

AFFECT REGULATION IN CHILDREN WITH ADHD:
A RORSCHACH INVESTIGATION

by

BENJAMIN H. HARRIS

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Abstract

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The study assesses the nature of affect regulation in children with ADHD symptomatology using the Rorschach (RIM). Because these children have profound difficulty regulating affect, it was hypothesized that this difficulty would be reflected on RIM variables sensitive to such vulnerabilities; namely movement and color variables and ratios. Additionally, it was predicted that the presence of chromaticity on the RIM plates would play a role in this dysregulation. Children with greater ADHD symptoms showed more problematic performances on both chromatic and achromatic RIM plates, but in different manners. The RIM protocol and psychotherapy of a 7 year-old boy with severe ADHD symptomatology was then studied. He displayed a constricted record on achromatic cards and a chaotic record on chromatic cards. This pattern was replicated over the course of his subsequent dynamically-oriented treatment.

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He also knows how to keep the ball in play after a blocked shot, leading to many fast break points.

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CHAPTER ONE

LITERATURE REVIEW

Introduction

“This kid needs some Ritalin.” So said the wild-eyed, tussled-haired examiner of Henry¹, a wiry, handsome seven year-old boy who had just finished a six hour neuropsychological evaluation. “I really liked him, but he really tired me out.”

In this brief, off-the-cuff description, versions of which have surely been uttered by countless evaluators of ADHD children at the conclusion of six hours of managing children like Henry in the testing situation, the idea that ADHD children are more complex and conflictual than a simple list of symptoms rises to the forefront.

Literature Review

This study is an attempt to investigate the role of affect regulation in children with Attention Deficit/Hyperactivity Disorder (ADHD).² The ADHD diagnosis has received such widespread interest from both the scientific community and mainstream media sources that it is easy for the average person to conjure an image (not necessarily accurate) of an easily-distracted, fidgety, impulsive, driven-by-a-motor child who has difficulty listening to his parents or completing school tasks. Stimulant medication taken by ADHD children to help control their symptoms is so in vogue that it not only appears

¹ Henry was evaluated through the study used for data in this dissertation. All identifying data has been altered.

² The author gratefully acknowledges the contributions of Kevin B. Meehan, Joseph S. Reynoso, Steven B. Tuber & Jasmine Y. Ueng-McHale in the writing of sections of this dissertation. Some sections of the dissertation were originally co-written and used in other common papers written by this research group (Harris, Reynoso, Meehan, Ueng-McHale & Tuber, in review; Tuber, Harris, Reynoso, Meehan & Ueng-McHale, in press; Reynoso et al., 2006).

regularly in *The New York Times* (Carey, 2006), but in *Desperate Housewives* plots. Walking into any pediatrician's office is entering a world of promotions for stimulant medication to help children "manage ADHD."

Yet ADHD is not a disorder that can be solely reduced to a cluster of symptoms listed in the DSM-IV (American Psychiatric Association, 2000). It is a disorder that is misunderstood, complex, and potentially very psychologically damaging for children³ and their families. While behavior is at the heart of most popular, pediatric, and psychiatric discussions of ADHD, the behaviors commonly associated with ADHD have severe psychological ramifications for the children executing them. Managing the dual worlds of family and school while hindered by the impairments caused by ADHD leave the children at risk for myriad social and emotional difficulties. As one child put it, "It's like the inside of my head is a TV, and someone else has the remote control" (personal communication).

Much of the existing research and models used to conceptualize ADHD in children, moreover, do not sufficiently examine the phenomenology of these children's inner worlds. Consideration of these children's unconscious lives, object relations and ego resources is necessary to better understand the nature of their classroom, familial and peer difficulties.

Attention Deficit Hyperactivity Disorder

ADHD is a complex, confusing and poorly conceptualized disorder. Despite its extensive use and application in clinical child populations, the diagnosis of Attention Deficit Hyperactivity Disorder (ADHD) continues to be accompanied by dilemmas

³ This study will focus on ADHD in children, ignoring the relatively new and growing field of ADHD in adults (c.f., Everett & Everett, 1999).

regarding its conceptualization, assessment and treatment (Anastopoulos & Shelton, 2001; Nichols & Waschbusch, 2004; Faraone, 2005; Stubbe, 2000).

There are three subtypes of ADHD: predominantly inattentive type, predominantly hyperactive, impulsive type, and combined type. To meet criteria for ADHD as defined by the DSM-IV-TR (American Psychiatric Association, 2000), a patient must meet at least six of nine criteria in one of at least two categories. The symptom cluster needs to have been present before the age of seven, the symptoms must be present in more than one setting, they must be present for at least six months, and they must be causing clinically significant impairment.⁴

There is a lack of consensus as to the etiology of ADHD. Cantwell, in his 1996 review of the previous ten years of ADHD research, concludes that there is likely no single etiological factor for ADHD, but that it is likely an interplay of both psychosocial and biological factors, with family genetic factors playing a role in the development of the disorder. Heritability is estimated to be between .55 to .92. Goodman & Stevenson (1989) report that concordance of ADHD in monozygotic twins is 51%, and 33% in dizygotic twins.

Conservatively, ADHD has been estimated to be prevalent in 3-7% of the child population (APA, 2000), though rates ranging from 7-21% have also been reported among community samples (Baumgaertel, Wolraich, & Dietrich, 1995; DuPaul, Power, & Anastopoulos, 1997; Wolraich, Hannah & Pinnock, 1996). ADHD-related difficulties have proven to be so seriously pervasive that Barkley (1998) estimated that between 30-40% of referrals to child mental health practitioners can be thought of as ADHD-related

⁴ A list of the symptoms may be found in the appendix.

cases.⁵ Additional research has shown that these problems, from childhood and often continuing through adulthood, span the realms of poor academic and professional achievement and extend to impoverished family and peer relationships (Barkley, 1998; Hinshaw et al., 1997a).

