-esteem. Further, treatment outcomes in terms of relapse rates for the four treatment modalities (short-term inpatient, outpatient drug-free, long-term residential, and methadone maintenance) were reviewed and compared to the previous findings. Overall, the results showed that while self-esteem did improve with treatment, it was only weakly correlated with any variable associated with early traumatic or negative events or age of onset of substance abuse. Further, it was shown that different treatment modalities will affect self-esteem differently. Self-esteem by age/ethnicity and gender were found to have a statistically significant relationship but not a functional difference.

**THE EFFECTS OF EARLY NEGATIVE EVENTS ON SELF-ESTEEM AND
TREATMENT OUTCOMES OF PARTICIPANTS IN A DRUG ABUSE OUTCOME
STUDY**

by
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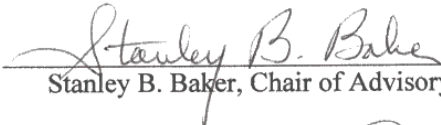
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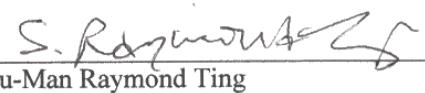
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BIOGRAPHY

I was born in Dallas, NC, on Nov. 8, 1967, the only child of James & Faye Brooks. They worked, and scrimped, and saved, to make sure that I had the best education possible and opportunities they never had. I attended Gaston Day School through the end of ninth grade, when my interest in AFJROTC lead me to transfer to Ashbrook High School in Gastonia, NC, where LtCol. McFarland encouraged me to learn, grow, and challenged me to lead. I attended East Carolina University for my undergraduate degree in psychology, and loved my minor (economic-human geography) so much that I was finishing up a second degree in it when I was called to active duty in the USAF. When I returned from active duty I completed master's degrees in rehabilitation counseling, and substance abuse counseling, and decided to return to school for an EdS in counselor education. Along the way I met my future wife, Penney Mizell, of Roanoke Rapids, NC. As soon as I finished that degree I decided to pursue my doctorate. At some point during that I managed to get married. At some point after that we adopted our two sons, Nicholaus and Max, from Ukraine. Then, suddenly, being called "Dr Brooks" was a whole lot less important than being called "Dad".

Priorities, priorites....

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Dedicated to the memory of my grandfather, Shelton R. Barfield, who encouraged a little boy to read, learn, and ask why.

I would like to express my thanks to those educators who encouraged me to achieve my potential: Lynn McFarland, LtCol, USAF (Ret); Ennis Chestang, PhD; Lloyd Goodwin, PhD; Jerry Lotterhaus, MSW; John Schmidt, PhD; and Christopher L. Edwards, PhD.

My gratitude continues to the members of my committee. Thank you for your patience and your willingness to participate on short notice.

Most important, though, is my family, without whose support this would not have been possible. My parents, James A. and Faye S. Brooks, Jr., ensured that I would have the education to build on to achieve. My wife, Penney Mizell-Brooks, has never known me to not be enrolled in classes. Her patience has rivaled that of Job. My children, James Nicholas and William Max, made me re-evaluate what I truly wanted to achieve. “Ph.D.” is nice, but “Dad” is better.

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Chapter 1

INTRODUCTION

Among persons involved in addictions treatment, there is a long-standing notion that when a person starts using alcohol or drugs, then their emotional growth stops at that point. Later, if the individuals quit using alcohol and/or other drugs they have only the affective resources of whatever age they were when they began using. For example, a 35-year-old man with a 20-year history of substance abuse would have the emotional capacities of a 15-year-old boy.

There is a similar anecdote for persons with borderline personality disorder (BPD), antisocial personality disorder (APD), and narcissistic personality disorder (NPD). That idea is that the behavior for these various personality disorders is analogous to the behavior congruent with the age they were when some significant, probably traumatic, event occurred in their life. One common comparison is children holding their breath in an attempt to manipulate a parent or throwing a temper tantrum when not getting their way. It begs the question: how different is the breath-holding from para-suicidal behaviors common to persons with BPD or the threats and intimidation of the person with APD? In both cases the behavior is qualitatively and quantitatively similar and seeks to achieve some outcome desirable to the person regardless of the consequences as a whole.

Despite the primacy that enduring and pervasive experiences play in shaping most pathological patterns, there are occasions when a particularly painful event can shatter the individual's equanimity and leave a deeply embedded attitude that is not readily extinguished. An untimely frightening experience, be it abusive or not, or an especially embarrassing and humiliating social event, illustrate conditions that can result in a persistent attitude. The impact

of these events may be particularly severe with young children because they usually are ill prepared for them and lack the perspective of prior experience that might serve as a context for moderating their effects (Field, 1985; Garnezy, 1986).

Another related anecdote is the belief that some clinicians have that the dramatic-erratic personality disorders (narcissistic, borderline, antisocial, and histrionic, also referred to as the Cluster B personality disorders in the *Diagnostic and Statistical Manual, Fourth Edition*, (DSM-IV) (American Psychiatric Association, 1994) are on a developmental continuum. According to this conceptualization, narcissistic personality disorder is the starting point. Farther along the continuum one finds a two-way divergence between antisocial and borderline personality disorders. Beyond this divergence, one finds that borderline can eventually develop into histrionic personality disorder. Likewise, at a chronological point akin to that of the borderline-histrionic shift, the pathological functioning of the antisocial person reverts to a more narcissistic pattern where they are less likely to act out to achieve their desires but instead react through mood and attitude changes when desires are frustrated.

A phenomenon known as spontaneous recovery are noted by clinicians working with both addictions and personality disorders, is when a person ceases to engage in the pathological behavior in question with little or no treatment. Clinical observation indicates that it tends to occur in both personality disorders and substance dependence around the age of 40-45. While there is little quantitative evidence of this occurring with personality disorders, there is supportive evidence of it occurring with substance dependence. Maxmen and Ward (1995) report that, by age 30, many sociopaths' promiscuity, fighting, criminality, and other pathological behaviors tend to diminish. According to Doewiko (2001), more than 75% of all persons who can be identified as having a substance abuse problem at some point in their life

will stop problematic use without assistance. The most recent National Survey on Drug Use & Health (NSDUH, Substance Abuse and Mental Health Services Administration., 2004) shows that use rates for both alcohol and illicit drugs drop off markedly after the late teens and early twenties. It follows that, if substance dependence were a static disorder or a “disease” as is currently conceptualized, then these rates would remain stable across age groups. There is one caveat for the 2003 NHSDA data, however; there is a small but statistically significant increase in drug use rates among 41-45 year olds compared to 35-40 and 46-50 year olds or the same segment in previous years. That increase has been present for that particular cohort for many years and may reflect some sociological phenomenon peculiar to this group. Over the intervening years this sub-sample has shown similar rates of decrease over time. Within the context of this paper, one could argue that spontaneous recovery is a function of the retarded ego eventually crossing some developmental threshold that reduces the appearance of pathology.

Given these anecdotally-based theories, it follows that there is some sort of developmental component in dramatic-erratic personality disorders and substance abuse. For the purposes of this paper, the dramatic-erratic personality and substance dependence relationship may be illustrated thusly:

Assume that a person’s core sense of self, or ego, is appropriate for the chronological age of 4-6 year olds. Some painful event, perhaps sexual or physical abuse, or significant level of deprivation of material or emotional needs, occurs in the person’s life. Young children, unable to deal appropriately with the situation, either regress to a developmental point that allows for escape from the painful stimulus or fixates at the current level as they subconsciously see the prospect of developing to the higher levels of responsibility and relationships too painful to

achieve. Self-esteem is crushed and self-efficacy never fosters. Development therefore becomes stalled at this level.

A second option may be that the children discover that a chemical can provide relief from the painful stimuli that life keeps presenting to them. In this case, the chemical provides a barrier that protects against the slings and arrows of reality. The chemical provides a false sense of self-esteem, but the person begins to believe that one cannot live life without the drug, thereby never developing a belief in one's own efficacy. While the ego is now protected by this wall, it cannot expand beyond the limits created by this barrier, thus stalling ego development. This wall is porous and is a semi-permeable barrier. After all, if it completely prevented all stimulation and response from penetrating the person would be catatonic. The filter-wall effects the perception of all stimuli crossing it, which the immature ego acts upon and broadcasts back through the filter-wall so that it is changed away from the ego's intent.

The end result in both cases is that ego development either stalls completely or is significantly retarded. At younger chronological ages the difference between chronological age and developmental level is small enough to not be problematic, however, as the person ages that difference becomes more marked and begins to appear pathological, especially within the context of interpersonal relationships. Difficulty in interpersonal relationships is one of the hallmarks—if not the primary indicator—of dramatic-erratic personality disorders.

It is well documented that there is a significant positive relationship between the personality disorders and substance abuse (Doweiko, 2002). What is not as well known is the order in which the personality disorder and the substance abuse appear. It is the proverbial “chicken-or-the-egg” debate. Are persons with personality disorders or related traits more likely to abuse substances or does the substance abuse result in the development of a personality

disorder or related traits? Knowledge of the primary problem and a more specific mechanism of change would allow professionals to develop more effective treatment modalities and prevention programs.

One type of treatment intervention that has been demonstrated to promote ego development is Deliberate Psychological Education (DPE). DPE is the intentional process of promoting psychological development. DPE rests on the assumption that psychological growth can be stimulated in an adequate learning environment that includes opportunities for role-taking, support, challenging the participant to behave at a higher developmental level, guided reflection, and praxis. Research has shown that Deliberate Psychological Educational programs have promoted growth in various cognitive domains. A considerable amount of previous research shows demonstrably that deliberate psychological education facilitates ego and moral development (Aronfreed, 1976; Enright & Deist, 1979; Higgins, Power, & Kohlberg, 1980, Jurkovic & Prentice, 1977, 1980; Kohlberg, Scharf, & Hickey, 1972; Kunn, Langer, Kohlberg, & Haan, 1977; Kurdek, 1978, 1980; MacPhail, 1989). In high schools, Alexander (1977), Paolitto (1976), and Sullivan (1975) used Kohlberg's moral education practices to promote ego and moral development. Likewise, Hickey (1972) and Lorish (1974) demonstrated developmental gains for incarcerated juvenile delinquents. Substance abusing individuals have many similarities to the participants described in the above studies; likewise, substance abuse treatment programs incorporate the principals of DPE.

The purpose of the present study was to examine the relationship between and among early trauma/onset of substance abuse and ego development or its underlying mechanisms and the effects of substance abuse treatment on ego development or its underlying mechanisms. The basic theory behind this study is that early onset of substance abuse or trauma results in reduced

self-efficacy which is manifested as a delayed or otherwise poorly functioning ego; in turn, treatment that addresses self-efficacy will ultimately result in improved outcomes as the ego decreases the age-stage discrepancy or improves its function. Specifically, the present investigation examined the following questions:

1. Is there a relationship between early negative events, personality characteristics, and age of onset and severity of substance abuse?
2. Does treatment result in significant improvement or gains in identified characteristics?

Data used to examine this issue were drawn from the Drug Abuse Treatment Outcome Study (DATOS). DATOS examined the role of treatment outcomes and program type, client characteristics (including dependence, treatment history, and physical and mental health comorbidities), treatment received (e.g., length and intensity of services provided), therapeutic approaches, and provision of aftercare. Four types of programs were included: outpatient methadone (OPM), short-term inpatient (STI), long-term residential (LTR), and outpatient drug-free (ODF). Respondents were sampled from among those admitted to treatment in sampled facilities in 1991-1993.

Definition of Major Terms

EFFECTANCE: Like self-efficacy, effectance is a belief that individuals are capable of controlling their thoughts, feelings, and actions, and therefore influences outcomes. Effectance differs from self-efficacy in that it refers to a broader context (e.g., a generalized feeling about one's life versus a specific situation).

EGO: The Ego is the core sense of self and identity. As a master trait, all other facets of personality are organized around it and influenced by it.

RECOVERY: Commonly used term by proponents of the conventional disease model of addictions that refers to an individual who no longer uses alcohol or other drugs. It often specifically refers to someone who is or was involved with a 12 Step program such as Alcoholics Anonymous or Narcotics Anonymous.

SELF-EFFICACY: The self-efficacy is belief that individuals are capable of controlling their thoughts, feelings, and actions, and therefore influence outcomes.

SELF-ESTEEM: Self-esteem is the experience of being capable of meeting life's challenges and being worthy of happiness. It is often conceptualized as differing from self-efficacy in that it is an affective state as opposed to a belief about one's abilities, and focuses on the here-and-now rather than on one's thoughts about the future although there is a body of work that holds self-esteem and self-efficacy are essentially synonymous.

SUBSTANCE ABUSE: The deliberate misuse of psychoactive substances to achieve a desired mood state. It is operationally defined in the DSM-IV (American Psychiatric Association, 1994). For the purposes of the present paper it is synonymous with substance dependence, chemical dependence, and addiction.

Chapter II

LITERATURE REVIEW

The normal pattern of psychological development follows a trend of increasing involvement with people, objects, and social institutions. These involvements generate new situations containing inherent problems of perceptual discrimination about relationships between the self and the external environment. These discriminations lead to a cognitive restructuring of experience and expectancy. A new reference scheme is developed and a new level of integration is achieved. Each new level of integration is the psychological counterpart of an increasingly efficient optical lens in the physical world. The more advanced the sequence of integration, the less the likelihood of perceptual distortion. With growth, persons can see themselves and the world more completely and operate more effectively.

Cognitive development, ego development, and moral development theories are founded in Piaget's (1952) and Erikson's (1968) theories of development. Piaget and Erikson both proposed that humans moved through a series of stages of development and that personality forms from the interaction of social-environmental forces, biological-maturational forces, and personal experiences. The emergence of certain characteristics, not the individual's age, is the criterion for developmental progression (Tyson & Tyson, 1990).

Loevinger's Theory of Ego Development

The theoretical basis of the present investigation is Loevinger's (1976) ego development. There are several meanings given to ego development, only one that applies to Loevinger's theory. She holds that ego development is the chronicle of psychosocial development and is the major dimension of individual differences. Further, ego is seen as a master trait around which all others are organized and draw meaning from. In some cases, Loevinger uses ego development

as synonymous with cognitive development in a Piagetian sense of global change organized around certain traits or capacities (Blasi, 1998). Loevinger defines a number of stages of ego development but purposefully refrains from correlating any particular stage with any particular age. Throughout Loevinger's (1976) work she maintains that there is no set timetable that a person must follow (i.e., "at age seven the person is in this stage") although she often describes behaviors of various age groups as being symbolic of certain stages. She defines stages of development that apply to a broad range of chronological ages. By doing so she acknowledges that ego or cognitive development may stall or significantly slow in individuals and that an individual may have a significant age-stage discrepancy..

