

Defense Mechanisms, Psychopathology, and Life Stress

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Defense Mechanisms, Psychopathology, and Life Stress

Chapter I: Introduction and Literature Review

The concepts of defense mechanisms, life stress, and psychopathology are interesting constructs in terms of how they influence an individual's psychological functioning. While each of these constructs has been well researched in past literature, their relationship has not been clearly examined. It is the aim of this study to explore the interesting relationship between defense mechanisms, psychopathology, and life stress. In the present study, these constructs were examined in a community sample of African American women from an urban setting. This is a population that has not been sufficiently studied with regard to defense mechanism research.

It can be understood that while people are faced with a variety of stressful life situations, some people develop significant levels of psychopathology in the context of life stress while others do not. It can be speculated that it is the way in which people cope with stress that influences whether or not psychopathology develops. In the present study psychopathology was measured in terms of depression, anxiety, drinking problems with a risk for alcoholism, and personality disorders. Defense mechanisms are understood to play a major role in coloring how individuals view their world and experiences. The way in which an individual's defense mechanisms operate can influence his or her ability to adapt.

The concepts of defense mechanisms, life stress, and psychopathology have all been studied individually in the literature. However, there have been few studies that have examined them as interconnected concepts. This chapter will outline the literature on the concept of defense mechanisms, the development of defense mechanisms, life stress, and

psychopathology as it is related to life stress and defense mechanisms. Additionally, the role of defense mechanisms and alcohol use will briefly be examined.

The Concept of Defense Mechanisms:

The concept of psychological defense was initially presented by Freud in his 1894 paper “The Neuro-Psychoses of Defense.” Freud described defense as a mental function that could be used to ward off unpleasant feelings. In the early conception of defense there were no specific defense mechanisms. Freud’s understanding was that what he referred to as the “defense function” could be used by all forms of psychic material to hide or conceal other material. Essentially, Freud explained that the function of defense was to avoid the experience of pain. Freud’s theories regarding defense became more specific after he introduced structural theory in 1923. When Freud described the three structures of the mind known as the id, ego, and superego, his view of the specific function of the defense in relation to the ego was altered. In “Inhibitions, Symptoms, and Anxiety” (1926), he described his signal theory of anxiety in which the ego utilizes defenses to protect the ego from the uncomfortable instinctual demands of the id, reality, or the superego. This concept is at the root of the theory of defense mechanisms.

According to Freud, anxiety develops as an automatic response when the psyche becomes overwhelmed by stimuli that are too intense to be mastered or discharged. As the ego becomes stronger, it acquires the capacity to produce “signal anxiety” when a danger situation arises or in anticipation of danger. The ego, accompanied by the help of the reality principle, then inhibits the id impulses in a situation of danger. Danger situations include separation from an important love object, loss of love from an object, and guilt or disapproval by the superego. The ego utilizes defenses against the dangerous id impulses.

Freud described defenses as anything that will serve the purpose of opposition to the id material (Freud, 1926).

Anna Freud further developed and expanded upon her father's ideas about the concept of defense. Her contributions were part of the shift from the classical drive theory to ego psychology. The concept of ego psychology grew directly out of the drive-conflict model and remained true to the conception of the ego defense mechanisms against drives. In ego psychology the individual's dynamics are understood in terms of his or her capacity for reality testing, adaptation, and defense to deal with an inner experience of urges, affects, and fantasies (Pine, 1990). Anna Freud's thinking represented a shift from drive theory to ego psychology as she began to view the three structures of the mind, the id, ego, and superego, as equally important and worth examining. While Freud's primary aim was to understand the unconscious by attempting to examine the basic instinctual impulses of the id, Anna Freud believed that it is necessary and worthwhile to analyze the ego and superego as well.

She expanded the basic concept of the theory by describing that defenses are not only used against drives, but against affects and objective dangers as well (Loewenstein, 1967). In Freud's early ideas regarding hypnotism, he had originally thought that he could relieve the patient of anxiety by lulling the defenses into a temporary state of inactivity. He later realized that this was not sufficient to create change and explained that defenses should be directly interpreted while the individual is conscious in analysis. Anna Freud's views differed from Freud's because she believed that the defenses should not only be addressed directly, but that they should be understood to be a part of a person's character and that a person's basic personality could be rooted in defense mechanisms (Mitchell and Black, 1995). Anna Freud's theories about the importance of defense mechanisms as well as their

profound influence on personality functioning has revolutionized the way that defenses have been viewed within psychoanalytic theory.

Another way in which Anna Freud furthered the study of defense mechanisms is that she discussed the idea that defenses gain prominence developmentally, as well as how defenses may become pathological. She first touched upon this idea in *The Ego and the Mechanisms of Defense* (1936) and further expanded upon it in her later work. Anna Freud conceptualized defenses as involving several factors that can indicate how healthy an individual's defensive functioning may be (A. Freud, 1965). The first factor is entitled age adequateness, indicating that defenses can be understood in terms of how appropriate they are given an individual's age. She explained that there is an approximate chronology to the various defense mechanisms meaning that defenses can only be considered pathological if they occur prior to or long after the appropriate age. She provided the examples of denial and projection which are considered to be normal defenses in childhood but are deemed pathological if they continue into adulthood. On the other hand, repression and reaction formation can be detrimental to a child's personality if they are utilized too early in life (A. Freud, 1965).

Anna Freud also emphasized the importance of balance, the second factor, in an individual's use of defenses. She explained that an individual who uses varying defenses when the ego is confronted with the various danger situations arising from the id can be thought of as more healthy than when a single defense mechanism predominates in all situations of conflict.

The third factor that Anna Freud discussed refers to the intensity of each defense. She explained that intensity of defensive functioning also plays a role in whether defenses

may lead to psychopathology. Anna Freud contended that any time an individual overuses any type of defense, regardless of the defense in use, neurotic symptoms are likely to result.

Finally, Anna Freud discussed the concept of reversibility of defenses. She explained that defenses that are used in the past to ward off anxiety for a specific danger should not be continued into the future when that danger is no longer present. Rigidity on the part of the individual to continue to use a defense that was previously adaptive but no longer effective or necessary can be indicative of psychopathology. Based on these four factors, Anna Freud stated that when defenses are used incorrectly a pathological personality is the result.

In her book, *The Ego and the Mechanisms of Defense* (1936) she systematically described the use of defense mechanisms. She synthesized Freud's ideas by explaining that defenses are not only used against instinctual drives but are used against painful affects as well. She explained that in both types of situations defense mechanisms serve to protect the ego by "warding off" feelings of anxiety and guilt. She discussed two primary motives for defense called defense against instinct and defense against affect. With regard to defense against instinct, the defense is motivated by superego anxiety. When the ego defends itself against the instinctual impulses of the id, it must also ward off the painful affects that are associated with the instinct. This defense against affect allows the ego to welcome pleasant affects and to ward off affects that are considered to be more painful. The idea that defenses have specific motives that serve to protect the ego was later explored by Otto Fenichel.

Fenichel (1945) expanded upon the existing theory of defenses by pointing out the impact the external world has on defensive functioning. He explained that the motives of defense are rooted in external influences, but that the external world cannot repress the anxieties associated with them. These external influences are what compel the ego to defend

through repression of the conflict. He stated that it is the intrapsychic institution that not only represents but anticipates the external world causing the arousal of neurosis and defenses. “An original conflict between the id and the external world must first have been transformed into conflict between the id and the ego before a neurotic conflict can develop” (Fenichel, 1945, p.130). The external world can only ward off the unwanted impulses through the ego.

Similarly to Anna Freud, Fenichel (1945) also discussed anxiety and guilt as motives for defense. With regard to anxiety, Fenichel described a primary anxiety which is an automatic occurrence that describes the first experiences of anxiety that occur early in an infant’s life. It is from primary anxiety that later anxieties in life develop. This automatic occurrence of primary anxiety takes place when the infant is flooded with excitement. Primary anxiety occurs as panic and the ego experiences it passively. As the individual develops, the ego begins to be able to judge the impending panic and creates an anxiety signal that is used to indicate the necessity of starting a defensive action.

Fenichel (1945) explained that the neurotic conflict becomes more complex when guilt feelings replace anxiety feelings. Similarly to A. Freud, he understood guilt feelings to represent anxiety of the ego toward the superego. Fenichel’s views differ from Anna Freud’s in that he believes that guilt arises out of the anxiety over the loss of love. He explained that individuals develop anxiety over what he termed the “loss of narcissistic supplies (Fenichel, 1945, p. 136).” This loss converts into anxiety over the loss of the superego’s supplies which results in a feeling of guilt. Fenichel’s ideas expand the concept of defense from its roots in drive theory. Cramer (1991) summarized that Fenichel’s modification of the understanding of defense mechanisms provided a second basis for the ego to enlist the defense mechanisms,

the need to protect the self from humiliation or annihilation. This viewpoint is consistent with the basic tenets of ego psychology and is reflective of the shift from drive theory.

The shift from drive theory to ego psychology has been especially significant with regard to defense mechanisms and their adaptive functions. Unlike Freud's original conception of drive theory, ego psychology emphasizes that managing the drive is only a part of the function of the ego. Heinz Hartmann (1939) contributed significantly to the concepts of ego psychology and is known as the father of ego psychology. He believed that the ideas of previous theorists such as Sigmund Freud and Anna Freud were excessively rooted in conflict. While he agreed that conflict between the id, ego, and superego plays a role in psychological functioning, he did not consider the ego functions to be embedded in psychic conflict (Mitchell and Black, 1995).

Hartmann's ideas focused not on conflict, but on the adaptive functions of the ego and the ego defense mechanisms. The therapeutic approaches that Hartmann discussed were aimed at repairing the structural dimensions of the psyche rather than at revealing repressed id impulses. Hartmann's viewpoint was that defenses originated in conflict, but that over time they could transition into a role outside of the conflict and become autonomous. Hartmann emphasized the important evolutionary role of adaptation, explaining that animals and humans alike are designed to be adapted to their surroundings, thereby creating an ongoing reciprocal relationship between organisms and their environment (Hartmann, 1939).

H.P. Laughlin continued to explore and expand upon the concept of defense mechanisms. In his 1970 book, *The Ego and its Defenses*, he provided a comprehensive look at specific defense mechanisms and their functions. Laughlin emphasized that a thorough understanding of defense mechanisms is necessary in order to understand an individual's

dynamics and psychopathology. Laughlin's ideas about how defenses and psychopathology are interrelated are very relevant within the current understanding of defense mechanisms.

Much like Anna Freud, Laughlin was of the opinion that the presence of defense mechanisms could prove to be normal or pathological depending on their use. However, rather than considering the four principles of age adequateness, balance, intensity, and reversibility described previously, Laughlin considered three indicators. He explained that defense could be considered normal or pathological to varying degrees based on how they are employed, how effective they are as a defensive function, and whether their contribution to the individual's dynamics is constructive or destructive. It is important to keep these three indicators in mind when evaluating an individual because they can provide information that is extremely helpful in understanding dynamic functioning. Specifically, Laughlin discussed how understanding the types of defense mechanisms that are being utilized can help distinguish between neurotic and psychotic pathology as well as between character defenses and reactions (Laughlin, 1970).

Modern theories have continued to explore the idea that defenses can be indicative of character pathology or of a situational reaction. McWilliams (1999) explained that defense mechanisms can be characterological or situational in nature and she discussed the clinical implications of both types of defenses. She provided a clinical example of a characterological defensive pattern in a man with a paranoid personality. She stated that the defining indicator of a paranoid personality is dependence on the use of projection. A man who is characterologically paranoid will utilize projection in nearly every situation. If he feels envious of another person, he will be likely to focus on an admirable quality about himself and attribute the envy that he is experiencing to another person. McWilliams

explained that it can often be difficult to distinguish characterological defenses from situational defenses. Using the example of projection again, it can be used in situations when people feel stirred up emotionally. For example, when people are feeling ashamed, they often assume that someone is trying to shame them purposely. Also, when people feel hurt by someone, they often wish to hurt the one who caused them to feel hurt. This serves to protect the individual from experiencing the hurt feelings. All defensive reactions constitute a mix of both characterological and situational aspects. It is clinically useful to determine which aspect is represented more predominantly in the patient. Understanding how a defense is used can enable the therapist to provide more appropriate interventions. Furthermore, understanding the situational or characterological nature of defenses can help to clarify whether they serve an adaptive function for coping with stress or if they are self-defeating and contribute to psychopathology.

