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THE NATURE OF DEFENSES
USED BY SCHOOL-AGED CHILDREN WITH ADHD

by

Laurie G. Slodounik

A dissertation submitted to the Graduate Faculty in Psychology in partial fulfillment of the requirements for the degree of Doctor of Philosophy, The City University of New York

2018

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Laurie G. Slodounik

This manuscript has been read and accepted for the Graduate Faculty in Psychology in satisfaction of the dissertation requirement for the degree of Doctor of Philosophy.

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ABSTRACT

THE NATURE OF DEFENSES USED BY SCHOOL-AGED CHILDREN WITH ADHD

by

Laurie G. Slodounik

Advisor: Steven B. Tuber, PhD.

This study sought to develop a more nuanced clinical picture of children with ADHD by examining the relationship between their emotional dysregulation and their use of defense mechanisms—the unconscious mental processes that guard against strong emotions. Children’s responses to the Thematic Apperception Test (TAT) were examined for evidence of defense mechanisms using an empirically validated scale, the Defense Mechanism Manual. The study employed a mixed between-within nonequivalent group design to examine the responses of 37 children ages 7-10. It was hypothesized that children with ADHD would use more frequent and more immature defenses than their peers without the disorder. Additionally, those TAT cards designated as “high arousal” were predicted to elicit more defense mechanisms than those considered to be less emotionally stimulating. Results indicated that ADHD was not a significant predictor of defense use. However, arousal level and age were found to be significant predictors of defense use. Implications of these findings and directions for future research were discussed.

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CHAPTER ONE

Literature Review

Introduction

“Can you come take a look at Charlie¹?” His teachers ask. “He is so smart and thoughtful, but at times he seems totally checked out, and at others he’s out-of-control silly and provocative. He can also be so impulsively aggressive – he’ll be playing one minute and punching the next.” I spend a day at Charlie’s preschool watching him play. He is often on the periphery of the group – playing by himself or staring off into the distance. During singing time he fidgets on the rug, leans on his neighbor, and does not sing, despite his obvious musicality as we later walk down the hallway from the classroom to the big room. Once there, Charlie repeatedly collides with the other children – grabbing away balls and bikes, chasing and tackling, pushing and hitting – before climbing into a thick foam tunnel and staying there for several minutes in silent contemplation. When a friend comes by to ask if he can climb in and join him, Charlie yells “No!” and then dissolves into tears. Indeed, as the school day progresses, I see multiple outbursts of joy, anger, and sadness, often in quick succession. There is a rawness to Charlie – it is as though he is lacking a needed stimulus barrier; as though his nerves are exposed such that he can’t help but feel everything. At the end of the day I tell his teachers that Charlie is a sensitive soul; he feels both positive and negative things deeply. I explain that this is a strength because it means he is capable of intense passion and creativity, but it is also something Charlie will need help managing, if he is to succeed socially and academically.

What makes the souls of some children more sensitive than those of others? And how can we help de-sensitize these children not so much that we put out their spark entirely, but just

¹ Charlie was seen as part of a small social skills playgroup for preschoolers run by the author. The name is a pseudonym.

enough so that they can enjoy themselves without being frequently flooded with strong emotion? Children like Charlie, who meet the diagnostic criteria for Attention Deficit Hyperactivity Disorder (ADHD), are characterized by impairments in physical and emotional self-regulation that often impede their social and academic functioning, disrupt their family life, and damage their sense of self-worth. With the medicalization of the mental health field in recent decades, and the accordant rise in the prescription of stimulant medication as the primary treatment for children with ADHD, a neurobiological/neurocognitive understanding of the disorder has been privileged over a psychodynamic-developmental one (Leuzinger-Bohleber, Canestri, & Target, 2010; Gnaulati, 2008). This study, however, employed a psychodynamic framework in an attempt to expand our understanding of the intrapsychic dimensions of ADHD and develop a more nuanced clinical picture of children with the disorder.

This chapter will begin with a discussion of the normative development of emotions and the related development of neurophysiological, social, and mental mechanisms (both conscious and unconscious) that we employ to contain and regulate them. This will be followed by a discussion of a subset of children for whom these developmental processes seem to have gone awry – namely, children with ADHD. Finally, the use of the Thematic Apperception Test (TAT) to evaluate emotion regulation in children – and the particular utility of this measure in assessing the defense mechanism use of children with ADHD – will be explained.

Emotional Development

Definition of Emotion, Feeling, and Affect

The words “emotion,” “feeling” and “affect” are often used interchangeably. However, more specific definitions of the latter two terms delineate “feeling” as the subjective experience of emotion and “affect” as its expressive (i.e. facial and postural) components (Plutchik, 2000;

Damasio, 2000; Sroufe, 1995). Still, this leaves the precise definition of the term “emotion” unclear – mirroring a lack of consensus in the literature. Whereas early research made much of the distinction between emotions as static states and emotion regulation as a dynamic process, current research suggests that both the expression and regulation of emotions are dynamic processes, which are intertwined and reciprocal from birth (Scherer, 2009; Campos, Frankel, & Camras, 2004; Hoeksma, Oosterlaan, & Schipper, 2004). Broadly, emotions can be considered complex and dynamic psycho-physiological processes which “guide, direct, amplify, color, and shape action” (Sroufe, 1995, p. 17). Plutchik (2000) adds that emotions are “*universal* (in the sense of being part of the repertoire of all living things)” and “*useful* in the sense that they communicate possibilities of danger, threat, or pleasure and therefore influence the behavior of others” (p. 79, italics in the original).

Emotions emerge along a developmental timeline, in accord with advances in motor, linguistic, cognitive, and social development. According to Sroufe (1995), the “emergence of the affects is largely a normative issue... Emotional regulation, on the other hand, is often an arena for the study of individual differences” (p. 8). According to Thompson (2011), such individual differences may be due to the influence of early relational and environmental (including in-utero) experiences (particularly adverse or stressful ones) which can interact with a child’s neurobiological development and innate temperament, to alter her “threshold for reactivity” – or in the words of the introduction, make her “soul more sensitive” to affective stimulation (p. 55). The specific deficits in emotion regulation observed in children with ADHD will be discussed later in the chapter. First, we will review the normative processes of emotion development and regulation.

Developmental Model of Emotion

Tuber (2012) lays out a developmental progression of affective awareness and understanding. Initially, the infant experiences affects as distinct “events” which come and go, leaving no enduring trace; the intense discomfort and anguished cries of a hungry baby are extinguished as soon as nourishment arrives. As the infant’s cognitive and memory capacities expand, the experience of emotion becomes less fleeting and less external. By toddlerhood, the young child can recognize facial expressions as reflective of simple affects, but seems to equate facial expression and emotion in a one-to-one, objective way (i.e. a smiling face *is* happiness). At this stage, the toddler still has little sense of affects as complex (i.e. often mixed) subjective experiences. During the preschool years, the child’s capacity to experience mixed emotions expands, but her egocentricity limits her ability to recognize that her affective experience may differ from that of others, and that others’ affects can be a result of their own subjective experiences/associations. The school-aged child is capable of understanding affects as “psychological states of mind” that can be mixed, subjective, and interrelated (Tuber, 2012, p. 32). However, latency-aged children often equate affect with role (i.e. the malevolent school principal). Indeed, it is typically not until late adolescence that an individual is fully capable of experiencing and understanding affects as fully flexible and complex.

Along with these advances in affective awareness and understanding come concordant developments in the variety of emotions available to the individual. According to Sroufe (1995), the newborn begins life with physiology-based “pre-emotional reactions” which are the “prototypes” for the “precursor emotions” that emerge in the first half of the first year and ultimately become the three “major emotions” of anger, fear, and joy, which underlie all other more complex emotions (p. 57). Developmental and psychodynamic theorists such as Sroufe

(1995), Stern (2000), and Winnicott (1963), point out that it is only when the infant develops a sense of self as separate from the caregiver (around 5 months) that she can begin to experience emotions in earnest. Before this time, infants can communicate distress (a prototype of the negative emotions of fear and anger) and “turn toward” (a prototype of the positive emotion of joy).

According to Sroufe (1995), over the course of the first 5 months or so, the infant’s generalized distress in response to any kind of discomfort (as evidenced by crying, flailing, etc.) develops into the precursor emotions of wariness and frustration. Wariness – crying in response to “the unavoidable/unassimilable” – is an emotional reaction because it occurs in reaction to a specific type of event (the novel or unknown) (p. 62). Ultimately, wariness will develop into the capacity for the basic emotion of fear. Frustration – screaming/crying in response to the inability to “execute an established motor pattern” – ultimately develops into the capacity for anger; a more immediate negative reaction to thwarted effort (whether the task has or has not been accomplished before) (p. 63). Finally, the early, automatic, purely physiological sleep smiles of newborns develop into the precursor emotion of pleasure, as evidenced by voluntary smiling in response to specific stimuli (i.e. a face or mobile). Ultimately this capacity to experience pleasure develops into the capacity to feel joy.

The self-conscious emotions of embarrassment, pride, guilt, and shame do not emerge until late toddlerhood/early preschool years, as the child’s sense of self, motor, linguistic, and cognitive capacities, and sense of societal expectations, all expand (Schoore, 2003). Table 1 depicts major milestones in early emotional development.

Table 1. Milestones of Early Emotional Development

| | Newborn (0-1 month) | Young Infant (1-6 months) | Older Infant (6-12 months) |
|--------------------------|---|--|--|
| Positive Emotions | Neonatal/sleep smile 6/7 wks: Social smile emerges | 2 mos: smile at events they can control 3-4 mos: smile and laugh | 7 mos: selective smiles for familiar people |
| | <i>Prototype of positive affect</i> | → <i>Pleasure</i> | → <i>Joy</i> |
| Negative Emotions | Generalized distress due to hunger, pain, overstimulation | 2 mos: facial expressions of anger and sadness 4 mos: wary of unfamiliar objects and events | 6/7 mos: stranger anxiety emerges 8 mos: separation anxiety emerges |
| | <i>Prototype of negative affect</i> | → <i>Wariness</i> | → <i>Fear</i> |
| | | → <i>Frustration</i> | → <i>Anger</i> |

Emotion Regulation

Emotion expression and regulation is a complex, dynamic process, involving bodily systems, brain circuits, and social interactions, as well as conscious and unconscious mental processes – all of which interact with and influence one another in different ways over the course of development (Sroufe, 1995; Thompson, 2011; Plutchik, 2000; Hoeksma et al., 2004).

According to Eisenberg and Spinrad (2004), emotion regulation is:

The process of initiating, avoiding, inhibiting, maintaining, or modulating the occurrence, form, intensity, or duration of internal feeling states, emotion-related physiological, attentional processes, motivational states, and/or the behavioral concomitants of emotion in the service of accomplishing affect-related biological or social adaptation or achieving individual goals. (p. 338)

Social Aspects of Emotion Regulation

The process of emotion regulation begins as a dyadic one embedded in the infant-caregiver relationship. Initially, the newborn is wholly dependent on her caregivers for soothing; her only recourse otherwise is to retreat into sleep. However, by the age of six months, the infant's increasing ability to control her attention and movement enables her to begin to regulate herself by averting her gaze, rubbing or stroking her body or a soft toy, or distracting herself when overstimulated or distressed. As her language skills expand over the course of the first three years, the child becomes increasingly able to self-regulate through a mix of self-talk and talk with caregivers (to whom she can express her worries, desires and needs, and from whom she can obtain verbal reassurance and comfort) (Sroufe, 1995; Schore, 2003; Gnaulati, 2008).

It is through interactions with her caregivers that the child gradually builds an understanding and expectation of how relationships work (i.e. how quickly and in what ways others will respond to her). These "internal working models" of relationships in turn, influence the ways she will behave in future social interactions, and also shape her burgeoning sense of self (Bowlby, 1988; Wallin, 2007). Early experiences of attuned, responsive and contingent interactions with caregivers foster in the child a sense of herself as an agentic, social being, and a sense of her caregivers as reliable, trustworthy, and regulating (Stern, 1985). However, when infant-parent dyads are not well-attuned, the infant is more likely to experience herself as ineffectual and dysregulated and to experience the world as unresponsive and disorganizing (Tronick, 1989).

Neurophysiological Aspects of Emotion Regulation

The body and brain work in concert to regulate arousal and affect through a series of "nested feedback loops" (Thompson et al., 2008). These positive and negative feedback loops

“create emotional circuits that allow for continuous changes of the state of the [emotional] system” (Hoeksma, et al., 2004, p. 354). Bodily systems involved in the expression, experience, and regulation of emotion include the parasympathetic nervous system, which influences heart rate and stress reactions (Thompson et al., 2008). Neurological systems involved in the emotional system include complex circuits connecting the diencephalon (thalamus and hypothalamus), limbic system (hippocampal formation, amygdala), cerebral cortex (including the cingulate and prefrontal cortices) and brain stem, as well as neuromodulators such as acetylcholine, serotonin and dopamine (Thompson et al., 2008; Hoeksma et al., 2004).

Innate temperamental differences also play a role in how an individual experiences and regulates emotion. Chess and Thomas (1996) identify three temperamental archetypes that biologically predispose children to react to stimulation in characteristic ways. An “easy” infant exhibits a generally positive mood, recovers quickly from moments of distress, adapts well to novel situations and people, and sleeps and eats regularly. A “difficult” infant exhibits more frequent and intense negative emotions, has a harder time recovering from moments of distress and tolerating novelty, and tends to be more dysregulated around eating and sleeping. Finally, “slow-to-warm” infants tend to withdraw and exhibit fear in response to novelty and need repeated exposures to stimuli in order to feel comfortable. A fourth temperamental type; that of “behavioral inhibition,” has been identified as a more extreme version of the “slow-to-warm” temperament. Behaviorally inhibited infants are characterized by an intense aversion to unfamiliar situations and stimuli, as demonstrated by heightened sympathetic arousal, leading to a “freeze defense” in which they become immobile (Gnaulati, 2008; Anstendig, 1999).

However, it is often the “goodness of fit” between a child’s temperament and that of her caregiver that is more important than her innate disposition per se. Babies whose parents find

them easy to soothe are likely to have more frequent positive, regulating experiences, and in turn develop a sense of themselves and their world as generally well-organized and predictable. Conversely, babies whose parents find them to be difficult to soothe are likely to have more frequent negative, uncomfortable and dysregulating interactions with their caregivers, and to ultimately develop a sense of themselves and their world as disorganized and overwhelming (Leuzinger-Bohleber, et al., 2010; Gnaulati, 2008). Moreover, according to Schore (2002), repeated early experiences of mis-attunement – particularly those fostering “chronic and cumulative states of overwhelming, hyperaroused affective states” or persistent states of “hypoaroused dissociation” in the infant – can actually impair the development of the brain, particularly that of the right hemisphere, which is integral in the perception, expression and regulation of emotion (p. 460).

Intrapsychic Aspects of Emotion Regulation

Mental mechanisms are also involved in the process of emotion regulation – and conversely, emotions play a role in cognitive functioning. Most theories of the relation between cognition and emotion focus on the processes of appraisal and coping (Lazarus, 1991, as cited in Plutchik, 2000). Appraisal refers to the process by which individuals assess their environment, make judgments about their safety, and conduct cost-benefit analyses of possible courses of action. It can occur on both a conscious and unconscious (automatic) level. Coping occurs as a result of appraisal, and refers to the individual’s attempt to maintain his physical and psychological safety through physical actions (i.e. fighting or fleeing when threatened) or cognitive actions (i.e. reinterpreting the situation in order to minimize the threat), either of which can function to reduce affective stimulation. Affective stimulation can also influence cognitive functioning. Positive feelings such as happiness, confidence, and pride can spur curiosity,

learning and understanding, while negative feelings such as anger, sadness, and shame can be inhibiting and can lead to disorganized thinking and behaving (Schoore, 2003; Gnaulati, 2008).

It is because our emotions can have such an influence on our sense of self and our sense of the world (and vice versa) that we make such efforts to dampen or control them. Indeed, in addition to their biological functions of “promoting and maintaining life,” emotion regulatory processes also function to “maintain psychological integrity” through unconscious mental mechanisms that serve to protect the ego from unpleasant feelings (Hoeksma et al., 2004, p. 355). Moreover, emotions themselves can “become part of our defensive system” in that they can “act to protect the self” (Vaillant, 1997 as cited in Plutchik, 2000, p. 55). We will now explore the concept of ego defense mechanisms in depth, as they will be central to our attempt to understand the emotional dysregulation of children with ADHD.

Defense Mechanisms

Defense mechanisms are unconscious mental processes that serve to protect individuals from unpleasant or unwanted feelings and thereby enable them to maintain a sense of self-esteem and self-coherence (Cramer, 2006). The understanding of defense has evolved over time from Freud’s (1894/1957) initial conception of defense as a purely intrapsychic process employed to maintain internal equilibrium, to the current conception of defense as “a set of relational and cognitive patterns” that develop within an interpersonal context in an attempt to adapt to “conflict, loss, and trauma” (Cooper, 1998, p. 947).

Historical Definition

Freud originally conceived of defense as the ego’s attempt to keep unacceptable impulses and ideas (deriving from the drives) out of conscious awareness via the process of repression (Leichsenring, 2004). In this way, the ego could engage in the “splitting of consciousness” that

enabled hysterical patients to separate an “incompatible” or intolerable idea from its associated affect (Freud, 1894/1957, p. 51). Later, when his focus turned from drive theory to a theory of signal anxiety, Freud (1926/1959) expanded the concept of defense to include “all the techniques which the ego makes use of in conflicts which may lead to a neurosis,” and went on to designate several defense mechanisms in addition to repression, including: regression, undoing (reversal), reaction formation, isolation, and anticathexis (pp. 89-90). At this point, defense mechanisms came to be understood as “processes functioning within the ego to maintain the unconscious status of forbidden impulses,” and thereby protect the ego from being overwhelmed by an excess of anxiety (Cooper, 1998, p. 951).

The Evolution of the Concept

Anna Freud (1936/1966) further expanded her father’s concept of defense mechanisms, adding introjection/identification, projection, turning against the self, and sublimation to the list of defenses, and proposing that they may arise in reaction to external sources of anxiety as well as to internal stressors. She viewed defense use as a normal and potentially adaptive cognitive process in that it allows individuals to function in anxiety-provoking situations, and argued that it is only when defenses are used rigidly or excessively that they may become pathological (Leichsenring, 2004; Laor, Wolmer, & Cicchetti, 2001; Cramer, 1987). Ego psychologists such as Hartmann, Kris, and Lowenstein (1964) added to this concept of defenses as adaptive, describing defense mechanisms as among a variety of functions employed by the ego in its attempts to cope with external and internal (i.e. drive) demands in order to maintain internal homeostasis. Schafer (1968) added further complexity to the understanding of defenses by articulating their dual nature; defenses prevent the conscious experiencing of intolerable emotions, while still allowing their expression and therefore, their gratification. This “double

agent” quality of defense can be seen in the “killing with kindness” aspect of reaction formation – which enables an individual to consciously express love toward another while still gratifying her unconscious hatred or aggression toward that person (Cooper, 1998).