The social consequences of ADHD are profound. There is consistent evidence that, compared to a non-ADHD population, these children are more often off-task, disruptive, defiant, and out of control in classroom situations (Flicek, 1992; Landau & Moore, 1991); aggressive, with or without provocation from others (Waschbusch, Pelham, & Jennings, 2002; Zalecki & Hinshaw, 2004); found to overestimate their social abilities and in turn misperceive social interactions (Diener & Milich, 1997); rejected or neglected by classmates (Hinshaw, Zupan & Simmel, 1997; Pfiffner, Calzada & McBurnett, 2000); and viewed as less popular by peers (Hodgens, Cole & Boldizar, 2000). A research review of the social dysfluency of children with ADHD described their behavior in general to exhibit patterns of intrusiveness, non-compliance and aggressiveness with peers, teachers and family members (Nixon, 2001).

Authors have described conceptual models closely tied to the empirical literature that explain social dysfluency in ADHD in terms of underlying problems in affect regulation, managing behavioral intensity, and social reciprocity and communication (Saunders & Chambers, 1996; Pfiffner et al., 2000). In addition, the last decade has seen the ascension of neuropsychological theories explaining ADHD-related difficulties as

⁵ Target & Fonagy (1996) make the important point that despite epidemiological evidence suggesting that there is a roughly equal prevalence of anxiety and disruptive behavior disorders in children, the higher number of referrals for children with disruptive disorders suggests that caregivers who are referring the children are doing so based upon their own frustrations with the children's behavior, rather than the referrals being generated out of a concern for the child's needs.

resulting from impairments of neurologically-based behavioral inhibition mechanisms (Quay, 1997). In particular many theoreticians have come to view ADHD as stemming from a deficit in the arenas of executive function (c.f. Barkley, 1997; Shallice & Plaut, 1992).

Other clinical theoreticians have applied psychodynamic understandings to the disorder. Gilmore (2000, 2002), drawing from an ego-psychological perspective, proposes a model that views ADHD and its treatment in the context of the interplay between intrapsychic, developmental, constitutional and environmental/family factors. She notes that the capacity to attend is dependent upon the organization and integration of ego capacities, which is not a given but a developmental accomplishment, and that impairment in ego functioning is reciprocally intertwined with attentional impairment, disturbances in object representations and affect regulation from very early on in life. The affect and anxiety tolerance of children with ADHD can become so dysregulated by unexpected changes in their environment that they may appear either hyper-excitable and anxious, or otherwise appear to be oddly lacking in anxiety. Children with ADHD are often dysregulated by mutual social exchange, such as those experienced at school and with families, where there is a potential for surprise and loss of control. The child's reaction to overstimulation is often found to be confusing or frustrating to loved ones, and as a result such children may internalize experiences of significant others as frustrated, confused, and angry with them (Yeschin, 2000).

Erdman, who, like Gilmore, comes from a psychodynamic perspective, argues that ADHD can be conceptualized as "A contextual response to parental attachment" (1998, p. 177). She argues that the disruptive behavior that is common in ADHD children can be seen as a response to insecure attachment. Erdman notes that in

attachment theory (c.f. Ainsworth, 1967), it is thought that if a mother had a poor attachment to her mother growing up, it is likely that the mother will be less likely to respond to her own child which will result in providing her own child with an insecure base. Erdman sees ADHD as arising from a familial context in which,

Parents who start out with poor management skills and encounter such problem behaviors in children react by threatening, nagging, and scolding the child. They seldom follow through with their threats, however, and become frustrated and eventually explosive. The children react by counterattacking the parent, which creates an attack-counterattack pattern. The children and parents both become more skilled at their coercive attacks toward the other, until the child becomes completely out of control. By this point, both have also begun to emotionally detach from the other. (p. 181)

Given its vast clinical picture, there are many modalities that have been used to treat ADHD. A recent review of empirically supported treatments (Richters, et al., 1995) found that ADHD is usually treated using one of three modalities: medication, behavioral treatment, or a combination of the two. Rarely is psychodynamic treatment indicated. Medication is almost always some sort of stimulant, typically Ritalin or one of its derivatives. Though behavioral treatments vary across different disciplines (c.f., Danforth, 1999; Smith & Barrett, 2000; Swenson, Lolic, Williams & McLaughlin 2000; Harvey, 2000; Teegarden & Burns, 1999; Barkely, Edwards, Laneri, Fletcher & Metevia, 2001), some sort of parent training is a feature of most of these interventions. Pisterman, McGrath, Firestone, Goodman, Webster & Mallory (1989) found that among parents of preschoolers with ADHD, parent training was associated with improved behavior from their children.

Attention, Executive Function, Emotion, & Affect Regulation

Before further venturing into the complexities involved in ADHD and its relationship to affect regulation, it is important to take a step back and attempt to begin to define some concepts involved in the conceptualization of ADHD.

Attention

Attention itself is a very difficult construct to define. It is, as Halperin has noted, a "...multifaceted construct that is not readily captured by a single concept or measure" (1996, p. 123). Summarizing several authors, Halperin writes that there are many components of attention. One component is arousal, which involves the body being physiologically ready to perceive a stimulus in the environment. A second component is the orienting response, which can be either voluntary, or—as is likely more often the case with ADHD children—involuntary. The orienting response involves directing attention towards an interesting stimulus. A third component of attention is selective attention, or the ability to focus on relevant stimuli while ignoring information that is not relevant. A fourth component is sustained attention, the ability to sustain focus on a particular stimulus for an extended period of time. Clearly, the ability to use sustained attention necessitates having the ability to use selective attention, though Halperin claims that preliminary data shows that these two constructs have separate developmental trajectories (Halperin, McKay, Matier & Sharma, 1994).

Mirsky (1996) argues that attention has five distinct elements. The first, focus/execute, refers to the ability to identify and successfully focus on a particular stimuli. The second, shift, refers to the ability to switch focused attention from stimuli to stimuli. The third, sustain, refers to what Halperin (1996, see above) calls sustained attention. The fourth, encode, refers to the ability to use information attended to in

working memory. The fifth, stability, refers to the relative level of attentional effort over time (Halperin, 1996).