It has been understood in the literature that defenses can range from mature to immature (A. Freud, 1936, 1965; Vaillant, 1977, 1994). As defenses become more mature they begin to require more advanced thinking (Laughlin, 1970). Defenses that are considered immature are often thought of to be primitive or magical by nature are less cognitively complex and distort reality more than mature defenses. It can be useful to envision defenses as placed on a spectrum. Mature defenses can be conceived of as more adaptive and can reduce the amount of perceived stress that an individual experiences. On the other end of the spectrum, immature defenses are not adaptive and are not helpful in coping with stress. The idea that defenses can be adaptive falls in line with the theory of ego psychology and Hartmann's discussion of adaptation. He explained that defenses are rooted in conflict but can eventually develop into autonomous functions. These functions can help an individual

manage anxieties that are internal as well as external stressors. The concept that defense mechanisms can serve an adaptive or pathological function poses some interesting questions. First, how is it that some people can cope while others cannot and what role do defense mechanisms play with regard to coping? Second, when does life stress contribute to psychopathology and how much do defense mechanisms play a role in this relationship?

Life Stress and Defensive Functioning

“It is often not just life stress but also a person’s idiosyncratic response to life stress that leads to psychopathology” (Vaillant, 1994 p.44). Vaillant explained that defense mechanisms are innate involuntary processes that allow individuals to reduce cognitive dissonance, and to minimize sudden changes that occur within and outside their minds by altering how they perceive stressful events. Defense mechanisms serve the profound purpose of altering one’s perception of the self, others, ideas, and feelings.

In his 1977 book, *Adaptation to Life*, Vaillant discussed how it is one’s styles of adaptation (defenses) that determine how an individual will cope with stressful life events. He used the example that a “broken love affair may lead one man to write great poetry and another to commit suicide” (Vaillant, 1977, p. 14). In both scenarios the men are responding in ways that will alleviate pain but neither coping response is under full conscious control.

Vaillant (1977) provided clear examples to aid in the understanding of this concept that some defenses are more mature than others and influence how individuals cope with life stress. He provided two contrasting examples of how two different men coped when faced with extremely stressful life events. He first discussed altruism and sublimation which are believed to be mature defense mechanisms. Vaillant told the story of a man whose friend was lost at sea. The man’s defenses were called into play as he took part in the search effort.

Even when there was no longer reasonable hope that his friend had survived, he encouraged the continuation of the search. Vaillant told a second story of a man whose mother passed away. This man utilized dissociation and projection. He dealt with the death of his mother by losing himself on a two week bender until the funeral and aftermath were over. In both stories the men turned their attention away in order to avoid the pain of the loss. However, the man who utilized the more mature defenses coped with the death in a more effective and less self-harming way.

The relationship between maturity of defense and life stress has been studied in the past literature. Arujo, Ryst, and Steiner (1999) examined the relationship between defensive maturity and life stress in an adolescent population. They administered the Defense Style Questionnaire and the Adolescent Family Inventory of Life Events to 87 female adolescent patients between the ages of 11-18 years old. The results of the study supported their hypothesis that lower levels of defensive maturity are related to the experience of higher levels of life stress.

Olf (1999) examined the role of defense mechanisms and coping in relation to stress and physical health. She emphasized that while it is commonly understood that there is a link between stress and its impact on the immune system, an individual's coping style can play a large role as well. The way that an individual deals with stress can influence the extent to which the immune system is affected. She stated that prolonged exposure to severe life stresses may eventually outweigh the individual's coping resources and result in depression. She concluded that psychological interventions that are designed to increase the patient's coping abilities may have a beneficial effect on the patient's immune system.

Defense Mechanisms and Psychopathology

There has been some debate among theorists regarding whether or not defense mechanisms should be considered pathological. It has been suggested that defenses are not pathological by nature, but that they can be a precondition for psychopathology.

Loewenstein (1967) explored what makes defenses normal in many instances and pathological in others. He expanded on Anna Freud's ideas and speculated that defenses may be pathological when they are not sufficiently effective in relation to certain drives or when they are too strong in relation to other drives. He also explained that defenses become pathological when they remain rigid in the context of changing reality situations.

Furthermore, he suggested that defenses are pathological when they become generalized. He explained that while a defense mechanism may be effective in a specific situation it may become ineffective when it is used in others.

It has generally been understood in the literature that individuals have a variety of defenses in their repertoire. However, individuals tend to utilize some defense mechanisms more frequently than others. McWilliams (1994) explained that the reliance on preferred defenses occurs unconsciously and is the result of a complex interaction between four developmental factors. These include constitutional temperament, the nature of the stresses that one suffered during early childhood, the defenses that were modeled or directly taught by parents and other significant influences, and the experienced consequences of using particular defenses. McWilliams suggests that a careful assessment of an individual's preferred defenses including their nature and function can allow the therapist to tailor interventions more effectively.

The predominance of characterological or situational defenses can also shed light on whether or not a defense is serving an adaptive or pathological function (McWilliams, 1999).

Psychopathology is generally not determined by situations, but more often by characterological defenses that are excessively utilized. It can be understood that situational defenses are more adaptive in reaction to stressful situations, while characterological defenses are more likely to contribute to personality psychopathology.

Additionally, pathological defenses can be inappropriate when they are out of phase with the developmental level of the individual or when the defenses are maladaptive for the current situation. Because these inflexible and immature defenses tend to distort the perception of reality and interfere with other ego functions they frequently occur as part of psychopathology (Cramer, 1991).

Furthermore, defenses can sometimes become maladaptive to the extent that they become associated with specific types of psychopathology. Defenses have been associated with psychopathology in a variety of ways. Specifically, personality disorders are associated with defenses that are more restricted in which single defenses are used more pervasively. While defenses begin as healthy and adaptive, when they are used rigidly and excessively they become a primary component of psychopathology. For example, the immature defense of splitting is one of the key aspects of Borderline Personality Disorder. Otto Kernberg (1967) discussed the borderline personality organization and the particular defenses, primarily splitting, that are integral to the personality constellation. Splitting is a defense in which contradictory self and object representations are kept apart to avoid the anxiety that occurs in the face of ambivalent feelings. The abrupt shifts in emotion that occur in splitting lead to personality traits such as impulsivity, intense emotions, and fluctuation between contradictory self-concepts. Within the borderline personality organization, splitting is typically accompanied by denial, omnipotence, and devaluation. These immature defenses

are used excessively and lead to the impaired internal object relationships that are characteristic in a borderline personality.

There has been empirical research that has examined the relationship between particular defenses and types of psychopathology both on axis I, which refers to the current condition and axis II, which refers to personality or character traits. Perry and Cooper (1986) found that borderline personality psychopathology was significantly associated with several less mature defenses including splitting, projective identification, acting out, hypochondriasis, and passive aggression. They also studied antisocial personality psychopathology and found it to be correlated with specific defenses that included omnipotence, idealization, devaluation, denial, projection, and rationalization. Regarding axis I psychopathology, chronic depression was found to be associated with acting out, passive aggression, devaluation, and projection.

Perry (1988) examined the relationship between defensive functioning and axis I episodes within a population of patients with diagnosed personality disorders. The findings indicated that immature defenses such as acting out and splitting predicted increases in depressive symptoms and gradual reoccurrences of major depressive episodes. Splitting was also predictive of the onset of psychotic symptoms. Additionally, obsessional defenses such as isolation, intellectualization, and undoing were positively correlated with hypomanic and manic episodes and were negatively correlated with major depression and panic disorder.

Alcohol use has been recognized in past literature to be a way to cope with life stress as well as recognized as a significant form of psychopathology. Alcoholism has been viewed as a type of defense that has been associated with people who do not have more mature **defenses**. It is important to examine how addictive behavior can serve as a coping

mechanism. Fenichel (1945) proposed that the reasons an individual reverts to alcohol may be due to external frustrations or internal inhibitions. He explained that external frustrations refer to when one is in a state of misery and would like to forget his or her troubles, so the alcohol serves to replace the troubles with pleasurable fantasies. The use of alcohol to cope with internal inhibitions occurs in states where the individual needs artificial help to act against the superego. Fenichel described that it is important to determine if an individual is using alcohol due to external or internal distress in order to better understand the use of alcohol as a coping mechanism.

The role of defense mechanisms and alcoholism was further explored by Alan Button (1956), who conducted a survey of 87 cases of alcoholism. The results of the survey indicated that in only seven percent of the cases was drinking thought to have a purely defensive function. Button suggested that alcoholics tended to use defenses such as denial, repression, and suppression in order to cope. He stated that the use of these defenses appeared to be quite unsuccessful and were not effective very long. He further explained that alcoholics would begin to drink when their defenses failed. He summarized that the defense mechanisms were poorly integrated into the individual's thinking and behavior, and therefore failed to serve to protect and support the individual's personality. It can be speculated that it is at the point when the more adaptive defenses fail consistently, that the individual resorts to alcohol use as a coping mechanism.

As previously discussed, it has long been understood by theorists that defense mechanisms develop on a continuum and can be conceptualized from mature to immature. In more recent years, researchers have discovered empirical support for this theory. Originally, defenses could only be examined through observation and clinical judgment.

Presently, there are now self-report measures and rating scales that can be applied to various forms of data including Thematic Apperception Test (TAT) cards and narratives. Several defense mechanism scales have been developed and applied to various populations. The following is a review of the literature that focuses on defensive maturity and the development of defense mechanisms.

Phebe Cramer is a current researcher who has conducted extensive research on defense mechanisms and their development. She has worked to provide empirical support for the theory of the development of defenses and a way to measure defensive maturity. In her research, Cramer (1987) uses the term “defense mechanism” to refer to cognitive operations that function to protect individuals from the disruptive effects caused by excess anxiety. This definition differs from previous conceptualizations because it carries the implication that defenses can become conscious. Additionally, this definition can be more readily understood by those who do not have a thorough understanding of psychoanalytic theory. It allows the concept of defense mechanisms to become more accessible throughout the field of psychology regardless of theoretical orientation.

Cramer explained that when defenses are adaptive they allow individuals to continue to function effectively in anxiety arousing situations. However, when defenses are used excessively, they may distort reality and impair the ability to function in situations of anxiety. Cramer has drawn on the ideas of many other theorists who have studied the development of defenses in her aim to provide empirical support for this concept. Specifically, she has cited Vaillant’s (1977) ideas about the defenses denial and projection. Vaillant hypothesized that more immature defenses such as denial, are common in children younger than age five. Defense mechanisms such as projection are typically used by children between the ages of

three to fifteen. When understanding defenses from a developmental perspective, it is logical to assume that defenses considered more primitive would emerge earlier in life while more complex defenses would appear later in development. This process is similar to other ego functions such as the cognitive operations that develop in stages.

In 1987, Cramer conducted a study that served to provide the basis for the Defense Mechanism Manual (1991). In this preliminary study she considered the developmental course of three defenses: denial, projection, and identification. She further considered levels of maturity within each defense mechanism. The main study involved 320 children in four different age groups with an even number of boys and girls. Each child in the study produced stories to two Thematic Apperception Test (TAT) cards. The results of the study confirmed Cramer's hypotheses. Denial was most frequent in early childhood, projection was most common in the middle childhood group, and identification increased in adolescence.

While this study has contributed greatly to defense mechanism research, there are two main limitations that are necessary to consider. The first is that the research is based on the assumption that stories told in response to TAT cards actually do represent one's characteristic use of defense mechanisms. Cramer assumes that characteristic use of defense mechanisms is evident because she believes that current perception is influenced by past experience. However, if one does not agree with this hypothesis, the results of the study would not carry as much meaning. The other major limitation is that she has focused on only three defense mechanisms. Her rationale is that they are representative of different points on the developmental continuum. However there are many defenses that have not been addressed in her research.

Cramer (1987) explained her rationale for choosing the three defenses in the study. She selected the defense of denial because it is considered to be a primitive defense. Denial functions to withdraw attention from noxious stimuli by denying its existence. As language develops, denial becomes evidenced through speaking. Cramer provided an example of a boy receiving a shot from the doctor but proclaims that it does not hurt. By negating the frightening aspect of the shot and stating something less threatening, reality is modified into something more pleasant. Denial begins in infancy and continues throughout childhood. It is the increased social pressures from friends and increased cognitive abilities that contribute to a decrease in the amount of denial that children use. The use of denial as a primary defense typically ends by the time middle childhood is reached.