Winnicott (1960/1965) added yet another layer to the concept of defense by distinguishing between those defenses that arise in response to intolerable internal impulses and those that arise in response to empathic failures in the relational environment. According to Winnicott, failure of the caregiver to be “good enough” (i.e. rejecting, nonresponsive, mis-attuned, intolerant of certain affective expressions) may result in the formation of a “false self” in the child. This false self enables the child to defend against recognition of her caregiver’s failures, and in so doing, prevents her from feeling the disappointment, fear, and rage these failures likely engender. Thus, the function of the defense is twofold; it protects both the child and the caregiver from experiencing the child’s negative feelings toward the caregiver. In this way, the child is able maintain this vital connection, though at the cost of sacrificing her true self.

Winnicott, therefore, began the expansion of the concept of defense beyond one of solely an ego function and into an understanding of defense as being also a response to interpersonal ruptures. Kohut (1977) added to this relational conception of defense by emphasizing the role of defense mechanisms in protecting the self (i.e. identity and self-esteem) from narcissistic injuries arising in response to empathic failures in childhood. The current understanding of defense mechanisms combines the early concept of anxiety-modulating ego function with the more recent relational understanding. According to Cramer (2006),

Defenses are unconscious mental mechanisms that are directed against both internal drive pressures and external pressures, especially those that threaten self-esteem or the structure of the self, as might occur when friends or family fail to be empathic or in some

other way are “lost” to the individual. The function of the defense mechanism is twofold: to protect the individual from experiencing excessive anxiety, and to protect the integration of the self. (p. 7)

I would add that in this way, defenses influence and maintain interpersonal interactions and relationships.

Developmental Model of Defense

Though Anna Freud described ten defense mechanisms, subsequent theorists have added to her list. The fourth Diagnostic and Statistical Manual of Mental Disorders (American Psychiatric Association, 2000) lists 31 defense mechanisms, in order of their level of adaptivity. This hierarchical presentation reflects a commonly held understanding of defense mechanisms as ranging in adaptivity or maturity level from maladaptive/primitive defenses such as denial and projection to more adaptive/mature defenses such as identification and sublimation (Porcerelli, Thomas, Hibbard, & Cogan, 1998; Leichsenring, 2004). Indeed, Vaillant, Bond, and Vaillant (1986) created an empirically validated hierarchy of defense based on a longitudinal study of men which correlated childhood ratings of family, environment, competence, emotional maturity, hyperactivity, parental social class, and IQ with ratings of health, social competence, psychosocial maturity, and maturity of defense use in adulthood. The resulting hierarchy of defense ranges from immature (regression, hypochondriasis, acting out, denial, projection, schizoid fantasy), to intermediate (isolation, repression, reaction formation, displacement), to mature (anticipation, suppression, altruism, sublimation, humor). Vaillant et al. (1986), found that “maturity of defenses correlated with mental health most strongly when the individual had experienced a bleak childhood,” suggesting that maturity of defense use is a predictor of psychological adjustment independent of familial and environmental factors (p. 791).

Defense mechanisms vs. coping mechanisms.

The seemingly ever-increasing list of defense mechanisms reflects longstanding and widespread confusion about the unconscious nature of defense – as reflected in the fact that some of the “mature” defenses listed above seem likely to be consciously generated (Tuber, 2012; Vaillant, 1998). Cramer (2006) suggests that defensive cognitive processes that operate unconsciously should be considered true defenses, while conscious defensive strategies are better termed “coping mechanisms”. Tuber (2012) expands this idea by suggesting that defensive operations fall on a “continuum of consciousness” that is both “fluid and dynamic,” such that “a coping strategy can over time become more defensive and unconscious in nature... while a defensive stance can translate into a coping mechanism with insight” (p. 38).

Cramer’s model of defense development.

Cramer (1987, 1990, 2006) has provided empirical evidence for a developmental model of defense mechanisms in which the defenses emerge in order of maturity from primitive to complex over the lifespan, “much in the same way that other ego functions (e.g. cognitive operations or moral reasoning) emerge in a developmental, stage-related fashion” (Cramer, 1987, p. 598). Thus, a young child’s use of denial is considered age-appropriate, but a young-adult’s use of denial is considered immature. Inherent in this model is the understanding that “every defense co-exists with every other defense but... certain defenses take on greater importance at certain developmental periods through a combination of ego development and environmental experience” (Porcerelli et al., 1998, p. 412). Cramer’s model focuses on the developmental trajectories of three defenses: denial, projection, and identification. Each defense is thought to begin as a motor reflex and end as an intrapsychic mechanism.

Denial protects the individual from accurately perceiving internal or external stressors by denying or misrepresenting their existence. It is a defense used most frequently by young children, and is therefore considered the most primitive defense. It begins in infancy as the impulse to close one's eyes, look away, or withdraw into sleep in response to overstimulation or unpleasant stimulation. Toddlers may use their burgeoning language abilities to employ denial via negation (e.g. "no," "I'm not afraid," "that didn't hurt"). By early childhood, denial becomes more internal; it takes the form of fantasies of power and control. Indeed, the superhero and princess play themes common amongst preschoolers can be interpreted as defensive attempts to "transform weakness into strength, fear into courage and failure into success" through the use of denial (Cramer, 1987, p. 599). Such fantasies may continue into adolescence and adulthood as daydreams or misperceptions, often of an idealized, overly-positive, or Pollyannaish, quality. Typically the use of denial wanes after age seven and largely ends by middle childhood.

Projection protects the individual from internal and external stressors by attributing unacceptable thoughts, feelings, and desires to people outside oneself. Though, like denial, projection has a physical precursor in infancy (i.e., the impulse to spit out unpalatable substances), it is a defense that does not become predominant until late childhood and early adolescence (Cramer, 1997, 2006). Projection is considered a more mature defense than denial because it requires more highly developed cognitive and emotional abilities. For a child to project, she must be able to differentiate between what is internal and what is external – between self and other. She must also be able to make judgments about what is right and wrong, pleasurable and painful, good and bad, and acceptable and unacceptable. These psychological abilities enable the child to retain as a part of herself (or her ego) the positive aspects of a thought, wish, or impulse, while unconsciously attributing the negative aspects of the thought,

wish, or impulse to someone else. Thus, whereas in denial an entire mental representation is disowned, in projection a representation is split into a positive segment, which is owned and a negative segment, which is disowned. This expulsion of negative thoughts and impulses often results in an experience of the external world and others in it as threatening and dangerous.

Identification is considered to be a more mature defense than denial or projection, though it too can be said to originate in infancy (as the impulse to incorporate mother's milk). As the child grows older, this desire for the physical incorporation of the parent gives way to one for the introjection of the parent's beliefs, standards, interests, and skills in order to feel "the same as the model" (Cramer, 2006, p. 96). By adolescence, the individual becomes capable of identification proper. According to Cramer (2006), identification functions to "attenuate" the "anxiety caused by the loss, or anticipated loss, of a significant other" by "recreating that other internally" through the alteration of some aspect of the ego (p. 95). By unconsciously changing one's personality, behavior, or motives in order to become like a significant other, the individual maintains a sense of security and self-esteem. Through identification, adolescents internalize their parents' rules and principles and thereby maintain parental approval and control unacceptable impulses. Adolescents also seek out and identify with role models in addition to their parents, in an effort to achieve an individuated sense of identity.

Thus, whereas projection involves the externalization of unacceptable internal mental representations, identification involves the internalization of important external experiences. Like projection, identification requires the capacity to differentiate between self and other. However, identification is considered more cognitively complex than projection because it also "involves a differentiation and modification within the ego; new ego structures – including the superego and the ego ideal – develop as an integral part of the process of identification" (Cramer,

2006, p. 93). Cross-sectional and longitudinal studies suggest that by late adolescence, identification replaces projection as the predominant defense (Cramer, 1987, 1998; Porcerelli et al., 1998).

Development of defense and its relation to psychological health.

As discussed earlier, Cramer's developmental model of defense use understands the defenses to emerge over the lifespan in response to increasing cognitive capacities to make certain defenses more salient for certain developmental periods. A period of heightened stress would likely inspire particularly strong use of the defense mechanisms available at that age in an attempt to protect the ego and maintain self-esteem. These defenses may then become engrained in the personality in such a way that they continue to be used beyond the time that they are usually given up, resulting in overuse of immature defenses as the child ages (Cramer, 2006). Prospective studies of the relation between early psychological difficulties and later development support this model. Cramer and Block (1998) found that preschoolers (ages 3-5) who were rated highly by their teachers on a measure of "psychological upset" (e.g. easily distressed, labile, impulsive, taciturn, withdrawn) were more likely to employ denial (the defense most available at ages 3-5) at age 23 than those who were rated to have "no upset" in preschool. In another study of slightly older children (ages 5-7), Cramer and Tracey (2005) found a correlation between personality disturbance at ages 5-7 and the use of denial and projection (the two defenses most available at ages 5-7) 25 years later.

Studies have also shown the use of age-appropriate defenses to be associated with psychological health and the use of immature defenses to be associated with poor health at that moment, and over the course of development. In a prospective study that followed individuals from adolescence (ages 15-18) into late middle age (age 62), Cramer (2008) found that when

adolescents, those subjects who employed high levels of the mature defense of identification were more likely to exhibit “planful competence” (a measure of social, emotional, and intellectual maturity) than their peers who employed the less mature defense of projection. Moreover, high use of identification in adolescence was found to be associated with relative stability of competence in adulthood, while low use of identification in adolescence was associated with more variability in adult competence. Similarly, adolescents who were found to frequently use the developmentally immature defense of denial were found more likely to exhibit “ego undercontrol” and associated externalizing behaviors, than their peers who used more age-appropriate defenses (Cramer, 2009). In a related study, Evans and Seaman (2000) found that adolescents (ages 15-18) who employed more mature defenses were found to also exhibit more mature, complex, integrated, and positive self-conceptions than their peers who used immature defenses.

Measuring Defense Mechanisms

The empirical measurement of defense use is tricky, since it is hard to expect people to accurately report on processes of which they are not consciously aware, and the assessment of another’s defense use is largely subjective (Cramer, 2006; Leichsenring, 2004; Vaillant, 1998). Traditionally, researchers have attempted to assess defense use via self-report and observer-based measures, the majority of which have been designed for use with adult subjects. Questionnaires such as the Defense Style Questionnaire (DSQ; originally Bond et al., 1983, but subsequently revised by several authors), and the Defense Mechanism Inventory (DMI; Gleser & Ihilevich, 1969) ask participants to report on their behavior in stressful situations or their reactions to hypothetical conflictual situations. Their answers are then scored for the defenses implied by their responses. The validity of such measures is questionable, as it is conceivable

that the defenses in question may be in use during the assessment – impairing the subject’s ability to accurately report on her own defense use (Cramer, 2006; Vaillant, 1998; Davidson & MacGregor, 1998).

Observer-based measures of defense use involve the presentation of an open-ended visual or verbal prompt, or a clinical interview. The participant’s responses are then coded for evidence of defense use. Several defense scoring methods exist for the Rorschach Inkblot Method, including the Lerner Defense Scales (Lerner & Lerner, 1980) and the Rorschach Defense Scales (Cooper, Perry, & Arnow, 1988). Similarly, several scales have been developed for scoring evidence of defense use in clinical interviews, such as Vaillant’s clinical vignette method (Vaillant, 1977), the Defense Mechanism Rating Scales (Perry, 1990), and the Defensive Functioning Scale (American Psychiatric Association, 1994). Such observer-based measures are time and labor intensive in their training, administration, and coding, but demonstrate generally good reliability (Cramer, 2006; Perry & Ianni, 1998).

Few measures of defense use in children exist, and most are self-report or parent-report measures, such as the Response Evaluation Measure-71-Youth Version (REM-Y-71; Araujo et al., 2006), the Comprehensive Assessment of Defense Style (CADS; Laor, Wolmer, & Cicchetti, 2001), and the Ego-Defense Scale (EDS; Pfeffer et al., 1979). This study will employ the Defense Mechanism Manual (DMM; Cramer, 1990, 2006), an observer-report measure that codes defense use in children’s narratives. The most widely used measure of defense use in children, the DMM was originally developed for use with the Thematic Apperception Test (TAT), but can also be used to code material from clinical interviews. A more specific description of the DMM scoring procedures can be found in Chapter 2 and Appendix A.

Attention Deficit Hyperactivity Disorder

The focus of this study will be on children with ADHD – children who seem to have particular trouble with the perception, expression, tolerance, and regulation of emotion. English pediatrician George Still (1902) first described the constellation of developmentally inappropriate impulsive, inattentive, and hyperactive symptoms that we now characterize as ADHD at the turn of the last century (American Psychiatric Association, 2000). However it was not until the 1970s that the disorder became a focus of psychiatric research (Gilmore, 2000). Since then, ADHD has been discussed widely in both the scientific and lay literature. Though some critics contend that ADHD is an invalid diagnosis that serves only to pathologize children at the severe end of the normal behavioral spectrum, the current scientific consensus is that ADHD is in fact a distinct syndrome with a neurobiological basis, and this is true despite the fact that several disorders are commonly found to be comorbid with it (Faraone, 2005; Adler, Barkley & Wilens, 2006).

Epidemiology and Phenomenology

ADHD has been described as “the most common neurobehavioral disorder of childhood” (Adler et al., 2006, p. 1). Conservative estimates place the prevalence of ADHD at 3-7% of the child population (American Psychiatric Association, 2000; Polanczyk, Silva de Lima, Horta, Biederman, & Rohde, 2007), however rates ranging from 7-21% have been reported in community samples (Adler et al., 2006; Faraone, 2005; Harris, Reynoso, Meehan, Ueng-McHale, & Tuber, 2006). In the clinical child population, approximately 30-50% of referrals for treatment are considered to be ADHD related (Barkley, 2005; Gilmore, 2000).

Though the disorder is not often diagnosed until the elementary school years, parents of children later diagnosed with ADHD often notice symptoms of dysregulation in toddlerhood

(American Psychiatric Association, 2000). Indeed, one of the diagnostic criteria for ADHD is that some of the child's hyperactive-impulsive or inattentive symptoms must have been present before age seven (American Psychiatric Association, 2000). In fact, research suggests that symptoms of ADHD may be observable as early as in infancy. Auerbach et al. (2005) found that infants at familial risk for developing ADHD showed significantly more state organization difficulties (i.e. problems with irritability, lability, and self-quieting) and neurodevelopmental immaturity than infants who were not at risk. Indeed, regulatory difficulties in infancy, particularly difficulty with negative affect, have been found to be predictive of behavioral difficulties, including hyperactivity and inattention, in early childhood (Degani, Porges, Sickal, & Greenspan, 1993; Wolke, Rizzo, & Woods, 2002). And children ultimately diagnosed with ADHD are more likely to be "characterized by extreme affective traits like negative emotionality" (Martel, 2009, p. 1042). Children characterized by this trait tend to experience frequent and intense negative emotions (i.e. anger, sadness, and worry), which impact their behavior (i.e. impaired social competence and increased externalizing behaviors) (Eisenberg et al., 2000).

Academic and social consequences of ADHD.

Children with ADHD exhibit persistent functional impairments in the academic and social realms, which can negatively impact professional achievement and family and peer relationships well into adulthood (American Psychiatric Association, 2000; Meehan et al., 2008; Gilmore, 2000). Longitudinal studies of children diagnosed with ADHD suggest that up to 80% will continue to display symptoms into adolescence, and up to 65% will continue to display symptoms into adulthood (Fisher, Barkley, Smallish, & Fletcher, 2005; Adler et al., 2006; Faraone, 2005).

At school, children with ADHD have been found to exhibit impaired productivity and accuracy in all academic areas. They also exhibit specific delays in reading, math, and spelling, typically placing one-half to one full standard deviation below their peers on tests of academic achievement (Adler et al., 2006; Biederman et al., 2004). In addition, many children with ADHD exhibit behavioral problems in the classroom related to their inattention, impulsivity, and hyperactivity. It is for all these reasons that children with ADHD are more likely than their non-ADHD peers to receive special education and/or counseling services at school, fail a grade, and be suspended or expelled from school (Bauermeister et al., 2007; Biederman et al., 2004; Faraone et al., 1993).

The social consequences of ADHD are similarly far-reaching and well documented. Children with ADHD have been found to exhibit deficits in social cognition and social behavior. Research suggests that there is a positive illusory bias in the self-perceptions of boys with ADHD, which causes such children to misperceive the relative success of their performance in social interactions, and to attribute their social failures to external, uncontrollable factors rather than to their own mistakes (Hoza, et al., 2000). Children with ADHD also exhibit deficits in emotion recognition, perspective-taking and empathy (Braaten & Rosen, 2000). These cognitive deficits, in combination with the high rates of intrusive, disruptive, and aggressive behaviors, and deficient social communication skills exhibited by ADHD children, tend to result in high rates of peer rejection (Nixon, 2001; Da Fonesca, Segquier, Santos, Poinso, & Deruelle, 2009).

Comorbidity.

The negative prognosis for children with ADHD is frequently compounded by the existence of comorbid disorders. Learning disorders and speech and language problems are diagnosed in 25-70% of ADHD cases seen in clinics (Adler et al., 2006; Nixon, 2001). Many

children with ADHD also meet the criteria for internalizing disorders, with estimated rates of comorbidity ranging from 15-75% for mood disorders (particularly depressive disorders), and 25-30% for anxiety disorders (Bauermeister et al., 2007; Biederman, Newcorn, & Sprich, 1991). Externalizing disorders are also common in children with ADHD. It has been estimated that 25-50% of children with ADHD meet the criteria for conduct disorder (CD) and oppositional defiant disorder (ODD) (Bauermeister et al., 2007; Fisher et al., 2005; Biederman et al., 1991). Studies have found that rates of arrest and drug abuse are elevated in adolescents with ADHD and are further exacerbated if CD is also present (Faraone, 2005). Moreover, approximately 18-24% of children with a diagnosis of both ADHD and CD may go on to develop antisocial personality disorder in young adulthood (Fisher et al., 2005).