While Halperin & Mirsky help to identify some component parts of attention, Ruff & Rothbart (1996) help to conceptualize the development of attention from a developmental psychology perspective. They argue that there are three aspects of attention: selectivity, state of engagement, and higher-level control. They write that the development of attention takes place within a social context, and that it varies greatly among individuals. This social context is often the initial mother-infant dyad. When infants gaze at their mother, and when toddlers check in with their mothers while going through the separation-individuation phase (Mahler, Pine & Bergman, 1975), in some ways they are learning both how and to what to attend.

Mirsky (1996) argues that attention to the environment is a basic need without which an animal cannot survive. Fantz (1961) argues that infants are selective in their attention from the first day of life. This evolutionary development has also been shown to be the case by Field (1996).

As infants develop into toddlers, their behavioral development of attentional processes occurs both alongside and because of neurological development. Ruff & Rothbart posit that by the age of five years old, children normally develop two systems of attention: one system that is for orienting and investigating, and a system of higher level controls that is dependent on social input for its development. They also argue that children come into the world with widely varying readiness to attend, to remain attentive, and to focus and concentrate on objects, events, and activities.

Luria argues that the ability to orient one's attention in a voluntary manner develops gradually in the interaction between the child and the caregiver. "From an

external socially organized attention [e.g. where an adult directs an infant's attention in some way] develops the child's *voluntary attention*, which...is an internal self-regulation process" [(Luria, 1973, p. 262,; cited in Halperin, 1996, p. 129, emphasis in original)].

Ruff & Rothbart do a nice job of integrating the physiological and the psychological, suggesting that rather than developing in a vacuum, there is indeed an interaction between the neurological makeup of the child and their early experience that plays a major role in the development of attention. They argue:

Infants who are fussy and tend to withdraw from novel objects and situations will have different life experiences and are likely to pick up different sorts of information about the world as they develop. On the other hand, a generally attentive infant may become an inattentive preschooler because the environment fails to provide adequate structure for developing self-regulatory skills. In the extreme, the child's social experiences may actively discourage the development of these skills. (p. 10).

If this environment is not structured to meet a particular infant's idiosyncratic developmental needs, one can easily imagine how that failure could result in discouraging the development of efficacious attentional processes.

As children reach a certain age, Ruff & Rothbart (1996) posit a shift between dependence on external control for the regulation of attention—the mother, to internal control for regulation of attention—the self. This shift is very roughly equivalent to Barkley's notions of internally and externally regulated attention (1997, see below). During the first months of life, the child needs the mother to regulate its attention, because the world is too overwhelming to them. This is likely an even more drastic case for infants who come into the world predisposed to having attentional difficulties.

Parents observe and monitor young children's levels of arousal, stepping in to regulate them when they get too high, or too low, providing both a support and a template for the child who is as of yet unable to do this for himself. As the child grows and

continues to experience the positive interaction of this function, he begins to take on the job for himself. Logically, the more parents and caregivers stress the importance of sustaining attention, the more likely children, no matter what their innate attentional capacities, are likely to integrate this value. Motivation also plays a role in this process. As the child gets towards preschool age, his behavior is more likely to be motivated by these more internal factors, i.e. the wish to please their caregivers, on whom they depend for survival.

Halperin's contention that attention is difficult to define is well taken. Given that definitions of attention vary in both their component parts, as well as the interrelations between such parts, the construct is at best complex, and less generously could be understood as confusing. Furthermore, the multitude of factors involved in attention can all be undermined through various mechanisms—biological, environmental, psychological, leaving those who study this “attention” often at a loss as to what it is they are in fact studying.⁶

Executive Function

Many theoreticians (c.f. Barkley, 1997; Shallice, Marzocchi, Coser, Del Savio, Meuter & Rumiati, 2002) view ADHD as stemming from a deficit in the relatively new neuropsychological construct of executive function. Eslinger, (1996) writes:

Executive functions are considered by many scientists to be one of the crowning achievements of human development. They underlie many seemingly unique realms of adaptive human behavior, including the

⁶ While space does not allow for a full discussion or critique of the ADHD diagnosis itself, it is worth raising the point here that the difficulty in capturing the construct of attention is mirrored in the diagnostic criteria required to receive the diagnosis of ADHD. Additionally, Barkley (1997) has pointed out the inherent diagnostic flaws in lumping deficits of attention (ADHD inattentive type) with deficits of hyperactivity (ADHD impulsive type). The way the diagnosis presently exists in DSM-IV-TR leaves clinicians in the unfortunate position of lumping vastly different clinical presentations under one diagnostic umbrella.

wonders of being able to think about ourselves, our social relationships, and what the future may bring. Executive functions allow us to be guided by our personal goals and to act despite long delays in rewards. Although we may wish everyone to fully develop and share in these intriguing psychological processes, many people do not develop adequate executive functions for diverse reasons, and we have incredibly little understanding of what these marvelous functions are and what fosters their development. (1996, p. 368).

As with attention, there is no universally accepted definition of executive function. At one conference in 1994, some 33 terms were generated for the behaviors thought of as comprising executive function (Eslinger, 1996). In addition, there are several different viewpoints about the very nature of this construct itself.

Some theoreticians define executive function as a construct. Borkowski & Burke (1996) argue that executive functions are necessary for "...successful learning, academic achievement, self-image and future-oriented goals" (pp. 246-247). They view executive function as being in operation when "...a subject spontaneously changes a control process or sequence of control processes as a reasonable response to objective change in an information processing task" (p. 244). Welsh & Pennington (1988) define executive function as "...the ability to maintain an appropriate problem-solving set for attainment of a future goal" (p. 201). Denckla (1996) defines executive function as "a set of domain-general control processes...that involve inhibition and delay of responding" (pp. 263, 265) for the goal of "organization and integration of cognitive and output processes over time" (p. 260). Denckla views executive function as a set of skills that unfolds through development.