Influenced heavily by Piaget, Loevinger's (1976) theorized development of an increasingly strong sense of altruism is based on Piaget's "de-centering". A central characteristic of Piaget's theory, decentering is the process of gradually moving from an egocentric and subjective worldview to an objective, balanced worldview. The ability to de-center enables one to think beyond a single aspect of a situation and incorporate differing variables. Besides expanding the individual's self-reflection, the potential for empathy emerges. Self-reflection fosters increased self-control and makes it possible for the person to adhere to shared social experiences and moral rules (Tyson & Tyson, 1990, p. 184). Research by Edward Latessa (personal communication, March 6, 1999) indicates that, among criminal offenders, it is the development of prosocial attitudes that is the greatest determinant of re-offending or continued drug or alcohol use; prosocial attitudes, in turn, are founded on empathy (Eisenberg & Miller, 1987). Rest (1977) describes role-taking or the ability to relate to others empathically, as a key component in cognitive-development promoting programs.

Kohlberg (1975) and Selman (1971) have provided part of the theoretical basis for role-taking. They contend that actual role-taking experiences could produce the conditions for developmental growth. Although Loevinger's (1976) work suggests that developmental stage predicts certain human behaviors (i.e., stage as an independent variable), Kohlberg's and Selman's work suggests that developmental stage became the dependent variable (i.e., the target of educational interventions). This meant that role-taking programs may be designed to enhance the developmental stage of the participants. Two studies (Kessler, Ibrahim, & Kahn, 1986; Sprinthall & Scott, 1989) have supported that belief. Two large meta-analyses (Eisenberg & Miller, 1987; Miller & Eisenberg, 1988) have shown consistently positive relationships between empathy and prosocial human behavior on one hand and a negative relationship between the lack of empathy and aggressive or antisocial behavior on the other hand. Therefore role-taking experiences may enhance ego stage growth through intensive empathy training.

Each of Loevinger's stages may be broken down into four facets or dimensions, all of which deal with personal orientations and investments. Character development is considered by Loevinger to subsume moral reasoning as defined by Kohlberg (Blasi, 1998). Interpersonal style includes independence and manipulateness. Loevinger poorly defines conscious preoccupations, but examples are bodily feelings and urges, self-protection, appearance, and identity. Cognitive style includes traits such as the tolerance of ambiguity and a tendency towards objectivity.

Loevinger (1976) describes 10 discrete stages. The first is Presocial (babies at birth cannot be said to have an ego as they cannot differentiate themselves from their environment). Second, Symbiotic (babies are becoming aware of the differentiation of self and environment but remain wholly dependent on the mother). The third stage, Impulsive, states that children's

impulses help affirm a separate identity while judgments are based on “nice-to-me/mean-to-me” logic that confounds motive and cause, and thinking is exclusively in the present). Fourth is Self-protective, where children learn to anticipate immediate, short-term consequences and rewards, and are motivated by avoiding punishment while meeting personal needs, evidencing an emerging understanding of rules, but blame is externalized. At Conformist, the fifth stage, children and adolescents begin to identify personal welfare with some group, obey rules because they are perceived as “group rules” and will follow rules rather than consider consequences but remain motivated by rewards such as approval. Sixth is Self-Aware (people transition from Conformist to the higher Conscientious stage which is noted by an increase in self-awareness and appreciation of multiple possibilities but is influenced by stereotypic and demographic categories; yet the inner life is guided by vague “feelings”. Self-Aware is identified by Loevinger as the modal level for adults. The seventh is Conscientious where rules are internalized with a burgeoning understanding of their source of meaning, inner life may be reflected upon to understand goals and motivations, and a sense of responsibility to others is gained. Eighth is Individualistic (transitioning from Conscientious to Autonomous, marked by an increased sense of individuality and a concern for emotional dependence, independence, and interdependence; inner conflicts are noted but are not dealt with fully although tolerance of paradox and contradiction results in greater conceptual complexity). The ninth stage is called Autonomous (the person has the capacity to acknowledge and cope with inner needs, conflicting duties, and the conflict between needs and duties, previously incompatible ideas are integrated, and the development of others is recognized and encouraged while self-fulfillment becomes a goal in itself). Finally, the tenth stage is referred to as Integrated, the highest and most poorly described stage, wherein the individual is believed to have integrated personal and interpersonal

needs and desires within the context of a larger, essentially transcendent framework where sources of meaning and value are understood.

Loevinger (1976) does not posit a direct relationship between ego development and psychopathology, and her adherents say that persons at higher levels are more likely to have adaptive processes. In truth, this is related to a criticism of Loevinger's theory that will be discussed later. Some mental health issues such as deception, manipulation, social anxiety, over-dependence, over-control, and perfectionism, are considered part of lower stages of development (Noam, 1998), and their resolution marks increased development. Given that the hallmark of Loevinger's theory is the development of an increasingly complex and altruistic sense of self, it follows that, if individuals would cease or markedly slow in their development, they would not develop the traits of healthy adults and would instead behave in a decidedly egocentric, pleasure-seeking, and impulsive manner that negatively impacts interpersonal relationships. In short, they would demonstrate the characteristics of a dramatic-erratic personality. Loevinger (1976) and Noam (1998) both state that delaying ego development at the early stages, and extending it beyond early age, yields an increased probability of problems and the emergence of a narcissistic or antisocial stance and character. Forrest (1983) supports this by demonstrating how the alcoholic's ego structure and adjustment style fit within the borderline and narcissistic diagnostic categories. Forrest goes on to say that the alcoholic is a, "fixated adolescent", (p. 9) although many clinicians believe that the fixation is indicative of an even earlier developmental period.

Life transitions external to the person or self-initiated as a product of development, introduce new goals, needs, and values to which the individual must adjust. How the adjustment is accomplished will vary depending on the phase of the transition, the specific characteristics of the new environment, and individual constitutional differences.

One major dimension involves perceptual differentiation: how many and what kinds of distinctions the person tends to make in describing aspects of the world. As a continuum, it represents an increasing capacity to look at the world in a complex and abstract way. In many ways individuals who are higher on this continuum are better off than those who are lower in their ability to function in a complex society. If people assume that everyone sees life as they do, they may not comprehend what is going on in their interactions with others. Children and adults who are significantly retarded in this socialization process are vulnerable because they cannot anticipate the impact of their behavior on others or other's behavior on them. In this sense it is advantageous to progress as far as possible along the developmental continuum. Some persons become fixed at a particular level. Such persons maintain their positions protectively, because there is something they cannot perceive or integrate. It may be too painful to grow, there may be a lack of stimulation to grow, or an external force may be preventing growth (Warren, 1983).

Loevinger's theory does not generally allow for regression in the usual sense. For example, a person does not retreat from Stage 6 when sick and wanting attention. Once having seen that people are complex and that they play roles, the individual does not lose that perception even when feeling bad. Behavioral regression may occur, but social-perceptual regression does not (Warren, 1983).

Psychopathology and Development

An individual moving toward physiological maturity while remaining at lower stages perceptually, may appear increasingly deviant to society. Social institutions assume that individuals have reached Loevinger's (1976) Stage 5 or better (feeling personally accountable for behavior, having an internal evaluator of "right" and "wrong", knowing rules/expectations, etc.). Those individuals for whom these assumptions do not hold are at considerable

disadvantage in understanding what is happening around them. The life of a 19 year-old at Stage 3 still focuses on trying to maintain a position of comfort and on getting needs met in an unpredictable and arbitrary world (Warren, 1983).

There are specific developmental tasks that must be accomplished to move from one stage to the next. Failure to do so results in a fixation point to where the person is likely to regress under stress to a previous stage where a sense of equilibrium is maximized and anxiety is minimized (Davidson & Neale, 2001).

Despite this, little empirical evidence is available on the developmental pathways that underpin the personality disorders, with the exception of antisocial personality disorder (Maxmen & Ward, 1995; Zoccolillo, Pickles, Quinton, & Rutter, 1992). This evidentiary lack may be the consequence of ambiguities surrounding the concepts of temperament, character and personality (Rutter, 1987) or the result of child and adolescent psychiatrists being reluctant to make a diagnosis of personality disorder. The personality disorders are chronic, pervasive, and inflexible patterns of perceiving and responding to the environment that are sufficiently maladaptive to cause disruption in functioning and environmentally generated subjective distress.

Most individuals in need of a personality disorder diagnosis do not think there is any compelling reason for changing themselves (Benjamin, 1993; Turkat, 1990). Any such realization comes only when they move into situations that require higher levels of intimacy or more flexible behavioral adaptations. The fact that they cannot meet these requirements results in coercion from the environment, or at least feedback that they cannot ignore, resulting in referral for therapy.

Although “infantile personality disorders” as described by Friedman (1982) is not a recognized and distinct diagnostic category, it is important to differentiate them from other disorders. The most prominent feature of these children is their aberrant social relations that duplicate the stereotypic behaviors of earlier stages of development. In adults, regression back to a point of fixation does not typically result in gross behavioral changes. Rather they engage in more symbolic behavior congruent with the regressed stage. For that, we can hypothesize that, while there is a point of fixation, other aspects of development have progressed more normally. Children, however, have not had the opportunity to develop additional behaviors that mediate the effects of the regression, and their behavior follows the stereotypic expectations of the developmental stage. The importance of Friedman’s article is the explicit acknowledgement that negative factors in childhood can stall or retard development. This results in personality dysfunction that is quite similar to what are normally termed the dramatic-erratic personality disorders. Further, he demonstrates the effectiveness of interventions that increase or promote ego development in the resolution of developmental issues that present personality disorders.

The personality disorders have traditionally been grouped into three clusters in the DSM-IV (APA, 1994). The first, referred to as “Cluster A”, or the “odd-eccentric cluster”, includes the paranoid, schizoid, and schizotypal personality disorders, as these are denoted by peculiar or eccentric behavior. The second cluster, “dramatic-erratic” or “Cluster B”, focuses on dramatic and emotionally labile behavior: it includes the histrionic, narcissistic, antisocial, and borderline personality disorders. The last cluster, also referred to as the “anxious-fearful” or “Cluster C” which emphasizes chronic fearfulness and/or avoidance behaviors, includes the avoidant, dependent, and obsessive-compulsive disorders. There is of course a catch-all category termed

Personality Disorder NOS (301.90), used for individuals who do not fit any of the criteria for a specific category, yet they clearly fall within the overall patterns of the personality disorders.

Kagan (1986) concludes, after reviewing several studies of cognitive development, that persons with antisocial personality disorder, also referred to as “sociopaths”, demonstrate a developmental delay in moral maturity and cognitive functioning. Kagan describes the sociopathic moral and cognitive development as organized at Kohlberg’s (1984) second level of moral development, similar to that of a latency-age child. At this level, cognitive functioning is governed by the Piagetian concept of concrete operations. Such individuals are typically incapable of subordinating the actual to the realm of the possible. Their view of the world is a personal rather than an interpersonal one: everything must relate back to them in a clear, concrete manner. They cannot hold another's point of view at the same time as their own. As such, they cannot take on the role of another. Their thinking is linear, anticipating the reactions of others only after responding to their own and assuming that others will place the sociopath’s desires foremost. It is this linear thinking that creates the polarization of feelings (all good or all bad) that are at the core of histrionic and borderline personality disorders.

There is evidence that the same developmental patterns in females that eventuate in histrionic behavior lead to more antisocial behavior patterns in males (Zimmerman, 1994). Baumbacher and Amini (1980-1981) propose three subgroups among histrionic personality disorder: (a) hysterical character neurosis, associated with classic triadic Oedipal issues; (b) hysterical personality disorder, stemming from the initial phallic phase and thus associated with dyadic (mother-child) issues; and (c) borderline personality organization with hysterical features, utilizing more primitive defenses characteristic of pre-Oedipal phases. It is this third subgroup

that lends support to the theory that at least some forms of histrionic personality disorder are farther along the same continuum of development as borderline personality disorder.

The third dramatic-erratic personality disorder is narcissistic personality disorder. Maxmen and Ward (1995) draw a comparison between age-appropriate narcissism and the pathologic type. They posit that at about four years of age, narcissism is quite normal. All boys are some heroic archetype and want everybody to watch them do their next stunt. Girls are vying for the highest social standing, all wanting to be the princess or prima donna. Within the context of this paper, one could conjecture that the “queen” or “superhero” are examples of exaggerated stereotypic gender behaviors that were discussed above as hallmarks of personality disorders. Over indulgence or adverse consequences may warp normal progress and result in narcissistic personality disorder.

Freud incorporated narcissism into his early essays on psychosocial development (Jones, 1955). Freud believed that narcissism was a normal phase of development that follows an autoerotic phase and eventually matures into object love. Possible causes of the failure to mature were erratic and unreliable caretakers in childhood or parents that overvalued their child (Beck & Freeman, 1990). These disruptions caused fixations at the narcissistic phase of development. Narcissists were thus thought to be unable to form lasting attachments because of a fixation at this stage of self-involvement.

Kohut (in Beck & Freeman, 1990) stated that pathological narcissism is the result of developmental arrest when two major personality structures, grandiose self and idealized parent image, fail to integrate appropriately. An example of a situation that could lead to this phenomenon would be a mother whose affective responses to her child were not affirming or failed to teach the child to appreciate its own limits. According to conventional psychoanalysis,

those who are narcissistic regress to or are fixated at a point before they had the ability to value others for their own sakes.

The person with borderline personality disorder holds extreme, dichotomous, and poorly integrated ideas about early relationships with caregivers and, consequently, has extreme and unrealistic expectancies regarding later interpersonal relationships. Loevinger (1976) states that, as persons develop, these previously incompatible ideas and expectations become more integrated. These expectations constantly shape behavioral and affective responses and, possibly, are responsible for the wide range of symptoms they experience (Beck & Freeman, 1990). It has been postulated that these experiences during childhood result in stable and enduring patterns of thinking termed “maladaptive schemas” and ultimately result in maladaptive adult behavior patterns that reinforce the schema. When these maladaptive schema are activated by events, distortions in thinking, extreme affective responses, and problematic behaviors result (Beck & Freeman, 1990). Beck and Freeman also state that borderlines have a much greater number of early maladaptive schemas than other personality disorders.

Splitting is common in borderline’s relationships or dealings with others. Splitting is a healthy and normal defense in 18 to 36-month-old children. Maxmen and Ward (1995) give the example of two-and-a-half-year-old boy with a six-month-old sister who said to his father, "No like sister's daddy, like *my* daddy," It is the same father, but this splitting permits the little boy to like his father while still feeling jealous that his sister was getting attention. Only later, when the boy is able to handle greater complexity, will this good-bad dichotomy diversify into more ambiguous shades of gray in which the good and bad coexist --the stuff of most adult experience. Borderlines do not accomplish this developmental task.