Theories of Etiology

While past research has expanded our understanding of the epidemiology and phenomenology of ADHD, there is still much disagreement about the best way to understand the etiology of the disorder. Conceptions of the underlying causes of ADHD have evolved over time. Still (1902) originally emphasized impaired volitional inhibition and poor “moral control” over behavior, and attributed these to an underlying neurological disorder. Theories that identified nonspecific brain injury or brain dysfunction as the cause of ADHD persisted into the 1960’s, even as conceptions of the disorder changed to focus primarily on hyperactivity (Gilmore, 2000; Barkley 1997a). These theories gave way in the 1970’s to a new emphasis on poor sustained attention and impaired impulse control, which were later understood as evidence of overarching deficits in self-regulation (Barkley, 1997a).

Though there is now some general agreement that impaired physical and emotional self-regulation is at the heart of ADHD, the cause of this impairment is still a source of debate. Most

theorists propose neurobiological/neurocognitive explanations, with some attributing the impaired self-regulation to deficits in executive functioning (or top-down cognitive processing), and others attributing it to deficits in reactive (or bottom-up) response systems. However, there is a small but growing body of literature suggesting a more complex etiological model of ADHD – a psychodynamic-developmental model that takes into account relational and intrapsychic factors along with neuropsychological ones.

Neuropsychological theories of etiology.

Those who emphasize the role of reactive response systems in ADHD suggest that children with the disorder are hypersensitive to environmental stimulation. They believe that the emotional dysregulation, impulsivity, and externalizing behaviors exhibited by many children with ADHD are related to impairments in reactive inhibition, or a reduced ability to respond to novel stimuli with appropriate levels of anxiety, which can cause them to appear sensation-seeking (Blaskey, Harris & Nigg, 2008). Sikstrom and Soderlund (2007) suggest that a dysfunctional and hypoactive dopamine system may be the cause of this hypersensitivity to environmental stimulation.

Those who emphasize executive functioning, on the other hand, suggest that children with ADHD have trouble altering an understanding or behavior in response to new information in order to maintain progress toward a goal (Barkley, 1997b; Quay, 1997; Nigg, 2001; Blaskey et al., 2008). In this way, ADHD can be understood as a deficit in executive inhibition, which in turn impairs other executive functions such as nonverbal working memory, internalization of speech, and self-regulation of affect, motivation, and arousal (Barkley, 1997b). Due to their impaired executive inhibition, therefore, individuals with ADHD “are less able to covertly sense to themselves, speak to themselves, motivate and emote to themselves, and manipulate and

reconstitute their own behavior to themselves and to others of their age” (Barkley, 1997a, p. 348). It is much harder for such people to internalize their behavior, and this is what hinders the development of their self-regulation skills.

Psychodynamic-developmental theories of etiology.

Gilmore (2000, 2002), a psychodynamic theorist, similarly suggests that difficulties with internalization are at the core of the impaired self-regulation exhibited by individuals with ADHD. However, she understands this difficulty as a deficit not in executive functioning, but in ego functioning. Gilmore (2000) argues that the symptoms of inattention, impulsivity and hyperactivity characteristic of ADHD are due to “a disturbance in the synthetic, organizing, and integrative function of the ego” (p. 1260). This synthetic capacity supports cognitive functioning as well as personality development by facilitating the modulation of drive and defense, the internalization of important relationships, the development of the superego, the balancing of internal and external stimuli, and the development of the capacity for self-observation and self-reflection. It is by performing all these functions that the synthetic capacity supports the development of self-regulation. Gilmore (2000) believes that “inconsistency and variability” of the synthetic function in children with ADHD causes them to become easily dysregulated in response to intense affect and anxiety (p. 1288). Experiences that stir up these emotions, such as social interactions, transitions, and unexpected changes, tend to be particularly “disruptive and disorganizing” for such children, and can cause them to appear overly excited and anxious or oddly constricted and calm (Gilmore, 2000, p. 1289).

Gnoulati (2008) similarly argues that ADHD is best understood as a deficit of “self-regulation of emotion in social contexts,” pointing out that children who are “easily emotionally flooded” are likely to be hyper-vigilant, and consequently, inattentive and restless (p. xiii). He

places special emphasis on the relational components of the disorder, suggesting that various types of mis-attunement between child and caregiver during the first three years of life can result in a tendency towards emotional dysregulation. Citing the work of infant researchers such as Schore and Tronick, Gnaulati emphasizes the detrimental impact of early “asynchronous exchanges” between infant and caregiver “without speedy external provision of care that restores emotional equilibrium” (p. 8). However, he expands this developmental model to include moments of mis-attunement in toddlerhood. He proposes that toddlers who are “consistently met with indifference, disregard, or belittlement” in response to their developmentally appropriate displays of prowess are likely to become mired in a vicious cycle of exhibitionism and hyperactivity in a desperate attempt to receive the parental recognition they so crave (p. 11). Because toddlers are often less capable in reality than they imagine themselves to be, they are already prone to intense feelings of shame. Gnaulati argues that toddlers whose parents are often invalidating are more likely to be “flooded with primitive feelings of shame and rage, which can have profound fragmenting and debilitating effects” (p. 12). He sees these emotions as central to the disorganized thinking and behaving common to children with ADHD.

Similarly, Morrel (1998) suggests that a particular vulnerability to narcissistic injury and resultant feelings of shame – and attempts to defend against these and protect self-esteem – are at the heart of the inattentive, impulsive and hyperactive symptoms that characterize ADHD. Morrel proposes a model of ADHD that takes into account “biological, relational, and cultural factors” (p. 135). He emphasizes the inextricable connection between temperament, interpersonal interactions, and affect expression and tolerance, arguing for a “temperament/goodness-of-fit model” that takes into account not only the accordance of the parent-child relationship, but also the goodness-of-fit between the child’s temperament and the expectations of her school,

community, and culture. He emphasizes the link between relationships and affects and explains the role of narcissism in ADHD as follows:

(a) children can be expected to act in ways that will protect their self-esteem, (b) self-esteem is invariably contingent on the quality of one's relationships, and (c) both the range of one's self-esteem-protecting maneuvers and the range of one's possible relationships are determined by those affects one can tolerate and those that must be defended against and avoided. (pp. 132-133)

Thus, a common theme across etiological theories is the understanding that children with ADHD tend to experience their internal and external worlds as tumultuous and overwhelming. A psychodynamic understanding attributes this sense of tumult to an impaired capacity to cope with strong emotion (their own and others'), which is rooted in early experiences of relational mis-attunement, resulting in a fragile sense of self and a vulnerability to narcissistic injury. The ego defense mechanisms of such children are unable to adequately protect them from unpleasant affective experiences and maintain their self-esteem.

Defense Mechanisms of Children with ADHD

The literature on ADHD suggests that children with the disorder are overly sensitive to environmental and affective stimulation, easily dysregulated, and tend to struggle in the academic and social realms. Moreover, this tendency toward dysregulation is apparent in early childhood and may even exist from birth. The world of a child with ADHD, therefore, is one of generally heightened stress and anxiety. It seems likely, then, that when compared to their non-ADHD peers, children with ADHD will rely more frequently on their defenses. Moreover, because children with ADHD have likely experienced heightened anxiety in early childhood, we can expect them to overuse and retain the defenses available during early childhood as they grow

older. Thus, the defense use of children with ADHD will likely look more immature than that of their peers without the disorder. The present study will investigate the defense use of children with ADHD by examining their responses to The Thematic Apperception Test (TAT; Morgan & Murray, 1935).

The Thematic Apperception Test

The Thematic Apperception Test (TAT; Morgan & Murray, 1935) is a projective measure made up of 20 cards, each showing a black and white image about which an individual is asked to make up a story. Though Murray recommended administering the TAT in two 1-hour sessions of 10 cards each, today clinicians usually administer the TAT in one session consisting of 10 cards or less (Gieser & Stein, 1999). Most of the indistinct and gloomy images on the cards depict people alone or with others in ambiguous situations. In some cards, the viewer can see the face(s) of the person(s) pictured, while in others, the subject(s) of the card is(are) turned away from the viewer. In some cards, a weapon, such as a gun or knife may be perceived. For each image, the individual is asked the following five questions: 1) What is happening in the picture? 2) What led up to it? 3) What will happen next? 4) What are the characters thinking? 5) What are the characters feeling? The cards are thought to vary in their level of morbidity and consequently to elicit stories of varying emotional tone. Specific descriptions of the cards used in this study can be found in Appendix B.

At its essence, the TAT is an emotional problem-solving task under morbid conditions (Tuber, 2012). It requires the respondent to perceive and tolerate often intense negative affect, as well as weave these perceptions into a coherent narrative. It is based on the psychoanalytic assumption that “when someone attempts to interpret a complex social situation he is apt to tell as much about himself as he is about the phenomena on which attention is focused” (Morgan &

Murray, p. 289). Responses to the TAT are thought to expose an individual's fantasies, wishes, and fears, "reveal information about one's relationships with lovers, friends, parents, and authority figures, [and provide] insight [into] an individual's life view, including self-concept and characteristic coping styles in facing emotional conflict" (Gieser & Stein, p. 3).

High vs. Low Arousal Cards

Several studies have attempted to document normative responses to the TAT, mainly in terms of the most common narrative themes and emotional reactions to each card. The results suggest that the cards pull for a range of responses, with certain cards eliciting stories with more negative emotions and themes than others. Murstein et al. (1961) scaled all 20 of the TAT cards based on the hostility perceived in each card. Of the cards used in this study, the following are presented in order from least to most perceived hostility: 2, 1, 13B, 7GF, 4, 8BM, 12M, 3BM. Moreover, there are eight cards on the scale in between cards 7GF and 4, suggesting that card 4 and those above it on the scale are seen as picturing substantially more hostility than card 7GF and those below it. Similarly, according to Eron, Terry, and Callahan (1948), of the cards used in this study, subjects ranked the following cards in order from least to most sad: 1, 7GF, 2, 8BM, 12M, 4, 13B, 3BM. Latko-Ryan (2000) also found card 3BM highly likely to elicit stories with themes of depression and sadness.

Clearly, there are overlaps between those images that subjects tend to find hostile and those that subjects tend to find sad. Cards 3BM, 4, and 12M seem to arouse some sort of negative emotion (be it anger or sadness) in most people. In addition to these three cards, card 8BM has also been found to consistently inspire stories with negative moods and themes of aggression, hostility, violence and death (Eron, 1950; Garfield & Eron, 1948; Holt, n. d.). Indeed, in a study of sailors' responses to certain TAT cards, Auld, Eron and Laffal (1955) found

that 78% of subjects told aggressive stories to card 8BM. Additionally, 49% of sailors told sexual stories to card 4, suggesting that they also found this card highly arousing.

For the purposes of this study, the cards administered have been grouped into a high arousal group (i.e. those cards that can be expected to pull for stories with negative moods and themes) and a low arousal group (i.e. those cards that can be expected to pull for more neutral or positive stories). The high arousal group is made up of cards 3BM, 4, 8BM, and 12M. The low arousal group is made up of cards 1, 2, 7GF, 13B. Because of their hyper-sensitivity to negative affect, children with ADHD are expected to employ a greater number of defenses in general, and more primitive defenses in particular, to the high arousal cards. More specific hypotheses will be discussed in chapter two.

The TAT as a Measure of Defense

The TAT is understood as a measure of unconscious dynamics, including defense mechanisms. According to Holt (1999), David Rapaport taught that an individual's "ego structure" or "defensive/coping style" could be assessed via the TAT (p. 100). According to Cramer (2006), the TAT is particularly well suited for both eliciting and assessing defense mechanism use because of its novel and morbid stimuli, and open-ended format. The presentation of affectively stimulating images, along with the demand for extemporized material in response to these images, is likely to provoke anxiety, especially if the storyteller feels scrutinized and judged by the administrator. Thus, during the TAT, the storyteller is likely to activate his defenses in an attempt to reduce the anxiety stirred up by the task. Additionally, "because defense mechanisms are rather complex mental processes, they are more likely to be revealed in relatively extensive samples of verbal behavior than in single-word responses" (Cramer, 2006, p. 297). The open-ended storytelling format of the TAT provides multiple

samples of an individual's unhampered thought process and content, which can then be analyzed for defense use by two or more independent observers. Cramer (1990, 2006) developed the Defense Mechanism Manual (DMM) in order to score defense use in TAT responses. The present study will use the DMM to score and compare the defense use of children with and without ADHD.

The TAT is particularly appropriate for eliciting defense use in children with ADHD for a number of reasons. First, because "circumstances or tasks that involve the generation of novel responses most heavily tax the type of behavioral inhibition and self-regulation" that is especially difficult for children with ADHD (Barkley, 1997a, p. 68), it is thought that the TAT will be particularly stressful for these children. Moreover, because children with ADHD are easily dysregulated by affective stimulation, particularly when it is related to social interaction, it is thought that the morbid quality and social undercurrents of the cards will be highly arousing for these children. Finally, because the cards vary in level of stimulation, it will be interesting to examine which cards seem to elicit the most defense use overall and the most immature defense use in particular.

Study Rationale

It is hoped that this study will contribute to the field in several ways. First, though a small body of psychoanalytic literature exists on the defense mechanism use of children with learning disorders (Midgen, 1998; Rothstein & Glenn, 1999), an extensive literature search yielded no empirical research on the defense mechanism use of children with ADHD. The present study will begin to address this hole in the literature by examining the defense mechanism use of children with ADHD and comparing it to that of children without the disorder. Second, the sample of the study is comprised of children from minority ethnic groups living in a lower- to middle-income

American urban community, a population that is underrepresented in the literature. Third, the results of the study should contribute to a more precise understanding of the intrapsychic dimensions of ADHD, which could be used to inform future interventions and treatments.

CHAPTER TWO

Method

Participants

The participants of this study were 37 school-aged children who were selected from a pre-existing data set compiled as part of a project funded by the National Institute on Deafness and Communication Disorders (NICDC), which examined attention and language impairments in children living in Upper Manhattan (Gomes, Wolfson and Halperin, 2007). Children were referred to the project by a parent or teacher due to behavioral or reading problems in school. All participants reported normal hearing and normal or corrected to normal vision, and passed a hearing screen. Several of the children included in the ADHD sample had comorbid diagnoses of anxiety disorder, depressive disorder, oppositional defiant disorder, and conduct disorder, as assessed by the Schedule for Affective Disorders and Schizophrenia for School Aged Children (KSADS; Kaufman et al., 1997).

Children were excluded from the larger NIDCD project and thus the present study if they had a chronic medical or neurological illness, a history of neurological problems, if they were taking systemic medication, if they received a diagnosis of schizophrenia, major affective disorder, autism, pervasive developmental disorder, or a chronic tic disorder, or if they were not attending school. Furthermore, children were excluded from this study if they failed to achieve a score of 80 or better on either the Test of Nonverbal Intelligence-Third Edition (TONI; Brown, Sherbenou, & Johnsen, 1990) or the performance composite scale of the Wechsler Abbreviated Scale of Intelligence (WASI; Psychological Corporation, 1999), or if they were found to have an expressive language score below 80 on the Clinical Evaluation of Language Fundamentals – Third Edition or Fourth Edition (CELF-3; Semel, Wiig, & Secord, 1995; CELF-4; Semel, Wiig,

& Secord, 2004), because the presence of an intellectual disability or expressive language disorder would likely interfere with the production of verbal responses to the TAT.

Children were placed in the clinical or comparison groups based on the composite ratings of parents, teachers, and examiners on the DSM-IV ADHD rating scale (DuPaul, Power, & Anastopoulos, 1997). These ratings were analyzed using the ‘or’ algorithm used by Nigg and colleagues (Huang-Pollock, Nigg, & Carr, 2005; Huang-Pollock, Nigg, & Halperin, 2006; Nigg, Blaskey, & Stawicki, 2004), which integrates information from multiple sources following the *DSM-IV* field trials validity data (Lahey et al., 1994). If any of the three informants (i.e. parent, teacher, and examiner) endorsed a particular ADHD symptom in the child, it was considered present. These scores were then aggregated into a total score for the inattentive and hyperactive categories, reflecting the total number of unique symptoms endorsed by at least one of the informants for each category.

Measures

DSM-IV Attention Deficit Hyperactivity Disorder (ADHD) Rating Scale (DuPaul et al., 1997)

The ADHD Rating Scale, which is used to assess symptoms of ADHD, was completed by each child’s parent, teacher, and examiner independently. The self-report scale includes 18 items, which correspond to the 18 diagnostic criteria (nine hyperactive/impulsive and nine inattentive) outlined in the DSM-IV. Each item is assessed on a 4-point scale. The DSM-IV ADHD Rating Scale has been found to demonstrate strong convergent, discriminant, predictive and factorial validity; as well as high internal consistency and test-retest reliability when administered by teachers and parents (DuPaul, 1991; DuPaul, 1998) as well as by clinicians (Faries et al., 2001; Zhang et al., 2005). Inter-rater reliability has been found to be moderately high (correlations

ranged from .46-.59) between ratings of teachers and parents (DuPaul, 1991), and high (.78-.89) between ratings of clinicians (Zhang et al., 2005).

Schedule for Affective Disorders and Schizophrenia for School Aged Children (KSADS; Kaufman et al., 1997)

Parents of participants were given the KSADS, a clinician-administered structured diagnostic interview, which was used to assess comorbid diagnoses in the sample, specifically diagnoses of: anxiety disorder, depressive disorder, oppositional defiant disorder, and conduct disorder. The KSADS has demonstrated strong concurrent validity with other diagnostic measures, high inter-rater reliability (range: 93% to 100%), and excellent test-retest reliability for diagnoses of major depression, bipolar disorder, generalized anxiety disorder, conduct disorder, and oppositional defiant disorder (κ coefficients ranged from .77 to 1.00) (Kaufman et al., 1997).

Thematic Apperception Test (TAT; Morgan & Murray, 1935)

The TAT is a projective measure used to assess many aspects of an individual's internal experience. Clinicians and researchers have used the TAT consistently since 1943, when the current set of cards was first published. Early studies found the measure to exhibit "adequate validity and reliability" (Latko-Ryan, 2000, p. 3). Surveys suggest that clinical psychologists "rank the TAT among the top four or five tests in most settings" (Gieser & Stein, 1999, p. 6), usually placing it below the Wechsler Adult Intelligence Scale (WAIS), the Minnesota Multiphasic Personality Inventory (MMPI), the Bender Gestalt Visual Motor Test, and the Rorschach Inkblot test. Though this longstanding "survival in the free market cannot be cited as formal evidence of validity," it does suggest that there is a consensus in the field about the test's "clinical usefulness" (Holt, 1999, p. 99). The TAT protocol for this study consisted of the

following eight cards, which were presented in numerical order: 1, 2, 3BM, 4, 7GF, 8BM, 12M, 13B. Descriptions of these cards can be found in Appendix B.