As with attention, other theoreticians define executive function in terms of the behaviors that comprise it. Hayes, Gifford & Ruckstuhl (1996) define executive function as verbal self-regulation. Verbal self-regulation comprises thinking about and guiding one's behavior through verbal mediation. Graham & Harris (1996) define six aspects of

executive function that are involved in their model, self-regulated strategy development (SRSD). These include: metacognitive knowledge about tasks strategies and one's own capabilities; specific action plans; strategic (skillful and flexible) use of strategies; verbal self-regulation of behavior; attentional and memory processes that guide these elements; working memory; combined implicit and explicit learning; and self control processes (goal setting, monitoring, planning, and interference control). Barkley (1996) views executive function as "...a special case of an 'attending' behavior that ultimately functions to change the likelihood of events happening to the individual" (p. 312). These events must occur indirectly and must affect "both the subsequent behavior and subsequent consequences further removed in time" (p. 312). All of these attempts to define executive function include, but are not limited to attention.

Barkley (1997) & Bronowski (1977) both argue that language, because it plays such an important mediating role on behavior, is a crucial tool in the development of executive function. Ruff & Rothbart also argue that private speech—essentially the child telling himself to do something—emerges as a self-regulatory tool in normal development (1996, p. 150). As private speech is used more frequently and flexibly, children are more able to self-regulate.

Landry, Miller-Loncar, Smith & Swank, (2002) found that children whose mothers provided them with more verbal scaffolding at the age of three years old, scored higher on measures of executive function at age six. Mothers whose interactions with their children at three years of age had more instances of richer verbal guidance, were more likely to have children who displayed more advanced language skills at 4 years of age. Those more advanced language skills in turn predicted higher scores of tests of

executive processing. While these findings do not definitively prove a direct connection between mother's use of language and executive function, they certainly suggest one.

In some ways, executive function is a more useful concept for capturing the clinical presentation of ADHD children than is attention insofar as executive function is typically seen as *encompassing* attention while not being *limited to* attention. As Damasio (1994) notes, executive function does conjure up primitive notions of a tiny little person—a miniature anthropomorphized CEO—in the brain helping to dispense order and planning. Indeed, in some paradoxical way—it is after all an even broader concept than the already broad concept of attention—the breadth of executive function allows us to not be limited by common notions of what it means to attend. Clinically, it also feels like a more utilitarian concept as it gives clinicians more dimensions or pathways to understand their patients' difficulties with what has traditionally been misnamed attention.

ADHD and Executive Function

Cognitive neurophysiologists argue that the construct of executive function is often impaired in children with ADHD. Shallice & Plaut (2002) replicating a meta-analysis of 18 studies (also see Pennington & Ozonoff, 1996), found that children with ADHD were significantly impaired on tests of executive function. The study by Shallice & Plaut was particularly interesting because it tested children from another culture (Italy) than the one represented in most studies (United States). In addition, none of the children in the study had ever been treated with stimulant medication. These factors are significant because they suggest that the relationship between ADHD and executive

function may exist independent from culture and/or medication. These children did significantly worse on all executive function tasks, with the exception of letter fluency. In addition, the study expanded on previous studies, by extending the executive function deficits to the areas of strategy production, application, and error construction.

Barkley (1997) offers one of the most comprehensive views of executive functions deficits in ADHD. Barkley identifies two types of sustained attention: context-dependent and contingency shaped attention—which is *externally* controlled and regulated, and rule-governed, goal directed attention—which is *internally* controlled and regulated. Barkley argues that ADHD is misconceived as a disorder of *general* attention; rather it is a disorder of the latter type of *internally regulated sustained* attention. He argues that ADHD is essentially a disorder of behavioral inhibition. The inattention seen in children with ADHD is, according to Barkley's model, a consequence of a deficit in behavioral inhibition, rather than general attention; the inattention associated with ADHD is actually a secondary symptom.⁷

The disinhibition of behavior results in substantial disruptions of the four executive functions that Barkley assumes comprise self-regulation. The normal developmental progress that shifts sources of self-control from the external world of the child to the internal world (c.f. Ruff & Rothbart, 1996) gets delayed or not fully implemented in those with ADHD. This leads to a delay of self-regulation that the executive functions afford the individual.

Barkley argues that behavioral inhibition is critical to the performance of several executive functions. Among these he lists non-verbal working memory—the ability to

⁷ Indeed, any classroom teacher who has spent time with children who have been diagnosed with ADHD hyperactive or combined type will likely confirm this aspect of Barkley's theory.

use information stored in memory non-verbally, verbal working memory—the ability to use information stored in memory verbally, self-regulation—the ability to regulate one’s affects and behaviors, and reconstitution—the ability to analyze and synthesize information. He argues that the presence of each of these executive functions represents private, internalized behavior that was once public and mediated by the external world, i.e. caregivers, or society in general. In other words, if development goes according to plan, the child can move from the stage where a caregiver has to talk to him through an activity (public behavior) to the stage where he talks to himself through the activity internally (private behavior). In children with ADHD, these four executive functions are not fully developed, leaving them with a diminished capacity to evaluate their own actions and a compromised internal sense of time that in turn undermines their ability to draw on inner resources to delay gratification, inhibit behavior and regulate emotional responses. All of these abilities are crucial to engaging in benign and mutual social interactions.

Barkley writes that ADHD is a syndrome that vastly impairs human will and volition because it leaves those with ADHD with a diminished capacity to evaluate their own actions. A diminished capacity to have an internal sense of time is another crucial element in their difficulties evaluating actions. A sense of time allows one to use self-speech to delay an urge. Those with ADHD have never internalized a sense of time, which leads to vast impairments in social functioning. A sense of time is necessary to delay gratification or inhibit behavior. Barkley refers to this sense of time as the “central executive” (1997, p. 202). If the child has no sense of how long two minutes is, he will not be able to wait two minutes to get his need met. For the child with an impaired sense

of time, telling himself to wait two minutes is akin to telling himself to wait two hours or two days.