The next defense that Cramer (1987) has included in her study on the development of defenses is projection. The use of projection requires the individual to be able to differentiate between internal and external stimuli. The function of projection is to get rid of a feeling that is unpleasant by expelling it into the environment. When used in a mild way, projection does not seriously distort reality as is the case with denial. Projection is considered to be an important defense throughout childhood and adolescence.

The third and final defense that Cramer (1987) integrated into her study is identification. It is thought of to be a more mature defense than denial and projection. In order to utilize identification, one must have the capacity to not only differentiate between the self and others, but to differentiate between the self and many others and to form enduring mental representations of those others. The function of identification is to take on as one's own, qualities that provide the individual with self-esteem and security while rejecting those that do not. The development of identification is a slow process that begins in

infancy and continues through adolescence. The utilization of identification involves the internalization of parental attitudes, values, interests, and skills that occur during childhood.

Based on her findings of support for the theory of defense mechanism development, Cramer published the scoring system that she used in the 1987 study. The scoring system is called the Defense Mechanism Manual (DMM) and was published in 1991. The DMM is used to score narratives derived from TAT cards. Scores are given that range from mature to immature on the defenses of denial, projection, and identification. The use of the DMM has been validated in Cramer's lab (1987, 1991) and outside of her lab (Hibbard and Porcerelli, 1998).

Cramer has conducted several studies to empirically validate the concept that defenses change as an individual develops. In 1997 she published a longitudinal study of 20 children with an equal number of boys and girls. The study was conducted over two years and followed the children at four time points from ages six through eight. The results of the study demonstrated that the children's use of denial decreased from early to middle childhood while their use of projection increased sharply. She also indicated that there was an increase in the use of identification as the children reached middle childhood. These results were consistent with previous findings that as individuals develop, their defenses become more mature. The most salient limitation to be considered in this study is its small sample size of only 20 subjects.

Cramer and Brilliant (2001) conducted a study that examined children's defense use and defense understanding. One hundred twenty two children participated in the study which was comprised of two groups. There was a younger group of first and second graders and an older group of fourth and fifth graders. They specifically examined the use of denial and

projection, two common defenses in childhood. They hypothesized that when children understand how a particular defense functions, that defense becomes unsuccessful and they replace it with a new defense that is not yet understood. The results of the study confirmed their hypothesis and indicated that when younger children begin to understand the function of denial they discontinue its use in favor of a less understood defense. They found similar results in the older children who discontinued their use of projection after its function was understood. This study supports the theory that defenses develop as an individual develops cognitively and emotionally.

George Vaillant (1994) added to the literature as he discussed ego mechanisms of defense specifically in the context of personality psychopathology. He explained that personality disorders are different from psychosis and neurosis because they almost always occur within a social context. He provided the example that it is difficult to imagine a hypochondriac or paranoiac person exhibiting symptoms while alone on a desert island. If neurotic symptoms are understood to be a means of coping with unbearable instincts, then symptoms of a personality disorder are a means of coping with reactions to unbearable people throughout one's lifetime.

Vaillant (1994) suggests that the understanding of an individual's defenses is very important when attempting to understand an individual's psychopathology. It is necessary for the clinician to understand how the patient copes and responds to the triggers to psychopathology to be able to understand the disorder itself. By focusing on an individual's defenses it is possible to begin to understand the contributing factors underlying psychopathology. Challenging defenses in therapy without thoroughly understanding them can create enormous anxiety in the patient and disrupt the therapeutic alliance. He explained

that proper diagnosis of a psychiatric disorder involves seeing beyond the symptoms and developing a knowledge of the underlying processes involved.

J.C. Perry is another researcher who has contributed significantly to the literature on the development of defense mechanisms. In addition to bringing defensive functioning maturity to the attention of the Diagnostic and Statistical Manual (DSM), Perry has created the Defense Mechanism Rating Scales (DMRS) that have been useful in researching defensive maturity. The DMRS was published in 1990 and is intended for use with narratives. It can be helpful to use narratives because it can be understood that an individual's characteristic defenses will be observable within the content of the information presented. There are seven levels of defenses ranging from action (considered to be the most immature defenses) to mature. The manual includes 27 defenses that are to be rated on each narrative. The levels of defenses in order of least to most mature are: action, major image distorting, disavowal, minor image-distorting, other neurotic, obsessional, and mature. The scale yields an overall defensive functioning (ODF) score that ranges from one (the lowest) to seven (the highest). This scale differs from the DMM because it considers 27 defenses on 7 different levels rather than the 3 defenses addressed by Cramer. It can be speculated that it can provide more specific and detailed data regarding defensive maturity.

Along with several colleagues, Perry has conducted extensive research in the area of defense with the intention of adding a defense mechanisms axis to the DSM-IV (1994). Skodol & Perry (1993) emphasize that it is helpful diagnostically to take defensive functioning into account when formulating a diagnostic impression. As defense mechanisms are understood to be good measures of one's adaptive capacity, it is worthwhile to consider this when thinking about one's overall psychological functioning. The DSM-IV (1994)

currently includes a defensive functioning scale that is listed as a proposed axis for further study. It is suggested that the clinician use the scale to list up to seven specific defenses that the patient uses starting with the most prominent. It is also suggested that the clinician should indicate the predominant defense level that is exhibited by the patient.

In 1998 Perry and colleagues conducted a field trial of the diagnostic axis for defense mechanisms. The aim of the study was to test the feasibility, reliability, and discriminability of the proposed diagnostic axis to demonstrate that it is useful for treatment. The study included 107 participants and their interviews were rated with the DMRS. The results of the study linked maturity of defense to psychopathology by demonstrating that the overall defensive functioning score was linked negatively to psychopathology on axis I and on axis II. The study concluded that knowledge of one's defensive maturity should provide the clinician with valuable information that may be relevant to treatment planning.

Perry and Hoglend (1998) conducted a study that examined the convergent and discriminant validity of overall defensive functioning. Their sample consisted of 107 patients who were received intake diagnostic interviews. The interviews were rated with the DMRS among other scales. The results of the study indicated that clinical ratings of overall defensive functioning were discriminable from axis I, axis II, current and usual global functioning, and subjective distress. This study helped to establish the DMRS as a valid and unique measure of psychological functioning. The main limitation of this study is that it was a field trial that yielded lower reliability and a lower percentage of subjects with completed data than it would have if it were a more controlled study. Additionally, because the sample had a high prevalence of major depression and dysthymic disorder, the generalizability of the

study is somewhat questionable. Furthermore, the sample size of this study is lower than ideal for the number of items and factors.

Lingiardi and colleagues (1999) used the DMRS in a study that examined defense mechanisms and personality disorders. The study was conducted on 50 outpatients who were assessed prior to beginning twice weekly psychodynamic psychotherapy. The aim of their study was to empirically support the concept that immature defenses underlie personality disorders. The study confirmed their hypothesis and indicated that specific defense styles are significantly related to certain personality disorders. They found a relationship between borderline and action defenses and cluster B personality disorders (antisocial, borderline, histrionic, and narcissistic personality disorders). The results also indicated that higher level defenses were positively correlated to cluster C personality disorders (avoidant, dependent, and obsessive-compulsive personality disorders). Further analysis of the data revealed a substantial use of projection in antisocial subjects. There was also a correlation between obsessive-compulsive personality disorder and the narcissistic defenses. Overall, the study concluded that mature defenses influence healthy functioning while immature defenses are associated with more severe symptoms and impairment in psychosocial functioning. The primary limitation of this study is that its sample size was small creating low power for the statistical tests that were used. Also, cluster A personality disorders were under-represented in the study. The research mainly evaluated cluster B and C personality disorders.

In 2001, Perry conducted a pilot study that examined defenses in adults with personality disorders entering psychotherapy. The study included 15 subjects who after the fifth session of psychotherapy had five sessions audiotaped. The contents of these tapes were scored with the Defense Mechanism Rating Scales (DMRS). The results of the pilot study

revealed that subjects with personality disorders demonstrated a predominance of less mature defenses. Specifically, those with borderline personality disorder had significantly lower overall defensive functioning scores than those with other types of personality disorders. Additionally, a higher overall defensive functioning score was associated with attending therapy twice weekly and remaining in therapy at the one year mark. While the results of this pilot study must be interpreted cautiously due to the very small sample size, Perry suggests that adjusting therapeutic technique to the patient's defenses may improve retention and outcome.

The idea that stressful life events often predispose psychopathology has been a commonly studied concept. In 2000, Agid, Kohn, and Lerer published a review article that tied together previous literature on the relationship between environmental stress and psychiatric illness. They noted that while it has been recognized for a long time that environmental stress is related to mental illness, the nature of this relationship is unclear. The authors note that while stress is often a precipitating factor in the onset of several disorders including depression, post-traumatic stress disorder, and schizophrenia, not all people who experience significant stress develop a mental illness.

They summarized articles that investigated various mediating factors between life stress and mental illness. They considered mediating factors such as early parental loss, recent adverse life events, and depression. This enabled them to highlight the importance of stressors as a contributing factor to mental illness while examining other relevant factors. When thinking about life stress and psychopathology, it is important to distinguish between stressors that create a vulnerability to psychopathology and stressors that act as precipitating events. Stressors that create vulnerability may occur a long time prior to the onset of

symptoms. For example, early childhood loss and early abuse are often related to adult psychopathology. Precipitating events occur just prior to the onset of psychopathology. The scope of the review covered three main topics in which life stress is linked to psychopathology: early parental loss, recent adverse life events and depression, and the interaction between genetic predisposition and environmental stress. The implications of the review article for the present study are that life stress can occur in many forms that can contribute to the varying experiences of psychopathology among individuals.

Statement of the Problem

The literature suggests that life stress is a predictor of psychopathology. Research also suggests that the maturity of an individual's defense mechanisms can predict psychopathology. It is clinically valuable to develop an understanding of an individual's defenses. This knowledge enables the clinician to choose a style of therapeutic intervention that can be assimilated by the patient (McWilliams, 1999). Based on this knowledge, it is relevant to investigate the role that defensive maturity plays in psychopathology when the individual is experiencing life stress (see figure 1 for the proposed model).

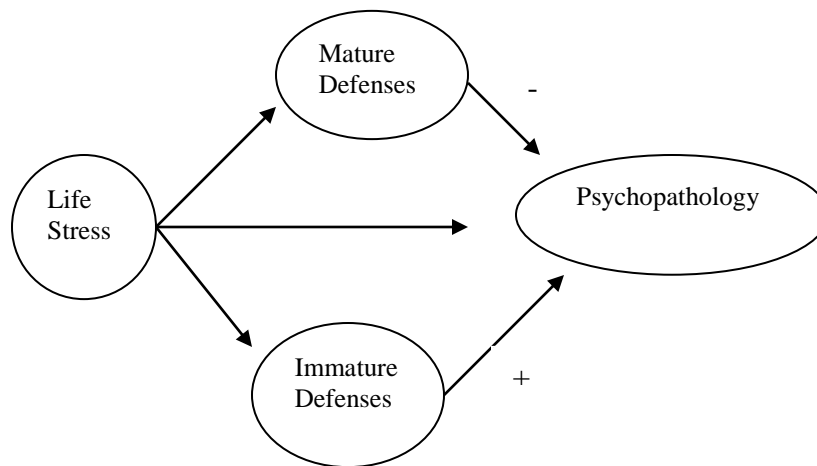


Figure 1: Defense Mechanisms as a mediator between life stress and psychopathology.

Furthermore, defensive maturity has not yet been evaluated using the Adult Attachment Interview (AAI) as the narrative data for scoring with the DMRS. While the DMRS has been used with interviews in the past, its use with AAI has not yet been studied. Additionally, the role of defenses mediating the relationship between life stress and psychopathology has not been assessed using the AAI. This study will add to the research using the DMRS to determine if it is effective for use with the AAI.

Finally, the link between defenses, life stress, and psychopathology has not been shown using a community sample of African American women in an urban setting. The sample in the present study is a non-patient community sample and this type of sample has not been used in the previous research in this area.

Research Question

The purpose of this study is to investigate the relationship between maturity of defense, life stress, and psychopathology in an adult female population. The variable maturity of defense will be considered in terms of the relationship to the dependent variable, psychopathology. In addition, life stress will be examined as a predictor of psychopathology with defensive maturity as a mediating variable. Four types of psychopathology will be considered: depression, anxiety, drinking problems, and personality disorders. Demographic data such as alcohol use and verbal ability will also be considered. The specific aims of this study are to: (1) examine the correlation between defensive maturity and several types of psychopathology (depression, anxiety, drinking problems, and personality disorders); (2) examine the relationship between life stress and psychopathology; (3) examine the relationship between life stress and psychopathology as mediated by defensive maturity; and

(4) to clarify the nature of the relationship between maturity of defense, life stress, and psychopathology by covarying verbal ability which may influence the information provided in the interviews.