Mahler, Pine, and Bergman (1975) proposed that borderline conditions stem from a disturbance in the rapprochement subphase of the separation individuation process from 18-36 months. During this period, the child, having experimented with separating self from the mother, tries returning to mother for approval and emotional "refueling". These mothers, however, have had their own difficulties with separation. First degree relatives of borderlines have 10 times the rate of borderline personality disorder and three times the incidence of alcoholism than controls according to Maxmen & Ward (1995), so they resent the child's developmentally appropriately clinging, as if to say, "Before you wanted me, now you don't. So get lost!" These mothers experience their child's attempts at autonomy as abandonment (e.g., "How dare you leave me!"). As adults, they replay these dependence-independence conflicts with others. This style of parenting sets up a vicious, out-of-control feedback loop. Fear of separation or abandonment is not met with comfort, but rather rejection. Thus, fear becomes a cue for abandonment that leads to more fear, and so on. The result is the "splitting" described above.

Finally, Kuyken (1999) presents the case of "Anna", a 26-year-old woman diagnosed with borderline personality disorder. Kuyken describes four distinct attachment styles: (a) secure, where the person is well-adjusted in adult relationships; (b) insecure-avoidant, where the adult idealizes the relationships from childhood and is uncomfortable with intimacy, lacks confidence, and is hostile and lonely; (c) insecure-resistant/anxious, where the person becomes confused, clingy, dependent, jealous, anxious, and overly expressive; and (d) insecure-disorganized, where the person is socially inhibited, lacks assertion, and displays the characteristics of avoidant and resistant/anxious styles. As can be seen from this brief description of the attachment styles, each has elements that are consistent with the dramatic-

erratic personality disorders, especially narcissistic and histrionic. Further, insecure-avoidant, insecure-resistant/anxious, and insecure-disorganized styles show reduced self-efficacy.

Using a private psychiatric clinic sample of 392 patients, Vincent and Castillo (1984) determined the breakdown of level of ego development for the personality disorders. They found that the dramatic-erratic disorders (antisocial, borderline, histrionic, and narcissistic) had the majority of individuals with these characteristics who scored below the conformity level with almost half of the subjects in this cluster below the conformity level. They also determined that none of the subjects were at the highest levels of ego functioning.

Vincent and Castillo's (1984) justification as stated in the article is that Loevinger has stated that persons below the conformity level at adolescence can be described as having character disorders. Noam et al, (1984) studied the relationship between ego development and psychopathological behaviors in a sample of adolescents hospitalized in a teaching hospital in the northeastern United States. Using Loevinger's model of ego development, they administered the Sentence Completion Test and correlated its results with the Achenbach and Edelbrock Child Behavior Checklist factor scores. Their findings showed a significant negative correlation with a variety of behavior subscales and internalizing and externalizing factors. They also found a significant correlation between number of symptoms and level of ego development, especially when background variables of age, gender, and socio-economic class were accounted for. They end their paper with a discussion of age-stage discrepancies and how psychopathology may be understood from a developmental perspective.

Ultimately, Noam, et al (1998), do show that there is a relationship between ego development and specific behaviors that can be considered characterological. The authors make the valid conclusion that understanding the clients' developmental level has significant

implications for understanding how they perceive and react to the world around them as it relates to both treatment and understanding vulnerabilities.

Criticisms of Loevinger

Despite how well Loevinger's theory addresses the hypothesized relationship between developmental stalling and dramatic-erratic personality disorders, it does have its critics. The first criticism is that the order of the stages of development rationalizes society's scheme of values (Loevinger, 1976); Loevinger responds by saying that the stages are a reflection of values and that nations appear to operate at the Self-protective level. A similar charge was made by Fisher and Sweeney (1998) regarding measures of moral judgment reflecting liberal political values and they supported the claim of bias with an empirical study. If this is so, Loevinger's theory has broad applications or potential for misuse in social engineering programs. It also indicates a source of potential bias in the primary method of measuring ego development according to Loevinger's theory: the Sentence Completion Test (Loevinger & Wessler, 1970).

Another limitation of the theory related to measurement of stage has been noted by several authors such as Vincent and Castillo (1982). In their study, they note that 82% of the subjects with odd-eccentric cluster (paranoid, schizoid, and schizotypal) diagnosis were scored as being at the conformist stage or higher. Given that the Sentence Completion Test is a projective measure, it is exceptionally vulnerable to clinician subjectivity. Responses that normally indicate higher-level stages of development with increased awareness of sources of value and meaning and more awareness of others may also be indicative of the loosening of associations normally encountered in psychotic and para-psychotic disorders such as the odd-

eccentric cluster or schizophrenia. Similarly, education and literacy would have a similar impact.

The next criticism is not directed at the theory, per se, but rather at its relative obscurity. It is not commonly covered in helping profession graduate programs. As there is no specific psychotherapy associated with Loevinger's theory, clinicians remain unfamiliar with the theory. Since Loevinger does not hypothesize a direct relationship between developmental level and psychopathology there has been no obvious need to have a related psychotherapy. With the possible link between dramatic-erratic disorders and developmental level there is considerable potential for exploration.

An additional criticism of Loevinger's theory has been directed at the lack of an underlying logic guiding her developmental sequence. The critics claim she has not spelled out the theoretical inner structural logic of each stage or the logic of the sequence from one stage to the next (Allis, 1986). Her concept of an indivisible ego simultaneously engaged in what she calls impulse control, interpersonal style, conscious preoccupations, and cognitive functioning does not provide for an evaluation of various facets and appears to presume that all of the facets develop evenly and simultaneously. As a result of only presenting the synthesis of the ego components, Loevinger can only present ego as "developed/not developed" on a single continuum. Instead of conceptualizing ego as a single continuum, ego should be examined and evaluated by considering the impact that differing degrees of development or function both among and between the facets has on the individual. Further, Loevinger (1987) says that the developing ego's way of construing the world goes through stages that differ qualitatively as well as quantitatively; so qualitatively different that adults can hardly understand a child's worldview. An analogy would be a plant that grows in the shade yet near a sunny spot. Instead

of growing straight and true towards the life-giving light, the shaded plant must twist and bend to struggle towards the sun. While the plant does grow and may eventually flower and germinate, its path is less than optimal and it is a stunted or deformed sample of its type. Humans are the same. We develop and grow in some fashion regardless of our circumstances but different parts of our psyche may develop faster than others, be more nurtured, or more suppressed. It is this unique profile that gives us our individuality and seeming pathology.

It is this last criticism of Loevinger that may be the most faulty. Bandura (1977), in his concept of self-efficacy, posits that a given course or conduct is guided by how strongly the actor expects to be able to carry out that action. Freud (1955) recognized the importance of mastery as a necessary tool for obtaining the next stage of development. R.W. White (1963) documented a construct that he called effectance, or seeing the effects of one's own action which he described as an independent ego motive. Effectance has been popularized into the term self-efficacy. Lent and Lopez (2002) describe the impact of three types of efficacy beliefs: self-efficacy (beliefs about one's own capabilities), other-efficacy (beliefs about the efficacy of relationship partners), and relation-inferred self efficacy (RISE, or how the partner may view them). Lastly, Loevinger (1987) states that, as development progresses, motivation becomes more self-motivated by having self-evaluated standards. It is therefore plausible that a critical—if not the most critical—component involved in cognitive development is self-efficacy or some closely related construct that is defined belief about one's ability to manage one's life.

Self-Efficacy and Self-Esteem in Development

It is important to note the relationship among self-esteem, locus of control and self-efficacy. During the writing of this chapter it was noted that those terms were used nearly synonymously and the same instrument would be used to measure the different constructs.

According to Judge, et al (2002), there are no more widely studied personality traits in psychology. A brief perusal of PsycLit showed over 10, 000 studies on these constructs from 1998 through 2003.

Judge, Erez, Bono, and Thoresen (2002), present the results of four studies that sought to determine the discriminant and incremental validity of self-esteem, locus of control, self-efficacy, and neuroticism. The authors' meta-analytic results indicated that measures of the traits in question were strongly related. The findings also demonstrated that a single factor explained the relationships among the measures of the traits. Overall, the traits showed poor discriminant validity and accounted for little incremental variance in predicting external criteria relative to a hypothesized higher-order construct, supporting the authors' assertion that self-esteem, locus of control, and self-efficacy may be markers of the same higher-order construct.

Judge, et al, (2002) also discuss how this may be an example of the jangle fallacy, or believing that constructs are different simply because they have different names. They present several studies wherein self-esteem and neuroticism have been demonstrated to either be indicators of some third construct and have similar operational definitions. They go on to say that these constructs are so strongly related that, at best, using multiple measures to account for phenomena results in needless redundancy and, at worst, ignoring one result in order to focus on another may prevent the recognition of relationships in constructs that would otherwise create new knowledge.

Specifically, Judge, et al, (2002) determined that self-esteem, generalized self-efficacy, locus of control, and neuroticism explain 71% of the variance when loaded into one factor in a study of personality. In one of the meta-analytic studies performed, they determined that the correlations between neuroticism, self-esteem, and generalized self-efficacy, ranged from .62

(self-esteem and neuroticism), .64 (generalized self-efficacy and neuroticism), to .85 (self-esteem and generalized self-efficacy). They note in this study that the average correlations among self-esteem, locus of control, self-efficacy, and neuroticism are substantially higher than the Big Five traits (Costa & McRae, 1995; $r=.60$ and $r=.20$, respectively). Again, they state that these four constructs/traits are not independent and it is not reasonable to conceptualize them as being separate entities.

While not discouraging further study of self-esteem, locus of control, self-efficacy, and neuroticism, as isolated traits, they (Judge, et al, 2002) are clear in saying that the uniqueness of each may be nearly non-contributory to the knowledge base, and they warn the reader of the jangle fallacy once again. They offer that the results of one line of inquiry could build on the results of others (i.e., improvement of self-esteem after some intervention would compliment improvement of self-efficacy after an intervention). They conclude by saying the various literatures on these traits should be integrated.

Individuals with personality disorders may be seen as having an external locus of control. An unpublished dissertation by Angelopoulos (1990) reported the relationships among locus of control, level of ego development, and level of moral judgment across incarcerated males with a diagnoses of Antisocial Personality Disorder. Forty-one inmate volunteers across two prisons in separate regions of Tennessee were administered measures of orientation towards locus of control, level of ego development, and level of moral judgment development. Angelopoulos' results indicated that the inmates were more externally than internally oriented towards locus of control, gave less relative importance to principled moral considerations, and functioned in terms of ego development within the self-protective level. All groups were compared to appropriate

normative data for normal adult males. An intercorrelation did not yield significant results, indicating that each measure may represent a separate structure of development.

In the area of ego development, adolescents are sometimes characterized by conceptual simplicity, stereotyped thinking, and a banal awareness of feelings (Loevinger & Wessler, 1970). Again, through the process of expanding their "feeling vocabulary" and actively listening and responding to their classmates, the adolescents begin to see that there are other feelings besides happy, sad, mad, and glad. Also, they begin to see that human behavior is multi-faceted and overtly determined, rather than following a simple "billiard ball" theory or perpetual reaction to forces beyond one's control. This is one way of promoting non-stereotyped thinking and moving people to a richer and more complex perception of themselves and others (Bernier & Rustad, 1977). This, in turn, helps to develop the sense of self-efficacy and self esteem as they successfully motivate themselves.

Given that Loevinger's theory and related measure do not allow the component facets to be measured separately but rather force them into an undifferentiated gestalt, and that the underlying mechanism is poorly described, utilizing her theory can be difficult in a research setting. Some critical mechanisms within her theory may be identifiable and therefore subject to measurement.

Movement from one stage of development to another, while not a seamless transition, does occur in various stages from simply acting the new role to integrating the new into the identity. Individuals' orientations toward information are distinctly different at these two phases. Whereas the first phase (construction) is characterized by a general interest and openness to information, such that tentative beliefs are readily changed by inconsistent information, information seeking becomes more focused during the second phase (consolidation) and

inconsistent information less influential as conclusions are formed. Moreover, investment in the conclusions being drawn at the second phase may render them imperatives, leading individuals to monitor their own and others' behavior to ensure that they match these conclusions. One way to characterize the shift from construction to consolidation is in terms of goals. Construction is similar to a predecisional orientation involving subjective uncertainty and mastery goals. In essence, the person is coping with the new information or stage in that they are operating at a sub-optimal level that, while characterized by not regressing, they are holding at their current level until the new one is integrated. Consolidation is similar to a postdecisional orientation marked by commitment to the new information and efforts to integrate it, and is a shift upward on the developmental continuum. In the integration phase, the new conclusions and attitudes are integrated with pre-entry knowledge and pre-entry goals as standards, and the individual is able to function more flexibly in those terms. While the knowledge base improves, new information is not actively sought and information that can change conclusions is resisted. At this point the person is prepared for a new construction phase as the result of reaching a new developmental plateau from which point the process begins anew (Higgins, et al, 1995).

The psychobiological model proposed by Cloninger (in Carter, Joyce, Mulder, & Zhoty, 2001) conceptualizes personality as consisting of temperament and character. Cloninger defines temperament as being composed of four genetically independent dimensions (novelty seeking, harm avoidance, reward dependence, and persistence) that are moderately heritable, stable and automatic responses to stimuli. Character is learned and influences personal and social success and matures into adulthood in three dimensions (self-directedness—by definition a critical component of self-efficacy—cooperativeness, and self-transcendence), of which low self-directedness and low cooperativeness have been demonstrated to be related to personality

dysfunction. It is interesting to note that previous research in addictions has demonstrated a relationship between novelty-seeking behavior and substance abuse and personality disorders (Doweiko, 2001). Further, harm avoidance is indicative of lower stages of ego development as defined by Loevinger (see above).

These significant and critical factors predisposing individuals to various psychopathologies are developmental and environmental defects (i.e., complete or partial deficiencies, failure, distortion, abuse, addiction) that arise at crucial transitional phases of ego development. This does not imply in the least that these above causal factors are simply determinative, but that they interact with genetic, temperamental, and coping predispositions; with the individual's degree of exposure and resistance to stress; and with his or her adjustive and adaptive reactions to situations. Psychopathology, especially personality disorders, like all complex behavioral and social phenomena, is a product of multiple causality (Ausubel, 1996).

In the broadest of terms, most persons can be divided into two main groups in terms of ego development outcomes and susceptibility to the various psychopathologies, namely satellizers and non-satellizers (Ausubel, 1996). In a satellizing relationship, the subordinate party acknowledges the dominance and superiority of the superordinate party and accepts a subservient and deferential role. Non-satellizers relate to the other party in a completely different way. The subordinate acknowledges his or her dependency on the superordinate party as a temporary, regrettable, and soon-to-be-remedied fact of life requiring various acts of conformity and deference but, at the same time, not accepting a dependent and subservient status as a person.

Because of the attractive features of satellization for a child's self-esteem and self-efficacy the great mental health hazard confronting satellizers is failure to undergo ego

maturation or “destatellization” under those familial and/or cultural conditions fostering exaggerated satellization—that is, intensifying or over extending it in time. The principle disorders that emerge as a result of destatellization are early, insidiously developing process schizophrenia in individuals with schizoid and introverted temperaments (hedonistic and narcissistic gratification in fantasy); and inadequate and immature personality disorders (hedonistic and narcissistic gratification in reality; Ausubel, 1996).