This is not to say that ADHD children do not know they should wait the two minutes. Barkley argues that children with ADHD have an incredibly difficult time *not* paying attention to what is in the environment. They are not able to deal with interference, precisely because they cannot stop attending to it. He argues that it is not a syndrome of not knowing what to do, but rather of not being able to do what they know. This prediction is confounded by the fact that precisely because ADHD children have difficulty with self-regulation, they will have difficulty regulating emotional states (Barkley, 1997, p. 252). Thus, when they express one too many needs, and in the process infuriate their caregivers, they will not only be aware of this, they will likely be even more highly reactive to this *precisely because of their difficulties regulating emotional states*. Rather than saying that they have deficits in attention, it might be better said that they are not using attention effectively.

Emotional Regulation in Development

Like attention and executive function, emotion is also a difficult construct to define. In everyday use, people typically use the terms emotion and feeling interchangeably, along with a host of other terms to describe affective states.

From a neuropsychological perspective, Scherer (2000) provides a comprehensive review of the construct, noting that most neuropsychological research on emotions stresses the episodic nature of emotions, evidenced by some noticeable change in functioning by the organism which can be brought about by external (a loud noise) or internal (sensation) change in situation. While some (Clore, 1994) argue that emotion only implies a change in one state, Scherer proposes that most theoreticians would agree

that there is a “reaction triad” of emotion, consisting of physiological arousal, motor expression and subjective feeling.⁸ Without changes to all three components of the reaction triad, an emotion cannot be said to occur.

Scherer boils down several points of convergence among different theorists to arrive at an omnibus definition of emotions:

emotions are episodes of coordinated changes in several components (including at least neurophysiological activation, motor expression, and subjective feeling, but possibly also action tendencies and cognitive processes) in response to external or internal events of major significance to the organism (138-139).

He limits his discussion of emotions to the above definition, acknowledging his omission of other affective factors such as intensity and duration, degree of coordination of different organismic systems during the state, the extent to which a state is triggered by or focused on an event of situation, the extent to which the differentiated nature of the state is due to a process of antecedent evaluation or appraisal and the degree to which state affects behavior.

Scherer cites four models of psychological theories of emotion. Dimensional Models, which can be unidimensional or multidimensional, propose that emotions can be measured along one or many dimensions, some of which have included valence, activation and pleasantness. Discrete Emotion Models, which include circuit and basic emotion models, argue that fundamental emotions are determined by evolutionarily developed neural circuits. Within this group, basic emotion models are heavily influenced by a Darwinian (1872/1998) view of the world which holds that certain emotions are necessary for the survival of the species and are thus evolutionarily developed. Meaning Oriented Models, include lexical models which hold that the

⁸ Some (c.f., Buck, 1993) extend the threshold further than the reaction triad.

wisdom of language will somehow help the theoretician to discover the underlying organization of the psychological phenomenon, and social constructivist models which argue for a cultural determining of emotions. Finally, Componential Models which assume that emotions are elicited by a cognitive (though not necessarily conscious) evaluation of antecedent events and situations and that the patterning of responses to these events is determined by the outcome of this perhaps unconscious evaluation process.

Scherer concludes his review by stating that each of these models have some elements that can be useful. Drawing on Damasio (1994), he argues that a better understanding of the subjective experience of feelings and their relations to the brain and body is necessary to fully capture the construct of emotions. At the very least, he argues that it is important to have some way of accounting for the antecedent events that trigger emotional reactions. It is precisely this push to understand of subjective experience that seems to be missing from most discussions of ADHD.

Damasio (1994) is perhaps the best bridge between the physiological and the psychological conceptions of emotion, arguing that to conceive of the mind and body as separate is a colossal error. He eloquently writes of the interplay between what happens in the physical brain, the body proper, and what he refers to as the mind. He argues that the essence of emotion is identified through physical changes in structures of the body, that react or respond to thoughts, experiences or feelings experienced in the mind and that these systems work in an intertwined fashion rather than in the famous dichotomized fashion of Descartes. Thus his definition of emotion is:

...the combination of a *mental evaluative process*, simple or complex, with *dispositional responses to that process*, mostly toward the *body proper* resulting in an emotional body state, but also toward the *brain*

itself (neurotransmitter nuclei in the brain stem) resulting in additional mental changes (p.139, emphasis in original).

Damasio's point is well taken. Even with a healthy respect for neurophysiological processes, one must simultaneously take into account notions of subjective intrapsychic experience not in contrast to, but in concert with the physiological changes caused by emotional processes.

Teasing apart the different aspects of attentional, emotional, and self-regulatory components of ADHD children is no small task. Besides being difficult to consensually define, attention, emotion, and the regulation of the two, as well as executive function are inextricably intertwined. A psychoanalytic perspective may be especially equipped to move beyond the behavioral-symptomological outlook of the DSM, which does not sufficiently take into account the mental experience of the ADHD individual, a complaint shared by neuropsychologists as well as psychodynamic clinicians. In attempting to do so, we can begin the long overdue task of beginning to integrate differing perspectives on these complex constructs, rather than tossing aside whole theories.

Psychoanalytic Theories of Affect Regulation

Before turning to the Rorschach Inkblot Method (RIM), the instrument in this study that will be used to measure affect regulation, it will be useful to briefly touch upon *some* psychoanalytic theories of affect regulation.⁹ Fonagy, Gergely, Jurist & Target, (2002) point out that psychoanalytic theory, beginning with Freud himself has struggled

⁹ Space does not allow for a full investigation of psychoanalytic theories of affect regulation. Affect regulation, not unlike the concepts of attention, executive function, and emotion is a dynamic concept solely within the realm of psychoanalytic theory, let alone all of psychology. This section is not intended to represent the whole of psychoanalytic theories of affect regulation; on the contrary it is a capsule of some of the myriad theories, particularly ones that come from object relations theorists.

with many of these same dilemmas in attempts to conceptualize the role of affect and affect regulation. Freud struggled to place affects in the body as part of physical discharges of energy (1915), later placing them under ego control (1925), never fully reconciling them to either realm, physical or psychic. Rather, like Damasio, Freud saw affects as residing both in the mind and the body.