Hypotheses

The following research hypotheses will be tested:

Hypothesis 1. It was expected that less mature defenses, as measured by the Defense Mechanism Rating Scales (DMRS), would be correlated with higher levels of several types of psychopathology including depression, anxiety, drinking problems, and personality disorders. Depression was measured using the Beck Depression Inventory (BDI). Anxiety was measured using the State-Trait Anxiety Inventory (STAI). Drinking problems were measured using the Michigan Alcoholism Screening Test (MAST). Personality Disorders were measured using the Personality Diagnostic Questionnaire- 4+ (PDQ-4+). It was expected that lower scores on the DMRS would be correlated with higher scores on the psychopathology measures.

Hypothesis 2. It was expected that higher levels of life stress as measured by the Life Events Scale (LES) would be correlated with psychopathology (depression, anxiety, drinking problems, and personality disorders) as measured by the BDI, the STAI, the MAST, and the PDQ-4+. Higher LES scores were expected to correlate with higher BDI, STAI, MAST, and PDQ-4+ scores.

Hypothesis 3. Defensive maturity was expected to play a mediating role between life stress and psychopathology in that more mature defenses as measured by the DMRS would be predictive of lower levels of psychopathology (depression, anxiety,

drinking problems, and personality disorders) as measured by the BDI, the STAI, the MAST, and the PDQ-4+ due to life stress as measured by the LES.

Hypothesis 4. It was expected that the variable of verbal ability would be treated as a covariate as it may be related to the amount of information presented in the narrative and could impact that number of defenses that were scored.

Chapter II: METHOD

Participants

The sample population for the present study consisted of 51 adult females who initially presented as part of a larger longitudinal study on Fetal Alcohol Spectrum disorder at Wayne State University. The initial cohort for the original study consisted of 480 African American mothers and their infants. The participants were recruited between September 1986 and April 1989 during their first prenatal visit ($M = 23.4$ weeks gestation, $SD = 7.9$) to Hutzel Hospital, a large urban maternity hospital clinic in Detroit serving primarily (92%) African American women. The women and their children were evaluated during pregnancy and at intervals when their children were 6.5, 12, and 13 months and 7.5 and 13-14 years. In the original sample, moderate and heavy drinking women were overrepresented by inviting all of the women who reported drinking at least 0.5 oz of absolute alcohol (the equivalent of 1 standard drink) per day to participate as well as a random sample of approximately 5% low-level drinkers and abstainers (Jacobson, et al., 2002). To limit the amount of attrition, the mothers and their children were transported to the laboratory by a community-based outreach worker whose primary responsibility was to locate and transport the participants. At the visits, each child received a gift, and the mother received a small remuneration and a photo of her child. The data for the present study was obtained when the mothers/caregivers returned to the laboratory when their children were 13-14 years old. The sample size for the present study consists of the 51 mothers/caregivers in the sample who were administered the Adult Attachment Interview at the time point when their children were 13-14 years old and whose research protocols were complete.

Protection of Human Participants

The mothers/caregivers in this study included adult females over the age of 18 years old, who have participated in a longitudinal study on Fetal Alcohol Spectrum Disorder conducted through the Jacobson Child Development Research Laboratory, Department of Psychiatry and Behavioral Neurosciences, Wayne State University. Data was gathered from existing archival records that contain information about the variables studied. It is relevant to note that the material included in the study was not gathered specifically for the purpose of studying the relationship between defense mechanisms, life stress, and psychopathology. The initial purpose of the longitudinal study was to study fetal alcohol effects in the children of the mothers in the present study. There do not appear to be any significant risks to the participants involved in the study, as the data are archival. Furthermore, all of the identities of the participants involved in the study are confidential.

Measures

Defense Mechanism Rating Scales (DMRS). The variable maturity of defense was measured using the DMRS (Perry, 1990). The DMRS is a manual and rating scale used to identify the use of 27 defenses. The manual provides a definition for each defense and a description of its intrapsychic function as well as a list of similar defenses and how to differentiate them (Perry and Ianni, 1998). The DMRS is designed for use in making reliable judgments regarding the probability that an individual uses each of the defense mechanisms that are represented in the scale. Ratings are made on transcribed data from interviews in which all identifying data is removed and the rating is blind. Interrater reliability was obtained and consensus scores were used in the data analysis. The scales are intended to be

representations of the concept that defines each defense mechanism. There are 27 defenses included in the scale and they are placed within seven defense levels that range from mature to immature. The seven levels are as follows: mature defenses, obsessional defenses, other neurotic defenses, minor image-distorting defenses (narcissistic), disavowal defenses, major image-distorting defenses (borderline), and action defenses. After the data is scored an overall defensive functioning (ODF) score is calculated. The ODF serves as a measure that indicates the relative adaptiveness of an individual's defensive functioning. The ODF is calculated by multiplying each defense score by a weight ranging from 1 to 7 according to its place in the overall 7-point hierarchy of defenses and then calculating the weighted average of all the defenses rated by the DMRS. For example, if a protocol has 5 mature defenses there would be a weighted score of 35 on level 7 because each level 7 defense receives a weighted score of 7. This process of scoring and multiplying the numbers according to their assigned weight based on the level is conducted for each level and yields a total score that is then divided by the number of defenses to attain the ODF. Each subject will receive an ODF score that ranges from 0-7. Interclass reliability for the overall defensive functioning score has been reported to be a median of .68 across three different sites where the interviews were conducted and scored. Discriminant validity has also been measured and has been reported as small to moderate (.35 to .49) between the overall defensive functioning score and the Global Assessment of Functioning scale of the DSM-IV (Perry et al., 1998).

Adult Attachment Interview (AAI). The AAI (George et al., 1996) provides a narrative about childhood that is similar to the type that might be conducted in a psychotherapy evaluation. The interview asks questions that yield sensitive information regarding childhood issues (Fonagy, 2001). In the present study the AAI was not scored for

attachment but was instead used as a narrative for the basis of scoring defense mechanisms. For the present study, only the parental representation portion of each AAI narrative was used. The section that was scored provides interview data where the participants are asked to choose five adjectives to describe their childhood relationship with each of their primary caregivers yielding ten adjectives in total. They are asked to elaborate upon each of these adjectives by providing examples from their childhood.

Life Events Scale. The Life Events Scale was developed by Holmes and Rahe in 1967. This scale measures the number of life stress events that occurred in the past year of the respondent's life as well as the perceived stress experience regarding each event. The respondent is asked to rate any of 43 listed events she had experienced in the past year in terms of how stressful she found each experience on a scale from 0 (not upsetting at all) to 6 (very upsetting). Reliability and validity statistics have not been published for this scale. However, this scale has been recognized as one of the most widely used and cited assessment instruments in the literature on stress and stress management. A review of the literature since 1967 conducted in 1998 indicated over 4000 citations of the LES in psychology, medicine, and business (Hobson et al., 1998).

Beck Depression Inventory (BDI). Depression was measured using the BDI. The BDI is a 21-question self-report inventory that provides a number that indicates the severity of depression. The BDI is reported to have strong internal consistency reliability, $r = .93$ (Beck & Steer, 1979). Additionally, the BDI is highly correlated with in-depth clinical assessments of depression, median $r = .66$ (Beck et al., 1961).

State-Trait Anxiety Inventory (STAI). The STAI is a 40-question anxiety measure that is divided into two sections. In the first section, respondents are asked to indicate how they

feel right now on a scale ranging from 1 (not at all) to 4 (very much so). In the second section respondents indicate how they generally feel on a scale ranging from 1 (almost never) to 6 (almost always). The inventory yields a score for anxiety based on state and trait. Test-retest reliability for the Trait-anxiety scale ranged from .65 to .86. Test-retest reliability for the State-anxiety scale was .16 to .62. This low level of stability for the State-anxiety scale is expected because scores are only representative of the respondent's functioning at the time of the questionnaire. Convergent validity has also been measured between the STAI and the Taylor Manifest Anxiety Scale and was reported to be .80 (Spielberger, et al., 1970). The STAI has been used for both research and clinical purposes. Data for the present study will be derived from the Trait Anxiety score.

Personality Diagnostic Questionnaire- 4+. The outcome variable of psychopathology was measured using the Personality Diagnostic Questionnaire- 4+ (PDQ-4+). The PDQ-4+ is a 99-item self-administered self-report measure that is used to screen personality disorders. Ninety-three of the items are designed to assess for the DSM-IV personality disorder criteria. The measure takes approximately 30 minutes to complete. The instrument assesses personality disorders using both continuous measures and DSM-IV criteria (Hyler, 1994). The results yield scores for eleven personality disorders. There have been relatively few studies conducted with the PDQ-4+. However earlier versions of the scale have been used extensively in research (Mihura et al., 2003). Internal consistency estimates have been obtained through samples in Italy and China and have ranged from .46 to .74 with an average of .62. Ten-day retest reliability coefficients have ranged from .48 to .79 with an average of .67 (Yang et al., 2000). In a 2003 study conducted in the U.S.A., internal

consistency averaged .79 and ranged from a low of .60 for the Obsessive-Compulsive Scale to a high of .87 for the Antisocial scale (Mihura et al., 2003).

Michigan Alcoholism Screening Test (MAST). The MAST was used as a screening for problematic drinking for the women in the study. The MAST is administered orally and is scored as 0, 1, 2, or 5, yielding a total score from 0 to 53. A MAST score is considered positive if it is greater than 4 and indicates that the respondent has experienced psychosocial or physical problems related to alcohol abuse and is an alcoholic or at risk for alcohol dependence (Selzer, 1971). The median internal consistency reliability reported for the MAST is .85 (Shields, 2003). Convergent validity between the MAST and the DSM-IV criteria for alcoholism is reported to be $r = .63$ (Conley, 2002).

Peabody Picture Vocabulary Test-Revised (PPVT-R). The PPVT-R was used as a measure of the participants' verbal abilities. The PPVT-R is an individually administered, norm-referenced, wide range test of vocabulary. The test has been designed for people between the ages of 2 ½ through 40 years old and is designed for individuals who can see and hear reasonably well. Administration of the test takes 10-20 minutes and requires the respondent to answer between 35 and 45 items, depending on basal and ceiling levels. The PPVT-R is strongly correlated with comprehensive measures of adult IQ including the Wechsler Adult Intelligence Scale (WAIS), median $r = .72$, and the results are highly stable over a 1-year period, median $r = .72$ (Dunn & Dunn, 1981).

The chart below summarizes the proposed model for life stress, maturity of defense mechanisms, and psychopathology. It also depicts the measures for the independent variables, outcome variables, and covariates.

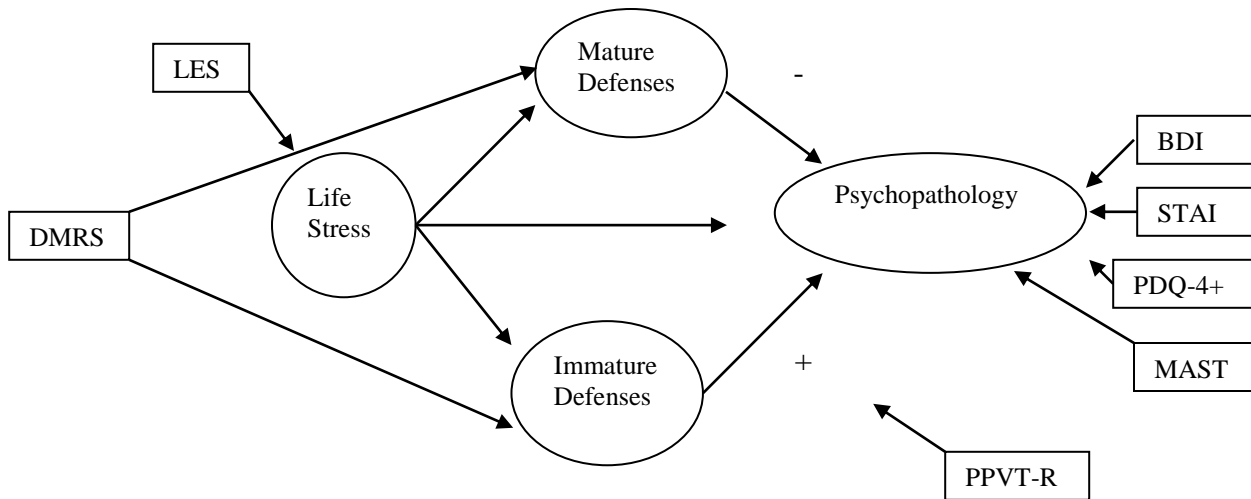


Figure 2: Defense Mechanisms as a mediator between life stress and psychopathology with measures used for each variable.