Ausubel, therefore, identifies self-esteem and self-efficacy as critical in the process of ego development and supports the theories presented above. He also infers that relationships are critical to the development of self-efficacy. From his work, it can be deduced that these closely related constructs are critical in the development of the mature ego, and the immature ego presents a personality that in an adult is pathological but is congruent with younger chronological ages.

As mentioned above, Lent and Lopez (2002) describe the impact of three types of efficacy beliefs: self-efficacy (beliefs about one’s own capabilities), other-efficacy (beliefs about the efficacy of relationship partners), and relation-inferred self efficacy (RISE, or how the partner may view them). They posit that self-efficacy is a dynamic interaction with the beliefs about one’s relationship partner’s efficacy and how that partner views them in turn. Lent and Lopez believe that research into self-efficacy has focused on the individual’s actions rather than those such as psychotherapy that involve complex social interaction. The authors go on to say that self-efficacy research self-efficacy/criterion relations are at the level of the individual with little consideration for the input and reactions of other persons. The irony here is that Bandura (1986) observed, “whether [people’s] endeavors are socially impeded or supported will depend, in part, on how efficacious others perceive them to be” (p. 437).

Lent and Lopez (2002) go on to describe two additional forms of efficacy beyond “self-efficacy” referred to as other-efficacy and relation-inferred self-efficacy. They state that efficacy beliefs are likely to affect important relational outcomes such as, (a) choice or relationship partner or roles, (b) activities willingly engaged in with a particular partner, (c) the amount of effort expended in joint pursuits with a given partner, and (d)), one’s satisfaction with and intent to maintain a given relationship.

It appears, then, that self-efficacy is the poorly elaborated mechanism that Loevinger (1976) posits as driving development of the ego. One unexplored area is the impact of early negative events on self-efficacy and its relationship to substance abuse and substance abuse treatment outcomes. The difficulty in exploring this relationship is in finding a large enough sample using and intervention methodology that can be said to address development as described by Loevinger.

Deliberate Psychological Education.

That is not to say that cognitive-developmentally based interventions are uncommon. Deliberate psychological education programs (DPE) have been a fixture in education for some time now. Deliberate psychological education (DPE) is an intentional intervention, the purpose of which is to provide persons with development-promoting opportunities (Faubert, Locke, Sprinthall, & Howland, 1996) in order to enhance their growth. Developmental theory purports and the research provides strong evidence that growth can be enhanced through interaction with caring, skilled person in the context of a well-planned and properly executed curriculum which utilizes a DPE model (Faubert, et al, 1996). Healthy adults continue to grow and develop throughout their lifespans. C. Alexander (1977) found a full stage increase in ego development for adult male inmates in a maximum-security prison. Hickey and Scharf (1980) demonstrated a

half-stage increase for female minimum-security inmates after using Kohlberg's democratic decision-making practices.

A considerable amount of previous research shows demonstrably that deliberate psychological education facilitates ego development (Aronfreed, 1976; Enright & Deist, 1979; Higgins, et. al., 1980, Jurkovic & Prentice, 1977; Kohlberg, 1980; Kuhn, Langer, Kohlberg, & Haan, 1977; Kurdek, 1978, 1980; MacPhail, 1989). In high schools, Alexander (1977), Paolitto (1976), and Sullivan (1975) used Kohlberg's moral education practices to promote ego and moral development. Likewise, Hickey (1972) and Lorish (1974) demonstrated developmental gains for incarcerated juvenile delinquents.

Using a DPE model has resulted in significant conceptual and ego development among adolescents (Faubert, et al, 1996). A number of studies reviewed by Faubert, et al, of the DPE interventions demonstrated statistically significant gains using the Washington University Sentence Completion Test. Kessler et al., (1986) used a DPE model to develop listening and communication skills, empathy, social role taking, assertive behavior skills, and the discussion of moral dilemmas, and found significant gains in ego and moral reasoning.

The DPE model has been used to demonstrate moral growth and growth in interpersonal relations (Faubert, et al, 1996). Sprinthall and Scott (1989) reported the promotion of psychological growth among high school females. Locke and Zimmerman (1987) analyzed the effects of DPE on African-American college students. Sprinthall (1991) reported a number of statistically significant DPE studies of moral development. Finally, Lanier (1993) conducted a DPE intervention in a rural high school where she used peer mentoring to try to enhance conceptual level and ego development. The research reported in Faubert, et al, (1996) demonstrates the effectiveness of DPE with African-American rural adolescents by illustrating

that the DPE model can be effective in promoting abstract thinking and ego stage development among these students.

More often than not, DPE programs are targeted at adolescent populations for several reasons. First, adolescence represents a stage that is qualitatively different from childhood and adulthood. These qualitative differences are seen in the cognitive, ego, moral and ethical realms and render adolescence as a "ripe" period for developmental/educational interventions. For example, the movement into formal operations allows the teenager to see the possible, subjective, and the relative. As Elkind (1967, in Bernier and Rustad, 1977) notes, adolescents typically assume an egocentric perspective, feeling very conspicuous and believing that others are thinking about them. In addition, they over-differentiate their feelings, coming to regard themselves as unique. Elkind refers to these as playing before "an imaginary audience" and the "personal fable," respectively. Through learning and practicing the active or empathic listening skills central to client-centered counseling, the teenagers are placed in a position where they must be concerned with the thoughts and feelings of their peers. They come to see that others are also concerned about themselves, and the teenage counselors finally begin to recognize feelings in their peers which they once felt were unique to themselves.

In the area of ego development, adolescents are sometimes characterized by conceptual simplicity, stereotyped thinking, and a banal awareness of feelings (Loevinger & Wessler, 1970). Again, through the process of expanding their "feeling vocabulary" and actively listening and responding to their classmates, the adolescents begin to see that there are other feelings besides happy, sad, mad, and glad. Also, they begin to see that human behavior is multi-faceted and over determined, rather than following a simple "billiard ball" theory or perpetual reaction to forces beyond one's control. This is one way of promoting non-stereotyped thinking and moving

people to a richer and more complex perception of themselves and others (Bernier & Rustad, 1977) and is also a characteristic of increased self-efficacy.

The second major reason DPE is targeted at adolescents is a construct borrowed from cognitive psychology that concerns the belief that interaction and disequilibria initiate cognitive-structural change. Theoretically, when one encounters an experience that cannot be adequately understood the individual seeks to re-vamp his or her thinking. Through the principle of praxis, which is central to DPE, the individual is able to process the experience via first-hand exposure and later adaptation. Adolescence, as the period of flux between the care-free days of childhood and the development of the adult identity, is marked by the adolescent's search for personal identity, peer affiliation, and clinging to and cleaving from the familiar safety of the family that is alternately—and sometimes simultaneously—seen as a bastion of stability and an intolerable oppressor. Thus, interaction and disequilibria are already a part of normal development; DPE attempts to create situations where development occurs along prescribed lines (Bernier & Rustad, 1977).

The third, and perhaps most understated reason, is simply one of access. Adolescents are generally in environments such as schools where they can be exposed to DPE interventions. Unfortunately, this creates difficulties for the application of or investigation of DPE interventions to adults. The combination of educational policy, social norms, and legal restrictions placed on adolescents results in a fairly homogenized experience for most adolescents. The relatively short time span of adolescence coupled with normal developmental forces can cause one to question the results of DPE interventions. In order to explore the impact of early negative events on development, a larger, adult sample with a greater distribution of ages, and examined over a longer period of time should be used.

If it is understood that various aspects of DPE occur naturally in healthy, development promoting environments and that DPE is essentially the intentional promotion of maximal development, then it follows that clinical treatment interventions that target interpersonal, pathological relationships and disorders that manifest primarily as disturbances of relationships should be successful. The most common disorders that involve pathological relationships are the dramatic-erratic personality disorders and substance abuse disorders. Given the high co-morbidity of these disorders, perhaps the optimal place to find these conditions would be in substance abuse treatment settings.

A Disease of the Human Spirit

Substance abuse and addiction are commonly conceptualized as a “disease”. Whether or not addiction is a disease is a hotly contested topic among professionals in the addictions field and among laypersons. In some cases, the disease concept is required in addiction treatment by law; for example, North Carolina mandates adherence to Twelve-Step methodology and disease concept (Rules for Mental Health, Developmental Disabilities, and Substance Abuse Facilities and Services, 1996) despite evidence to the contrary (Peele, 1991). The hallmarks of any disease are its signs and symptoms. The diagnostician determines if the subject’s complaints fit the codified or generally accepted characteristics of the illness in question. The second feature of a disease is that it follows a predictable course to expected outcomes. Next in defining a disease is designating the affected organ or system. Lastly, there is the determination of the cause of the disease. This paper posits that the ego is the effected “organ” in substance abusers, either as the cause of the personality disorder or as a result of what Fine and Juni (2000, 2001) termed “ego atrophy”, the gradual loss of higher level ego functioning as a result of using the primitive defenses such as regression, denial, and projection, that are consistent with maintaining

addiction. The constriction of ego function, though maladaptive from the perspective of healthy or adaptive adult functioning and mental health, is consistent with addiction. Whether either early-onset substance abuse resulting in ego developmental stalling or retardation or ego atrophy (Fine & Juni, 2000, 2001) in a more developed ego, addiction involves decreased ego function when compared to healthy persons. The subject has only a limited repertoire of defenses and restricted range of ego functioning. The psychological signs are the primacy of primitive defense mechanisms that result in pathological personality traits.

Implicit with this conceptualization is that the treatment of addictions will either restore ego functioning or promote ego development to appropriate levels and remove age-stage incongruencies in behavior and cognitions. Fine and Juni (2001) have found that the treatment process entails the recovery of ego function or progress to higher levels of functioning.

The Twelve Steps

The most common method of treating substance abuse is through the Twelve Steps. The Twelve-Steps of Alcoholics Anonymous (1936; Kasl, 1992) is the prototypical Twelve-Step program that has been adapted for virtually every addiction (e.g., cocaine, narcotics) and other compulsive behavior (e.g., eating disorders, gambling). This is the model that most persons with addictive disorders will be familiar with and, in some states, is required by statute.

Developed within a religious context in the 1920's and '30's (*Alcoholics Anonymous*, 1936; *Alcoholics Anonymous comes of age*, 1985; Peele, 1991), many people have criticized these Steps as being religious, yet its proponents deny that the Twelve-Steps is a religious movement or organization. Indeed, the term, "God as we understand him" was developed to make the movement more attractive to agnostics and atheists. It is this seeming religiosity that creates much of the resistance to Twelve-Step programs from clients and professional clinicians.

The crux of the perception of religiosity within the Twelve Steps is the emphasis on “spirituality” and how our culture tends to see “spiritual” and “religious” as synonymous. Perhaps the solution to this problem would be to re-conceptualize “spiritual” as “relationship”. Forrest (1983) states, “Indeed, the alcoholic is interpersonally disturbed. Alcoholism is a people problem” (p 5).

Webster’s Ninth New Collegiate Dictionary (1990) defines “spirit” as the “immaterial intelligent or sentient part of a person” (p.1137). Peteet (1993) refers to “spiritual” as aspiration of values and transcendent or immaterial realities. White (1997) said that a, “definition of spirituality should be related to the internal, affective aspect of self and should reflect a sensitivity to certain values”(p. 13). From the original Latin, the term “spiritus” evolved into our word “spirit.” Spiritus means the divine, living force within each of us that Fromm (1956) expanded to mean as self-awareness. Further, Fromm also said that our self-awareness forces an isolation upon us that can only be lifted through relationships (Doweiko, 2002). Buber (1970) and Frankl (1955, 1959) stated that it is our relationships with others that define our lives and gives them meaning and value. Spirituality may be a function of the quality of our relationship to that which we hold most important in our life (Bjorkland, 1983). Therefore, as Doweiko (2002) states, the degree of relation between others is defined by how much of ourselves we offer to another and are offered in return. It follows then that when one says addiction is a disease of the human spirit it may not be a disease of the body but rather a disease of the human relationship. It is evidenced by how the addicted individual relates to others. The inherent narcissism or egocentrism of addicts in order to support their addiction is very similar to the behaviors that persons at lower levels of cognitive development demonstrate. People become tools or objects to be manipulated to meet the needs of addicts.

From reading the Twelve Steps, one can identify the constructs of faith (Steps 2, 3, 5, 6, 7, 11) and morality (Steps 4, 5, 8, 9). The Twelve-Steps (Kasl, 1992), and a brief description from a cognitive-developmental standpoint, are:

Step 1. “We admitted we were powerless over [addiction], that our lives had become unmanageable.” This Step is the beginning of awareness of the problem.

Step 2. “Came to believe that a Power greater than ourselves could restore us to sanity.” This Step focuses on hope and intent to change.

Step 3. “Made a decision to turn our will and our lives over to the care of God as we understood Him.” There is an inherent trust implied within this Step: the trust of oneself to change and trusting external forces to help in that change and intended lifestyle. This step may be viewed as very similar to Erikson’s trust vs. mistrust (Erikson, 1968).

Step 4. “Made a searching and fearless moral inventory of ourselves.” An examination is made on one’s life in an attempt to learn from mistakes. It also marks the beginning of an active and lifelong process of intentional growth and change.

Step 5. “Admitted to God, to ourselves, and to another human being the exact nature of our wrongs.” An extension of the Fourth Step, the individuals seek guidance from their social systems and supports.

Step 6. “Were entirely ready to have God remove all of these defects of character.” The persons acknowledge their role in relationships and problems, although some clients will assume a passive role and may wait to be “healed” by their Higher Power or “fixed” by a third party. Both the professional helper and the sponsor must encourage the client to be active in this process.

Step 7. “Humbly asked Him to remove our shortcomings.” At this stage the persons can be viewed as beginning to develop an understanding of their role in complex interactions and relationships and how they impact others.

Step 8. “Made a list of all persons we had harmed and became willing to make amends to them all.”

Step 9. “Made direct amends to such people whenever possible except when to do so would injure them or others.” Along with Step 8, the individual implements the changes realized in Steps 4, 5, 6, and 7.

Step 10. “Continued to take personal inventory and when we were wrong, promptly admitted it.” Where other steps are concerned with healing the past, this step serves a road map for future behavior. Continued recovery (i.e., “staying sober”) becomes an intentional process.

Step 11. “Sought through prayer and meditation to improve our conscious contact with God as we understood Him, praying only for knowledge of His will for us and the power to carry that out”. The individual actively and purposefully seeks to understand the source of guidance and develop personal values and integrate them within everyday life.

Step 12. “Having had a spiritual awakening as a result of these steps, we tried to carry this message to others and to practice these principles in all our affairs”. The final Step, the individuals have an obligation to assist others. In turn, these individuals continue their own recovery.

Integrating the Twelve Steps and Ego Development

The Twelve Steps overlap significantly with Loevinger’s (1976) theory of ego development (table 1). The Twelve Steps may be viewed as assignments keyed to moving to the next level of development. Egocentrism is the dominant characteristic of the lower stages in

Loevinger's model of development. The person has an external locus of control and expects the world to acknowledge that as fact. Others are tools that exist only for the pleasure or needs of the individual. These persons perceive themselves as having little or no control over their own lives or reactions to it. This is typified by ego development stages I-1, I-2, and Delta. Within an addictions context individuals in these stages are still using or drinking and may be viewed as having other pathological characteristics.