Defense Mechanism Manual (DMM; Cramer, 1990, 2006)

The DMM is a standardized method of scoring the use of three defenses – denial, projection, and identification – in the stories told to TAT cards. The scoring for each defense is based on seven categories, each designed to reflect a different aspect of the defense (listed in Table 2). Evidence of any of these 21 categories in the story of a participant is scored as one point (with the exception of direct repetitions, which are only scored once). Points can then be summed to yield scores for each of the three defenses. Relative scores for each defense can then be computed by dividing the score for each individual defense by the total number of responses (Porcerelli et al., 1998; Cramer, 1987; Cramer & Gaul, 1998). For ease of understanding, this relative score can then be converted to a percentage. For example, if a subject had 15 denial responses out of 40 total responses, the relative score for denial would be 37%. The DMM scoring manual, with explicit descriptions and examples for the scoring of each category can be found in Appendix A.

Several studies using the DMM have demonstrated high inter-rater reliability on all three defenses, with the Pearson or intraclass correlations ranging from .71-.95 for denial, .71-.88 for projection, and .74-.93 for identification (Cramer, 2006). Hibbard et al. (1994) investigated the psychometric properties of the DMM and found evidence to support its reliability, internal consistency, and three-factor structure, as well as the criterion and divergent validity of the three defense measures. Several studies have provided empirical evidence for the construct validity of the DMM by showing both that the three different defenses appear to become prominent at three different ages (Cramer, 1987, 1990, 2006; Porcerelli et al., 1998) and that experimentally

induced stress is associated with increased defense use (Cramer & Gaul, 1988). For the present study, two raters (the author and an outside rater), who were blind to the clinical status and sex of the children, coded the TAT protocols using the DMM. Inter-rater reliability was established on 25% of the protocols.

Table 2. DMM Scoring Categories by Defense

| | Denial | Projection | Identification |
|---|---|--|-----------------------------------|
| 1 | Omission of major characters or objects | Attribution of aggressive/hostile or any other normatively unusual feelings, emotions, or intentions | Emulation of skills |
| 2 | Misperception | Addition of ominous characters, objects, qualities | Emulation of characteristics |
| 3 | Reversal | Magical or circumstantial thinking | Regulation of motives or behavior |
| 4 | Negation | Concern for protection against external threat | Self-esteem through affiliation |
| 5 | Denial of Reality | Apprehensiveness about death, injury, or assault | Work; delay of gratification |
| 6 | Overly maximizing the positive or minimizing the negative | Themes of pursuit, entrapment, and escape | Role differentiation |
| 7 | Unexpected goodness, optimism, positiveness, gentleness | Bizarre or very unusual story or theme | Moralism |

Design

The present study employed a mixed between-within nonequivalent group design to explore the characteristic defense use of children with ADHD and compare it to that of children without the disorder. The level of affective stimulation per TAT card was the independent variable, and the quantity and quality of defense use was the dependent variable. Because the TAT cards vary in level of morbidity and theme, they were expected to inspire varying levels of defense use in both groups, but these variations were expected to be more pronounced in the

clinical group. The study employed a between-subjects design in that the clinical group and the comparison group were compared on their defense use overall. It employed a within-subjects design in that within each group, the responses to each card were compared to determine whether some cards pulled for more and more primitive defense use than others.

Procedure

Testing was performed in a small, quiet testing room. Each child was administered the TAT as part of a battery of language, attention, and intelligence testing, over the course of two morning sessions. The TAT was usually administered toward the end of testing on the second day. The TAT was administered to the participants in the standardized manner outlined by Morgan and Murray (1935). Namely, participants were asked to tell a story for each card about what is happening at present, what happened before, what will happen after, and what the pictured people are thinking and feeling. If a participant forgot to include any of these five components, he was prompted to do so by the interviewer. Responses were transcribed and tape-recorded for confirmation of written transcription.

Hypotheses

The preceding review of literature suggests support for the following hypotheses:

Hypothesis (1): Because children with ADHD are overly sensitive to environmental and affective stimulation, they will employ defense mechanisms more frequently in response to the TAT than will children without the disorder.

Hypothesis (2): In keeping with the concept of Cramer's (1997) developmental model of defense, which holds that early experiences of distress cause an over-reliance on those defenses available in early childhood, school-aged children with ADHD will employ more denial than children without the disorder.

Hypothesis (3): Based on previous studies of normative responses to the TAT, the cards in this study were separated into “high arousal” and “low arousal” groups. It is hypothesized that those cards designated as “high arousal” will elicit significantly more defense mechanisms than those designated as “low arousal”.

Hypothesis (4): Because children with ADHD are particularly sensitive to negative affect, they will employ more immature defenses (denial and projection) in response to the high arousal cards than will children in the non-clinical group.

CHAPTER THREE

Results

This chapter presents the results of the current study. It begins by describing the demographics of the participants. Next, interrater reliability on the DMM is reported, followed by descriptive statistics for all variables. Finally, the analyses to address the specific hypotheses and post-hoc analyses are described and results reported.

Preliminary Analyses

Demographic Characteristics

The participants were 37 children (12 girls and 25 boys) ranging in age from 7.0 to 10.0 years, with a mean age of 8.42 years ($SD = .80$ years). The sample was predominantly male ($n = 25, 67.6\%$). According to parent-report of the children's race/ethnicity, the majority of participants identified as non-white ($n = 21, 56.8\%$), with 48.6% identifying as African American, and 37.8% as Latino/Hispanic. Ten children were identified as White (27%), two as American Indian (5.4%) and one as Asian (2.7%). All of the children were fluent in English and enrolled in English-only classrooms, but 9 children (24.3%) were described by their parents as bilingual. Of the total sample, 23 (62.2%) children met criteria for the ADHD group and 14 (37.8%) met criteria for the comparison group. The demographic characteristics of the study sample are displayed in Table 3.

Table 3. Demographic Characteristics of Participants

| | Participants (N=37) | Male (n=25; 67.6%) | Female (n=12; 32.4%) |
|------------------------------|--------------------------------|-------------------------------|---------------------------------|
| Mean Age (Std Dev.) | 8.42 (.80) | 8.34 (.74) | 8.60 (.94) |
| <u>Race/Ethnicity</u> | | | |
| African American | 18 (48.6%) | 11 (44%) | 7 (58.3%) |
| Latino/Hispanic | 14 (37.8%) | 10 (40%) | 4 (33.3%) |
| White | 10 (27.0%) | 7 (28%) | 3 (25%) |
| American Indian | 2 (5.4%) | 2 (8%) | 0 (0%) |
| Asian | 1 (2.7%) | 1 (4%) | 0 (0%) |
| Bilingual | 9 (24.3%) | 6 (24%) | 3 (25%) |

Reliability

The TAT protocols were coded by the author and an advanced doctoral candidate using the DMM. After they extensively self-trained using the DMM manual and protocols not used in the current data set, and consulted with their supervisor, they each coded 10 randomly selected protocols (approximately 25%). Coders were blind to demographic and diagnostic data. To test their inter-rater reliability, a two way mixed model intraclass correlation coefficient (ICC) was computed using absolute agreement as the standard. ICC values were found to range from good (.60-.74) to excellent (>.75); .60 for Denial, .64 for Identification, and .82 for Projection, indicating adequate reliability between raters. The remaining protocols were then coded by the author.

Summary Statistics

The data was examined to assess normality prior to hypothesis testing. No missing information or coding errors were discovered. Measures of central tendency, skew, and kurtosis for the DMM scores can be found in Table 4. Three total defense use scores were calculated for each participant: 1) sum of defense responses to all eight TAT cards, 2) sum of responses to the

four high arousal cards, and 3) sum of responses to the four low arousal cards. All three of these variables were found to be highly skewed and kurtotic, indicating they are best understood as count data rather than as continuous data. Consequently, non-parametric analyses were performed on these variables. Next, relative scores for each defense type (i.e. denial, projection, identification) were computed for each participant as the proportion of total defense use. These variables were found to be normally distributed.

Table 4. Descriptive Statistics of Outcome Measures

| Variable | <i>n</i> | <i>M</i> | <i>SD</i> | <i>Skew</i> | <i>Kurtosis</i> |
|------------------------------------|----------|----------|-----------|-------------|-----------------|
| Total Defense | 37 | 30.65 | 17.85 | 1.86 | 3.19 |
| Relative Denial | 37 | 36.71** | 15.27 | 0.89 | 1.07 |
| Relative Projection | 37 | 40.64** | 16.29 | -0.13 | -1.04 |
| Relative Identification | 37 | 22.65** | 16.16 | 0.36 | -0.74 |
| Total Defense High Cards | 37 | 16.62 | 10.04 | 2.16 | 5.50 |
| Relative Denial High Cards | 37 | 39.65** | 18.74 | 0.65 | 1.24 |
| Relative Projection High Cards | 37 | 45.51** | 18.64 | -0.34 | -1.09 |
| Relative Identification High Cards | 37 | 14.83** | 13.52 | 0.72 | -0.18 |
| Total Defense Low Cards | 37 | 14.03 | 10.07 | 2.73 | 9.61 |
| Relative Denial Low Cards | 37 | 34.05** | 21.00 | 0.82 | 0.51 |
| Relative Projection Low Cards | 37 | 33.50** | 21.90 | 0.54 | -0.02 |
| Relative Identification Low Cards | 37 | 32.46** | 25.37 | -0.62 | -0.30 |
| ADHD Total Defense | 23 | 30.00 | 15.23 | 1.37 | 2.07 |
| ADHD Total Defense High Cards | 23 | 16.70 | 9.52 | 1.59 | 3.42 |
| ADHD Total Defense Low Cards | 23 | 13.30 | 6.73 | 0.93 | 0.36 |
| No Dx Total Defense | 14 | 31.71 | 22.09 | 2.11 | 3.42 |
| No Dx Total Defense High Cards | 14 | 16.50 | 11.22 | 2.98 | 9.96 |
| No Dx Total Defense Low Cards | 14 | 15.21 | 14.19 | 2.57 | 6.72 |

**Percentage Scores.

DMM Norms

At the time of this writing, no appropriate norms exist for the DMM. That said, the relative defense use scores of this sample were statistically equivalent to those obtained from a sample of demographically similar elementary school students (Porcerelli, et al., 1998) as presented in table 5. However, the trends toward significance in the t-tests of denial and identification suggest that the current sample may have presented as less mature than that of the comparison sample in that it exhibited more denial and less identification.

Table 5. DMM Comparisons

| | Porcerelli, et al., (1998) (<i>n</i> = 29) | Current Study (<i>n</i> = 37) |
|-----------------------|---|--------------------------------------|
| Denial | <i>M</i> = 32.86, <i>SD</i> = 23.25 <i>t</i> (36) = 1.534, <i>p</i> = 0.13 | <i>M</i> = 36.71, <i>SD</i> = 15.27 |
| Projection | <i>M</i> = 40.41, <i>SD</i> = 21.81 <i>t</i> (36) = 0.087, <i>p</i> = 0.93 | <i>M</i> = 40.64, <i>SD</i> = 16.29 |
| Identification | <i>M</i> = 26.66, <i>SD</i> = 20.85 <i>t</i> (36) = -1.511, <i>p</i> = 0.14 | <i>M</i> = 22.65, <i>SD</i> = 16.16 |

Relationships among Subscales

Pearson correlations were computed to test the intercorrelations amongst the relative defense scores. The results were as follows: Denial and Projection, $r(35) = -0.48, p = 0.003$; Denial and Identification, $r(35) = -0.46, p = 0.004$, and Projection and Identification, $r(35) = -0.56, p < 0.001$, indicating that as the use of one defense increased, the use of any other decreased (and vice versa).

Relationships of Demographic Variables to Outcome Measures

Of all the demographic variables (age, gender, ethnicity, bilinguality) only age was found to be significantly associated with defense use. Pearson correlations indicate that with age the relative use of denial decreased ($r(35) = -0.34, p = 0.04$) and the relative use of identification increased ($r(35) = 0.43, p = 0.007$). Age was not significantly correlated with the relative use of projection ($r(35) = -0.11, p = .502$). One-way analyses of covariance controlling for age were conducted to determine whether there were differences in the relative use of the three defenses based on clinical status. Regardless of clinical status, age was found to be a significant predictor of the use of both denial ($F[2, 34] = 4.221, p = .048$) and identification ($F[2, 34] = 7.634, p = .009$) in response to the total card set, accounting for 11% and 18.3% of the variance of each defense, respectively, as measured by eta squared. However, age was not found to be a significant predictor of the relative use of projection in response to the total card set ($F[2, 34] = 0.419, p = .522$), accounting for only 1.2% of the variance in projection as measured by eta squared. Given this significant age effect, all subsequent analyses were conducted while controlling for age of participants. Additional (insignificant) demographic comparisons are displayed in Table 6.

Table 6. Demographic Comparisons

| | Gender | | Race/Ethnicity | | Language | |
|-----------------------|--|---------------------------------------|---|--|--|--|
| | Boys <i>n</i> =25 | Girls <i>n</i> =12 | White <i>n</i> =10 | Non White <i>n</i> = 21 | English <i>n</i> = 26 | Bilingual <i>n</i> = 9 |
| Denial | <i>M</i> =38.58 <i>SD</i> =16.75 <i>t</i>(35) = 1.079, <i>p</i> = 0.288 | <i>M</i> =32.81 <i>SD</i> = 11.22 | <i>M</i> = 34.40 <i>SD</i> = 14.56 <i>t</i>(29) = -0.990, <i>p</i> = .330 | <i>M</i> = 40.47 <i>SD</i> = 16.55 | <i>M</i> = 37.85 <i>SD</i> = 15.43 <i>t</i>(33) = 0.335, <i>p</i> = 0.740 | <i>M</i> = 35.84 <i>SD</i> = 16.33 |
| Projection | <i>M</i> =40.68, <i>SD</i> =15.57 <i>t</i>(35) = 0.017, <i>p</i> = 0.987 | <i>M</i> =40.58, <i>SD</i> = 18.41 | <i>M</i> = 41.79, <i>SD</i> = 16.95 <i>t</i>(29) = 0.711, <i>p</i> = 0.483 | <i>M</i> = 37.38, <i>SD</i> = 15.79 | <i>M</i> = 38.95, <i>SD</i> = 16.52 <i>t</i>(33) = -1.043, <i>p</i> = 0.304 | <i>M</i> = 45.58, <i>SD</i> = 16.13 |
| Identification | <i>M</i> =20.74, <i>SD</i> =17.45 <i>t</i>(35) = -1.035, <i>p</i> = 0.308 | <i>M</i> =26.61, <i>SD</i> = 12.87 | <i>M</i> = 23.81 <i>SD</i> = 16.61 <i>t</i>(29) = 0.255, <i>p</i> = 0.801 | <i>M</i> = 22.16, <i>SD</i> = 17.04 | <i>M</i> = 23.18, <i>SD</i> = 17.02 <i>t</i>(33) = 0.743, <i>p</i> = 0.463 | <i>M</i> = 18.58, <i>SD</i> = 12.44 |

Tests of Hypotheses

Hypothesis I: Relationship Between ADHD and Total Defense Use

Hypothesis I predicted that children in the clinical group would employ more defense mechanisms in response to the TAT than those in the comparison group. Because the total defense use variable was determined to be count data, a negative binomial regression was performed to examine the relationship between total defense use and clinical status while controlling for age of participant. Contrary to expectation, the results suggest that clinical status is not a significant predictor of defense use ($X^2_{(1)} = .107, p = .74$). To confirm this result, an additional non-parametric analysis was run to compare the total defense use of the clinical and comparison groups. A Mann-Whitney test found no significant difference between the distributions of the total defense use of the ADHD group (*Mdn* = 26) and comparison group (*Mdn* = 25), $U = 157, p = .90$. The effect size was very small, with only 0.04% of the variance in

total defense use explained by diagnosis as measured by r^2 . Thus, contrary to the hypothesis, children with ADHD did not present as more defensive overall in response to the TAT.

Hypothesis II: Relationship Between ADHD and Use of Denial

Hypothesis II predicted that children in the clinical group would employ more denial than those in the comparison group. That is, relative to their overall defense use, children in the ADHD group would exhibit a higher proportion of denial than the children in the non-clinical group. A one-way analysis of covariance controlling for age was conducted to determine whether there were differences in relative denial based on clinical status. No significant differences were found ($F[2, 34] = .205, p = .65$). The effect size, as measured by eta squared, was very small, with only 0.6% of the variability in relative denial being explained by diagnosis. Thus, contrary to the hypothesis, children with ADHD did not exhibit a higher proportion of denial than children without the disorder.

Hypothesis III: Relationship Between Arousal Level of TAT Card and Defense Use

Hypothesis III predicted that those cards designated as “high arousal” would elicit significantly more defense mechanisms than those designated as “low arousal”. A generalized linear mixed model using a Poisson distribution (used for modeling count data) was conducted to compare total defenses elicited by low arousal cards to those elicited by high arousal cards while controlling for age. Arousal level was entered as a fixed factor. The results indicate that arousal level was not associated with number of defenses, $F[1,71] = 1.464, p = .23$. To confirm this result, an additional non-parametric test was run to compare the distributions of the total responses to the high and low arousal card sets. A related samples Friedman’s two way analysis of variance by ranks found no difference between the responses to the two sets of cards, $F[1, 71]$

= 3.457, $p = .06$. Thus, the children did not present as more defensive overall in response to the high arousal cards, contrary to the hypothesis.

Hypothesis IV: Relationship Between ADHD, Arousal Level of TAT Card, and Defense Use

Hypothesis IV predicted that children in the clinical group would employ more immature defenses (denial and projection) in response to the high arousal cards than children in the comparison group. That is, relative to their overall defense use, children in the ADHD group would exhibit a higher proportion of immature defenses to the high arousal cards than the children in the non-clinical group. The relative denial and relative projection variables were combined to create a relative immature defense variable. A one-way analysis of covariance controlling for age was then conducted to determine whether there were differences in relative immature defense use in response to the high arousal cards based on clinical status. No significant differences were found ($F[2, 34] = .000, p = .987$), with 0% of the variability in relative immature defense being explained by diagnosis, as measured by eta squared. Thus, the children with ADHD did not respond to the high arousal cards with more immature defenses than the children in the comparison group, contrary to the hypothesis.

Post Hoc Analyses

Because the hypotheses focused exclusively on denial, combined immature, and total defense use, post hoc analyses of projection and identification responses were conducted.