Procedures

As mentioned previously, data were collected at the Jacobson Child Development Research Laboratory at Wayne State University in Detroit, Michigan. Participants were individually administered each of the measures at various time points throughout the longitudinal study at the research laboratory. Data from the Life Events Scale, the MAST, the BDI, the PDQ-4+, the STAI and the AAI were used from their collection at the 13-14 year visit. The PPVT-R data were collected when the children of the mothers were infants.

Analysis and Design

The research design for this correlational study is retrospective. Preliminary correlations were examined between each of the predictor variables, criterion variables, and relevant demographic variables to determine which variables should be included in multiple regressions. If the correlations had been significant, 4 multiple regressions would have been run to assess the relationship between maturity of defense, life stress, and psychopathology. The first to measure anxiety as the dependent variable, the second to measure depression as

the dependent variable, the third to measure drinking problems as the dependent variable, and the fourth to measure personality disorders as the dependent variable.

A correlation coefficient served as an estimate of effect size since multiple regression analyses are being used. The magnitude of effect size used for this study is as follows: large = .26 and above, medium = .13 and above, and small = .0196 and above (Cohen, 1988).

This study is restricted by a relatively small sample size. In order to achieve a power of .80 for a medium effect size difference, approximately eighty subjects are needed for a multiple regression analysis with three predictor variables. With only 51 subjects there is only a 59% chance of detecting a medium effect size (Clark-Carter, 1997). Although proceeding with 51 subjects may be considered by some as non-optimal, these relationships have not been studied previously with the Defense Mechanism Rating Scales. If statistically significant results are not found, trends in the hypothesized direction can lead the way for a larger study and thus one with greater power to detect differences. However, it should be noted that if the predictor variables do not significantly correlate with the criterion variables prior to the multiple regression, they will not be included in the analyses and thus the number of predictor variables will decrease and in turn increase the level of power.

The variables were quantified by using data from the previously mentioned measures. With regard to the Defense Mechanism Rating Scales, inter-rater reliability was established via instruction of both raters by an expert rater. Consensus scored data was used in the analysis. Raters were provided transcribed manuscripts of maternal attachment interviews conducted at the 13 to 14- year follow-up. The data used in the sample were archival in nature and the identities of the participants remained confidential. Participants were randomly assigned subject ID numbers.

Limitations

There are several limitations to the present study that should be considered. There are several threats to validity. One threat is that the sample is representative of a very specific population of African American women in an urban setting. While this is one of the strengths of the study as it is investigating a population that has not previously been studied in this way, the specific population could represent a significant threat to external validity. The results may not necessarily generalize to all people. Additionally, there is some threat to the internal validity of the study, in that there are likely to be other variables that may predict psychopathology such as family history of psychopathology that are not considered in the present study. Furthermore, the sample size of 51 participants is somewhat small and should be taken into consideration when interpreting the results. Finally, a major limitation is that this is an archival study, which limited the design because it was not possible to choose the number of subjects or the measures. A major limitation is that there were only 28 respondents for which PDQ-4+ data was completed. This limits the conclusions that can be made with regard to personality functioning.

Chapter III: Results

Sample Characteristics

The sample characteristics are reported in Table 1. This is a community sample of 51 African American women. The ages of the participants ranged from 30.4 to 68.1 with an average age of 42.1 years. Regarding socioeconomic status, the participants received a mean score of 29.8 (SD= 9.5) placing them at the upper end of the second level of social strata (semiskilled workers) based on the Hollingshead four factor index of social status (1975). The index involves four factors that include education, occupation, gender, and marital status and yields five levels of social status with one being the lowest and five being the highest placing the participants at the second to lowest level. The participants had an average education level of 12.7 years ranging from 9 to 16 years. In the sample, 29.4% of the participants were married and 54.9% were on welfare.

Regarding alcohol use, the mean number of alcoholic drinks per day consumed by the participants was 2.4 and ranged from 0 to 21.4 drinks. The mean number of drinks consumed per drinking day was 4.2 and ranged from 0 to 25.6. The frequency of marijuana used per month ranged from 0 to 30.1 days per month with a mean of 1 day per month. 43.1% of the participants indicated that they are smokers and the number of cigarettes smoked per day ranged from 0 to 20 with an average of 5 cigarettes per day. Cocaine and crack cocaine use was minimal among this population. Only 2 participants reported using cocaine with a mean frequency of 0.5 days per month and only 3 participants reported using crack cocaine with a mean frequency of 0.6 days per month.

Inter-Rater Reliability

Raters were trained on the DMRS manual for coding interview data. Forty-two of the 51 protocols were double coded and acceptable inter-rater reliability was obtained under the supervision of an expert rater. Weekly meetings were held between two raters to compare protocols that were individually scored prior to the meetings. Additional meetings were held between the two raters and the expert rater to ensure accuracy. Interclass correlations were obtained. The ODF score was .77, the level 1 action defenses were .80, the level 2 major image-distorting defenses were .71, the level 3 disavowal defenses were .62, the level 4 minor image-distorting defenses were .78, the level 5 other neurotic defenses were .63, the level 6 obsessional defenses were .60, and the level 7 mature defenses were .81. Consensus scores between the two raters under the supervision of the expert rater were used in the final data analysis.

Descriptive Statistics

Table 2 displays the data for each of the specific defense levels and the ODF for the DMRS. On the DMRS that were used to score the parental representations portion of the AAI for defensive functioning, the participants received a mean ODF score of 4.7 (SD= 0.6) placing them between the immature and neurotic levels of defensive functioning. On the DMRS levels 1 through 4 are considered immature, levels 5 and 6 are considered neurotic, and level 7 is considered mature (Perry, 1993). Each specific defense level was further examined and the means, standard deviations, and skewness and kurtosis can be reviewed in Table 2. Skewness and kurtosis were analyzed to determine if the distribution of the defensive functioning variables were normally distributed. All but two of the variables fell

within the normal range (Curren et al, 1996). The level 1 action defense scores fell within the non normal range with the skewness of 3.01 falling within the severely non normal range and the kurtosis of 9.77 falling within the moderately non normal range. The level 2 major image distorting defense score fell within the normal range for kurtosis but in the moderately non normal range for skewness with a value of 2.06. This indicates that the consensus scores for levels 1 and 2 should be interpreted with great caution.

Intercorrelations of the DMRS were run and are reported in Table 3. There were several correlations between the levels. Level 7 (mature) defenses were intercorrelated with the ODF score and the level 1 (action) defenses at the $p < .01$ level. At the $p < .05$ level significant intercorrelations were found between level 2 (major image distorting) defenses and ODF, level 6 (obsessional) defenses with levels 1, 2, and 3 (disavowal), and between level 7 and level 3. However, the significant correlations make little sense and call in to question the use of the DMRS with the parental representations portion of the AAI. The means, standard deviations, and ranges for each specific defense are reported in Table 4. The maximum amount that any specific defense was scored in a protocol is 5 and the minimum is zero. The most commonly used defense was idealization with a mean of 1.55 ($SD = 1.46$).

Means for each of the scales used in this study are reported in Table 1. On the PPVT-R, the participants received a mean score of 77.9 ($SD = 11.7$) and 5.9% of the participants received a PPVT-R score below 70. This indicates that on average the verbal abilities of the participants were much lower than average. On the BDI, the participants received a mean score of 7.5 ($SD = 5.4$), placing them in the minimal range also known as the normal range based on the normative standards obtained by Beck and Steer (1987) for the BDI. None of the participants were in the severe range of depression and 5.9% of the participants obtained

BDI scores in the moderate range of depression. Participants obtained a mean score of 31.0 (SD= 9.2) on the State Anxiety portion of the STAI and a mean score of 35.5 (SD= 8.3) on the Trait Anxiety portion of the STAI indicating that the participants on average were not in the clinical range for anxiety. On the MAST 45% participants were MAST positive indicating that on average, the participants have drinking problems and are at high risk for alcoholism. On the PDQ-4+ the participants received a mean score of 19.6 (SD= 9.4) indicating that on average the participants do not meet criteria for personality disorders of any type. It should be noted that only 28 of the 51 subjects had available PDQ-4+ data. On the Life Events Scale, the participants received a mean score of 8.9 (SD= 5.8) for total number of stressful events and a mean score of 38.9 (SD= 29.3) for the total perceived stress score. This indicates that on average participants endorsed 8.9 stressful events in the past year.

Correlation of Variables with Sample Characteristics

Correlations in Pearson Correlation Coefficients between sample characteristics and the dependent and independent measures are reported in Table 5. Age was negatively correlated with the overall defensive functioning score ($r = -.45, p < .01$). Number of days that crackcocaine was used per month was positively correlated with depression ($r = .42, p < .01$), State Anxiety ($r = .37, p < .01$), Trait Anxiety ($r = .44, p < .01$), and MAST score ($r = .28, p < .05$). Number of cigarettes smoked per day was positively correlated with alcoholism ($r = .39, p < .01$) as were number of alcoholic drinks per day ($r = .29, p < .05$) and number of drinks per drinking day ($r = .44, p < .01$).

Tests of Hypotheses

Hypothesis 1. Hypothesis one stated that less mature defenses will be correlated with higher levels of several types of psychopathology including depression, anxiety, drinking problems, and personality disorders. This hypothesis was tested using a Pearson correlation and for the most part did not demonstrate a correlation between defensive functioning and psychopathology. However, there were some significant correlations. The ODF score was positively correlated with personality disorders $r = .41, p < .05$. Also level 6 (obsessional) defenses were positively correlated with personality disorders $r = .40, p < .05$. However, these correlations are in the opposite direction of what would be expected as they demonstrate that more mature defensive functioning is correlated with higher levels of personality disorders. Also level 5 (other neurotic) defenses are positively correlated with State Anxiety $r = .31, p < .05$ and level 6 (obsessional) defenses were positively correlated with Trait Anxiety. See Table 6 for results.

Hypothesis 2. Hypothesis two stated that higher levels of life stress will be correlated with several types of psychopathology including depression, anxiety, drinking problems, and personality disorders. This hypothesis, tested using a Pearson correlation, was found to be significant. Life stress was measured by the LES and was analyzed for both Total Stressful Events (the number of life stress events that the participant experienced during the past year) and Total Stress Score (the amount of perceived stress during the past year). Total Stressful events was found to be positively correlated with depression $r = .45, p < .01$, State Anxiety $r = .43, p < .01$, Trait Anxiety $r = .44, p < .01$, drinking problems, $r = .41, p < .01$, and personality disorders $r = .46, p < .05$. Total Stress Score was found to be positively correlated with depression $r = .39, p < .01$, State Anxiety $r = .40, p < .01$, Trait anxiety $r = .42, p < .01$, MAST, $r = .37, p < .01$, and personality disorders $r = .45, p < .05$. All of the correlations were

significant supporting the hypothesis that higher levels of life stress are correlated with higher levels of psychopathology. See Table 7 for results.

Hypothesis 3. Hypothesis three stated that defensive maturity will play a mediating role between life stress and psychopathology in that more mature defenses will be predictive of lower levels of psychopathology (depression, anxiety, drinking problems, and personality disorders). This hypothesis could not be tested using a multiple regression as planned because defensive functioning was not found to be correlated with psychopathology as had been expected.

Table 1. Sample Characteristics (N = 51)

	<u>N</u>	Mean or %	SD	Range
Age	51	42.1	8.6	30.4 - 68.1
Socioeconomic status ^a	50	29.8	9.5	17.0 - 51.0
Education (years)	50	12.7	1.6	9.0 - 16.0
Marital status (% married)	50	29.4		
Welfare status (%)	50	54.9		
Overall Defensive Functioning Score	51	4.7	0.6	3.4 - 5.8
PPVT-R score at 13 yr visit	51	77.9	11.7	58.0 - 115.0
Beck depression score	51	7.5	5.4	0.0 - 21.0
State Anxiety	51	31.0	9.2	20.0 - 58.0
Trait Anxiety	51	35.5	8.3	20.0 - 55.0
Michigan Alcoholism Screening Test	51	45		
Personality Diagnostic Questionnaire 4+	28	19.6	9.4	6.0 - 41.0
Total Stressful Events	51	8.9	5.8	1.0 - 26.0
Total Stress Score	51	38.9	29.3	4.0 - 154.0
Cocaine use (days/month)	51	0.002	0.12	0.0 - 0.75
Crack cocaine use (days/month)	51	0.003	0.16	0.0 - 1.0
Marijuana (days/month)	51	1.0	4.6	0.0 - 30.1
Smoking (% of smokers)	51	43.1		
Smoking (cigarettes/day)	50	5.0	7.5	0.0 - 20.0
Alcohol use (drinks/day)	50	2.4	2.0	0.0 - 21.4
Alcohol use (drinks/ drinking day)	50	4.2	3.1	0.0 - 25.6

^a Hollingshead (1975) Four Factor Index of Social Status.