Table 1.

Comparison of 12 Steps, Ego Development and Consolidated model

Twelve Steps	Ego Development	Consolidated Model
Active Use	I-1 Pre-social I-2 Symbiotic/ impulsive Delta.	<u>Egocentric</u> : Active use; pathological functioning; strictly external locus of control
1. We admitted were powerless over [addiction], that our lives had become unmanageable 2. Came to believe that a Power greater than ourselves could restore us to sanity. 3. Made a decision to our will and our lives over to the care of God as we understood Him	I-3 Conformist I-3/4 Self-Aware (I-4 Conscientious)	<u>Narcissistic</u> : Primarily has an internal locus of control but capitulates to others. Recognizes rules, responsibilities, consequences, and choices
4. Made a searching and fearless moral inventory of ourselves. 5. Admitted to God, to ourselves, and to another human being the exact nature of our wrongs. 6. Were entirely ready to have God remove all of these defects of character. 7. Humbly asked Him to remove our shortcomings. 8. Made a list of all persons we had harmed and became willing to make amends to them all.	I-4 Conscientious I-4/5 Individualistic	<u>Conventional</u> : Developing awareness of personal values, beliefs and how they are carried out. Needs of others are motivating factors.

Table 1.

Comparison of 12 Steps, Ego Development and Consolidated model (continued)

<p>9. Made direct amends to such people whenever possible except when to do so would injure them or others.</p> <p>10. Continued to take personal inventory and when we were wrong, promptly admitted it.</p>	I-5 Autonomous	<u>Principled</u> : Critical examination of the self with intent to grow. Values and actions are synonymous.
<p>11. Sought through prayer and meditation to improve our conscious contact with God as we understood Him, praying only for knowledge of His will for us and the power to carry that out.</p> <p>12. Having had a spiritual awakening as a result of these steps, were tried to carry this message to others and to practice these principles in all our affairs.</p>	I-6 Integrated	<u>Altruistic</u> : Integrated awareness. Actively seek to help others grow.

The narcissistic stages mark the beginning of an understanding of the person's role in the world. The locus of control is no longer strictly external, and these persons has the ability to recognize that they could, if they chose to, break the rules of society and suffer the consequences. Much behavior is still guided by a self-protective impulse, but here it is recognized as such whereas at the lowest levels it is not. It is this still-strong self-protective impulse that is the reason for the label narcissistic. Other's needs begin to figure into behavior, but there is an expectation of reciprocity either to the actor or some larger group and the individual's needs figure as the primary motivator for change. This emerging awareness is described in ego development stages I-3, I-3/4, and I-4. The ability to be critical of one's own behavior makes possible Steps 1, 2, 3, and in some persons Steps 4 and 5.

The conventional stages are marked by the developing awareness of personal values and beliefs and how they are carried out. It is here that one will find most persons who are "recovering", as most traditional treatment programs focus on Steps 1 through 5. Other's needs

figure greatly into behavior and become prime motivators but the focus is on the individual's behavior as a reaction to past and current behavior. Individuals with these characteristics will be in ego development stages I-4 and I-4/5. The stages appear to overlap here as the individuals are capable of behaving at higher levels for limited periods of time or when in the appropriate context. These changes make possible the completion of Steps 4, 5, 6, 7, 8.

The principled stages show a continuous critical evaluation of the self with the expressed intent of continued growth. This stage is forward-focused (i.e., "How do I become a better person?"). Persons in this stage make values and actions one and the same through purposeful action. It is demonstrated by persons in ego development stage I-5. Steps 9 and 10 are action steps, where the individual actively uses what was learned in earlier Steps. Some persons will edge towards Steps 11 and 12.

Altruism marks the final stages (Ego Development stage I-6) that share an integrated awareness of universality and the connectedness of all people. Values, beliefs, and actions are integrated at fundamental levels. There are efforts to assist others in their growth. Essentially, one can only grow by helping others grow. The Eleventh and Twelfth Steps focus on these characteristics.

As can be seen in Table 1 and above, ego development parallels the Twelve-Steps when the Twelve-Steps are viewed as a cognitive developmental process, especially when "spirituality" is defined within a relational context. Substance abuse treatment, therefore, should impact self-efficacy. One would expect it to through the process of deliberate psychological education.

Summary and Discussion

Loevinger presents a theory that is broad and holistic. Her theory and her adherents support the notion that negative events impact development by retarding or stalling ego development. Associated research demonstrates that, as the gap between the chronological age (where the person “should” be) and the developmental stage increase they present as more and more deviant to society as the individual engages in behaviors associated with lower stage of development--behaviors that are congruent with our current conceptualizations of the personality disorders. In short, Loevinger’s theory does a good job of describing the presentation of the dramatic-erratic personality disorders. As can be seen by the discussions about the dramatic-erratic personality disorders, each has a strong developmental component wherein early experiences are hypothesized to result in developmental stalling or retardation. A variety of theorists have explained it in different ways, but the result is the same: Negative experiences during earliest stages of development have long-term effects on interpersonal behavior that result in what we term the personality disorders.

Unfortunately, Loevinger does not say why. The major criticism of Loevinger’s work is that the underlying mechanism is not explained. The reader of her theory is left with an important question: What actually drives development and how does psychopathology occur?

In truth, though, Loevinger does but does not elaborate beyond the briefest of mentions of self-directedness in personal development. She appears to be stating that higher development is based on the ability to self-initiate new behaviors consistent with higher levels of development. She favorably compares this to “mastery” and “effectance motivation”.

Other theorists that support the idea of stalled development presenting as personality disorder hold that locus of control, self-esteem, self-efficacy, or some greater amalgamated

construct are the key to development. This appears to answer criticism regarding Loevinger's lack of an underlying logic in stage change.

Substance abuse can be identified as our "early negative event" variable as described in the introduction section. A theory was described that stated that substance abuse creates a barrier that restricts growth by filtering reality for the developing ego and by filtering the ego from reality. It is also more easily determined when the events occurred and therefore easier to use in a research setting.

This paper posits that the ego is the effected "organ" in substance abusers, either as the cause of a personality disorder or as a result of what Fine and Juni (2000, 2001) termed "ego atrophy", the gradual loss of higher level ego functioning as a result of using the primitive defenses such as regression, denial, and projection, that are consistent with maintaining addiction. The constriction of ego function, though maladaptive from the perspective of healthy or adaptive adult functioning and mental health, is consistent with addiction. Whether either early-onset substance abuse resulting in ego developmental stalling/retardation or ego atrophy (Fine & Juni, 2000, 2001) in a more developed ego, addiction involves decreased ego function. When compared to healthy persons the subject has only a limited repertoire of defenses and restricted range of ego functioning. The psychological signs are the primacy of primitive defense mechanisms that result in pathological personality traits. Thus, the ego is the affected organ, and the substance abuse or early negative experiences is the cause of the ego pathology. Implicit with this conceptualization is that the treatment of addictions will either restore ego function or promote ego development to appropriate levels and remove age-stage incongruencies in behavior and cognitions. Fine and Juni (2001) have found that the treatment process entails the recovery of ego function or progress to higher levels of function.

It is difficult to test Loevinger's (1976) theory directly, but a strong case can be made for testing what has been identified as the critical element in ego development. As so many theorists state the importance of self-esteem, self-efficacy, or locus of control in ego development, it is logical to use one or more of these constructs as an indicator of the results of early events in a substance abusers life, the effects of treatment, and long-term success. The operational definition of self-esteem, however, with its here-and-now focus is more reactionary than self-efficacy and effectance that refer to one's ability to actively influence one's life. Given this and the work of Judge, et. al. (2002), the best variable may in fact be the more global "self-efficacy" in that it is active in its processes and influences and fits Loevinger's self-motivated aspects of higher levels of development best. Further, it can be inferred from the works cited that there is a minimum level of self-efficacy necessary to healthy functioning.

What is needed, therefore, is an assessment of the impact of substance abuse or negative experiences to see what impact they have on self-efficacy. Further, if substance abuse and/or early negative experiences have an impact on self-efficacy, how much of an impact does it have and how can it be treated. Severity of addictions should also be assessed to determine if it reflects earlier onset in persons that are more severely addicted and require more intensive treatment than those that are not.

Chapter 3

Method

Data were drawn from the Drug Abuse treatment Outcome Study (DATOS). DATOS is a longitudinal study designed to determine the outcomes of drug abuse treatment delivered in typical, stable, community-based programs and to provide comprehensive information on continuing and new questions about the effectiveness of drug abuse treatment currently available in a variety of publicly funded and private programs. The study examined the role of treatment outcomes and program type, client characteristics (including dependence, treatment history, and physical and mental health comorbidities), treatment received (e.g., length and intensity of services provided), therapeutic approaches, and provision of aftercare. The DATOS study of adults is a comprehensive, longitudinal, nationwide, multisite study of drug abuse treatment designed to determine treatment outcomes, differential treatment effects by client and types of therapies-services, and the cost-effectiveness and cost-benefits of treatment. The DATOS project is the first national study of treatment looking at clients in four basic modalities (outpatient methadone treatment [OMT], long-term residential [LTR], outpatient drug-free [ODF], and private-public shortened inpatient [STI] chemical dependency programs) since the transition of funding authority for drug abuse treatment to the states in 1981. Respondents were sampled from among those admitted to treatment in sampled facilities in 1991-1993. Clients entering treatment completed two comprehensive intake interviews (Intake 1 and Intake 2), approximately one week apart.

These interviews were designed to obtain baseline data on drug use (nearly all drugs of abuse were either explicitly included or covered by generalized categories) and other behaviors, as well as information on background and demographic characteristics, patterns of dependence,

living situation and child custody status, education and training, income and expenditures, and HIV risk behaviors, along with assessments of dependence, mental health, physical health, and social functioning. Data on criminal justice status and criminal behavior are reported in Part 5, Illegal Activities Data, and are drawn from the Intake 1 interview. Data reflecting during-treatment progress, including service delivery and client satisfaction, were collected in the one- and three-month in-treatment interviews (Parts 3 and 4).

The 12-month post-treatment follow-up interview (Part 6) replicated many of the intake questions and focused on key behaviors in the year following treatment. The 36-month post-treatment follow-up replicated the 12-month interview. The initial parts of DATOS were sponsored and funded by the National Institutes of Drug Abuse (NIDA) and conducted between 1989 and 1996. The DATOS project is active as of this writing, and data for the 10-year follow-up are currently being gathered.

Participants

A total of 96 treatment programs in 11 mid-size and large United States cities with well-established treatment systems participated in the DATOS. Programs were purposively sampled to reflect typical clinical approaches across the four modalities: outpatient methadone, short-term inpatient, long-term residential, and outpatient drug-free. Geographic location, type of program, and representativeness of the program and its clients were considered in the three-level process of selecting cities, programs, and clients. The client-level data were collected primarily through a client in-treatment interview administered for those remaining in treatment at 1 month after admission, at 3 months, 6 months, and 12 months.

These client in-treatment interviews replicated much of the behavioral information collected at intake. The interviews also contained detailed questions about services received,

content of service sessions, provider, amount (number and length of sessions), and perceived helpfulness.

Respondents were sampled from among those admitted to treatment in sampled facilities in 1991-1993. A total of 10,010 clients participated in the Intake 1 interview. Of those, 8,755 participated in the Intake 2 interview, 6,148 in the one-month in-treatment interview, and 3,180 in the three-month in-treatment interview. Then 2,966 were randomly selected and participated in the 12-month follow-up. The sample for Intake 1 was 66 % male ($n=6602$), 38.3% Caucasian ($n=3831$), 46.6 % African American ($n=4664$), 12.5% Hispanic ($n=1250$), and 2.6% Other ($n=265$), with a mean age of 32.6 years. However, these and other client characteristics varied across modalities, reflecting differing therapeutic, operational, and geographic characteristics. While the DATOS data set breaks participants into white/Caucasian, black-African-American, and Hispanic, it does not identify any other groups. This may be a minor concern as, according to the 2002 NHSDA, less than 5% of the population falls within a ethnic group not represented by one of these three groups. For the 12-month follow-up sample, 4,229 of the eligible clients who completed the two-stage intake interviews were selected for follow-up using a stratified random design. Of these respondents, 74 % ($n = 3,147$) were located, 70 % ($n = 2,966$) were successfully interviewed, 1.5 % ($n = 64$) were deceased, and 2.7 % ($n = 117$) refused to participate. Gender, ethnicity, and average age were not significantly different between the intake and follow-up samples.

For this project, there were 2,897 eligible respondents out of the 2,966 in the 12-month sample. These 2,897 respondents represent those persons with no missing data on the items utilized and that are accounted for in the intake and 12-month samples used herein. There were 64.45% men ($n=1867$) and 35.55% women ($n=1030$). Caucasians accounted for 40.8%

($n=1182$), African-Americans 46.6% ($n=1350$), Hispanics 10.42% ($n=302$), and Other group 2.17% ($n=63$). The residential sample was composed of 23.09% ($n=669$), short-term inpatient 27.06% ($n=784$), methadone maintenance 24.51% ($n=710$), and outpatient drug-free 25.34% ($n=734$). When broken down into gender by treatment modality (table 2), residential, short-term inpatient, and outpatient had similar ratios by gender although methadone maintenance had a slightly lower male-to-female ratio.

Table 2.

Gender by Modality

Gender	DATOS Treatment Modality				
Frequency					
Percent					
Row Pct					
Col Pct	Resident	STI	MM	OP	Total
-----+	-----+	-----+	-----+	-----+	-----+
	14.91	18.43	14.57	16.53	64.45
	23.14	28.60	22.60	25.66	
	64.57	68.11	59.44	65.26	
-----+	-----+	-----+	-----+	-----+	-----+
Female	237	250	288	255	1030
	8.18	8.63	9.94	8.80	35.55
	23.01	24.27	27.96	24.76	
	35.43	31.89	40.56	34.74	
-----+	-----+	-----+	-----+	-----+	-----+
Total	669	784	710	734	2897
	23.09	27.06	24.51	25.34	100.00

When broken into race by modality there were some noticeable differences (Table 3). The most noticeable difference was how Hispanics are distributed among the modalities. Hispanics appear to be over-represented in methadone maintenance programs and under-represented in short-term inpatient.

Table 3.