Object Relations theorists posit that affect regulation is a two-person process that occurs between the mother and the baby. Winnicott (1960) posits that optimal development, including the co-construction of reality that occurs between mothers and infants, occurs within a holding environment. When the infant is just born, he depends on his mother to hold him, not just physically, but psychically.

This supportive maternal care allows the infant to develop. Winnicott notes the singular importance of the holding environment for infants' continued development:

During the holding phase other processes are initiated: the most important is the dawn of intelligence and the beginning of a mind as something distinct from the psyche. From this follows the whole story of the secondary process and of symbolic functioning, and the organization of a personal psychic content, which forms a basis for dreaming and for living relationships (p. 45).

Essentially, the mother sets up circumstances under which the baby feels safe to explore his world. Critically important in the notion of holding is the idea that the mother holds the infant in a way that is inherently regulating. So when the infant feels dysregulated by hunger or some other form of what Freud precisely referred to as “unpleasure”—an affect if there ever was one, the infant turns to the mother to help regulate the affect, and the mother in turn hold the baby until the affect is soothed.

Bion (1967) posits the notion of the parent as the “container” of unpleasant or unwished for affects. According to Bion, the infant, unable to tolerate the unpleasure, projects the unwanted affect into the mother who contains the unpleasant affect, and then

slowly metabolizes the affect to give back to infant in manageable pieces. As development progresses, the need to project these affects into others who can perform the containment function is lessened until the infant/child can largely regulate their unpleasant affects independently.

Later psychoanalytic infant researchers and theorists (c.f. Stern, 1985; Tronick & Weinberg, 1987) have also noted the importance of mother-infant interactions in the development of affect regulation. In this vein, Fonagy & colleagues (2002) have put forth the dynamic concept of mentalization as a mechanism for understanding affect regulation in the context of psychoanalytic theory, infant research and psychobiology. They posit that young children use two modes for representing internal states, or “psychic reality.” These two modes are “psychic equivalence” and “pretend.” The psychic equivalence mode is one where the child believes that any thought he has must be equivalent to reality, or true. The pretend mode is one where the child can truly play and pretend, without concern of the pretend thought’s relation to reality.

In normal development, these two ways of experiencing reality coalesce into a unified reflective mode by the age of four or five which they refer to as a “mentalizing mode” (p. 263). When this developmental achievement is reached, children (and adults) can then tolerate the notions that their thoughts may be just thoughts rather than reality, that other people may have different mental states than theirs, and that those mental states and beliefs might be false. With this capacity in place, the child can move through the world confident that his psychic reality is a representation of the world, and not a reflection of reality. This allows the child to use pretend modes to safely “play” with his internal representations of the world which in turn allow those representations to be less rigid. This flexibility in turn serves to temper and moderate any unpleasant affects or

affective experience. With the knowledge that these representations are unfixed comes the realization and experience that these unpleasant states are transient rather than fixed reality.

This capacity is achieved in the presence of an other (ideally the primary caregiver) who provides three things to the child who is developing this mode of functioning. The other 1) reflects the infant's current mental states back to the infant, 2) reflects states represented by the object's mind, and 3) provides the frame that is represented by the adult's "normally externally reality-oriented perspective" (p. 266). This frame allows the child to realize that thoughts and feelings, and other mental states (including, presumably, his) are not necessarily real, but are simply mental states and representations of things that *might* be real and are consequently less dangerous, particularly those thoughts tinged with aggressive or frightening elements. To the extent that the adult can reflect the child's mental state in a playful way, the child can tolerate the "realness" of it and learn to see it as something to be played with. The child essentially learns to move from the mode of psychic equivalence to mentalizing by playing with reality. Mentalization brings together the ideas that affects reside in both the body and the mind, i.e. that being able to "know" one's own affective state both in the body and the mind, allows for a deeper possibility to regulate and get through unpleasant affective situations.

The Rorschach Inkblot Method (RIM)

The Rorschach Inkblot Method (RIM) (Rorschach, 1942, Klopfer et al, 1954; Rapaport, Gill, & Schafer, 1968; Ames, Métraux, Rodell & Walker, 1974; Lerner, 1998, Tuber, 1992) has a rich and reciprocal relationship with the psychoanalytic/developmental perspective on personality etiology and configuration. It has historically

been used to assess personality domains central to the understanding of many complex disorders (Blatt, 1975; Stuart, Westen, Lohr, Benjamin, Becker, Vorus, & Silk, 1990). In work with children, for example, a child's cognitive/perceptual style, stress tolerance and coping resources, quality of defenses, object relational capacities and themes, impulsivity, capacity for delay and affect regulatory abilities have all been assessed via the RIM (Exner & Weiner, 1982; Tuber, 1989; Lerner, 1998; Bornstein, 2001). It would benefit clinicians and researchers alike to aim for a subtle and nuanced assessment of these domains to ensure their greatest heuristic value (Tuber, 1989, 1992).

Though the RIM has been a target of controversy from its inception (Bornstein & Masling, 2005), it has come under more specific attack in the last 15 years (Wood & Lilienfeld, 1999; Wood, Lilienfeld, Garb, & Nezworski, 2000). Criticism has focused on such issues as inter-rater reliability, normative data, temporal consistency, applications to diverse populations, evaluatory and clinical utility (Garb, 1998; Hunsley & Bailey, 1999; Garb, Wood, Lilienfeld & Nezworski, 2002). In recent years, Rorschach researchers have sought to combat these attacks by citing the abundance of often overlooked empirical research that demonstrates the RIM's reliability, validity and utility (Meyer & Archer, 2001; Viglione & Hilsenroth, 2001; Levy, Meehan, Auerbach, & Blatt, 2005). Meyer and Archer (2001), in suggesting future research that would address this controversy, underline the need for studies that would provide evidence for the Rorschach "as a tool for understanding the idiographic richness and complexity of an individual." I hope to join the effort to both answer this call as well as some of the aforementioned criticisms of the RIM by describing my use of the Rorschach in studying an underserved population of ADHD children.