Table 2. Descriptive Statistics for the DMRS ($N = 51$)

	Mean		SD	Skewness	Kurtosis
	Number of Defenses	Weighted Score			
ODF	10.71	4.7	0.6	-0.016	-.859
Level 1 Action	0.25	0.27	0.7	3.01	9.77
Level 2 Major Image Distorting	0.53	1.1	1.9	2.06	3.78
Level 3 Disavowal	2.02	5.6	4.5	0.46	-.080
Level 4 Minor Image Distorting	2.69	10.8	8.9	1.12	0.70
Level 5 Other Neurotic	1.45	7.6	6.1	0.49	-.23
Level 6 Obsessional	1.61	9.5	9.1	0.57	-0.28
Level 7 Mature	2.16	15.1	18.8	1.81	2.90

Table 3. Intercorrelations between Defense Scores (N = 51)

Variable	ODF	L1	L2	L3	L4	L5	L6	L7
L1	.02							
L2	-.32*	-.11						
L3	-.26	.32	-.05					
L4	-.25	.19	.21	-.08				
L5	-.06	.033	-.04	-.09	.08			
L6	.22	.33*	-.31*	.29*	.03	.09		
L7	.49**	.56**	.01	.28*	.10	-.03	.18	

*p< .05; **p<.01

Table 4. Descriptive Statistics for Each Defense (N = 51)

Defense	Level	Mean	SD	Range
Affiliation	7	.43	.81	0 - 4
Altruism	7	.12	.33	0 - 1
Anticipation	7	.006	.24	0 - 1
Humor	7	.25	.63	0 - 3
Self- Assertion	7	.43	.85	0 - 4
Self- Observation	7	.76	1.19	0 - 5
Sublimation	7	0	0	0 - 0
Supression	7	.008	.27	0 - 1
Isolation	6	.49	.81	0 - 4
Intellectualization	6	.33	.65	0 - 2
Undoing	6	.78	1.0	0 - 2
Repression	5	.86	.89	0 - 3.
Dissociation	5	0	0	0 - 0
Reaction Formation	5	.49	.76	0 - 3
Displacement	5	.12	.38	0 - 2
Omnipotence	4	.16	.42	0 - 2
Idealization	4	1.55	1.46	0 - 5
Devaluation	4	.88	1.18	0 - 4
Denial	3	.78	1.01	0 - 4
Projection	3	.25	.48	0 - 2
Rationalization	3	.98	1.19	0 - 4
Fantasy	3	0	0	0 - 0
Splitting (Others' Images)	2	.41	.83	0 - 4
Splitting (Self Images)	2	.002	.14	0 - 1
Projective Identification	2	.01	.46	0 - 3
Acting Out	1	.24	.59	0 - 3
Passive Aggression	1	.004	.20	0 - 1
Hypochondriasis	1	0	0	0 - 0

Table 5. Correlations between Sample Characteristics and Measures

Variables	ODF	BDI	State Anxiety	Trait Anxiety	MAST	PDQ-4+	TSE	TSS
Age	-.45**	.20	.16	.13	.05	-.42	-.06	-.02
SES	.07	-.01	-.08	-.02	-.08	.25	.13	.08
Education	.04	-.05	.04	.10	-.07	.35	-.02	-.04
PPVT-R	-.19	.03	-.09	-.18	-.08	-.29	-.10	-.10
Cocaine use (days/month)	-.27	-.08	.07	.01	.05	-.24	-.05	.01
Crack Cocaine (days/month)	.03	.42**	.37**	.44**	.28*	.13	.14	.11
Marijuana (days/month)	.04	.08	.03	.03	.00	.31	-.03	-.06
Smoking (cigarettes/day)	-.08	.20	.22	.20	.39**	.05	.08	.10
Alcohol use (drinks/day)	-.07	.30*	.10	.25	.29*	.00	.08	.10
Alcohol use (drinks/ drinking day)	-.10	.30*	.17	.25	.44**	.14	.10	.13

*p <.05, ** p <.01

Note. TSE = Total Stressful Events, TSS = Total Stress Score

Table 6. Correlations between Defense Scores and Depression (BDI), Anxiety (STAI), Drinking Problems (MAST), and Personality Disorders (PDQ- 4+)

Variable	BDI	State Anxiety	Trait Anxiety	MAST	PDQ-4+
ODF	-.13	.01	.05	-.13	.41*
L1	-.01	-.17	-.11	-.19	-.23
L2	.20	-.11	.11	-.12	-.15
L3	.07	-.07	.00	.21	-.02
L4	.17	-.07	.14	.04	.11
L5	-.01	.31*	.23	.10	.14
L6	.27	.07	-.28*	.01	.40*
L7	.01	.11	.06	-.19	.13

*p <.05

Table 7. Correlations between Life Stress (LES) and Depression (BDI), Anxiety (STAI), Drinking Problems (MAST), and Personality Disorders (PDQ- 4+)

Measure	BDI	State Anxiety	Trait Anxiety	MAST	PDQ-4+
Total Stressful Events	.45**	.43**	.44**	.41**	.46*
Total Stress Score	.39**	.40**	.42**	.37**	.45*

*p <.05, ** p <.01

Chapter IV: Discussion

Overview

The purpose of this study was to examine the relationship between maturity of defense mechanisms, life stress, and psychopathology in an adult female population. This study was supportive of the relationship between life stress and psychopathology, but did not demonstrate relationships between maturity of defense and psychopathology.

Hypothesis 1 was not supported by this study. Less mature defenses were not found to be correlated with higher levels of psychopathology. While there were some significant correlations, they were sporadic and not in the anticipated direction. An exploratory analysis was run to examine the frequency of each specific defense included in the DMRS.

Descriptive statistics were run to determine the means, standard deviations, and ranges that each defense was used. The results of this analysis indicated that idealization was the most commonly used defense among the participants.

Hypothesis 2 was confirmed showing a positive relation between higher levels of life stress and all measures of psychopathology (depression, anxiety, drinking problems, and personality disorders). Hypothesis 3 stated that defensive maturity would play a mediating role between life stress and psychopathology in that more mature defenses would be predictive of lower levels of psychopathology (depression, anxiety, drinking problems, and personality disorders). This hypothesis was not tested using a multiple regression as planned because defensive functioning was not found to be correlated with psychopathology as had been expected.

Defense Mechanisms and Psychopathology

In the present study defense mechanisms were not shown to be related to psychopathology. This was an unexpected finding given the large amount of literature that has linked these two concepts (A. Freud, 1936; Loewenstein, 1967; McWilliams, 1994). Additionally empirical support has demonstrated a relationship between maturity of defense and psychopathology (Cramer, 1990; Vaillant, 1994; Lingiardi et al., 1999, Perry, 2001).

It is interesting to consider why the results of this study did not support this hypothesis. Based on the research supporting a link between defensive maturity and psychopathology, it can be speculated that the lack of significance in the study is related to the choice of measures used. One of the strengths of the present study is that it used the DMRS on a type of narrative (the parental representations portion of the AAI) that had not been attempted before. While it was interesting to use DMRS with a new type of narrative, it is possible that this is one of the main reasons that the hypothesis was not confirmed. Typically, the DMRS has been used with narratives related to psychopathology. The DMRS has generally been used with a clinical population in the context of therapy. For example, initial therapy sessions have been transcribed and used for scoring. The parental representations portion of the AAI does not address psychopathology directly. It requires the participants to think of five adjectives to describe both of their primary caregivers and then to provide an example for each adjective. Essentially, in this portion of the AAI, participants reflect upon their past to describe others. While many defense mechanisms were scored, they may not have been indicative of their typical defensive functioning.

An exploratory analysis was run to examine this idea further. The defense that was most commonly used among the participants was idealization. This indicates that the

participants were perhaps defending against the unpleasant memories of their primary caregivers or themselves in order to prevent anxiety. However, it is questionable if the need for idealization would have been as strong if the interview had focused on the present. This may have in part been related to a desire to protect their memories of their parents. It can be speculated that different defenses come into play when talking about childhood memories. There have been no known studies that address this topic directly. However, Akhtar (1996) discussed the idea that individuals can often engage in idealization and nostalgia when discussing the past. He addressed the concepts of “if only” fantasies that occur in therapy in which the individual idealizes the past and becomes nostalgic. He discussed how idealization can help individuals defend against unpleasant aspects of childhood. He added that it is important to recognize these types of defenses in therapy in order to unmask the unrealistic fantasies and facilitate the subsequent mourning for the fantasies.

Another reason that the results did not support the relationship may be related to the scope of the DMRS. The DMRS yields an overall defensive functioning score (ODF) in which more mature defenses are assigned higher weights than immature defenses. As a result, if a protocol has several mature defenses the ODF score is higher. The results of this study create speculation regarding the ability of the DMRS to sufficiently describe people who use both mature and immature defenses. For example, a protocol with several immature defenses and several mature defenses would fall within the average range and would receive a similar ODF score as a protocol with mostly level 4 defenses. This raises questions about the way in which defensive maturity has been conceptualized. The relationships between the types of defenses that people use are complicated and may not be adequately summarized by the ODF score.

Life Stress and Psychopathology

Life stress was shown to be significantly related to psychopathology in all areas studied (depression, anxiety, drinking problems, and personality disorders). These results demonstrated that life stress is positively correlated with psychopathology indicating that higher levels of life stress are correlated with higher levels of psychopathology. This finding is consistent with the large body of research that has indicated a relationship between life stress and psychopathology. Life stress was measured by the number of stressful events that occurred in the past year (Total Stressful Events) and by the amount of perceived stress that was experienced (Total Stress Score). Both indicators of life stress were found to be significantly correlated with all forms of psychopathology.

These results are convergent with past literature in the area of life stress and psychopathology. For example, Hammen and colleagues (2000) conducted a study with 155 young-adult women that examined how life stress early on in life can lower the threshold for depression throughout life. They found that women who had experienced childhood adversity such as family violence, parent psychopathology, or parent alcoholism were more likely to experience depression than women who had not been exposed to childhood adversity.

Roemer and colleagues (1996) conducted a study of 94 adult patients that examined the relationship between life stress and Generalized Anxiety Disorder (GAD). They compared anxious patients with a non-anxious control group based on the amount of reported stressful life events in the past year. They found that participants with GAD were more likely than the controls to have experienced potentially traumatizing events within the past year.

Alcoholism has also been found to be related to life stress in past research. For example, Gorman and Peters (1990) conducted a study that examined life stress as a predictor of alcoholism. Their study consisted of 23 alcohol dependent adult participants and a community comparison group that was studied over the same 12-month period. They found that both the male and female alcohol dependent participants reported significantly more severe life events in the year that preceded their alcohol dependence than the community group.

Defense Mechanisms as a Mediator between Life Stress and Psychopathology

It is unfortunate that this hypothesis could not have been tested in the present study. The three constructs of maturity of defense, life stress, and psychopathology have not been examined in a community sample of women. For example, Vaillant (1977) examined these three constructs and the sample for his study consisted of men who were academically successful in college and were primarily from a high socioeconomic class. It was the aim of this study to be able to examine these constructs with a different population.

Implications of the Findings

One of the most important research implications of this study is that it demonstrated that the DMRS was not successful for use with the parental representations portion of the AAI. There have been no known studies that have attempted to use the DMRS with the AAI and this study attempted to show that this was another narrative that could be considered. It would be helpful to conduct another study with the DMRS and the AAI to determine if the findings are replicated. Additionally, future studies could use the DMRS with different types of narratives to determine if they are useful. However, based on the non significant findings regarding defense mechanisms, it is recommended that future research with the DMRS be

conducted with narratives that emphasize present functioning that focuses primarily on the individual such as transcribed therapy sessions or initial therapy intakes.