Race by Modality

Race		DATOS Treatment Modality				
Frequency						
Percent						
Row Pct						
Col Pct	Res.	STI	MM	OP	Total	
C	238	302	338	304	1182	
	8.22	10.42	11.67	10.49	40.80	
	20.14	25.55	28.60	25.72		
	35.58	38.52	47.61	41.42		
AA	342	412	252	344	1350	
	11.81	14.22	8.70	11.87	46.60	
	25.33	30.52	18.67	25.48		
	51.12	52.55	35.49	46.87		
H	72	50	110	70	302	
	2.49	1.73	3.80	2.42	10.42	
	23.84	16.56	36.42	23.18		
	10.76	6.38	15.49	9.54		
O	17	20	10	16	63	
	0.59	0.69	0.35	0.55	2.17	
	26.98	31.75	15.87	25.40		
	2.54	2.55	1.41	2.18		
Total	669	784	710	734	2897	
	23.09	27.06	24.51	25.34	100.00	

The respondents ranged in age from 18 to 55 years with a mean of 33.39 years at intake (SD=7.16) years. Age of first use averaged 14.58 years (SD=4.02) and age of first regular use 17.32 (SD of 5.2).

Treatment Modalities

Treatment modality is also an indicator of severity or abuse and intensity of treatment. For the purposes of this paper, “intensive” will refer to those interventions that offer the client

the greatest opportunities to practice, receive feedback on, and try new behaviors over significant periods of time.

Methadone maintenance. In this study methadone maintenance (MM) was treated as the least intrusive treatment intervention because MM programs at the time of data collection typically only give clients methadone, a synthetic opiate intended to prevent an opiate-addicted person from going through withdrawals under the theory that the reason the person addicted to opiates engages in illegal and similar risky behavior is to obtain either the drugs of abuse or funds to purchase drugs in order to avoid withdrawals. By avoiding withdrawals it is believed that the person can live a productive, non-criminal life. Abstinence/sobriety is not a standard goal of MM programs and therefore there are few behavioral interventions. These programs represent the least intense treatment while attempting to serve what many would consider the most severe cases.

Short-term inpatient. Short-term inpatient are those programs where a client stays in an inpatient treatment setting for less than a month. These programs are used when a person has significant need for immediate medical management of withdrawal or medical issues related to the drug use such as esophageal varicies, suicidality, and similar, and there is no social support system capable or willing to provide medical observation of the client. Care and treatment after release is minimal, typically being only a referral to a 12-Step group. While these programs are intense, they are only for stabilization of those persons with acute, severe needs.

Outpatient drug-free. Outpatient drug-free are programs where the clients are involved in a treatment milieu several days per week but is able to maintain employment and social relationships and live on their own. While not intense, these programs are typically several months long and offer the clients multiple opportunities to practice, receive feedback, and try

again with new behaviors. These programs represent a range of presenting severities. A person will only begin this level of treatment after having been medically stabilized. The DATOS project did not have any overlap in treatment group membership (e.g., a respondent beginning in one modality then transferring to another). As such, this is the least severe, moderately intensive treatment.

Residential treatment. The final treatment group is residential. Residential treatment programs are for those persons who are unable to maintain any length of abstinence on their own a safe and secure environment, supportive of their sobriety, and surrounding them at all times with a treatment milieu. These programs last for extended periods; 6 months to over a year is not uncommon. Obtaining and maintaining employment are goals as central to outcomes as sobriety and independent living. Like the outpatient drug-free treatment, residential treatment offers its participants the opportunity to practice, receive feedback on, and try again their new behaviors. This treatment intervention is used for individuals with few or no social supports, a poor history of sobriety, and a demonstrated inability to be successful at other levels of treatment. It is also fairly common in correctional settings. While its clients must be medically stable, it represents the most intensive level of treatment for those persons with the most severe of problems.

Predictor Variables

There were two predictor variables related to age of onset of substance use. The DATOS process did allow for the acquisition of data such as, “How old were you the first time you used drugs or alcohol”, instead opting to ask a lengthy list of questions naming common drugs and asking for each, “How old were you when you tried X the first time” and, “How old were you when you used X regularly the first time” as well as several other similar questions. From these

two basic questions for each of the substances named, a variable for age of first use and age of regular use were derived. The procedure was to find the lowest age of any alcohol or drug use for each respondent. The procedure was repeated for regular use. Other variables were then selected to best represent early negative events in the respondents live. The predictor variables, in order of predicted importance were:

1. Age of regular use
2. Age of first use
3. Did mother have an alcohol/drug problem?
4. Did father have an alcohol/drug problem?
5. Did mother have an emotional/mental health problem?
6. Did father have an emotional/mental health problem?
7. Did mother's mother/father/brother/sister have an alcohol/drug problem?
8. Did father's mother/father/brother/sister have an alcohol/drug problem?
9. Did mother's mother/father/brother/sister have an emotional/mental health problem?
10. Did father's mother/father/brother/sister have an emotional/mental health problem?
11. Did your brother/sister have an alcohol/drug problem?
12. Did your brother/sister have an emotional/mental health problem?
13. Did mother receive treatment for alcohol/drug problem?
14. Did father receive treatment for alcohol/drug problem?
15. Was mother hospitalized for an emotional/mental health problem?
16. Was father hospitalized for an emotional/mental health problem?
17. Was mother's mother/father/brother/sister hospitalized for an emotional/mental health problem?

18. Was father's mother/father/brother/sister hospitalized for an emotional/mental health problem?
19. Did your brother/sister receive treatment for alcohol/drug problem?
20. Was your brother/sister hospitalized for an emotional/mental health problem?

Criterion Variable

Self-esteem as measured by the Rosenberg Self Esteem Scale was the criterion variable. The original intent was to use self-efficacy as the primary criterion variable then repeat the analysis using self-esteem as the criterion variable. Unfortunately, it was determined during the original analysis that the "self-efficacy" measured in DATOS is not, in fact, generalized self-efficacy but rather a measure of the respondents' thoughts about their ability to resist using alcohol and/or drugs in a variety of settings and situations. This problem was first noted when the hypotheses were tested and correlations were $<.0001$. That, in turn, led to obtaining a copy of the DATOS questionnaire and reviewing the specific items to confirm that DATOS does indeed measure situational self-efficacy and not generalized self-efficacy. Therefore, self-esteem is the primary criterion variable.

Measures

The Rosenberg Self-Esteem Scale (SES, Rosenberg, 1965) was incorporated into DATOS as the measure of self-esteem and it yielded the self-esteem scores used in this study. The SES is considered the standard, is the most common, and has a significant research base to support it (Blascovich & Tomaka, 1991). The Rosenberg Self Esteem Scale uses an inverse interpretation wherein the higher the score the lower the self-esteem is. Improvement or positive change in self-esteem results in a net reduction of the score. As a result, during the analysis

difference in pre-and post-test scores were multiplied by -1 to yield a positive integer to facilitate interpretations of correlations.

Rosenberg's self-esteem theory relies on two factors, reflected appraisals and social comparisons. Regarding reflected appraisals, Rosenberg acknowledged that human relationships and communication depend on understanding or simply seeing matters from other people's perspectives. In the process of role-taking people become aware that they are objects of others' attention, perception, and evaluation. Social comparisons emphasize that self-esteem is part a consequence of individuals comparing themselves with others and making positive or negative self-evaluations. These factors mesh well with this investigator's contention that development is stalled or retarded by negative environmental factors or the onset of substance use because both are significant components of ego development.

While designed as a Guttman scale, the SES is now commonly scored as a Likert scale. The 10 items are answered on a four point scale ranging from strongly agree to strongly disagree. The original sample for which the scale was developed in the 1960s consisted of 5,024 high school juniors and seniors from 10 randomly selected schools in New York state. The scale generally has high reliability: test-retest correlations are typically in the range of .82 to .88, and Cronbach's alpha for various samples are in the range of .77 to .88 (see Blascovich & Tomaka, 1991). Studies have demonstrated both a unidimensional and a two-factor (self-confidence and self-deprecation) structure for the scale (Gray-Little, Williams, & Hancock, 1997). Self-confidence and self-depreciation may both be construed as defined elements of generalized self-efficacy.

Procedure

Data collection. Approximately 70 interviewers were recruited, trained, and supervised during the data collection at the treatment programs. Intake and in-treatment data were collected within a program's physical facilities by the program researcher, who was trained and monitored by field research staff. Follow-up interviews were conducted in the community by trained professional survey interviewers. Clients were compensated for their participation. Seven-day training sessions for the interviewers included both the details of the administration of the various instruments and experience in working with the programs. The formal training program was preceded by a day of home study and was followed by three days of onsite practice. Staff providing the training were experienced in drug abuse and treatment studies and had extensive experience in training on the components of the assessment battery used in DATOS. As a means of ensuring data quality, weekly phone reports from each interviewer were required, and a quarterly site visit was made to each program to monitor the data collection. In addition, two randomly selected interviews completed by all active interviewers were reviewed monthly. Quality control procedures were instituted at each step of data management) data receipt and edit, data entry, and document control.

Data analysis.

A true copy of the DATOS dataset was obtained from the National Development and Research Institutes, Inc.'s Raleigh, NC-based Institute for Community Based Research. The dataset included both parts of the two-part intake, the one-month follow-up, and the twelve-month follow-up. Other available components include a three-month and six-month follow-ups. Since the inception of this project the 36-month dataset has become available. That dataset only contains information on less than 750 respondents, the majority of which are involved in

treatment through the criminal justice system and have court-mandated treatment as opposed to treatment based on objective assessment and referral. It was decided to limit this project to the one-year follow-up in order to maximize the generalizability of the results through the largest, most randomized sample possible.

The 12-month data was merged with the intake data and matched according to a randomly generated client ID number created by the original researchers. Later, during post hoc analysis, the one-month follow-up data and 12-month data were merged according to client ID. Doing so resulting in the 2,897 subjects present in the current study. In order to create a more manageable dataset to work with, the desired variables were culled from the combined data into a smaller set with matching client IDs and nearly 100% completeness on all variables.

Hypotheses

The following hypotheses guided the data analyses.

1. (a) Participants in more intensive/intrusive treatment will have lower self-esteem on intake than those in less intensive/intrusive treatment. (b) Further, participants in all treatment groups will have similar self-esteem scores at 12-month follow-up and (c) Participants in longer duration/more intensive treatment will show greater gains in self-esteem than those in shorter duration treatment. This hypothesis was analyzed using a Type III sum of squares as the samples were not balanced in regards to numbers, ethnicity, and gender.
2. There will be a positive correlation between age of onset and self-esteem. This was analyzed using an ANOVA as there were two potential “age of onset” variables, age at first use and age at regular use.
3. Age of onset and environmental factors as listed will be the most salient factors in lower self-esteem scores at admission. This hypothesis was tested using a stepwise regression.

It was run multiple time. The initial runs were discovered later to have excluded some variables that were intended and included unintended variables. The variables were corrected and it was run again twice. The first time was with the variables listed in a simple alphabetical order, and the second time with the variables entered in a predicted order of importance. In all cases, results were nearly identical with individual items maintaining the same order of importance.

Limitations

The primary threats to the validity of this study are that self-efficacy/esteem as a measure of effectance is not a critical facet of ego development and that the measures used are not accurate indicators. The first would appear to be minimized by virtue of Loevinger's statements about the importance of self-efficacy in ego development and the supporting literature cited previously. The large sample size eliminates many of the concerns about the representativeness of the sample and validity issues related to sampling. Also, as this is an archival study there is little opportunity for experimenter error in data collection.

The second of these concerns is likewise minimized by the work of Judge, et al (2002) and through considering the jangle fallacy (Kelley, 1927). Judge, et al, strongly support the interchangeable use of these constructs and encourage experimenters to do so in order to add to the fund of knowledge.

The DATOS researchers do cite a number of potential limitations in the parent project. The first of these is experimental control concerns about the use of an epidemiological research model versus a clinical trial method in that there were no control groups or independent manipulation of factors. The second concern is that DATOS programs are not a truly statistically representative sample of all treatment programs in the United States, and the clients are not a truly representative sample of the population of treatment admissions throughout the country although great efforts were made to reduce this risk. Again, the large sample size would appear

to reduce this risk. Next, data are based on self-reports, which have an acknowledged and increasingly better-understood biases, however, self-reports are currently the only data collection strategy capable of assessing complex cognitions and behavioral issues surrounding drug abuse. To control for inherent self-report bias on actual rates of drug use, 25% of respondents were randomly given urine drug tests. Attrition on a project this large is always a concern, so efforts were made to encourage participation by paying respondents for participating and follow-up respondents were randomly selected. The sheer size of the sample and the depth of information collected on each respondent created an extremely complex set of variables for analysis that required the development of a carefully constructed and implemented analysis plan. By the same token, however, the large sample size resulted in the ability to test diverse hypotheses (Flynn, et al, 1997).

Given the huge number of potential independent variables available in the DATOS data, care must be taken to choose those variables that discriminate best from each other to avoid a potential source of invalidity wherein the variables have intrinsically high correlations. Further, not all of the DATOS items were quantitative in nature and did not result in interval data.

Chapter 4

RESULTS

Overall the results were generally expected and supported the hypotheses. There were, however, surprising results in terms of important factors in self-esteem.

Self-Esteem and Treatment

It was hypothesized that participants in more intensive/intrusive treatment will have lower self-esteem on intake than those in less intensive/intrusive treatment (1a). Further, participants in all treatment groups would have similar self-esteem scores at 12-month follow-up (1b) and participants in longer duration/more intensive treatment would show greater gains in self-esteem than those in shorter duration treatment (1c).

Self-esteem at intake. “Participants in more intensive/intrusive treatment will have lower self-esteem on intake than those in less intensive/intrusive treatment.”

The results of the least squares means for the effect of modality showed the order of self-esteem from lowest to highest was residential ($M=21.837$), short-term inpatient ($M=21.819$), methadone maintenance ($M=20.879$), and outpatient drug free ($M=19.746$). All comparisons were significant at $p = < .0001$.

Self-esteem at 12 months. “Participants in all treatment groups will have similar self-esteem scores at 12-month follow-up”.

This hypothesis was not supported. Outpatient drug free respondents ($M= 15.3644$) had the highest self-esteem followed by short-term inpatient ($M=16.2897$), residential ($M=16.7435$), and finally methadone maintenance ($M=17.2776$). All of the he comparisons were significant at $p = < .0001$.

Effects of treatment on self-esteem. “Participants in more intensive treatment will show greater gains in self-esteem than those in shorter duration treatment.”

This hypothesis was partially supported. The expected order of intensity was residential, outpatient drug free, short term inpatient, then methadone maintenance. The order determined by the analysis was short term inpatient ($\beta=-5.5301$), residential ($\beta=-5.0935$), outpatient drug free ($\beta=-4.3821$), and methadone maintenance ($\beta=-3.6017$). Results were significant at $p = < .0001$.

Age of Onset and Self-Esteem

For the second hypothesis, it was thought that there would be a positive correlation between age of onset and self-esteem at admission to treatment.

Mean age of first use was 14.58 years with a standard deviation (SD) of 5.05 years. Mean age of first regular use was 17.32 with a SD of 5.2 years. This leads to the troubling finding that one-third of participants' first use was under the age of 9.53 years and first regular use under 12.12 years.