Relative Use of Projection

Three one-way analyses of covariance controlling for age were conducted to determine whether there were differences in relative use of projection based on clinical status. In response to the total card set, no significant differences were found ($F[2, 34] = 0.079, p = .780$). The effect size, as measured by eta squared, was very small, with only 0.02% of the variability in relative

projection being explained by diagnosis. Similarly, diagnosis was found to be an insignificant predictor of projection in response to the high arousal cards ($F[2, 34] = 0.056, p = .815$), and to the low arousal cards ($F[2, 34] = 1.022, p = .319$), accounting for only 0.2% and 2.9% of the variance in projection as measured by eta squared, respectively. Thus, clinical status was not found to be a significant predictor of the relative use of projection in response to the TAT.

Relative Use of Identification

Three one-way analyses of covariance controlling for age were conducted to determine whether there were differences in relative use of identification based on clinical status. Clinical status was not found to be a significant predictor of the relative use of identification in response to all the cards ($F[2, 34] = 0.585, p = .450$). The effect size, as measured by eta squared, was very small, with only 1.7% of the variability in relative identification being explained by diagnosis. This was true regardless of card type; clinical status was an insignificant predictor of identification in response to the low arousal cards ($F[2, 34] = 2.324, p = .137$), and to the high arousal cards ($F[2, 34] = 0.000, p = .987$). Thus, clinical status was not found to be a significant predictor of the relative use of identification in response to the TAT.

Immature Defense Responses to the Low Arousal Cards

Because only immature responses to the high arousal cards were examined, a one-way analysis of covariance controlling for age was conducted to determine whether there were differences in relative immature defense use in response to the low arousal cards based on clinical status. Clinical status was not found to be a significant predictor of immature defense use in response to the low arousal cards ($F[2, 34] = 2.324, p = .137$), accounting for only 6.4% of the variance as measured by eta squared.

Arousal Effect

Additional analyses were run to further compare the responses to the high and low arousal card sets, regardless of the subjects' clinical status. Multivariate analyses were run to investigate the relationship between arousal level and defense type, while controlling for age of subject. Results indicated a significant arousal effect, Wilks' $\lambda = .58$, $F(2,34) = 12.425$, $p = .000$, with a large effect size as measured by $\eta^2 = .42$. Follow-up pairwise comparisons indicated significant differences in the proportions of projection and identification based on arousal level of card. While there was no difference in the proportion of denial elicited by the high and low arousal card sets ($|\bar{X}|$ difference = 5.606, $p = 1.97$), the high arousal cards were found to elicit significantly more projection ($|\bar{X}|$ difference = 12.018, $p = .003$) and significantly less identification ($|\bar{X}|$ difference = 17.623, $p = .000$) than the low arousal cards.

CHAPTER FOUR

Discussion

The present study aimed to gain insight into the intrapsychic process of affect regulation of children with ADHD. Participants' responses to the TAT were examined for evidence of defense mechanisms using the empirically validated DMM scale (Cramer, 1990, 2006). A literature review provided support for the hypotheses that ADHD and arousal level of TAT card could be significant predictors of the quantity and quality of defense mechanisms employed. Results indicated, however, that only TAT card arousal level was associated with defense use, regardless of clinical status or age. Additionally, age was found to be a significant predictor of defense use, regardless of clinical status. Thus, while the results do not expand our understanding of ADHD in the ways expected, they do provide empirical support for Cramer's stage theory of defense development, as well as contribute to the existing body of literature on patterns of TAT responses. This final chapter will explore the implications of the significant findings, provide possible explanations for the insignificant findings, discuss limitations of the present study, and propose directions for future research.

Significant Findings

Empirical Support for Cramer's Stage Theory of Defense

According to Cramer (1987, 1998, 2006), the use of denial is predominant in early childhood and decreases with age, replaced first by the use of projection – which is most salient during latency – and then ultimately supplanted by the use of identification, which gains prominence in adolescence. The results of the present study provide empirical support for this developmental model. Indeed, age was found to be significantly associated with defense use, regardless of clinical status. More specifically, one-way analyses of covariance found age to be a

significant predictor of the use of denial and identification in response to the total card set, and Pearson correlations indicated that as age increased, the relative use of denial decreased and the relative use of identification increased, as predicted by Cramer's model.

Additionally, the intercorrelations amongst the relative defense scores were all found to be significant and negative, indicating that as the use of one defense increased, the use of any other decreased (and vice versa). Though the direction of these correlations differs from those reported in another study of school children (Porcerelli, et al., 1998), they seem in line with Cramer's stage-based theory of defense development in that they indicate that the defenses emerge sequentially (although they remain extant to a lesser degree throughout childhood), with each gradually being replaced by the next in frequency of use.

Finally, multivariate analyses comparing the responses to the high and low arousal card sets – controlling for the subjects' clinical status and age – indicated a significant arousal effect, with a large effect size. Follow-up pairwise comparisons found the high arousal cards to elicit significantly more projection and significantly less identification than the low arousal cards. Thus, in response to the heightened stress inspired by the high arousal cards, the participants relied heavily on projection – the defense most readily available to children their age – whereas in response to the relatively less stimulating low arousal cards, they were better able to access the more mature defense of identification. These findings provide support for Cramer's (2006) assertion that projection is the defense most salient during latency, and are in line with previous research which indicates that heightened stress inspires overreliance on the defense most easily accessible (Cramer and Tracey, 2005; Cramer and Block, 1998).

Contribution to Literature on TAT

The third hypothesis predicted that the high arousal card group (3BM, 4, 8BM, 12M) would elicit significantly more defenses overall than the low arousal card group (1, 2, 7GF, 13B). Results indicated that two groups did not differ in the amount of defenses they elicited, but rather in the type of defenses they elicited (i.e. the high arousal group elicited significantly more projection and significantly less identification). Thus, though the specific hypothesis was not supported, the distinction between the two groups was in fact found to be statistically meaningful, as discussed above and in the previous chapter. By providing empirical evidence that cards 3BM, 4, 8BM and 12M are more emotionally stimulating than cards 1, 2, 7GF and 13B, the present study both aligns with and contributes to the existing body of literature on normative responses to the TAT.

Insignificant Findings

Contrary to expectation, no significant differences were found between the defense use of children with ADHD and that of children in the comparison group. There are several possible explanations for this discrepancy, including the nature of the sample as a whole, the nature of the TAT, and the nature of the DMM.

The Sample as a Whole

As discussed in the second chapter, participants were selected from a larger data-set compiled as part of a NICDC-funded project investigating attention and language impairments in children living in northern Manhattan (Gomes, Wolfson and Halperin, 2007). Children were referred to the project by a parent or teacher due to behavioral or reading problems in school and placed in the clinical or comparison groups based on the composite ratings of parents, teachers, and examiners on the DSM-IV ADHD rating scale (DuPaul, Power, & Anastopoulos, 1997).

Thus, though only 23 (62.2%) of the children were designated as “ADHD,” all of the children can be understood as exhibiting some behavioral or reading problems, muddying the distinction between the clinical and non-clinical groups. This may be an explanation for why the sample demonstrated a trend toward immaturity in defense use as compared to a sample of demographically similar students as discussed in the previous chapter (Porcerelli, et al., 1998).

Additionally, it is important to point out that in forming the clinical group, no distinction was made between those participants who met criteria for inattentive, hyperactive or mixed types of ADHD, largely because of the small sample size. However, it is possible that hyperactive and inattentive children respond to the TAT in distinctly different ways, and this distinction obscured the findings, as discussed in the next section.

Nature of the TAT and DMM

The TAT is a story-telling task which requires a protracted and consistent period of concentration and verbal production. The stamina involved is a lot to ask of any child, but is a particularly tall-order for children with difficulty regulating their attention. The transcripts coded for this study indicate that many participants struggled to complete the task. Administrators often had to encourage children repeatedly to persevere. Several children provided markedly succinct stories, or refused to provide a story altogether in response to some or all of the cards.

Conversely, a few participants produced long, convoluted stories which investigators had to reign in or end in order to complete the protocol in a timely fashion. As indicators of inhibition and disinhibition, respectively, taciturn and loquacious responses can both be interpreted as evidence of defensive processes. Unfortunately, only the latter is well-captured by the DMM.

The DMM relies on verbal production; the more words a child produces, the more opportunities for scoring. This is problematic, in that children who are profoundly avoidant may

refuse to produce much, if any, content at all. Yet a refusal will only yield a score for the omission of whatever salient object is in that particular card (for example, refusal to provide a story to card 1 would result in two denial scores for omission of the boy and the violin). Whereas a particularly long and meandering story to card 1 could result in more than two scores. In this scenario, a garrulous child might look markedly more defended than a terse child when this may not in fact be the case. Thus, it is possible that only the defensive processes of the hyperactive/talkative children were well captured by the DMM and those of the inattentive/reticent children were underestimated. In this way, the insignificant findings can be taken as indicative of a weakness of the DMM rather than a disproof of the hypotheses per se.

Study Limitations

There are several limitations to the current study, including aspects of the administration of the TAT and aspects of the sample itself. Inconsistencies in the administration of the TAT due to human error, including which and how often prompts were given, and whether snacks and/or toys were provided during administration, can be understood to limit the generalizability of the findings.

Additionally, the number of participants is quite small, making the analyses underpowered. Moreover, as a self-selecting sample, there is a lack of a clear distinction between the clinical and comparison groups, as well as a lack of specificity around the types of ADHD within the clinical group, as discussed in the previous section. As such, the implications of the few significant findings should be accepted with caution. Given these reservations, however, the medium-large effect sizes of the significant age and arousal effects provide support for their credibility.

Finally, the sample is made up predominantly of children of color living in a low to middle-income urban setting. As such, the findings may not be generalizable to the population as a whole. That said, the DMM findings are in line with previous studies of latency aged children (Cramer, 2006, 1997; Porcerelli, et al., 1998). Furthermore, the inclusion of underrepresented participants in this study is purposeful and a conscious step toward rectifying a longstanding inequity in the literature.

Directions for Future Research

Future research should address these limitations by employing a larger, randomly selected, and more ethnically, geographically, and economically diverse sample of children. Analyses should separate the clinical sample into inattentive, hyperactive and mixed subgroups in addition to examining children with ADHD as a whole. And TATs should, of course, be administered as consistently as possible.

In the analyses of defense use, additional measures to capture verbosity should be considered. Adding a word-count for each story would begin to address this concern. Another possibility to consider is weighing scores in relation to speech paucity or overabundance.

Such additions should make it possible to investigate whether diagnostic types of ADHD present differently in both verbosity and defense use, providing the more nuanced clinical picture of the disorder originally sought by the present study.

Conclusion

This study attempted to expand the psychodynamic understanding of children with ADHD and add to the nascent literature on psychiatric disorders in underrepresented populations. Children were selected for the study by their parents or teachers based on observed difficulties in behavior or reading and placed in the clinical or comparison groups based on

composite scores on an ADHD ratings scale. The stories they told to eight TAT cards – designated as low or high arousal – were coded for evidence of defense mechanism use with an empirically validated scale. Results indicated that there was no difference between the clinical and comparison groups in the amount or proportion of defenses employed. Indeed, all the children – regardless of clinical status – employed defenses as would be expected based on their age and on the arousal level of the card with which they were presented. Thus, while the findings did not expand our understanding of the intrapsychic dimensions of ADHD in the way expected, they did provide further empirical support for both the existing literature on normative responses to the TAT, and for Cramer’s (1987, 1990, 2006) developmental model of defense, which can now be said to extend to this population of children of color living in an urban low and middle-income setting.

APPENDIX A: DMM SCORING MANUAL

The Defense Mechanism Manual was developed to assess the use of three defenses—denial, projection, and identification—as revealed in stories told to standard TAT and CAT cards.

Specific criteria have been developed for CAT Cards 3, 5, and 10, and for TAT Cards 1, 2, 3BM, 3GF, 4, 5, 6BM, 6GF, 7BM, 7GF, 8BM, 8GF, 10, 12F, 12MF, 13G, 13MF, 14, 15, 17BM, 18GF, 20, and the research Trapeze card.

The scoring for each defense is based on seven categories, each designed to reflect a different aspect of the defense. Each category may be scored as often as necessary, with the exception of a direct repetition in the story; in cases of repetition, the category is scored only once.

Although examples are provided to aid in deciding whether a category should be scored or not, inevitably questions will arise. A thorough knowledge of the nature of the defense mechanisms will help in answering these questions.

Beyond this, the general rule to be followed is, “When in doubt, leave it out.” That is, if there is a serious question about whether or not the story segment is an example of the defense, do not score it.

DENIAL: SUMMARY OF SCORING CATEGORIES

1. Omission
2. Misperception
3. Reversal
4. Statements of Negation
5. Denial of Reality
6. Overly Maximizing Positive, Minimizing Negative
7. Unexpected Goodness, Optimism, Positiveness, Gentleness

A. PRIMITIVE DENIAL

In the categories of primitive Denial, the story-teller assumes that the stimulus card is something, and the defense is seen in the avoidance or changing the nature of that thing.

DENIAL 1. - OMISSION of Major Characters of Objects

Failure to perceive salient stimuli that are perceived by nearly all one’s peers. This applies only to the major or obvious objects. Omission of any of these objects from the story is scored, according to the following plan.

TAT 1: boy = 1; violin = 1

TAT 2: girl in front = 1; pregnant woman = 1 (pregnancy must be indicated); man (or, family, parents) = 1

TAT 3BM: person = 1; gun or knife = 1

TAT 3GF: person = 1

TAT 4: man = 1; woman = 1

TAT 5: woman = 1; room = 1

TAT 6BM: young man = 1; older woman = 1
TAT 6GF: man = 1; woman = 1
TAT 7BM: older man = 1; younger man = 1
TAT 7GF: young girl = 1; woman = 1; baby or doll = 1
TAT 8BM: gun = 1; knife = 1; standing young man = 1; prone man = 1
TAT 8GF: woman = 1
TAT 10: human figure 1 = 1; human figure 2 = 1
TAT 12F: young woman = 1; old woman = 1
TAT 12MF: standing man = 1; prone man = 1
TAT 13G: stairway = 1; female figure = 1
TAT 13MF: standing man = 1; prone woman = 1
TAT 14: standing man = 1; window = 1
TAT 15: man = 1; tombstones (graveyard) = 1
TAT 17BM: man = 1; rope = 1
TAT 18GF: woman above = 1; woman below = 1
TAT 20: man standing = 1; lamppost (light) = 1
Trapeze: man = 1; woman = 1; trapeze = 1

Do not score if reference to the function of a critical object is made. For example, the knife in TAT 8BM may be implied by the mention of an operation, or stabbing; the gun in TAT 8BM may be implied by shooting; the cane in CAT 3 may be implied by reference to lameness. On TAT 1, reference to the object, even if not named, is sufficient. (However, if it is named incorrectly, score under Denial(2). On TAT 7GF, reference to “holding something” is sufficient.

DENIAL 2 - MISPERCEPTION

This may come about because the perceptual process itself is distorted due to pathology, or because, in the case of a child or inexperienced person the name of the object is not known, and the individual defensively calls it something it is not, rather than referring to it as a “thing” or an “object”, in which case no score is given. In this latter case, the point is whether, in a situation in which the individual does not have all the information needed, he is able to cope adaptively, or whether he must distort the situation to fit his inadequate knowledge.

Examples of adaptive coping are seen in the following two stories to TAT 1; in both cases, the child is uncertain about how to identify the violin:

“This person is thinking what to do, with something that is in front of him. He might use it for something, or something might happen. The thing that might happen is that he might think of something to do with the thing. (What happens?) He’s going to do something with it. He’s thinking what he will use it for, what it is supposed to be used for; on some kind of material, which is called paper.”

“That’s a little boy. He’s down on his work bench and he’s looking this over and he’s wondering what it is. And he’s wondering if he’ll ever find out. He can’t wait ‘till his father comes home so he can ask his father. And he’s kind of sitting there wondering when his father will come home.”

Denial 2 (a) - Any unusual or distorted perception of a figure, object, or action in the picture which is without sufficient support for the observation, if and only if the projected image is NOT of ominous quality, in which case it would be scored under Projection

“(TAT8BM) The man is tickling the man lying down;” “(CAT3) He’s in a wheelchair”

“(TAT1) That’s a cross-bow;”

“(TAT17BM) That’s a statue climbing down a rope”; “(TAT1) He’s eating;”

“(TAT17BM) Is that a picture of me?” (S is 5 years old) (TAT10) Perceiving both characters as “young”; (TAT15) score “ghost” under Projection (2)

Denial 2 (b) Perception of a figure as being of the opposite sex from that usually perceived

“(TAT12M) The girl on the couch” [As of 2000, many see this figure as female. Thus, after this date, do not score “girl” as a Misperception]

(TAT10) Perceiving both characters as female, or both as male. If the story-teller is an adult, score the following as Misperception:

(TAT 3BM) “The child on the floor” (TAT14) “A child at the window”

Note: If the story-teller misperceives an object, and then corrects the misperception, score Denial(2). If, after the correction, he continues to use the misperception as the basis for the story, score also under Denial(5).

Do not score on TAT 1 if children call the violin a guitar, harp, or instrument. Do not score if violin is called a “thing”, “object”, or “that”. Only score when violin is turned into something other than a musical instrument. Do not score if violin is referred to as “homework or a “project” unless it is clear that this means something other than a violin - e.g., a book, a boat, etc.

DENIAL 3 - REVERSAL

The reversal may be either in terms of the usual perception of the card or in the story itself, especially when the reversal is normatively unusual.

Denial 3 (a) Transformations such as weakness into strength, fear into courage, passivity into activity, and vice versa.

“He had been king of the jungle, but now he was very old”;

“The mouse used to be afraid; then he grew up and fought the lion”;

“He used to be an excellent surgeon, but then he killed a man by mistake”;

Note: If the transformation involves a drastic change for the good, score under Denial(7).

Denial 3 (b) Score any figure who takes on qualities previously stated conversely in the story, including change of sex of figure.

“(TAT12M) The boy is in a coma and the man is hexing him. The boy will get the man in his power”; “He’s dead, and he’ll come back to life.”

“(TAT17BM) I am in a big cave and I’m caught . And he’s half way up to the top (Here the S has changed the threatened “I” into “he”);

“He is an actress (S is 9 years old)”

A character first described as a Father becomes a Grandfather, or vice versa.

Reversal differs from Denial(4) and Denial(6) in that it involves both ends of a continuum (e.g., weak-strong), rather than just one end which is negated (e.g., weak-not weak: Denial 4) or overly stressed (Denial 6).

Reversal may be scored where one end of the continuum is implied but not explicitly stated (strength—weakness, implied by growing old).

Do not score “growing old” by itself.

Do not score if a character doesn’t know how to do something and then learns how.