Another relevant research implication is that this study was convergent with past literature regarding the relationship between life stress and psychopathology. It is important for both research and clinical reasons, that the connection between life stress and psychopathology is explored. These concepts have not often been examined in an urban setting with African American women. These results suggest important preventative and treatment implications. For example, it would be beneficial to provide education to women in urban settings regarding the connection between life stress and psychopathology in order to create a better understanding of the causes of mental illness. With regard to treatment, understanding triggers to symptoms of psychopathology is a key component of therapy.

Further exploration of the relationship between defensive maturity, life stress, and psychopathology is necessary because of the important theoretical and clinical implications. The results of this study may cause one to question the theory that maturity of defense mechanisms and psychopathology are related as it was not supported by the present study. However, as discussed previously, it is likely that the lack of significance was due to the use of the DMRS with the parental representations portion of the AAI. Also, the lack of significance may be related to the use of the ODF score. The function of the ODF score is to reflect the individual's overall level of defensive maturity. However, it does not reflect those who utilize defenses on extreme ends of the spectrum. Should a person who utilizes very mature defenses along with very immature defenses be conceptualized in the same way as an individual who utilizes mainly defenses that are somewhere in the middle? For example, if

an individual relies heavily on denial, does it then become buffered by the frequent use of a mature defense such as humor?

The study also has both theoretical and clinical implications in that defenses have generally been conceptualized in terms of maturity and immaturity in one direction with mature defenses considered as more adaptive. However, it is possible that some immature defenses could be considered adaptive in both situational and chronic experiences. For example, the use of denial by an individual who has a terminal illness may in fact serve to prevent depression and anxiety. While denial is an immature defense, it is in this case preventing symptoms of psychopathology rather than promoting them.

This study was important in that it examined the concepts of maturity of defense, life stress, and psychopathology with a community sample of African American women in an urban setting. There has not been previous defense mechanism research with this population, and it is clear that more research would be beneficial in better understanding defensive functioning. Furthermore, it is clinically valuable to make use of defense mechanism research within the therapeutic relationship.

Limitations of the study

A limitation of the design is that the initial study was not specifically designed to study defense mechanisms. The AAI was the only narrative that was available for use with the DMRS within the data set that was used for the study. Additionally, one of the main limitations to this type of defense mechanism research with the DMRS on a narrative is that there is questionable generalizability to external situations. Also, the generalizability of the

study is somewhat limited because all of the subjects were African American females. The findings of this study may not apply to all populations.

Finally this was a relatively small sample size with only 51 subjects. There were a number of nonsignificant associations that in a larger study would have been significant and which probably should still be explored in a larger cohort. Furthermore, PDQ-4+ data were only available for 28 of the respondents. This indicates that results related to personality disorders should be interpreted with caution.

Future Directions

Future research in the area of defensive maturity, psychopathology, and life stress is necessary. Future studies could improve upon this study by using the DMRS with a different type of narrative. For example, Perry has used the DMRS with recent histories obtained from patients (Perry et. al., 1998). Another possible future study could examine defenses with both Cramer's Defense Mechanism Manual and the DMRS to compare both scales that are prominent in defenses mechanism research. Ultimately, a thorough understanding of the relationship between defensive maturity, psychopathology, and life stress is important and necessary for clinical work.

Appendix A: Informed Consent Form

Fetal Alcohol Exposure and School Age Cognition
Sandra W. Jacobson, Ph.D., Principal Investigator

CHILD DEVELOPMENT STUDY -- INFORMED CONSENT

INTRODUCTION/PURPOSE: My child _____ and I have been invited to continue to participate in the Wayne State University Child Development Study on the effects of prenatal alcohol exposure on school-aged children. This research study will use new tasks from developmental and clinical psychology to better understand these effects. To help me decide whether or not to continue to participate with my child in this study, a project staff member has discussed the risks and benefits with me. This consent form summarizes the information provided to me during this informed consent process.

PROCEDURE: I will be brought to the Wayne State University Child Development Laboratory when my child is 12.5 years old for a one-day visit. My child will be brought to the laboratory for two one-day visits. A staff member will administer a series of tasks to my child, which examine skills, such as, reaction time, arithmetic, memory, and attention. The assessment will also look at social judgment, social competence, anxiety, and aggressive behavior and will include a clinical psychological evaluation. My child will also be weighed and measured. At the same time, I will be interviewed separately in a different room by another member of the staff regarding my child's behavior, academic and health history, stresses in my daily life, social support from family and friends, and my current drinking and drug use, if any. I will be asked for permission to have my child answer some questions about his/her physical/pubertal development, using schematic drawings of pubertal stages. My child will also be interviewed regarding his/her alcohol, smoking, and drug use. Saliva samples will be obtained from my child and myself by asking us to spit into a straw. The saliva samples will be analyzed for levels of cortisol and other hormones that increase in response to mild stress. My child and I will each be asked to allow a trained staff member to draw a few drops of blood from a finger. The blood will be used to determine the presence of a gene for rapidly metabolizing alcohol and will not be used for any other genetic studies. It will also be analyzed for cortisol and other hormone levels. Although the health risk of blood collection is minimal, I understand that the procedure could cause some temporary localized discomfort or swelling. My child will also be asked to let a staff member cut off a few strands of his/her hair to test for drugs. Some of the tasks we are doing will be recorded on audiotape or videotape; others will be written down. We will put an ID number on all of the materials we collect, not your name. We might use those tapes for training purposes of study presentation, but at all times you will remain anonymous. Photos will be taken of my child and a copy given to me as a gift. As in the past, the interview and tasks will take about 7 hours for each visit.

RISKS: The developmental assessments have been specially devised for use with children and should not entail any significant physical or psychological distress. Except for the finger stick, there are no invasive procedures. However, some of the clinical assessments may be experienced as sensitive or stressful. If they are, a project staff member will talk with my child and/or me and, if I would like, he or she will make a referral for care, remedial help, or social services. If information about activities that may be dangerous to my child or others is revealed during his/her interview, s/he will be encouraged to obtain help and to discuss the problem with me and the interviewer before leaving the laboratory. With his/her consent, I will be informed of the problem, and a referral will be made for appropriate services. My child and I understand that in the event that s/he reveals information about endangering behavior, such as, suicidal behavior or pronounced thinking or intent, repetitive fire setting, or drinking or drug use to the point of

unconsciousness, confidentiality will not be maintained and that this information will be shared with me, and recommendations will be made for prompt referral for further assessment and possible treatment.

BENEFITS: I will receive information about my child's current development. If any problems are found, they will be discussed with me and my child and, if we want, my child will be referred for remedial help or social services, payment for which will be my responsibility. No information about my child will be released to school or social services unless I request it in writing.

COMPENSATION: I will be paid \$60 for the assessment visit, and will be given a photo of my child. My child will be paid \$40 for the first visit, \$40 for the second visit, and will receive a gift at the end of the second visit. In the unlikely event of any injury resulting from the research study, no reimbursement, compensation, or free medical care is offered by Wayne State University.

VOLUNTARY PARTICIPATION/WITHDRAWAL: I understand that my participation and my child's participation are voluntary and that we can withdraw from the study at any time.

CONFIDENTIALITY: I understand that the confidentiality of the information received about my child and my family will be very carefully protected. Only subject identification numbers are recorded on assessment forms and laboratory reports. The list linking subject identification numbers and names will be stored in locked file cabinets in the laboratory. With the exceptions noted below, access to our names is limited to project staff members who need to contact me or my child by telephone, by mail, or in person. Because this research is sponsored by the U.S. Department of Health and Human services, staff from this agency may review study records, but every attempt will be made to resist any demands to release information that identifies me or my child. I understand that the information provided by my child is also confidential and that I will not be given this information unless the interviewer learns something that indicates that he or she is in danger of being hurt or hurting him/herself or others. The study has obtained a certificate of confidentiality from the federal government, which says that the study personnel cannot be forced to tell people who are not connected with the study about our participation without my written consent. This includes courts and government agencies. However, I understand that confidentiality will not be maintained if you learn that I or my child are engaging in behavior that represents significant danger to ourselves or others. In that event, a recommendation will be made for prompt referral for professional help and the problem may be reported to the Michigan Department of Social Services.

QUESTIONS: If I have any questions about my participation in this study, I can telephone Dr. Sandra W. Jacobson (313-993-5454). If I have any questions about my rights as a subject, I can contact the chairman of the Behavioral Institutional Review Board (313-577-1628).

CONSENT TO PARTICIPATE IN RESEARCH STUDY: I have read or had read to me all the information about this research study, including the procedure, possible risks, side effects, and likelihood of any benefits to me and my child. The content and meaning of this information has

been explained to me and to my child and is understood. All our questions have been answered. I hereby consent and voluntarily offer to take part in the study. I will receive a signed copy of this consent form.

(Parent/Caregiver's signature)

(Date)

(Study Representative)

(Date)

MATERNAL INTERVIEW - 13 YEARS

Respondent (relationship to child)

- 1= child's mother
- 2= child's father
- 3= child's grandmother
- 4= child's aunt
- 5= other relative; relationship. _____
- 6= other non-relative; relationship (e.g., family friend, babysitter) _____
- 7= foster parent
- 8= adoptive parent

Sex of respondent (Circle) M F

1. Are you the person who is primarily responsible for (child)?
(If asked what this means, explain in terms of the person primarily responsible for making important decisions for child, e.g., where s/he lives, goes to school, how s/he should act, etc.)

YES: How old are you? (List on first line below.)

Does anyone share that responsibility with you? [List below with age(s).]

NO: Who is primarily responsible for (child)? (List on first line below)

Does anyone share that responsibility for him/her? [List below with age(s).]

CURRENT PRIMARY CAREGIVERS

<u>First Name</u>	<u>Relationship</u>	<u>Age</u>
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(IF FATHER IS NOT LISTED IN CURRENT PRIMARY CAREGIVER TABLE OR ONE OF THE HOUSEHOLD TABLES)

Does *(child)* ever see his/her father? _____ Yes _____ No (go to Ques. #5b,c & d)

a. IF YES: How often does s/he see him?

#6) ___ days/wk. OR _____ days/mo. OR _____ days/yr. (Go to Ques.

b. IF NO: When was the last time *(child)* saw his/her father? _____

c. Why doesn't *(child)* see him?

d. Is there another adult male (*child*) sees regularly who takes some responsibility for him/her? (Include brother if at least 18 years old)

___ Yes No (Go to Ques. #7)

Who is that (first name only)? _____

Relationship to child _____

How often does s/he see him?

___ days/wk. OR _____ days/mo. OR
days/yr.

3. (REFERRING TO CURRENT PRIMARY CAREGIVER TABLE)

Have you (or has _____) been the person primarily responsible for (*child*) continuously since s/he was born?

___ Yes (Go to Part II) No

IF NO: Who was primarily responsible for him/her when s/he first came home from the hospital? (enter first name and relationship below)

When did someone else take over responsibility? (enter age of child below)

Why was that? (enter reason below)

Has that person had primary responsibility for (*child*) continuously since that time?

___ Yes (Go to Part II) No

IF NO: When did someone else take on responsibility (repeat above for each incident)

II. DEMOGRAPHIC BACKGROUND:

We need to get some background information from you.

1. a. Are you currently employed? ___ Yes _____ No (Go to Ques. #1b)

IF YES: What do you do? _____

Hours per week:

b. Are you currently studying in school? ___ Yes _____ No (Go to Ques. #1 c)

Hours per week: _____

c. How many (full-time equivalent) years of school have you completed? _____

2. What is your marital status?

3. a. Is your spouse/partner currently employed?

___ Yes No (Go to Ques. #3b)

IF YES: What does s/he do?

b. How many (full-time equivalent) years of school has s/he completed? _____ _

Does anyone else help support you and your child(ren) financially?

___ Yes No (Go to Ques. #5)

Does s/he provide at least half of your support?

___ Yes No (Go to Ques. #5)

a. IF YES: Who provides this support?

b. What is his/her primary source of support? _

c. How many (full time equivalent) years of school has s/he completed? _____ _

5. What is your family's yearly income? (Show the income chart). Please give me the number that describes your family's income on this chart. (Include the income from all the members from the household, but DO NOT include the income from welfare assistance.)

IF RESPONDENT IS THE MOTHER GO TO QUES. #9, OTHERWISE,

6. a. Is (child)'s mother currently employed?

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___ Yes No (Go to Ques. #6b) ___ Don't know (Go to Ques. #6b)

IF YES: What does she do?

—

Hours per week: _____

b. Is she currently studying in school?