RIM theory

Hermann Rorschach, the father of the RIM, believed that percepts were formed by a combination of memory, sensation and association. He argues that perceptions are an associative integration of available engrams, or memory-pictures (1942). He describes the process of taking the test as realizing that these engrams are imperfectly matched with the associations brought forth by the blots which is what gives the percepts the character of interpretation. He states that the difference between interpretation and perception exists on a gradual plane of difference, rather than a sharp delineation between the two. At its core then, the RIM is a test of “the perceptive power of the subject” (18). The optimal record, according to Rorschach is one that balances rationality, capacity for inner life, and an emotional willingness to adapt.

Rapaport, Gill & Shafer (1968) suggest that just as the viewing of a familiar object leads to memories, when the object is less familiar, concept formation becomes more important and as conditions become more difficult, a shift from attention to concentration becomes necessary and that guidance of subjects’ organization and interpretation becomes driven by anticipations, or what the subjects expect to see. Thus turning to the RIM, Rapaport et al. assume that because it is an unstructured task, the perceptions will be guided by what the subject expects to see and thus will reflect their perceptual organizing process. Because the RIM brings the active organizing aspect of perception to the foreground—the task demands that the subject make sense of an amorphous inkblot, the assumption is that the subject will display aspects of the personality, projecting those aspects onto the otherwise amorphous inkblots.

Rapaport, Gill & Shafer discuss three prominent phases in the process of arriving at a response. First, the salient features of the blot set off associative processes. Next the associative process begins an elaboration of the inkblot. Finally, the perceptual limitations and qualities of the inkblot serve to regulate the reality of the associative process itself. They see these three phases as cogwheeling and clearly state that the integration of the three phases holds the key for discerning the flexibility and firmness of the perceptual organization.

Determinants and Scoring on the RIM

Once the RIM is administered it is scored¹⁰ along five main dimensions: Location, Form Level, Movement, Shading and Color. Each will be described briefly here.

Location

Location is simply the part of the blot used to form the percept. Whole responses (W) use the entire blot to make the response. Whole cut (Wcut) responses utilize most of the blot but cut off a particular section of the blot. Large detail (D) responses use large details of the blot. Small detail (d) responses use small details of the blot to form the response. Unusual large detail (Dr) and unusual small detail (dr) responses use less common areas of the blot. White space (S) responses utilize the white spaces of the card where there is no inkblot.

Movement

There are three kinds of movement responses that get scored in this system. Human movement (M) responses are responses that include some form of human movement (e.g., two women dancing). Animal movement responses (FM) are percepts

¹⁰ Scoring on these data was done using the Exner Comprehensive system (1995).

that contain animal movement (e.g., two lions climbing). Inanimate movement responses (m) contain examples of inanimate movement (e.g., a rocket taking off).

Shading/Texture

There are three types of shading responses called for in the comprehensive system. Texture responses (T) are scored when the subject gives a response in which the shading features cause a tactile sensation (e.g. “It feels soft.”) Vista responses (V) are scored when the subject gives a response in which shading features have been used to create a sense of depth or dimension (e.g., “It’s down in.” Diffuse responses (Y) are scored when the subject gives a response in which shading occurs without texture or vista (e.g., “It’s light.”). All three of these scoring variables would be scored as texture/shading (c) in the Klopfer (et a., 1954) system.

Form Level

There have been many different authors who have devised form level rating systems for the RIM (Rorschach, 1942, Klopfer et. al, 1954; Mayman, 1967; Exner, 1985). All of these systems attempt to quantify the degree to which a subject’s percepts adhere to reality. Simply put, form level ratings are one method of measuring how plausible the seen percept is to others.

Mayman’s system has seven possible ratings: F+, Fo, Fw+, Fw-, F-, Fv and Fsp. The first three of these constitute good form level responses. F+, the highest rating possible is saved for precepts that are sharp, convincing forms that are easily seen by the examiner. Fo, ordinary responses, are for popular and near-popular forms, as according to a list included in Mayman’s manual. Fw+, weak plus responses, are reasonably plausible, but not terribly convincing forms that take a little stretching on the part of the examiner to perceive. Fw+ responses are also seen as involving the capacity of the

subject to stretch reality in a positive way, to not be bound by the constraints of conformity.

The last four, Fw-, F-, Fv, and Fsp. constitute poor form level responses. Fw-, weak minus responses, are forms that bear only a slight resemblance to the blot area, are not very plausible or are only based on one point of resemblance. F- responses are arbitrary forms that bear little or no resemblance to the blot. Fsp., or spoiled responses are responses that begin with a familiar and/or good response which would have likely been scored F+ or Fo, but then the subject introduces an element that has the effect of lowering the acceptability of the response as a percept. Fv, vague responses are the cheapest form of response available that are so inherently vague that it is impossible to judge the accuracy (e.g., air or mist.)

In addition, responses that contain form attributes are differentiated to the degree that form drives the percept in relation to other determinants. Form-dominated responses (F, FC, M, FM, Fm, FC', FT, FV, FY) are those responses where form is judged to be the primary determinant driving the response. A flying bat would be considered an example of a response in which the form (bat) is the primary determinant, even though animal movement (flying) is incorporated into the response. Responses that are not form-dominated (CF, mF, C'F, TF, VF, YF)¹¹ include those responses in which form is judged to be secondary to other determinants in the response. Dripping red blood is an example of a response where both the inanimate movement and the color are considered to be more primary than the form of the blood itself. Form-dominated responses indicate that the subject has the capacity to both see and utilize determinants other than form

¹¹ Human and Animal movement responses (M and FM) are presumed to be inherently form-dominated; accordingly, there are no codes for non-form-dominated human and animal movement responses. It is possible to have an inanimate movement responses (m) that is not form-dominated.

adaptively, while those responses that are not form-dominated tend to indicate the degree to which the subject was overwhelmed by the stimuli presented by non-form determinants. Responses with no form whatsoever (C, C', m, T, V, Y) are also considered responses that are not form-dominated.