While this relationship was determined to be supported, it was a notably weak relationship. Self-esteem at intake and age at first regular use yielded an $r = -0.06224$ ($r^2=0.00387$) and $r = -0.07238$ ($r^2=0.00524$) with age of regular use. There were similar results when respondents were groups by race/ethnicity and gender that is discussed later. Again, both comparisons were significant at the .0001 level. Comparisons by race/ethnicity and gender are detailed below.

Salient Factors in Self-Esteem

For the final hypothesis, age of onset and environmental factors as listed were predicted to be the most salient factors in lower self-esteem scores at admission.

These data resulted in weak and unexpected findings, as well, with only eight of 20 variables being selected as significant. The predicted order of the top eight was (a) age of regular use, (b) age of first use, (c) mother having an alcohol/drug problem, (d) father having an alcohol/drug problem, (e) mother having and emotional problem, (f) father having an emotional problem, (g) mother's family having alcohol/drug problem, and (h) father's family having an alcohol/drug problem. The actual order of the predicted variables was (a) mother having a problem with alcohol or drugs, (b) father's family having a problem with alcohol or drugs, (c) age of regular use, (d) mother's family having a problem with alcohol or drugs, e) if the respondent's sibling(s) had having a problem with alcohol or drugs, (f) if the father was hospitalized for mental illness, (g) if the mother was hospitalized for mental illness, and (h) if the father had a problem with alcohol or drugs (table 4).

Table 4.

Salient factors in self-esteem

Step	Variable Label	Partial R-Square	Model R-Square	C(p)	F Value	Pr > F
1	MOTHER HAVE ALCOHOL/DRUG PROBLEM?	0.0091	0.0091	39.7865	26.69	<.0001
2	FATHER'S FAMILY HAVE ALCOHOL/DRUG PROBLEM	0.0051	0.0142	26.7593	14.90	0.0001
3	Regular Use	0.0038	0.0180	17.4469	11.26	0.0008
4	MOTHERS FAMILY HOSPITALIZED?	0.0027	0.0207	11.5786	7.85	0.0051
5	BROTHER/SISTER HAVE ALCOHOL/DRUG PROBLEM	0.0023	0.0230	6.7543	6.82	0.0090
6	WAS FATHER HOSPITALIZED?	0.0017	0.0247	3.7201	5.04	0.0248
7	WAS MOTHER HOSPITALIZED?	0.0011	0.0259	2.3596	3.37	0.0666
8	FATHER HAVE ALCOHOL/DRUG PROBLEM?	0.0008	0.0267	1.8895	2.48	0.1157

Given how weak the correlations were, the number of variables used, and the likelihood of multiple co-linearity, and effort was made to control the familywise error rate (FWER). All correlations were evaluated for significance using the Benjamini and Hochberg (1995) false

discovery rate (FDR) procedure. These results (table 5) indicate that the null hypothesis is rejected for all but one variable, mother's family substance abuse treatment.

Table 5.

Benjamini & Hochberg false discovery rate (FDR) procedure results

Variable	Pearson correlation	Critical Value	Determination of significance
ae33cc: mother family treatment	- 0.00169	0.00227	yes
ae33ce: sibling treatment	0.00967	0.00454	no
af24bd: father family hosp	0.02467	0.00681	no
ae33cd: father family treatment	0.03162	0.00909	no
ae33ca: mother alcohol treatment	0.03973	0.01136	no
ae33cb: father alcohol treatment	0.04377	0.01363	no
af24ad: father family mental problem	0.04495	0.0159	no
af24be: sibling hosp	0.04857	0.01818	no
af24bb: father mental hosp*	0.05035	0.02045	no
ae33ae: sibling alcohol problem	0.05193	0.02272	no
af24ab: father mental problem	0.05232	0.025	no
af24ae: sibling mental problem*	0.05852	0.027272	no
Age First Use	0.06224	0.029545	no
af24ba: mother mental hosp*	0.06445	0.031818	no
af24ac: mother family mental problem	0.06855	0.03409	no
ae33ac: mother family alcohol problem	0.06861	0.03636	no
af24bc: mother family mental hosp*	0.06863	0.03863	no
af24aa: mother mental problem	0.06897	0.0409	no
Age Regular Use*	0.07238	0.04318	no
ae33ab: father alcohol problem*	0.07683	0.04545	no
ae33ad: father family alcohol problem*	0.08299	0.04772	no
ae33aa: mother alcohol problem*	0.09582	0.05	no

"*" indicates best-fit items from stepwise selection

Post-hoc Findings

With a dataset as rich and detailed as this one, it was possible to examine the effects of race and gender in detail that is not possible with a smaller sample and maintain statistical robustness. In some cases, the post-hoc analyses were more useful in describing the outcomes than the primary hypotheses.

Self-esteem, gender and race at intake. Gender was not determined to be an important factor in self-esteem at intake while race was, although not to the extent of modality. The mean self-esteem score of females was 21.5563 (table 6) at intake compared to males' 20.5852. Caucasians (table 7) were found to have the lowest self-esteem on intake (22.0552), followed by Hispanics (20.916, table), African-American (20.75) and Other (20.5623), for a range of 1.5.

Table 6.

Self-esteem at intake by gender

SEX	Pre_Esteem LSMEAN	Standard Error	H0: LSMEAN=0 Pr > t	LSMean2 Pr > t
Female	21. 5563129	0. 2154680	<. 0001	<. 0001
Male	20. 5852027	0. 1907948	<. 0001	

Table 7.

Self-esteem at intake by race

RACE	Pre_Esteem LSMEAN	Standard Error	Pr > t	LSMEAN Number
AA	20. 7495551	0. 1370959	<. 0001	1
C	22. 0551938	0. 1469686	<. 0001	2
H	20. 9159026	0. 2869143	<. 0001	3
O	20. 5623796	0. 6213633	<. 0001	4

Self-esteem, gender and race at follow-up. These results were echoed at the 12-month follow-up (table 8). Females scored 16.4273 on self-esteem at follow-up as compared to males'

16.4103. While the difference was considered significant ($p < .0001$) it did show that treatment improved self-esteem to similar levels when gender was a factor.

Table 8.

Self-esteem at follow-up by gender

SEX	Post_Esteem LSMEAN	Standard Error	H0: LSMEAN=0 Pr > t	H0: LSMEAN1= LSMEAN2 Pr > t
Female	16. 4273638	0. 2830192	<. 0001	0. 9463
Male	16. 4103770	0. 2506107	<. 0001	

Again, self-esteem at follow-up (table 9) was lowest in Caucasians (17.077), followed by Hispanics (16.8619), African –Americans (16.2692) and Other (15.4672), for a range of 1.6.

Table 9.

Self-esteem at follow-up by race

RACE	Post_Esteem LSMEAN	Standard Error	Pr > t	LSMEAN Number
AA	16. 2692072	0. 1800767	<. 0001	1
C	17. 0770865	0. 1930445	<. 0001	2
H	16. 8619173	0. 3768645	<. 0001	3
O	15. 4672705	0. 8161661	<. 0001	4

Change in self-esteem by race and gender. Females showed the greatest improvement in self-esteem with a change of 5.129 compared to men's' 4.174 (table 10).

Table 10.

Change in self-esteem by gender

SEX	Change_ Esteem LSMEAN	Standard Error	H0: LSMEAN=0 Pr > t	H0: LSMEAN1= LSMEAN2 Pr > t
Female	- 5. 12894915	0. 29199542	<. 0001	0. 0002
Male	- 4. 17482567	0. 25855908	<. 0001	

Table 11 illustrates how Other ethnicity demonstrated the most improvement (5.0951), then Caucasians (4.9781), African-Americans (4.4803), and finally Hispanics (4.054). When sorted into race and gender groups, there were no significant differences.

Table 11.

Change in self-esteem by race

RACE	Change_ Esteem LSMEAN	Standard Error	Pr > t	LSMEAN Number
AA	- 4. 48034797	0. 18578805	<. 0001	1
C	- 4. 97810726	0. 19916714	<. 0001	2
H	- 4. 05398523	0. 38881717	<. 0001	3
O	- 5. 09510917	0. 84205170	<. 0001	4

Age of onset. Among males there was a positive correlation between self-esteem at intake and both age at first use and age at regular use (table 12). The relationship was quite weak and not significant, however— $r = 0.06615$ ($r^2 = .0044$) and $r = 0.08525$ ($r^2 = .0073$), respectively. Females (table 13) fared slightly better although those correlations remained similarly weak ($r = 0.09280$, $r^2 = .0086$, and $r = 0.08513$, $r^2 = .0072$, respectively). Age of first use continued to have positive correlation to self-esteem when participants were sorted by ethnicity. This relationship (table 14) is strongest in Other race ($r = 0.1586$, $r^2 = .0251$), followed by Caucasian ($r = 0.0557$, $r^2 = .0031$; table 15), African-American ($r = 0.0381$, $r^2 = .0015$; table 16), and Hispanic ($r = 0.0136$, $r^2 = .0002$, table 17).

Table 12.

Male self-esteem and age

Pearson Correlation Coefficients

Prob > |r| under H0: Rho=0

Number of Observations

	Age First Use	Age Regular Use
Pre_Esteem	- 0. 06615 0. 0043 1865	- 0. 08525 0. 0002 1867

Table 13.

Female self-esteem and age

Pearson Correlation Coefficients, N = 1030

Prob > |r| under H0: Rho=0

	Age First Use	Age Regular Use
Pre_Esteem	- 0. 09280 0. 0029	- 0. 08513 0. 0063

Table 14.

Other race self-esteem and age

Pearson Correlation Coefficients, N = 63

Prob > |r| under H0: Rho=0

	Age First Use	Age Regular Use
Pre_Esteem	- 0. 15860 0. 2144	- 0. 01157 0. 9283

Table 15.

Caucasian self-esteem and age

Pearson Correlation Coefficients, N = 1182

Prob > |r| under H0: Rho=0

	Age First Use	Age Regular Use
Pre_Esteem	- 0. 05570 0. 0556	- 0. 05501 0. 0587

Table 16.

African American self-esteem and age

Pearson Correlation Coefficients

Prob > |r| under H0: Rho=0

Number of Observations

	Age First Use	Age Regular Use
Pre_Esteem	- 0. 03815 0. 1616 1348	- 0. 04549 0. 0948 1350

Table 17.

Hispanic self-esteem and age

Pearson Correlation Coefficients, N = 302

Prob > |r| under H0: Rho=0

	Age First Use	Age Regular Use
Pre_Esteem	- 0. 01361 0. 8138	- 0. 15382 0. 0074

Age of regular use by ethnicity yielded different results, however. Hispanics (table 17) demonstrated the strongest relationship between age of regular use and self-esteem ($r = 0.1538$, $r^2 = .0236$), followed by Caucasians ($r = 0.055$, $r^2 = .003$; table 15), African-Americans ($r = 0.0454$, $r^2 = .002$; table 16), and Other ($r = 0.0115$, $r^2 = .00013$; table 14).

Of particular note is a comparison of Hispanics and Other. First use for Hispanics and Other had correlations with self-esteem of $r = 0.0136$ and $r = 0.1586$, and regular use $r = 0.1538$ and $r = 0.0115$, both respectively. These results are in near-perfect diametric opposition.

Treatment Outcomes

The treatment modality with the greatest return-to-use rate was outpatient methadone maintenance (table 18). Methadone maintenance's overall return-to-use rate was 84.19%, followed by outpatient drug-free (65.25%), residential (56.51%), and finally short-term inpatient with a rate of 67.6%.

Table 18.

Relapse Rates

Modality	No use	Use	N
Residential	234 43.4%	304 56.5%	538
Short-term inpatient	150 32.4%	313 67.6%	463
Outpatient drug free	212 34.7%	398 65.2%	610
Methadone Maintenance	101 15.8%	538 84.1%	639
Total	697	1553	2250

When broken into modality by the nine drug categories, methadone had the shortest return-to-use times. Of the 36 modality by drug combinations (table 19) methadone maintenance occupies eight of the 10 shortest, ranging from a minimum of 5.65 weeks for "other drug" to a maximum of 10.8 weeks for hallucinogens. Methadone maintenance-amphetamines is the ninth methadone maintenance-drug combination at 16.36 weeks.

Table 19.

Relapse duration by treatment modality

	Modality/drug	First use post tx (weeks)	Last use (weeks prior to interview)	Length (weeks)
1	Meth- alcohol	6. 15	4. 21	41. 64
2	Meth- marij uana	7. 58	6. 89	37. 53
3	Meth- other	5. 65	9. 45	36. 9
4	Meth- cocai ne	7. 76	8. 42	35. 82
5	Meth- heroin	7. 51	9. 9	34. 59
6	Meth- downers	9. 9	8. 01	34. 09
7	OP- alcohol	13. 41	5. 34	33. 25
8	Res- - alcohol	13. 31	8. 18	30. 51
9	OP- heroin	12. 34	9. 66	30
10	STI- alcohol	16. 81	6. 07	29. 12
11	Meth- narcotics	10. 38	13. 03	28. 59
12	Res- - cocaine	12. 52	12. 15	27. 33
13	Res- - other	20. 65	4. 18	27. 17
14	OP- marij uana	16. 53	8. 73	26. 74
15	OP- cocaine	14. 54	11. 49	25. 97
16	Res- - marij uana	15. 06	10. 98	25. 96
17	OP- downers	17. 65	10. 59	23. 76
18	STI- marij uana	19. 77	8. 76	23. 47
19	STI- cocaine	16. 48	12. 06	23. 46
20	Res- - heroin	11. 98	17. 03	22. 99
21	Meth- amphetami nes	16. 36	14	21. 64
22	Res- - downers	14. 11	16. 29	21. 6
23	STI- other	15. 12	15. 94	20. 94
24	Meth- halluci nogens	10. 8	20. 6	20. 6

Table 19.

Relapse duration by treatment modality (continued)

25	STI - heroin	18.89	12.8	20.31
26	STI - downers	18.96	13.76	19.28
27	OP- amphetamines	18.69	14.31	19
28	OP- hallucinogens	18.94	14.12	18.94
	OP- other	23.65	10.52	17.83
30	STI - narcotics	23.49	15.05	13.46
31	Res - - narcotics	27.81	15.07	9.12
32	Res - - hallucinogens	20.53	22.47	9
33	Res - - amphetamines	27.56	15.78	8.66
34	STI - hallucinogens	26.17	17.33	8.5
35	OP- narcotics	29.95	15.65	6.4
36	STI - amphetamines	25.19	23.19	3.62

OP: Outpatient
 Res: Residential
 STI: Short-term
 inpatient
 Meth: Methadone

The most common element in the ten most frequently used drugs by modality are “other drugs” as drug used while the modalities were essentially equally represented. Still, though, participants in methadone maintenance showed the greatest frequency of use with two-thirds using 3 or 4 times per week or more, up to 4 or more times per day with the average frequency being daily. The next most common was outpatient drug-free with an average of 5 to 6 days per week and but with a much greater deviation in frequency, ranging from or two days per week up to 4 or more times per day. The number of participants identifying “other drug” is small ($n = 97$; only hallucinogens is smaller with an $n = 51$) when compared to the sample as a other modality/drug combinations and inferences should bare this in mind.