___ Yes No Don't know

IF YES: Hours per week: _____

c. How many (full-time equivalent) years of school has she completed? _____

d. Is she currently receiving welfare?	_____	No
food stamps?	___ Yes	No
SSI?	_____ Yes	No
other public assistance?	___ Yes	No

IF YES, specify: _____

e. What is her marital status?

f. Is her spouse/partner currently employed? ___ Yes ___ No (Go to Ques. #6g)

IF YES: What does he do? _____

Hours per week: _____

g. How many (full-time equivalent) years of school has he completed? _____

NOTE: IF NEITHER RESPONDENT NOR MOTHER IS THE PRIMARY CAREGIVER ASK THE FOLLOWING, OTHERWISE GO TO QUES. #9

___ Yes ___ No (Go to Ques. #7b)

7. a. Is (*primary caregiver*) currently employed?

IF YES: What does s/he do?

Is s/he currently studying in school?

___ Yes

No (Go to Ques. #7c)

Hours per week:

c. How many (full-time equivalent) years of school has *s/he* completed?

8. What is his/her marital status?

9. a. Is his/her spouse/partner currently employed?

___ Yes

No (Go to Ques. #7c)

IF YES: What does *s/he* do? _____

Hours per week: _____

b. How many (full-time equivalent) years of school has *s/he* completed? _____

Appendix C: Overview of the Defense Mechanism Rating Scale (DMRS)

Defense Interview Scoring Sheet: Follow-Along version

J. Christopher Perry, M.P.H., M.D.

DATA Type: 1=Dynamic Interview, 2=RAP, 3= therapy session

7. MATURE

- Affiliation
- Altruism
- Anticipation
- Humor
- Self-assertion
- Self-observation
- Sublimation
- Suppression

Subtotal ___x7= Defense Weight ___

6. Obsessional

- Isolation
- Intellectualization
- Undoing

Subtotal ___x6=Defense Weight ___

5. Other Neurotic

- Repression
- Dissociation
- Reaction Formation
- Displacement

Subtotal ___x5= Defense Weight ___

4. Minor Image Distorting (Narcissistic)

- Omnipotence
- Idealization
- Rationalization

Subtotal ___x4= Defense Weight ___

3. Disavowal

- Denial
- Projection
- Rationalization

Fantasy

Subtotal ___x3= Defense Weight ___

2. Major Image Distorting (Borderline)

Splitting (others' images)
Splitting (self images)
Projective Identification
Subtotal___x2= Defense Weight___

1.Action
Acting Out
Passive Aggression
Hypochondriasis
Subtotal___x1= Defense Weight___

- a. Total number of Defenses
- b. Sum of Defenses x weights
- c. Overall Defensive Functioning (1=low, 7=high)

Appendix D: Life Events Scale (LES)

People experience changes in their lives that may greatly affect how they feel. I would like to ask you some questions about events that may have happened to you or other people in your family within the past year. Please tell me which of these events have occurred in the past year and how upsetting or distressing it was for you.

Indicate how upsetting this was by choosing a number which best describes how you felt. A high number (5 or 6) would mean you were very upset and a low number (0 or 1) would mean that the event was not upsetting.

You may find that some of these events have not happened to you. If the event did not occur please tell me.

0	1	2	3	4	5	6	7	8 Event Did Not Occur
Not Upsetting			Quite Upsetting			Very Upsetting		

Interviewer: After each of the following questions, ask: how upset or distressed were you?

1. Did you get married?
2. Have you started a new job?
3. Have you had a change in hours or conditions or a change in responsibilities at work?
4. Have you had any problems with your supervisors or other co-workers?
5. Have you found other aspects of your job stressful?
6. Have you, or the person supporting you lost a job recently?
7. Have you had any problems with welfare, unemployment, social security, etc.?
8. Have you had any problems at school with your teachers or classmates?
9. Have you had any problems with your schoolwork?
10. Have you stopped attending school within the last year?
11. Have you moved within the last year?
12. Did you buy your own home or take out a mortgage?
13. Have there been any major changes in church or community activities?
14. Have you had any problems with neighbors?
15. Has your income decreased a lot?
16. Have you borrowed more money that you are able to repay at the present time?
17. Have you had problems paying your bills?
18. Have you had a foreclosure on a mortgage or a loan?
19. Has anyone in your family been seriously ill, in a serious accident, or hospitalized?
20. Has there been a death in your family?
21. Has a close friend been seriously ill or had a serious accident?
22. Has a close friend died?
23. Have you been pregnant?
24. Have you had a serious injury or been seriously ill or suffered from prolonged ill health?
25. Have you had any major change in your sleeping habits?
26. Have you had any major change in your eating habits?
27. Have you had any problems with drugs or alcohol?

28. Has anyone in your immediate family had a problem with drugs or alcohol?
29. Has your social life been severely restricted?
30. Has a new member been added to your family (through birth, adoption, family member moving in, etc.)?
31. Have you been convicted of a minor violation, for example, speeding?
32. Have you or anyone in your family been sent to jail?
33. Has anyone in your immediate family attempted suicide?
34. Have you had any serious arguments with your husband or boyfriend?
35. Have there been any sexual difficulties?
36. Have you had any serious arguments with other family members?
37. Have you been separated from you husband/boyfriend due to conflict?
38. Have you separated from your husband/boyfriend due to work or travel?
39. Have you had any problems with any other relatives or in-laws?
40. Has there been a breakup in your family (e.g., mother and father)?
41. Has your husband or boyfriend gone out with someone else?
42. Have you and your husband or boyfriend recently got back together?
43. Have you and your husband recently been divorced?
44. Are there any other recent events that have occurred in the last year that were upsetting or distressing to you?

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Abstract

DEFENSE MECHANISMS, PSYCHOPATHOLOGY, AND LIFE STRESS

by

Dana Greenhut

November 2004

Advisor: Cheryl Munday, Ph.D.

Major: Psychology (Clinical)

Degree: Doctor of Philosophy

This study examined the relationships between the maturity of defense mechanisms, psychopathology, and life stress in a community sample of adult African American females (N=51). It was hypothesized that less mature defenses, as measured by the Defense Mechanism Rating Scales (DMRS), would be correlated with higher levels of several types of psychopathology including depression, anxiety, drinking problems, and personality disorders as measured by the BDI, the STAI, the MAST, and the PDQ-4+. The results of this study did not support a relationship between maturity of defense and psychopathology. It was also hypothesized that higher levels of life stress as measured by the Life Events Scale (LES) would be correlated with psychopathology (depression, anxiety, drinking problems, and personality disorders). As hypothesized, higher levels of life stress were related to higher levels of psychopathology on all measures. Additionally, defensive maturity was expected to play a mediating role between life stress and psychopathology in that more mature defenses as measured by the DMRS would be predictive of lower levels of psychopathology. However, this hypothesis was not tested because defensive maturity was not found to be correlated with psychopathology as had been expected.

Dana Rachel Greenhut, Ph.D.

Curriculum Vitae

Education: University of Detroit Mercy, Ph.D. in Clinical Psychology (9/99-12/04).

Michigan State University, B.A. in Psychology, (9/95-5/99).

Cambridge University, International Summer School, (7/97-8/97).

Clinical and Community Experience:

9/03- 8/04 **Psychology Intern in Clinical Psychology.** Hawthorn Center- Northville, MI/
University Psychiatric Center (UPC) - Livonia, MI

Completed a 2000-hour APA approved internship. Responsibilities at the Hawthorn Center (inpatient facility for children and adolescents) included carrying a caseload of 3-4 inpatients and conducting individual therapy, family therapy, and treatment planning conferences. Additionally, I conducted group therapy twice per week, completed weekly psychological assessments and attended weekly didactic seminars. I also participated in a supervision rotation in which I supervised a practicum student for a semester while attending supervision conferences. Responsibilities at UPC-Livonia included carrying a caseload of 10 children and adolescent outpatients and conducting individual and family therapy. I attended twice weekly case conferences and conducted intake evaluations.

9/02-8/03 **Practicum Student.** Oakland University Counseling Center-
Rochester, MI

Responsibilities: Conducted individual psychotherapy with adults in the community as well as Oakland University students with a caseload of approximately 10 psychotherapy clients per week. I conducted full psychological evaluations including cognitive, personality, and achievement testing. I received weekly individual supervision for both therapy and assessment. Additionally, I participated in outreach activities for the university and the community and attended weekly didactic seminars for both therapy and assessment.

9/01-8/02 **Practicum Student.** Oakland County Circuit Court – Family Division
Clinical Services Unit- Pontiac, MI

Responsibilities: Conducted psychological evaluations of children, adolescents, and adults referred by the Juvenile Court in relation to delinquency matters. Testing batteries include a wide variety of assessment instruments, including intellectual, academic, and personality testing. Evaluations are typically used to aid in dispositional treatment planning. Additionally, I conducted two group therapy sessions per week for an adolescent offender group. I received weekly one-to-one supervision for both testing cases and group therapy.

9/00-8/03 **Psychotherapy Practicum.** University of Detroit Mercy Psychology Clinic-
Detroit, MI

Conducted individual psychotherapy with adults and children. Receive weekly individual supervision; write therapy process, progress, and treatment summaries; participate in weekly therapy case conferences and prepare and participate in case presentations.

9/00-8/01 **Assessment Practicum.** University of Detroit Mercy Psychology Clinic-
Detroit, MI

Conduct psychological assessments for adults and children. Administer tests, integrate data, and write reports. Receive weekly individual supervision.

9/97-5/99 **Crisis Counselor.** Listening Ear 24-hour Crisis Center- East Lansing, MI

Volunteered as a crisis counselor. Responsibilities included counseling people over the phone and counseling people on a walk- in basis. Completed an intensive 63- hour training program that emphasized suicide prevention, supportive techniques and empathy training.

5/98-12/98 **Youth Advocate.** Michigan State University Adolescent Diversion Project-
East Lansing, MI

Conducted an 18- week intervention with a youth from the Lansing community. Completed a 9- week training program that focused on behavioral therapy. Responsibilities included meeting with the youth for at least six hours per week, presenting weekly case reports, and developing community advocacy skills.

Psychological Research Experience:

2/03- 11/04 **Defense Mechanisms, Life Stress, and Psychopathology**
University of Detroit Mercy: Dissertation

The purpose of this study is to investigate the relationship between maturity of defense, life stress, and psychopathology in an adult female population. The main hypothesis of this study is that defensive maturity will play a mediating role between life stress and psychopathology in that more mature defenses will decrease the level of psychopathology due to life stress.

UDM Faculty Advisor: Cheryl Munday, Ph.D.

6/00-9/00 **Fetal Alcohol Exposure- 13 Year Follow Up Study**
Cognitive Assessment Administrator

Administered cognitive assessment batteries to 13-year old children. Assessment battery included tests such as the WISC-III, WIAT, Wisconsin Card Sort, Tower of Albuquerque, and various computer tasks.

Wayne State University Faculty Advisor: Sandra Jacobson, Ph.D.

5/98- 5/99 **Michigan State University Mood and Memory Project**
Research Assistant

Assisted with many aspects of a research project aimed at examining the effect of memory training on older adults. Responsibilities include administering neuropsychological assessment batteries, coding and entering data, participating in weekly lab meetings, and attending memory workshops.

5/98-9/98 **Michigan State University ADHD Family Study**
Research Assistant

Participated in a research study aimed at examining the occurrence of ADHD within families. Responsibilities included videotaping clinical interviews and assessments, scoring data, and attending lab meetings.

1/98-5/98 **Michigan State University Cross- Cultural Study**
Research Assistant

Assisted with research projects aimed at examining social dilemmas, mood and cooperation, inter- group conflicts, and group performance. The study focused on differences between Puerto Rican and American cultural values. Responsibilities included scheduling participants, running experiments, coding data, assisting with analysis, and lab meetings.

Presentations and Publications:

Bow, J.N., Gould, J.W., Flens, J.R., & Greenhut, D. (2006). Testing in child custody evaluations: Selection, Usage, and Daubert Admissibility. *Journal of Forensic Psychology Practice, 6*(2), 17-38.

Bow, J.N., Flens, J.R., Gould, J.W., & Greenhut, D. (2005). An analysis of administration, scoring, and interpretation of the MMPI-2 and MCMI-III in Child Custody Evaluations. *Journal of Child Custody, 2*(4), 1-22.

Hoffman, D. Attachment Theory and Peer Relationships. Paper presented at the Michigan Psychological Association Convention, October, 2001. Received honorable mention award.