Do not score if character was strong, became weak through tiredness, but in the end won, or was strong again; or if sad, but through doing something, becomes happy.

DENIAL 4. Statements of NEGATION

Simply stating something in the negative (e.g., “He didn’t do it”) is not sufficient to be scored in this category. Whether or not to score a negative statement depends on whether the negation is defensive. Sometimes this can be determined by the fact that the negative statement is unusual or unexpected (e.g., “He didn’t stuff peanuts up his nose”) - i.e., that no one would have expected this event to happen anyway, so why point out that it didn’t happen. At other times the defensive nature of the negation is more straightforward (e.g., “He didn’t get hurt”). Often, only the context will make it clear if the statement is defensive or not.

Denial 4 (a) Score if a character “does not …” any action, wish, or intention, which, if acknowledged, would cause displeasure, pain or humiliation.

“He caught the mouse but did not kill him”; “He never fell down from ropes”

Denial 4 (b) Score also statements in which the story-teller negates or denies a fact or feeling.

“He is going to go hunting and catch something. I don’t know what, though” “I don’t know what that is (referring to whole card or part of card)”;

“At first I thought he was dead, but he isn’t;”

“No one is in that bed (CAT 5, referring to large bed)” “I don’t know where he is going”.

Denial 4 (c) References to doubt as to what the picture is or represents.

“What is it? I don’t understand the picture” should be scored here, and should be distinguished from references to difficulty in formulating a story (“I can’t think of what to say”) which is an example of Repression. The difference lies in the fact that Denial generally operates on a more concrete level, while Repression is seen in the person’s inability to think of something.

Do not score if “I don’t know” is used as a way to end a story, or is in response to a question by the examiner.

Do not score if a character wants to or tries to do something, but can’t or isn’t able to, or doesn’t know how to.

Do not score if a character doesn’t like something, or doesn’t want to do something that is neutral or pleasant in nature (e.g, do not score “He doesn’t want to practice the violin”) Do not score “He doesn’t want to get hurt,” but do score “He doesn’t get hurt”

Do not score “He does not reveal it” (a secret, a clue) here; score under PRO 4) Do not score, on TAT 17BM, “He’s got no clothes on”.

Do not score if subject asks, at the end of the story, if the story was “right” or “correct”.

DENIAL 5 - DENIAL OF REALITY

This is an overlapping category with Denial (4)

Denial 5 (a) The story-teller denies the reality of the story or situation by the use of phrases such as:

“It was just a dream”; “It didn’t really happen” “It was all make-believe”

“(TAT 8BM) That’s really a dummy; when they cut it, it was all red cotton”; “They’re going to play (pretend) a fight”

“(TAT 3BM): describing the gun as cap pistol or water pistol

Describing the picture as part of a movie

Do not score TAT8BM if it is described as a dream, due to the nebulous atmosphere of the picture.

Denial 5 (b) Sleeping, daydreaming or fainting as a way of avoiding something unpleasant.

Denial 5 (c) References to avoiding looking at something that would be unpleasant to see, or hearing something that would be unpleasant to hear, or thinking something that would be unpleasant to think.

“He’s walking away because he doesn’t want to see the operation”

Denial 5 (d) Any perception, attribution, or implication which is blatantly false with regard to reality as generally defined or to reality as defined by the picture.

“(CAT 10) The two dogs are playing checkers”; “(CAT 10, referring to crib) Nothing is in here”;

“(CAT 10) He’s going to have puppies”

“The dog climbs up the rope”;

“(TAT15) He has come up out of his grave”

“(TAT17BM) A statue climbing a rope” (score also under Denial(2) for misperception of figure in the picture. The score under Denial(5) is for a statue doing something which statues can not do in reality.

Note: If the perception is not false so much as being unusual or distorted, including seeing the picture as being of the opposite sex from the usual perception, score under Denial(2).

Do not score running away from or avoiding ‘society’ here; score under Identification(3).

B. POLLYANNISH DENIAL

Pollyannish denial belongs to a later period of development than primitive denial, and may involve a rather saccharine, “life is beautiful” attitude. It is often characterized by a note of unfounded optimism.

DENIAL 6 - Overly Maximizing the Positive or Minimizing the Negative

Any gross exaggeration or underestimation of a character’s qualities, potency, size, power, beauty, or possessions.

“(CAT3) A small lion”;

“An old lion (weakness implied)”;

“The most beautiful in the world”;

“The biggest in the world” (referring to person, animal, or parts of these; “The eagle picks up the lion”;

Note: If the exaggerated quality involves a reversal of the character’s usual nature, score under Denial(3).
Do not score exaggeration of physical objects (e.g., “the highest mountain”; “he fell thousands of feet”)

DENIAL 7. UNEXPECTED GOODNESS, OPTIMISM, POSITIVENESS, GENTLENESS

Denial 7 (a) Unexpected goodness.

This is a difficult category to score and should be scored only when beyond doubt. It is often seen in instances of revenge, when the revenge is built up to, but never consummated when the opportunity arises. Building up to a theme of harm and then concluding without justification that all is well is scored here. Also when a character “takes his lumps” or punishment or bad luck completely in stride when all previous indications were of an avenging “righteous indignation” attitude.

“The lion chases the mouse for many hours; he finally catches him, but then he lets him go”;
“He has always failed, but he knows that he will be successful in the end.”

Denial 7 (b) Any sort of drastic change of heart for the good.

“He is a murderer who goes around killing people. But then he decides to become a doctor and saves many lives”.

Denial 7 (c) Also scored here are references to natural beauty, wonder, awesomeness.

“He realized the beauty and magnificence of the forest” *“She contemplated the wonder of the universe”.* *“(TAT1) He found peace with his violin”*
“(TAT14) He finds enlightenment”

Denial 7 (d) Nonchalance in the face of danger.

Denial 7 (e) Acceptance of one’s (negative) fate or loss, with the justification of not really wanting it anyway; a “sour grapes” attitude.

“He learns to make the best out of what he’s got.”

Note: If the change for the good involves a moralistic turn, score under Identification(7).

Do not score “they lived happily ever after” or similar cliches if used at the end of a story.

PROJECTION: SUMMARY OF SCORING CATEGORIES

1. Attribution of Aggressive or Hostile Feeling, Emotions, or Intentions to a Character, or Other Feelings, Emotions, or Intentions that are Normatively Unusual.
2. Additions of Ominous People, Ghosts, Animals, Objects or Qualities.
3. Magical or Circumstantial Thinking
4. Concern for Protection from External Threat
5. Apprehensiveness of Death, Injury, or Assault
6. Themes of Pursuit, Entrapment, and Escape
7. Bizarre or Very Unusual Story or Theme

PROJECTION 1. Attribution of Aggression or Hostile Feelings, Emotions, or Intentions to a character, or of any other feelings, emotions or intentions that are normatively unusual.

This category may be scored either when such emotions are attributed by the story-teller to a character in the story, or when one character attributes them to another character, but only if such attribution is without sufficient reason. References to a character's face or eyes looking a certain way (e.g., anguished, puzzled, etc.) or to body "position" or "posture" are scored here.

"He killed her because he hated her" (with no explanation of the reason for his hatred) [Score twice, once under PRO(5)];

"(CAT3) This is a mean lion"

"I think he dislikes me" (unexplained); "(CAT3) The Lion growls too much";

"(CAT3, mouse speaking) I think that lion is thinking about getting after me";

"His parents don't care, even if he's sick" (This is a borderline case, but is scored because it is implied that the parents, through neglect, are mean to the child);

"(TAT1) He is looking at it with contempt" (This is also somewhat borderline but is scored here because contempt includes hostility towards the object of contempt);

"(TAT17BM) He had to find his girl friend or they would kill her (unexplained)" TAT17BM
Maybe he's angry (unexplained)";

"(TAT17BM) "Probably that look on his face is a signal of some kind";

"(TAT17BM) His features become distorted and take on the look of an animal as it hides from a hunter"; "(TAT17BM) His look is that of frustration and great emotion (scored once)";

"(TAT17BM) He has a mean personality; he is a murderer (scored twice)"; "(TAT17BM) He was in the shower ...a fire... he feels embarrassed [due to nakedness]"; "(TAT1) He's looking at it in a mad way (unexplained);

"He's contemplating suicide"; "(TAT4): They're kissing"

Note: Score aggressive or hostile actions under PRO(5).

Do not score TAT 17BM for simple mention of fright, tenseness, or tiredness. Do not score TAT 4 for woman pleading with man.

Do not score depression or thought of suicide on TAT 13MF; if suicide is actually carried out on card other than TAT 13MF, score PRO(5).

Do not score TAT 3BM or 3GF for simple mention of sadness, upset or depression, or crying, if reason is given.

Do not score TAT 6GF for mention of woman looking surprised, startled.

PROJECTION 2. -Addition of Ominous People, Ghosts, Animals, Objects or Qualities.

Projection 2 (a) This category is scored only if the details added to the situation are of an ominous or potentially threatening nature.

“(CAT3) He got an axe and killed him”;

“(CAT3) They said if he wasn’t good they’d put him in front of alligators”

“(CAT5) He was afraid to go to sleep because he heard scary noises ... then a robber came (score both for noises and for robber) (score fear of sleep under PRO5);

“(CAT5) There are bees outside the window” “(TAT1) That’s a dangerous toy”

“(TAT 3BM) being in “jail”

“(TAT10) Mention of war, “going to war”. (TAT15) “ghost”

“(TAT17BM) There are warriors coming”;

“(TAT17BM) The guards are trying to get him (This is a borderline case; do not score for mention of guards alone; score only if the guards are clearly threatening; if guards are pursuing, score under PRO(6) only);”

“(TAT17BM) The soldiers throw spears (score only once for the spears; the soldiers alone are not necessarily ominous)”;

“fire”

Do not score TAT 17BM for mention of prison, dungeon, cave, guards alone, prisoner, or pursuers (the latter is scored under PRO(6)).

Projection 2 (b) Score especially the addition of blood, mention of serious and uncommon illnesses, including mental illness, comas, and nightmares. “(TAT8BM) This guy got badly hit by malaria;”

“(TAT12M) He finds out that the boy is in a coma”; “(TAT8BM) He has these horrible nightmares”.

Projection 2 (c) Also, score here references to people, animals or objects being decrepit, falling apart, deteriorating or ‘shabby’.

“(CAT5) This crib looks like it’s going to fall over”;

“(CAT5) It must have been an old crib that they sent away to a place to get fixed up” “(CAT5) The lamp looks like it’s all cracked”;

“(TAT1) He’s sad because one of his strings are broke; “He found his violin all over the floor all broken”; “He grew up in a broken home”

Note: In TAT1, score for violin being broken only if the implication is that someone not in the picture (unknown or disliked) breaks it, or if it was broken before the story begins (i.e., was ‘inherently’ damaged).

Do not score if a friend or parent breaks it.

Note: If the same addition is called two different things, score only once (e.g., “a bat or a black widow”; “a thorn, not a hornet”)

Do not score the addition of a bullet in TAT8BM.

Do not score TAT 17BM, rope breaking while climbing, unless prior mention is made of the rope being inadequate to support weight.

Do not score “falling apart” if this is due to some other event specified in the story, such as an explosion, fire, earthquake, etc., which are themselves scored.

Do not score “sick” or “really sick” on TAT12M. Do not score hearing a noise on TAT5.

Do not score “grave” on TAT 15

PROJECTION 3. Magical, Autistic, or Circumstantial Thinking

Projection 3 (a) Any use of magic or magical powers, including hypnosis or other unusual powers or control of one character over another; this also includes animals banding together to accomplish some herculean task.

“He was thinking that he had a magic bird that followed him and saved him”;

“The boy died and the parents got a dog, and every night they could hear the boy talking to him”; *“He was putting spells all over the man”;*

“This hypnotist turned him into a little green thing”.

Projection 3 (b) Animism: attribution of human thoughts or emotions to objects other than animals and people (not applicable to the ‘teddy bears’ of CAT5).

“Canes talking”; *“Rifles feeling sorry”;*

“(TAT1) The project has a problem”; *“(TAT1) An idiotic violin”;*

“(TAT17BM) The rope tried to overpower him”.

Projection 3 (c) Circumstantial reasoning that may have a paranoid flavor; hyperalert search for flaws and misleading cues (implies a mistrust of others); efforts to find hidden or obscure meanings; criticism of the way in which the pictures are drawn (implied is that this makes the task more difficult).

“(TAT17BM)...A bobcat jumped at him. Because this is out in the woods and the door was open”; *“(TAT17BM) It must have been a murder he committed, because he isn’t carrying any valuables or money”;*

“There’s probably a trick to this”;

“Is the rope supposed to suggest a hanging?”

PROJECTION 4. Concern for Protection Against External Threat

Projection 4 (a) Include here evidence for fear of external threat of physical assault or injury and the need for protection against that threat, as seen in the erection of walls (real or imaginary), use of masks, disguises, shields, armor, locking of doors or windows, or creation of other protective barriers.

“(CAT3) The mouse is really worried that the lion will bring the cats in and they’ll chase the mice (This overlaps with PRO6, but is scored here because the emphasis is on the worry)”;
“The king kicks him out but he puts on a disguise and gets back in again”;

Projection 4 (b) Also included here are references to suspiciousness, to people or animals hiding or “lying in wait”, concern about being “taken by surprise”, spying on others, keeping a lookout, anticipation of kidnap that does not occur, or a feeling that “others are against you”(stated explicitly).

“(CAT5) There’s a great big man who is under those covers”;
“(CAT5) The mother and the father are hiding in the bed;”
“(CAT5) There’s a crib and no one is there and they wouldn’t know if anyone stole them”;
“(TAT17BM) He has witnessed a crime and is being hunted by the killer”
“(TAT5) “The mother sneaked downstairs and peeks in”
Concern that someone is trying to pin a crime or other offense on oneself; Blackmailing

Projection 4 (c) References to having seen something one shouldn’t have seen, or having heard something one wasn’t supposed to hear, or that will get one into trouble, and the necessity for hiding this; hiding incriminating evidence; protective hiding of oneself or one’s property; fear of being seen.

“(TAT17BM) He was captured because he knew too much about something, possibly murder (score once for captured [PRO6], and once for knowing)”;
“(TAT17BM) He’s breaking out of prison ... he’s looking around to see if anyone sees him (score once for escape [PRO6] and once for fear of being seen)”.

Projection 4 (d) Responses indicating a defensive need for self-justification on the part of the story-teller (i.e., not in response to a question from the examiner).“(TAT8BM) I say it is a gun because it looks like one we had at home”;

“Although this is just a first reaction, he looks like he is escaping”.

PROJECTION 5. Apprehensiveness of Death, Injury, or Assault

This is an overlapping category with PRO(4)

Projection 5 (a) The difference is that in PRO(5) the death, physical attack or injury actually occurs or has occurred, whereas in PRO(4) the emphasis on the need for protection against threat. Unexplained or unjustified punishment is scored here, as is completed suicide.

“(CAT10) The doggie got run over”; “It looks like his father has just died”;

“(CAT5) Once there was a baby, and he had no mommy. His mommy died”; “He fell off and broke his leg”;

“His son died”;

“He shoots himself”;

“He looks like he just had a fight before”; “He poisoned all the bloodhounds”;

“He murdered her”;

“He gets eaten by the alligators”; “He got slapped around”.

“His pet dog (cat, horse, etc.) was injured (died)”

The following are borderline cases but are scored here because injury is suggested as resulting from the fall. (Do not score a “fall” by itself.)

“The man’s going to fall. On his head”;

“The rope is going to fall.. It ends with his body down on the floor”.

Projection 5 (b) Score here also fear of going to sleep.

“At night he was afraid to go to sleep”.

If character is described as dead, and in addition the cause of death (e.g, being stabbed, shot) is described, score once for death and again for means of assault. If both the assault (e.g., being stabbed, shot) and the presence of the weapon (knife, gun) are described, score PRO 5 for the assault and PRO 2 for the weapon.

Do not score justified punishment by authority or parents. Score under Identification(3). Do not score if hero aggresses against someone else for justified self protection or for vindication.

Do not score on CAT 3 if the conflict is between the lion and the mouse.

Do not score “death” on TAT 15; do score if a particular person has died – e.g., son, father.

Do not score on TAT 8BM, or 13MF if the assaulted character was shot or otherwise hurt by any character in the picture; also, do not score if the attack against a non-present character is in retaliation for some previous physical attack by that character.

Do not score illness, injury or death of the prone figure on TAT 12M unless the standing character is about to or has physically attacked the prone character. This limitation does not apply to the standing character.

Do not score “spanking” on CAT 10.

Do not score “suicide” on TAT 13MF.

Do score TAT 8BM if prone character shot himself.

Do score TAT 8BM if patient dies, or if characters are trying to murder, or are “experimenting” on prone figure.

PROJECTION 6. Themes of Pursuit, Entrapment, and Escape

Projection 6 (a) Included here are themes involving one character pursuing another; also score any mention of one character trapping another, kidnap or unjustified being put in jail or prison which actually occurs.

“(CAT10) The dogs are going to chase the kitty; and the kitty is chasing the mousey”;

“(CAT5) The little bears are going to be taken”;

“He’s escaping; he’s running, the police are chasing him”(score twice) “He gets trapped in the cave and can’t get out”;

“(TAT3GF) Being held for ransom”

Projection 6 (b) Also included are themes of escape. The escape must be from a physical imprisonment or physical danger, or threat thereof (i.e., not symbolic). “Running away” when there is no pursuer is scored only if it is due to anticipation of pain or punishment, where the anticipation is not justified by the story.

“(TAT17BM) He escaped from the tower and left the country”; “(TAT17BM) There was a fire and he’s escaping out the window (score twice, once for escape and once for fire [PRO2]”;

Note: The category may be scored twice: once for pursuit-entrapment, once for escape. Note: If “being put in jail” is accompanied by a sense of righteousness or moral justification i.e., if the story-teller is identifying with the authority who puts the character in jail, or if jail is the justified outcome of criminal activity, score under Identification(7).

“Being put in jail”, “convicted of a crime” is scored under PRO only when the character has not committed a crime, but is put there because of the jealousy, fear, or whim of someone else—i.e., only when the incarceration is not (legally) justified. Political and war imprisonment are scored under PRO(6).

Note: If the character is already in jail or prison at the beginning of the story, score under PRO only if it is made clear that this is not due to criminal activity. If it is due to criminal activity, score under Identification(7).

If it is not clear why he is in prison, do not score.

Note. Score being chased, trapped or caught by police under Identification(7). Do not score trapping unless one character traps another (e.g., do not score being trapped in a well, unless one character put another there).