Of the remaining 10 most frequently used substances, opiates and those opiate derivatives (classified by DATOS into two distinct groups, heroin and narcotics, although additional questions clearly indicate “narcotics” to be those opiate-based drugs—much like heroin) fill four of the remaining six slots and report a range of 1 to 4 days per month to daily use.

In a model (table 20) designed to explore the effects of sex, race, and modality, on the percent of participants that relapse following treatment, only sex ($r^2 = .1254$, $F = 23.99$, $p = <.001$) and modality ($r^2 = .1254$, $F = 53.98$, $p = <.0001$) were found to exert significant influence. More specifically, a greater percentage of males (78%, $\pm .013$) relapsed than females (71.4%, $\pm .015$).

Table 20.

Effects of sex, race, and modality

Variable	DF	Type III SS	Mean Square	F Value	Pr > F
SEX	1	1.17949292	1.17949292	23.99	<.0001
RACE	3	0.12117638	0.04039213	0.82	0.4821
MODALITY	3	7.96315149	2.65438383	53.98	<.0001

Following a logistic regression to calculate odds ratio estimates to compare likelihood of relapse (table 21), it was observed that men are 1.287 times more likely to relapse than women overall while different race/ethnicity has little impact on likelihood of relapse. Modality, however, plays a large role in likelihood of relapse. Participants completing residential treatment were .246 times as likely as methadone maintenance clients to relapse, followed by outpatient drug free (.352 times), and short-term inpatient (.390 times). These findings are notably different from the return-to-use rates listed previously.

Table 21.

Odds ratio estimates

Effect		Point Estimate	95% Wald Confidence Limits
SEX	1 vs 2	1. 287	1. 063 1. 558
RACE	1 vs 4	0. 885	0. 455 1. 723
RACE	2 vs 4	0. 629	0. 324 1. 220
RACE	3 vs 4	0. 664	0. 327 1. 350
MODALITY	1 vs 9	0. 246	0. 187 0. 325
MODALITY	2 vs 9	0. 390	0. 292 0. 523
MODALITY	4 vs 9	0. 352	0. 268 0. 463

The reason for this difference and well as the change in self-esteem after treatment may be the medically acute nature of short-term inpatient participants. By definition, STI participants have a medically acute need for hospitalization and improvement medically would be reflected in their perception of their self (as noted in self-esteem at intake and improvement in self-esteem at 12 months). It does not, however, consider that STI offers the least time in treatment and few opportunities to practice recovery skills and receive feedback on them per the DPE model. When time in treatment is considered, residential treatment, the modality with the greatest opportunity for acquisition of recovery skills and practice and feedback, has both the lowest return-to-use rate and the lowest odds of relapse.

Chapter V

DISCUSSION AND CONCLUSION

The current study explored the relationships between self-esteem, age of onset of substance abuse, environmental factors related to familial emotional stability and substance abuse, and treatment modality. Rather than focus on just the demographics of the sample, an effort was made to determine how the identified factors impacted self-esteem. The main objective of this project was to illustrate addiction as a cognitive-developmental process so that treatment interventions could be optimized under a more coherent theoretical framework.

It was also hoped that the cognitive-developmental processes hypothesized to be impacted by onset of addiction and the identified environmental conditions would also result in a testable model to explore the effects of chronological age/developmental stage discrepancies in Cluster B personality disorders.

A direct measure of cognitive development with a large enough sample to address issues of generalizability, power, and the like, was not available. The Drug Abuse Treatment Outcome Study (DATOS) offered a very large sample from multiple sites across the nation, a longitudinal design to track changes, and components that could be used to measure development. Self-efficacy was then chosen to serve as a measure of change in development following the work of Loevinger, Freud, and White. While DATOS incorporated self-efficacy, it was measured as a situational variable and not a trait subject to change only through significant intervention. It was then decided to use the included measure of self-esteem as recommended by Judge, et al (2002).

Results of examining self-esteem and treatment trended in predicted directions but offered some surprises. Overall, self-esteem was improved by treatment but the theorized healthy minimum ceiling of self-esteem, that is to say the minimum self-esteem to maintain sobriety or

abstinence was not seen. This supports the idea that the most severe presenting problems (the multiple treatment failures of the residential clients and the medical needs of the short-term inpatient clients) would have the lowest self-esteem at intake. Likewise, those persons in the outpatient drug-free milieu still have many positive factors in their life such as family and employment that provide for some measure of positive feelings about oneself. The protective and supportive factors that assist those persons in outpatient treatment in having greater self-esteem at intake may also be partially responsible for the highest self-esteem post-treatment among the groups. Further, some resolution of the immediate crisis, whether social or medical, of the inpatient respondents' may have some bearing on their self-esteem at follow-up. Finally, residential treatment was expected to show the greatest gains, as it is the longest-duration and most invasive intervention. Outpatient drug-free was expected to be second as it is long-duration and offers participants the opportunity to practice sobriety behaviors *in vivo*—something integral to deliberate psychological education. Short-term inpatient was felt to be too brief to have as significant an impact as it did. The change in self-esteem as measured may owe more to the general state of the participant on intake than on the effect of the intervention. Methadone maintenance demonstrated a pattern of being least effective in terms of improvement in self-esteem.

Age of onset of substance use, whether first use or first regular use was positively correlated with self-esteem, but the relationship was weak, at best. The first, and probably most accurate, explanation is that self-esteem is a poor construct to use as a proxy for ego development. The second explanation is that the narcissistic and sociopathic traits of the addicted person create an inflated sense of self-esteem. Likewise, those persons who are essentially involuntary (court referrals, coercion by family or employer) may have an artificially

inflated self-esteem as part of their denial processes and changes in self-esteem measured over a year apart may miss subtle changes in self-esteem that would reflect more accurate and less egocentric perceptions of the self.

The salient environmental factors in self-esteem were surprising, as well. In accordance with the theory that substance use would create the conditions that stalled or retarded cognitive development, the age of onset variables were listed first, followed by parental substance abuse and emotional conditions, both of which were believed to create an environment where development would have been discouraged. Instead, paternal relative's substance use and sibling use were discovered to have the greater effects. Those findings were completely unexpected. During the analysis of this hypothesis, a mistake was found in the data input. It was re-analyzed several times with various small changes in the order of data input, changes in variable selected to correct for typographical errors, and the like, but each time yielded the same order of importance. A review of the literature has yet to suggest a reason for this. The absence of the father in the order of importance may reflect the tendency of many wives and partners of substance abusing men to be separated from them by virtue of divorce, abandonment, death, and such. The order of importance also indicates the effects of an unstable home environment on the respondent: caregivers with substance abuse problems, emotional problems severe enough to warrant hospitalization, and the effects of modeling behavior by parents, siblings, and extended family. What was not shown was a clear indication of importance of biological inheritance. If that were the case the order of importance would have reflected degree of relation.

Another surprising finding that goes against conventional wisdom was self-esteem according to race. Caucasians were found to have the lowest self-esteem at intake and follow-up. While these differences were statistically significant and a probably a reflection of the large

sample size, they may not be functionally significant because the range of mean scores for any of the measures was ± 1 point, which translates to a difference of 1 point when a subject ranks a response to a single item. Overall, race and gender were statistically significant when evaluated individually, but when combined into a race-gender variable it was not. This would also appear to challenge conventional wisdom about the impact of substance abuse on race-gender combinations in the general population. While various groups may have specific needs (e.g., child care accommodations for women with children), all appear to be similarly impacted as measured by self-esteem.

The post hoc analyses appeared to have been better at addressing the fundamental research questions outlined at the beginning of this project than the formal hypotheses. Namely, is there a relationship between early negative events, personality characteristics, and age of onset and severity of substance abuse; and does treatment result in significant improvement or gains in identified characteristics. It was found that there is a relationship, but, as measured in this study that relationship was weak.

The most important factors related to self-esteem reflect an unstable home environment with family members who have alcohol or drug problems, father or mother having significant mental illness or emotional difficulties, and the participants own regular use of alcohol or drugs. These findings suggest that the home environment at age of onset was one in which heavy use was modeled by others in the home or in close proximity and influence, and that such use was complicated by emotional problems in the parents who may have modeled alcohol/drug use as the primary coping skill.

Treatment outcomes showed that, in terms of return-to-use, methadone maintenance had the lowest success rate in terms of fastest return to use, greatest return to use rate, and greatest

likelihood of return to use. The most consistently effective treatment modalities, outpatient and residential, have the element of praxis in common. That is to say, they occur over a great enough length of time to allow a person to practice and receive feedback and learn from small mistakes so that skills and strategies become transferable to new circumstances. In short, they have time to grow.

Theoretical and Practical Implications

According to cognitive developmental theory, higher stages of development serve as a foundation for mental health in adulthood. The ability to learn from the events of our lives is the critical component in this development. When what is learned is faulty or learning is restricted either by externally limited experiences or internally limited experiences, growth and development become difficult to achieve.

In his review of substance abuse treatment literature, Peele (1990, 1991) found that treatment programs that focused on increasing client self-efficacy and effectively interacting with the environment through such techniques as cognitive restructuring, skills training, and problem-solving training, had better outcomes than clients in programs that did not. The self-efficacy Peele describes is more akin to the effectance motivation and mastery that Loevinger references when she states higher development is based on the ability to self-initiate new behaviors consistent with higher levels of development than the self-efficacy described in the DATOS project. It is, however, consistent with self-esteem as conceptualized here.

The ability to encounter the world with confidence in one's ability to face it is integral to development. Substance abuse treatment programs have traditionally approached self-esteem as a banal "feel good" construct and specific skills and strategies to avoid alcohol or drug use while ignoring the developmental needs of clients. Cognitive developmental theory, in turn, has done

little to address clinical and psychopathological issues in the population from either an etiological, preventative, or treatment perspective.

Clinical Implications

Clinicians should address age of onset of substance abuse not simply in terms of how long has a “habit” been going on, but rather as a key indicator of the individual’s level of development, what skills can they be reasonably expected to have and to master, and their ability to understand themselves and others. Cognitive developmental theorists, in turn, should approach development as a critical factor in wellness and psychopathology and assist in developing diagnostic tools and interventions that would round out those areas in cognitive-developmental theory that are lacking. Treatment, therefore, would approach substance abuse as the symptom of the real problem rather than the core issue.

The clinical tool to address the developmental stage-chronological age discrepancy is already in widespread use in addictions treatment. The 12 Steps provide an excellent roadmap to developing and improving relationships and have significant cultural support as well as being the foundation of treatment today. Many of the important specific skills are taught in treatment programs but they lack a unifying theoretical base as recommended by Latessa (personal communication, March 6, 1999) and the facilitators in these programs often lack a fundamental awareness of cognitive-developmental theory. Training that includes cognitive-developmental theory and how it can support the cornerstone intervention of the 12 Steps would create the unified theory-and-practice Latessa has shown to be effective.

Challenged Assumptions

Overall, the hypotheses were supported. The only exception, self-esteem at 12 months, may have more to do with the instrument than any functional difference. With regards to the

environmental variables in the third hypothesis, those results were generally expected but two were quite surprising. Father's alcohol or drug use was expected to be ranked as one of the most important yet was not. Other results, such as the importance of parent hospitalization for mental/emotional hospitalization and the relative unimportance of the father's substance abuse history, speak to the impact of environment over inheritance in the effects of substance abuse on personality characteristics.

Limitations

The primary limitations and potential source of invalidity has been identified earlier as the self-esteem construct. Beyond those limitations mentioned earlier, it also appears that self-esteem is not a sufficient measure of personal growth. As a construct it tends to be poorly defined and viewed as a state of mind rather than a trait with some degree of stability. It did illustrate that self-esteem as a discrete goal of treatment may not be an effective use of intervention resources.

In other cases, especially where ethnicity and gender were considered, there was considerable discrepancy between what is commonly observed and reported and the findings in this study regarding self-esteem. This presents a challenge. Compared to the United States population as a whole, African-Americans are over-represented in the DATOS dataset. Given that African-Americans had higher self-esteem at intake and discharge and accounted for 46.4% of the sample (12.1% of the US population according to the 1990 US government census) it is possible that some of the results based on comparisons by race are skewed.

The sheer size of the study addressed issues of generalizability. On the other hand, the size created such statistical power that statistical significance was observed even when there would be little functional difference. As an archival study, this project assumes all of the

limitations of the original study. Likewise, the original researchers in many cases gave little thought to how this information would or could be used clinically. Because persons who were primarily researchers designed DATOS, frequently the questions were needlessly redundant. For example, rather than asking “how old were you the first time you used any drugs or drank alcohol?” and following up with, “What was it?”, the respondent is asked “How old were you the first time you used A”, then, “...used B”, “...used C”, etc. Altogether there are hundreds of items like this that make it difficult to answer the basic question of how old was the respondent when they started using.

Another limitation is that while treatment programs are grossly standardized through the application of federal and state law, insurance and accreditation regulations, and national standards for the credentialing of substance abuse professionals, they retain a significant degree of uniqueness. Also, DATOS does not elaborate on what was done with respondents who were placed in multiple modalities while participating in the study.

Further, the DATOS data is old—up to 15 years from the initial responses—and in that time treatment has changed markedly with payers demanding evidence of positive outcomes. While the DATOS project was completed in the summer of 2004, the sample size was less than 800 (out of the original 10,100) and the majority was court-referred. Credentialing in addictions professionals has resulted in an abundance of master’s level or higher professional helpers with strong foundations in counseling and psychotherapy theory application. While this may limit the generalizability of DATOS to the current population, the majority of the factors measured here are still applicable in that they are characteristics of the client and not dependent on the DATOS-era interventions.

Future Research

A better approach and recommendation for future research on the relationship between age of onset or substance abuse and early trauma, psychopathology and cognitive-developmental stage or ego function, and the effects of treatment, would be to administer measures of cognitive development (i.e., Washington University Sentence Completion test) or ego function (i.e., Ego Function Assessment), a measure of psychopathology of psychological functioning (i.e. Minnesota Multiphasic Personality Inventory-2 [MMPI-2] or the NEO PI-R) and a detailed questionnaire or interview that explored age of first use, when and what type of trauma encountered, and the like.

Conclusion

For years there has been a divide between the recovering community and mental health professionals. While there has been considerable and ongoing research into the biological influences in the cause and treatment of addiction, little work has been done in the realm of psychosocial treatments. Typically, the mental health professional and the recovering person would find themselves at odds over the best psychosocial intervention. This study has illustrated the similarities in cognitive-developmental theory and the 12 Steps and proposed a means of integrating them. While self-esteem appears to have limited use as a treatment tool or outcome measure, the treatment modalities that allowed for practice and feedback in real-life situations showed greater outcomes than those that either offered only symptom relief or drug substitution. It is hoped that future research into cognitive-developmental stalling and retardation will yield additional information about personality disorder formation and more effective interventions in addictions.

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