Do not score escape if character is being rescued (by hero), where the emphasis is on the rescue rather than on the escape.

Do not score escape if it is only mentioned at the end of the story, or after the examiner’s inquiry, unless the need for escape has been implied throughout.

Do not score escape, when the hero is escaping from “society” or “the world” around him [score this under Identification(3)]

Do not score running away from home; this may qualify for scoring under Identification(3).

Do not score on CAT3 if the conflict is between the lion and the mouse. If the mouse is injured, score under PRO(5).

PROJECTION 7. Bizarre or Very Unusual Story or Theme

This category depends heavily on the subjective judgment of the scorer, who must determine the limits of bizarreness.

Projection 7 (a) Negative themes that occur very rarely, especially if they have a peculiar twist.

“(TAT8BM) He goes outside and get glass in his heel and the doctor pulls and puts pins in...’;
“(CAT3) He’s going to eat the whole house because no one’s there”;“(TAT1) This is a saw ...he sawed his desk in half”.

Projection 7 (b) Also included here are instances of unusual punishment, including unusual self-punishment.

“(TAT8BM) He’s thinking what’s going to happen to him when he’s really old, and like he’s done something bad, and he’s going to get zapped (chuckle)”;
“(CAT3) He ate a big piece of wood and got all bloated and blew up (This would also be scored under PRO7a)”;
“(TAT17BM) He is tortured”.

Do not score as unusual punishment spanking alone, unless it continues for a very long time.

IDENTIFICATION: SUMMARY OF SCORING CATEGORIES

1. Emulation of Skills
2. Emulation of Characteristics
3. Regulation of Motives or Behavior
4. Self-esteem through Affiliation
5. Work: Delay of Gratification
6. Role Differentiation
7. Moralism

IDENTIFICATION 1. Emulation of Skills

Identification 1 (a) References to one character imitating, taking over, or otherwise acquiring a skill or talent of another character, or *trying or wishing to do so.*

This is often seen in a younger character emulating an older one.

“(TAT1) He picked up the violin and thought, ‘Maybe if I could be as great as my father’”;

“(TAT1) The little boy is wondering what this is, if he’ll ever find out; he wants to ask his father ... waiting until his father comes home..then he finds out.” (This is a borderline case, but is scored here because the boy acquires his father’s knowledge.)

“(TAT1) He wants to do it because he saw other people do it”;

“(TAT1) He was looking at this violin of his father’s, he really did want to play it...he learned how to play it”;

“(TAT1) He wanted to play ...The man said he would teach him..after a while he got good...”;

“(TAT1) His father taught him how to do it”;

“(TAT1) He wants a teacher to teach him how”;

“(TAT1) He wants to do it like his teacher does”;

Do not score “it is his father’s violin and he is playing with it” (in the sense of fooling around with the violin).

Do not score if learning occurs only at the adult’s insistence; the character must want to learn.

IDENTIFICATION 2. Emulation of Characteristics

Identification 2 (a) References to one character imitating, taking over, or otherwise acquiring a characteristic, quality or attitude of another character, or trying to do so.

Examples of “identification with the aggressor” are scored here.

“(TAT17BM) Jack and the Beanstalk ... he wanted to be a giant”;

“(TAT17BM) He gave his Tarzan call [gives imitation] and Tarzan came and ...got the bad guy”;

Identification 2 (b) References to one character being like another, the same as another, or, in an extreme case, merging with another.

“He hoped he could be like his father” (in a general, non-specific way, “(TAT1) He became Wagner”;

“(TAT17BM) He is trying to be Tarzan”;

“(TAT17BM) He gets the giant’s muscles and now he’s a giant”;

Do not score acquisition of another’s physical property (e.g., money, jewels).

IDENTIFICATION 3. Regulation of Motives or Behavior

Keep in mind here that it is the story-teller who has internalized these regulatory mechanisms and is now attributing them to a character in the story.

Identification 3 (a) References to demands, control, influence, guidance, or prohibitions of one character over another, or via societal mores; or the active rebelling against these (not in thought only, and not by passively doing nothing), including running away from the pressures of family or society. Include here being caught doing something one shouldn’t be doing.

“(TAT1) His mother didn’t hear him practicing so he had to start practicing again”;

“(TAT1) He didn’t want to take violin lessons ...so he threw it away and smashed it [the violin] all up”;

“He is going to ask his mother if he can go out and she is going to say no”;

“His mother made him take violin lessons, but he didn’t want to so he played hookey” (score twice, once for mother controlling him and once for rebellion);

“He asks his Dad if he can do it some other day”;

“He was told to play his violin but he doesn’t want to ..but he’ll get in trouble”;

“He’s a recognized criminal so he won’t have it too easy in the world outside” (borderline);

“(TAT1) The people who gave it to him said he had to find out what it was before he could play it”;

“(TAT17BM) The world around him is giving him these problems”. “(TAT17BM) Someone dared (challenged) him to climb the rope”. “(TAT5) “There is a cat on the piano. She will chase it off”.

Do not score if child does something that parent doesn’t like.

Do not score if one character tries to influence another but is unsuccessful.

Do not score boss firing worker, crook blackmailing, or threatening to blackmail someone else.

Identification 3 (b) Indication of self-criticism, or self-reflection either on the part of the story-teller or of a character in the story.

“It isn’t a very good story”;

“The mouse built a trap, but he thought it wasn’t very good”; “He feels guilty for what he did”;
Feeling ashamed, embarrassed, self-conscious

“(TAT1) He’s not very good... he’s flunking it...he’s really mad because he wanted to be a really good one”;

“(TAT17BM) He’s feeling he should have concentrated more”; “(TAT1) He started to play it, but it sounded funny, it didn’t work. “He’s feeling that he is stupid”;

“He decided ‘I’m not a very good violin player””;

“(TAT17BM) He climbed up a vine...gets in trouble...and thinks ‘I shouldn’t have climbed up this time. Next time, maybe, not this time””;

“(TAT17BM) He looks around in fear, but realizes that he does have the strength to continue”;

“(TAT4) He confessed something that he’d done that wasn’t quite right”

Identification 3 (c) References to justified punishment by parents, guardians, or older family member as a way of controlling or regulating a character’s behavior.

“His father sent him to his room because he was bad” “His mother gets mad and he gets spanked”;

“He breaks it and his father says ‘you’re never going to get a new thing again...’”; “(TAT1) The father is furious ...the boy is having to buy another string to replace the old one”;

Note: Score 3(a) only once, even if two different people (e.g., parent and teacher) are applying the same kind of control or pressure.

Note: Control through hypnotism or magic is scored under PRO(3) Note: Unjustified punishment is scored under PRO(5)

Do not score escape from physical danger, or if the demands are of an ominous nature, or suggest an ominous outcome; instead, score PRO(6)

Do not score if child “has to practice” but it is not stated why this is – e.g., it is not stated that parents, teacher insist he practice.

Do not score child begging parents for something, or hero requesting help, freedom, or one character comforting another.

Do not score being “sorry” about something, unless it is elaborated.

Do not score being “fired” unless this is elaborated (e.g., a discussion of who fired him). Do not score justified punishment by authority that occurs as the outcome of the story; score under Identification(7) Moralistic outcome.

Do not score ‘being put in jail’ here; if being in jail is justified, score under Identification(7); otherwise, it may be scored under PRO(6)

Do not score ‘spanking’ on CAT 10.

Do not score TAT 4 if the female is trying to prevent the man from leaving, or doing something.

IDENTIFICATION 4 - Self-Esteem through Affiliation

Identification 4 (a) Success or satisfaction which comes about through association with someone else (not parents, aunts, uncles, grandparents, police), or the expressed need for this kind of affiliation.

“He was happy that he had a friend”;

“He gave his Tarzan call and Tarzan came and got the bad guy (age 6)”

“He realizes that he and his classmate are in exactly the same situationthey become very close and comfort themselves with the situation”

“He must escape and help save his people. The people are very happy they were very poor and now they are rich (age 5)”;

“He’s lonely and needs to be with a family”;

“He was caught because a trusted friend turned him in” (implied here is the need for a good friend)”

“Has he the courage to master it? Interest must be backed” “He is adopted and lives with a nice family”

“His brother was killed ...he was the only source of pleasure”;

Note: Adoption by a foster family, if pleasant, is scored here.

Identification 4 (b) Being part of a special group from which some special pleasure or help derives.

“(TAT17BM) He is part of the English navy ... he escapes the French ...he is picked up by an English ship”;

“(TAT17BM) The slave is going down a rope to a fake well. It’s part of the underground railroad to help him escape to Canada”;

“(TAT17BM) The sailor and his crew win the battle in a great defeat”;

“(TAT17BM) The people are citizens of the U.S...they have all had hard lives. Now they are almost at the end of their climb to greatness”;

“(TAT17BM) This man has every desire to be free. He lives in a community of similar people”.

Note: On the Trapeze picture, score if a point is made of how trusting the two characters are; do not score if it is stated that they need to trust each other, or they must trust each other.

Do not score: “friends” giving help, “friends” rescuing, or the need for rescue. Do not score: Giving help or comfort on TAT10.

Do not score comforting, consoling or feeling better from having been comforted on TAT3, TAT4 or TAT10, unless this is amplified, e.g.,

“It’s their care for each other that will get them through”

IDENTIFICATION 5. Work; Delay of Gratification

Identification 5 (a) References to a character working, or the implication that a character is about to work or has been working, where this is not clearly suggested by the picture.

Working at homework, or references to extensive practicing, or studying very hard, are scored here.

“(TAT1) I have to keep on practicing and I have to do my homework from school. This is just fouling up my time” (score once for practicing, once for homework);

“(TAT1) He has a whole bunch of homework to do, and to practice on the violin” (score twice);

“He has to study really hard”;

“He practiced all his life”; “He is working”;

“(TAT17BM) His muscles are straining and hurting, but he must go on”;

Score for animal practicing, working, if the story teller seems to identify with the animal. This is most likely to occur in children’s stories.

Identification 5 (b) References to delay (e.g., waiting, biding one’s time, planning ahead) in order to attain some future gratification.

A recognition that success will not be immediate.

“He wants to learn it, but not too fast, not in one day”;

“He’s looking at a violin ... later, about four months later he can play one chord on it ...then 12 months later he can play 19 chords, no, he can play beginners ..two years later he can play it very well”;

“(TAT1) He’s looking at it...after a few years he was able to play one”;

“(TAT17BM) First he was planning his rhythm [his moves] or what he’s going to do when he gets up there ...”;

“(TAT1) It’s a car track and he’s been trying to make this for about two weeks”;

“(TAT1) He didn’t know how to play it ... he waited and waited for someone to come and help him ... his next door neighbor [finally] came and taught him”;

The following two examples of ‘waiting’ are borderline cases.

“He is thinking maybe he can play it. And he cares to do it when he grows up”; “He is going to try to become a violinist in the next years to come”.

Do not score references to exercising (unqualified) or to being tired from athletic endeavors, or working (unqualified) on TAT2.

Do not score references to a character thinking about the fact that he should do some work, but he doesn’t do it.

Do not score “in the future he did it” unless the need for delay and/or work is clearly mentioned.

Do not score being trapped somewhere for a period of time before being freed.

IDENTIFICATION 6. Role Differentiation

Identification 6 (a) Mention of characters in specific adult roles, other than mother or father or other relatives (e.g., husband, wife, teacher, sailor, married couple, farmer, priest, soldier, scientist, rock-and-roll player, fiancé, ‘professional’, king, princess, manual laborer, gymnast (but not ‘trapeze-man’)).

Also included here are specific historical characters.

Note: Capitalization may help differentiate, e.g., mountain climber (someone climbing mountains) from Mountain Climber (a profession).

Do not score “girlfriend”, “boyfriend”.

Do not score mention of mythical or comic book roles here (e.g., giant, Tarzan).

Do not score a role indicated only by the addition of ___ man or ___ woman to a noun or adjective (e.g., trapezeman, violinman, strongman) unless this is the commonly accepted term to designate that role (e.g., mailman, businessman, fireman).

Do not score references to ominous roles (e.g., hypnotist); these should be scored under PRO(2)

Do not score “doctor” or “surgeon” on TAT 8BM.

Do not score violinist, musician, music teacher, etc., on TAT 1. Do not score “farmer” on TAT2.

Do not score “acrobats” or “trapeze artists” on Trapeze picture.

Do not score references to law enforcement officers in action here; score under Identification(7).

Do not score “king” on CAT 1.

Do not score “guards”, “keepers”, “soldiers”, “police” on TAT17BM.

Do not score “husband”, “wife”, “married couple”, “bride” or “prostitute” on TAT 2, TAT4, TAT13MF, or Trapeze picture.

Do not score apostrophized terms – e.g., soldier’s cemetery (TAT15). The term must refer to a character, not to their possessions.

IDENTIFICATION 7. Moralism

Identification 7 (a) Stories that include a moralistic outcome, in which good conquers evil, wrongdoing is punished (by other than parents), goodness begets goodness, justice triumphs, a (moral) lesson is learned, etc.

“(TAT17BM) Prisoner breaks out ... starts to run ... Then he thought sooner or later the police will find him. So he decided it would just be better to go back, so he went back”;

“He escaped from the army ... he was a prisoner [of war] ... they chased him ... He lived to tell everybody”;

“He’s been in prison [but] he’s innocent ... He finally proves that he didn’t do it ... he captures whoever did it”;

“He was in jail for speeding ... he’s escaping, gonna kill himself for escaping”;

“Climbed the rope, saw a lion .. he was scared ‘I’ll never do it again””; “(TAT17BM) He is probably going to fall because he is a criminal”;

“He’s thinking about his homework, wondering what happen if he doesn’t get it done ... he’s just sitting there, when he walks home slowly he doesn’t do it. When he gets to school [next day] he won’t have it done and then he’ll have twice as much to do.” (This is a borderline case, but is scored because the implication is that he is worse off for having not done what he was supposed to do.)

“Confessing” re: a crime or moral transgression

Identification 7 (b) Justified punishment administered by teacher, judge, policeman, or other authority figure (excluding parents or guardians).

Included here are stories in which someone breaks (or has broken) the law, is apprehended, and put in jail. Usually, this will occur near the end of the story. If a character is in jail at the beginning of the story, score only if it is explained that he is in jail for having committed a crime.

“(TAT17BM) He robbed a bank ... the police will get him ... he will be in jail”;

Note: If being put in jail, prison, etc., is not justified (e.g., due to jealousy, fear, or whim) score under PRO(6).

Note: Score being chased, trapped or caught by police under Identification(7).

Note: Unjustified punishment, or extremely cruel or unusual punishment is scored under PRO(6) or PRO(7).

Do not score if punishment is given by parents or guardian; instead, score Identification(3).

Do not score “revenge” if this involves criminal or aggressive acts by the person carrying out the revenge.

Do not score “she calls the police”. Score “police” under Identification 6.

APPENDIX B: TAT CARD DESCRIPTIONS

Low Arousal Group

1: A young boy is looking at a violin that rests on a table in front of him. His head rests in his hands and his eyes are downcast.

2: Country scene with a young woman holding a book in the foreground. In the background, a man is working a field alongside a horse, while a pregnant woman watches.

7GF: A young girl is seated on a couch, holding a doll/baby in her hands, and looking off into the distance. Behind/next to her sits a young woman who appears to have a book in her lap and is peering over the young girl's shoulder.

13B: A young, barefoot boy is sitting on the doorstep of a log cabin in front of an open, dark doorway.

High Arousal Group

3BM: A figure sits huddled on the floor by a couch with head, chest and right arm resting on cushion. On the floor next to the person is an ambiguous object that could be a gun or set of keys.

4: A woman is grabbing the shoulders of a man who is turning away from her and looking off into the distance.

8BM: A boy in a suit and tie stands in the foreground staring straight ahead. Next to him in the foreground is an indistinct object which could be a rifle. In the background is a hazy image of a shirtless man laying prone with two men standing above and leaning over him, one of whom appears to be cutting his abdomen with a scalpel.

12M: A standing figure with hand raised is leaning over a prone figure laying on a bed with eyes closed.

REFERENCES

- Adler, L. A., Barkley, R. A., Wilens, T. E. (2006). Differential diagnosis of attention-deficit/hyperactivity disorder and comorbid conditions. *Primary Psychiatry, 13* (5), 1-16.
- American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: Author.
- American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders – Fourth edition-Text revision: DSM-IV-TR*. Arlington, VA: Author
- Anstendig, K. D. (1999). Is selective mutism an anxiety disorder? Rethinking its DSM-IV classification. *Journal of Anxiety Disorders, 13*(4), 417-434.
- Araujo, K. B., Medic, S., Yasnovsky, J., & Steiner, H. (2006). Assessing defense structure in school-age children using the Response Evaluation Measure-71-Youth version (REM-Y-71). *Child Psychiatry and Human Development, 36*, 427-436.
- Auerbach, J. G., Landau, R., Berger, A., Arbelle, S., Faroy, M., & Karplus, M. Neonatal behavior of infants at familial risk for ADHD. (2005). *Infant Behavior and Development, 28*, 220-224.
- Auld, F., Eron, L. D., & Laffal, J. (1955). Application of Guttman's scaling method to the TAT. *Journal of Educational and Psychological Measurement, 15*, 422-435.
- Barkley, R. A. (1997a). *ADHD and the Nature of Self-Control*. New York: The Guilford Press.
- Barkley, R. A. (1997b). Behavioral inhibition, sustained attention, and executive functions: constructing a unifying theory of ADHD. *Psychological Bulletin, 122*, 65-94.
- Barkley, R. A. (2005). *Attention deficit hyperactivity disorder: A clinical handbook* (3rd ed.). New York: The Guilford Press.
- Bauermeister, J. J., Shrout, P. E., Ramirez, R., Bravo, M., Alegria, M., Martinez-Taboas, A. et al. (2007). ADHD correlates, comorbidity, and impairment in community and treated samples of children and adolescents. *Journal of Abnormal Child Psychology, 35*, 883-898.
- Biederman, J., Monuteaux, M. C., Doyle, A. E., Seidman, L. J., Wilens, T. E., Ferrero, F., et al. (2004). Impact of executive function deficits and attention-deficit/hyperactivity disorder (ADHD) on academic outcomes in children. *Journal of Counseling and Clinical Psychology, 72* (5), 757-766.
- Biederman, J., Newcorn, J., & Sprich, S. (1991). Comorbidity of attention deficit hyperactivity disorder with conduct, depressive, anxiety, and other disorders. *The American Journal of Psychiatry, 148*, 564-577.

- Blaskey, L. G., Harris, L. J. & Nigg, J. T. (2008). Are sensation seeking and emotion processing related to or distinct from cognitive control in children with ADHD? *Child Neuropsychology*, *14*, 353-371.
- Bond, M. P., Gardner, S. T., Christian, J., & Sigal, J. J. (1983). Empirical study of self-rated defense styles. *Archives of General Psychiatry*, *40*, 333-338.
- Bowlby, J. (1988). *A secure base*. New York: Basic Books.
- Braaten, E. B. & Rosen, L. A. (2000). Self-regulation of affect in attention deficit-hyperactivity disorder (ADHD) and non-ADHD boys: Differences in empathic responding. *Journal of Consulting and Clinical Psychology*, *68* (2), 313-321.
- Brown, L., Sherbenou, R. J., & Johnsen, S. (1990). *Test of nonverbal intelligence* (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.
- Campos, J. J., Frankel, C. B., & Camras, L. (2004). On the nature of emotion regulation. *Child Development*, *74* (2), 377-394.
- Chess, S., & Thomas, A. (1996). *Temperament theory and practice*. New York: Bruner/Mazel.
- Cooper, S. H. (1998). Changing notions of defense within psychoanalytic theory. *Journal of Personality*, *66* (6), 947-964.
- Cooper, S. H., Perry, J. C., & Arnow, D. (1988). An empirical approach to the study of defense mechanisms: 1. Reliability and preliminary validity of the Rorschach Defense Scales. *Journal of Personality Assessment*, *52*, 187-203.
- Cramer, P. (1987). The development of defense mechanisms. *Journal of Personality*, *55* (4), 597-614.
- Cramer, P. (1990). *The development of defense mechanisms: Theory, research, and assessment*. New York: Springer-Verlag.
- Cramer, P. (1997). Evidence for change in children's use of defense mechanisms. *Journal of Personality*, *65*, 233-247.
- Cramer, P. (1998). Freshman to senior year: A follow-up study of identity, narcissism and defense mechanisms. *Journal of Research in Personality*, *32*, 156-172.
- Cramer, P. (2006). *Protecting the self; Defense mechanisms in action*. New York: The Guildford Press.
- Cramer, P. (2008). Identification and development of competence: a 44-year longitudinal study from late adolescence to late middle age. *Psychology and Aging*, *23*(2), 410-421.
- Cramer, P. (2009). An increase in early adolescent undercontrol is associated with the use of denial. *Journal of Personality Assessment*, *91*(4), 331-339.

- Cramer, P., & Block, J. (1998). Preschool antecedents of defense mechanism use in young adults. *Journal of Personality and Social Psychology, 74*, 159-169.
- Cramer, P., & Gaul, R. (1988). The effects of success and failure on children's use of defense mechanisms. *Journal of Personality, 56* (4), 729-742.
- Cramer, P., & Tracey, A. (2005). The pathway from child personality to adult adjustment: The road is not straight. *Journal of Research in Personality, 39*, 369-394.
- Da Fonesca, D., Segui, V., Santos, A., Poinso, F., & Deruelle, C. (2009). Emotion understanding in children with ADHD. *Child Psychiatry and Human Development, 40*, 111-121.
- Damasio, A. R. (2000). A second chance for emotions. In R. D. Lane & L. Nadel (Eds.), *Cognitive neuroscience of emotion* (pp. 12-23). New York: Oxford University Press.
- Davidson, K., & MacGregor, M. W. (1998). A critical appraisal of self-report defense mechanism measures. *Journal of Personality, 66* (6), 965-992.
- Degangi, G., Porges, S., Sickel, R., & Greenspan, S. (1993). Four year follow-up of regulatory disordered infants. *Infant Mental Health Journal, 14*, 330-343.
- DuPaul, G. J. (1991). Parent and teacher ratings of ADHD symptoms: Psychometric properties in a community based sample. *Journal of Clinical Child Psychology, 20* (3), 245-253.
- DuPaul, G. J., Power, T. J., & Anastopoulos, A. D. (1997). Teacher ratings of attention deficit hyperactivity disorder symptoms: Factor structure and normative data. *Psychological Assessment, 9*, 436-444.
- Eisenberg, N., Fabes, R. A., Guthrie, I. K., Shepard, S., Losoya, S., Murphy, B. C., et al. (2000). Prediction of elementary school children's externalizing problem behaviors from attentional and behavioral regulation and negative emotionality. *Child Development, 71*, 1367-1382.
- Eisenberg, N., & Spinrad, T. L. (2004). Emotion-related regulation: Sharpening the definition. *Child Development, 75*, 334-339.
- Eron, L. D. (1950). A normative study of the Thematic Apperception Test. *Psychological Monographs, 64* (9), 1-48.
- Eron, L., D., Terry, D., & Callahan, R. (1948). The use of rating scales for emotional tone of TAT stories. *Journal of Consulting Psychology, 14*, 473-478.
- Evans, D. W., & Seaman, J. L. (2000). Developmental aspects of psychological defenses: their relation to self-complexity, self-perception, and symptomatology in adolescents. *Child Psychiatry and Human Development, 30*(4), 237-254.

- Faraone, S. V. (2005). The scientific foundation for understanding attention-deficit/hyperactivity disorder as a valid psychiatric disorder. *European Child & Adolescent Psychiatry, 14*, 1-10.
- Faraone, S. V., Biederman, J., Lehman, B. K., Spencer, T., Norman, D., Seidman, L. J., et al. (1993). Intellectual performance and school failure in children with attention deficit hyperactivity disorder and their siblings. *Journal of Abnormal Psychology, 102* (4), 616-623.
- Faries, D. E., Yalcin, I., Harder, D., & Heiligenstein, J. H. (2001). Validation of the ADHD rating scale as a clinician administered and scored instrument. *Journal of Attention Disorders, 5* (2), 107-115.
- Fischer, M., Barkley, R. A., Smallish, L., & Fletcher, K. (2005). Executive functioning in hyperactive children as young adults: Attention, inhibition, response perseveration and the impact of comorbidity. *Developmental Neuropsychology, 27* (1), 107-133.
- Freud, A. (1966). *The ego and the mechanisms of defense*. New York: International University Press. (Original work published 1936)
- Freud, S. (1957). The neuro-psychoses of defence. In, J. Strachey (Ed. and Trans.), *The standard edition of the complete works of Sigmund Freud* (Vol. 3, pp. 43-61). London: Hogarth Press. (Original work published 1894)
- Freud, S. (1959). *Inhibitions, symptoms and anxiety*. New York: W. W. Norton. (Original work published 1926)
- Garfield, S. L., & Eron, L. D. (1948). Interpreting mood and activity in TAT stories. *The Journal of Abnormal and Social Psychology, 43* (3), 338-345.
- Gieser, L., & Stein, M. I. (Eds.). (1999). *Evocative images: The Thematic Apperception Test and the art of projection*. Washington DC: American Psychological Association.
- Gilmore, K. (2000). A psychoanalytic perspective on attentional-deficit/hyperactivity disorder. *Journal of the American Psychoanalytic Association, 48* (4), 1259-1293.
- Gilmore, K. (2002). Diagnosis, dynamics, and development: Considerations in the psychoanalytic assessment of children with AD/HD. *Psychoanalytic Inquiry, 22*, 372-390.
- Gleser, G. C., & Ihilevich, D. (1969). An objective instrument for measuring defense mechanisms. *Journal of Consulting and Clinical Psychology, 33*, 51-60.
- Gnaulati, E. (2008). *Emotion-regulation play therapy with ADHD children*. New York: Jason Aronson.
- Gomes, H., Wolfson, V., & Halperin, J. M. (2007). Is there a selective relationship between language functioning and auditory attention in children? *Journal of Clinical and Experimental Neuropsychology, 29*(6), 660-668. doi: 10.1080/13803390600920455

- Harris, B. H., Reynoso, J. S., Meehan, K. B., Ueng-McHale, J. Y., & Tuber, S. (2006). A child with ADHD: Convergences of Rorschach data and case material. *Journal of Infant, Child, and Adolescent Psychotherapy*, 5 (4), 499-517.
- Hartman, H., Kris, E., & Loewenstein, R. (1964). *Papers on psychoanalytic psychology: Psychological issues*. New York: International Universities Press.
- Hibbard, S., Farmer, L., Wells, C., Difillipo, E., Barry, W., Korman, R., & Sloan, P. (1994). Validation of Cramer's Defense Mechanism Manual for the TAT. *Journal of Personality Assessment*, 63, 197-210.
- Hoeksma, J. B., Oosterlaan, J., & Schipper, E. M. (2004). Emotional regulation and the dynamics of feelings: A conceptual and methodological framework. *Child Development*, 75 (2), 354-360.
- Holt, R. R. (1999). Empiricism and the Thematic Apperception Test: Validity is the payoff. In L. Gieser, & S. I. Morris (Eds.), *Evocative images: The Thematic Apperception Test and the art of projection* (pp. 99-105). Washington DC: American Psychological Association.
- Holt, R. R. (n.d.). *An Analysis of the TAT Cards*. Unpublished materials.
- Hoza, B., Washbush, D. A., Pelham, W. E., Molina, B. S. G., & Milich, R. (2000). Attention-deficit/hyperactivity disorder and control boys' responses to social success and failure. *Child Development*, 71, 432-446.
- Huang-Pollock, C. L., Nigg, J. T., & Carr, T. H. (2005). Deficient attention is hard to find: Applying the perceptual load model of selective attention to attention deficit hyperactivity disorder subtypes. *Journal of Child Psychology and Psychiatry*, 46, 1211-1218.
- Huang-Pollock, C. L., Nigg, J. T., & Carr, T. H. (2006). Single dissociation findings of ADHD deficits in vigilance but not anterior or posterior attention systems. *Neuropsychology*, 20, 420-429.
- Jacobson, A. M., Beardslee, W., Hauser, S. T., Noam, G. G., & Powers, S. I. (1986). An approach to evaluating ego defense mechanisms using clinical interviews. In G. E. Vaillant (Ed.), *Empirical studies of the ego mechanisms of defense* (pp. 181-194). Washington D.C.: American Psychiatric Press.
- Kaufman, J., Birmaher, P., Brent, D., Rao, U., Flynn, C., Moreci, P., et al. (1997). Schedule for Affective Disorders and Schizophrenia for School-Aged Children-Present and Lifetime (K-SADS-PL): Initial reliability and validity data. *Journal of the American Academy of Child and Adolescent Psychiatry*, 36, 980-988.
- Kohut, H. (1977). *The restoration of the self*. New York: International Universities Press.
- Lahey, B., Applegate, B., McBurnett, K., Biederman, J., Greenhill, L., Hynd, G., et al. (1994). DSM-IV field trials for attention deficit/hyperactivity disorder in children and adolescents. *American Journal of Psychiatry*, 151, 1673-1685.

- Laor, N. Wolmer, L., & Cicchetti, D. V. (2001). The comprehensive assessment of defense style: measuring defense mechanisms in children and adolescents. *The Journal of Nervous and Mental Disease*, 189 (6), 360-368.
- Latko-Ryan, R. (2000). *A normative study of the TAT*. Unpublished doctoral dissertation. Pacific Graduate School of Psychology, Palo Alto, California.
- Leichsenring, F. (2004). Defense mechanisms and cognitive styles in projective techniques and other diagnostic instruments. In U. Hentschel, G. Smith, J. G. Draguns & W. Ehlers (Eds.), *Defense mechanisms* (pp. 107-127). Boston: Elsevier.
- Lerner, P., & Lerner, H. (1980). Rorschach assessment of primitive defenses in borderline personality structure. In H. Kwawer, H. Lerner, P. Lerner, & A. Sugarman (Eds.), *Borderline phenomena and the Rorschach Test* (pp. 257-274). New York: International University Press.
- Leuzinger-Boheleber, M., Canestri, J., & Target, M. (Eds.) (2012). *Early development and its disturbances: clinical, conceptual, and empirical research on ADHD and other psychopathologies and its epistemological reflections*. London: Karnac.
- Martel, M. M. (2009). Research review: A new perspective on attention deficit/hyperactivity disorder: Emotion dysregulation and trait models. *Journal of Child Psychology and Psychiatry*, 50 (9), 1042-1051.
- Meehan, K. B., Ueng-McHale, J. Y., Reynoso, J. S., Harris, B. H., Wolfson, V. M., Gomes, H., et al. (2008). Self-regulation and internal resources in school-aged children with ADHD symptomatology: An investigation using the Rorschach inkblot method. *Bulletin of the Menninger Clinic*, 72 (4), 259-282.
- Migden, S. (1998). Dyslexia and self control: An ego psychoanalytic perspective. *Psychoanalytic Study of the Child*, 53, 283-299.
- Morgan, C. D., & Murray, H. A. (1935). A method for investigation of fantasies: The Thematic Apperception Test. *Archives of Neurology and Psychiatry*, 34, 289-306.
- Morrel, A. (1998). Attention deficit disorder and its relationship to narcissistic pathology. In P. Beren (Ed.), *Narcissistic disorders in children and adolescents: Diagnosis and treatment* (pp. 127-149). Northvale, NJ: Jason Aronson Inc.
- Murstein, B. I., David, C., Fisher, D., & Furth, H. G. (1961). The scaling of the TAT for hostility by a variety of scaling methods. *Journal of Consulting Psychology*, 25 (6), 497-504.
- Nigg, J. T. (2001). Is ADHD a disinhibitory disorder? *Psychological Bulletin*, 127, 571-598.
- Nixon, E. (2001). The social competence of children with attention deficit hyperactivity disorder: A review of the literature. *Child Psychology & Psychiatry Review*, 6 (4), 172-180.
- Perry, J. C. (1990). *Defense mechanism rating scales (DMRS)* (5th ed.). Cambridge, MA: Author.

- Perry, J. C. & Ianni, F. F. (1998). Observer-rated measures of defense mechanisms. *Journal of Personality*, 66 (6), 993-1024.
- Pfeffer, C. R., Conte, H. R., Plutchik, R., & Jerett, I. (1979). Suicidal behavior in latency-age children: an empirical study. *Journal of the American Academy of Child Psychiatry*, 18, 679-692.
- Plutchik, R. (2000). *Emotions in the practice of psychotherapy: Clinical implications of affect theories*. Washington, DC: American Psychological Association.
- Polanczyk, G., Sila de Lima, M., Horta, B. L., Biederman, J., & Rohde, L. A. (2007). The worldwide prevalence of ADHD: A systematic review and metaregression analysis. *American Journal of Psychiatry*, 164, 942-948.
- Porcerelli, J. H., Thomas, S., Hibbard, S., & Cogan, R. (1998). Defense mechanisms development in children, adolescents, and late adolescents. *Journal of Personality Assessment*, 7 (3), 411-420.
- Psychological Corporation. (1999). *Wechsler abbreviated scale of intelligence*. San Antonio, TX: Author.
- Quay, H. C. (1997). Inhibition and attention deficit hyperactivity disorder. *Journal of Abnormal Child Psychology*, 25, 7-13.
- Rothstein, A. A., & Glenn, J. (1999). *Learning disabilities and psychic conflict: A psychoanalytic casebook*. Madison, CT, US: International Universities Press, Inc.
- Schafer, R. (1968). The mechanism of defense. *International Journal of Psychoanalysis*, 49, 127-159.
- Scherer, K. R. (2009). The dynamic architecture of emotion: Evidence for the component process model. *Cognition and Emotion*, 23 (7), 1307-1351.
- Schore, A. N. (2003). *Affect regulation and the repair of the self*. New York: W. W. Norton & Company.
- Schore, A. N. (2002). Advances in neuropsychanalysis, attachment theory, and trauma research: Implications for self psychology. *Psychoanalytic Inquiry*, 22, 433-484.
- Semel, E., Wiig, E. H., & Secord, W. A. (1995). *Clinical evaluation of language fundamentals* (3rd ed.). San Antonio, TX: Psychological Corporation.
- Semel, E., Wiig, E. H., & Secord, W. A. (2004). *Clinical evaluation of language fundamentals* (4th ed.). San Antonio, TX: Psychological Corporation.
- Sikstrom, S. & Soderlund, G. (2007). Stimulus-dependent dopamine release in attention-deficit/hyperactivity disorder. *Psychological Review*, 114, 1047-1075.

- Still, G. G. (1902). Some abnormal psychical conditions in children. *Lancet*, *1*, 1008-1012, 1077-1082, 1163-1168.
- Sroufe, L. A. (1995). *Emotional development: The organization of emotional life in the early years*. New York: Cambridge University Press.
- Stern, D. N. (2000). *The interpersonal world of the infant: A view from psychoanalysis and developmental psychology*. New York: Basic Books.
- Thompson, R. A. (1994). Emotion regulation: A theme in search of a definition. In N. A. Fox (Ed.), *The development of emotion regulation and dysregulation: Biological and behavioral aspects. Monographs of the Society for Research in Child Development*, *59*, 25-52.
- Thompson, R. A. (2011). Emotion and emotion regulation: Two sides of the developing coin. *Emotion Review*, *3* (1), 53-61.
- Thompson, R. A., Lewis, M. D., & Calkins, S. D. (2008). Reassessing emotion regulation. *Child Development Perspectives*, *2* (3), 124-131.
- Tronick, E. Z. (1989). Emotions and emotional communication in infants. *American Psychologist*, *44*, 112-119.
- Tuber, S. (2012). *Understanding personality through projective testing*. New York: Jason Aronson.
- Vaillant, G. E. (1977). *Adaptation to life*. Boston: Little-Brown.
- Vaillant, G. E. (1998). Where do we go from here? *Journal of Personality*, *66* (6), 1147-1157.
- Vaillant, G. E., Bond, M., & Vaillant, C. O. (1986). An empirically validated hierarchy of defense mechanisms. *Archives of General Psychiatry*, *43*, 786-794.
- Wallin, D. J. (2007). *Attachment in psychotherapy*. New York: The Guildford Press.
- Winnicott, D. W. (1965). Ego distortion in terms of true and false self. In *Maturational processes and the facilitating environment* (pp. 140-152). New York: International Universities Press. (Original work published 1960)
- Winnicott, D. W. (1965) Communicating and not communicating leading to a study of certain opposites. In *Maturational processes and the facilitating environment* (pp. 179-192). New York: International Universities Press. (Original work published 1963)
- Wolke, D., Rizzo, P., & Woods, S. (2002). Persistent infant crying and hyperactivity in middle childhood. *Pediatrics*, *109*, 1054-1060.

Zhang, S., Faries, D. E., Vowles, M., & Michelson, D. (2005). ADHD Rating Scale IV: Psychometric properties from a multinational study as a clinician-administered instrument. *International Journal of Methods in Psychiatric Research*, 14 (4), 186-201.