Taken together, the form ratings can be further parsed and organized to give some overall pictures of the total form level of the subject's record. The F%, or the percentage of the record that consists solely of pure form responses, is calculated by dividing the number of pure form responses, by the number of total responses. The F% gives a quick snapshot of how much the subject is able to use only the form of the blot to determine his or her response. The F+%, calculated by determining the percentage of pure form responses that are of good form quality (F+, Fo or Fw+) gives a snapshot of how accurately the subject is able to perceive percepts when using pure form responses.

These percentages can be utilized with form-dominated responses as well. The Extended F% (Ext. F%) is calculated by dividing the number of form-dominated responses, including but not limited to pure form responses, by the total number of responses in the record. The Extended F+% (Ext. F+%) is calculated by determining the percentage of form-dominated responses that are of good form quality (F+, Fo, Fw+). The Ext. F+% gives a snapshot of how well the subject is able to adhere to the boundaries of form when integrating other determinants into the response.

Exner (1985) has two additional calculations that may also prove useful in the attempt to capture the form accuracy of subjects' responses. The Lambda score, which is calculated by taking the number of Pure Form Responses (Pure F) and dividing it by the number of total responses (R) minus Pure Form Responses (Pure F), like the F%, is an attempt to capture the extent to which a subject uses pure form responses. Additionally,

the X+%, calculated by dividing the number of responses of good form level by the total number of responses, regardless of form-domination, is a grosser attempt than the Ext. F+% to capture the accuracy of percepts across the entire record.

Color on the RIM

There are three basic color responses (Rorschach, 1942; Klopfer et al., 1954; Schachtel, 1966/2001; Rapaport, Gill & Shafer, 1968). The most adaptive response is a form-dominated color response. This is a response in which color contributes to the percept, but does not determine it (e.g. an orange tiger). Because these responses (scored FC) are bound by form, but use color, they suggest that the subject is able to have access to affect, but the intensity of the affect is not so overwhelming as to override form, or reality as the main determinant. Color-dominated form responses (scored CF) are ones where the color plays the main role, though there are elements of form in the response (e.g. strawberry ice cream, where the color is identified as the primary reason for seeing the percept). CF responses imply that the intensity of the affect is such that it drives the subject's response, so that the elements of form and shape are less salient than the color. Pure color responses (C) are responses that are inherently formless, a crude use of color with no form (Klopfer et. al, 1954) (e.g., a sunset, with no elaboration of form).

Rorschach placed great significance on the ratio of color to movement responses. In his initial work, he found that subjects who had "stable emotions" had few or no color responses. Conversely, subjects who were characterized by affective lability had many color percepts. He found that pure C responses were the representatives of impulsiveness and distinguished C from CF responses in that CF responses were often found in "normals" while Pure C responses were generally only reserved for clinical populations. CF responses he described as representing affective lability. He found that FC responses

were most common in normals, and slightly less commonly found in clinical subjects. He argues that whereas associative factors come into play in the interpretation of form, emotional factors come into play in the interpretation of color. Thus, the FC response can be seen as a combination of the associative and emotional responses. It is a melding of external and internal stimuli. Rorschach thought of it as “the expression of the desire to adapt” (p. 34). Said differently, the FC response represents an attempt by the subject to perceive something that can be seen by an other; they represent the capacity for formation of rapport.

Rorschach felt that the ability to distribute both affective and associative factors was a sign of intelligence. He felt that attention was a form of the expression of affectivity, and that the ability to concentrate represented stability of affect in the highest degree. He also felt that the more color that is on the record, the greater the emotional instability of the subject. However, he felt that the amount of color was tempered by the amount of kinaesthesias, or movement which serves to stabilize the affectivity.

Rorschach also made room for the idea that developmental factors played a role in what appeared on the records of children, indicating that children tended to show more color and affectivity earlier in the life span.

Rorschach felt that the test gave a window into the “affective status” of the subject, including, the relative stability of affectivity, strength of feelings, intensity or extensivity of the affective reactions, control over the reactions and the suppression of freedom of reactions. He felt that the absolute number of color responses was a good measure of affective lability. He also argued that the influence of colors in the perception of figures was a representation of the amount of emotional excitability and excitement. He also, unfortunately, admitted that he had insufficient scientific evidence for this.

Rorschach wrote that impulsive outbursts, common in children with ADHD, represented the highest degree of affective lability. He connected these outbursts to the a lack of M and FC responses, arguing that the presence of these form dominated responses typically lessens the effect of the impulsive responses, usually CF or Pure C responses.

Rapaport, Gill & Shafer (Holt et al., 1968) argue that the quantity and quality of color responses on the Rorschach are the most significant aspect of the entire RIM. They state that the use of color appears to reflect the subject's ability to handle affects, impulses and actions. Historically, color has been thought to represent three things: (1) the subject's prevailing mode of affective expression and responsiveness, (2) the mode of control of impulse and action and (3) "extraversion" or extratensive tendencies. Rapaport et al. do not think much of the extraversion as either a tendency or personality type, but they do make use of the first two concepts in their theory.

Rapaport and colleagues argue that when color is mentioned in a response it is clear that the color has had an impact upon the perceptual process. The questions are how strongly the perceptual process was influenced by the presence of the color on the blot and what if any effect the color had on the subject's ability to perceive form. The driving question is how successful was the integration of the color, form and any other determinants used. Pure C responses, "the extreme of impulsive and wild affectivity or an abandonment of all control" (p. 380), indicate an absence of delay or distance hoped for to allow for a good integration of qualities of the blot. CF responses indicate that while there has been more delay possible than seen on C responses, the delay is minimally effective as the color overwhelms the form features of the blot. Rapaport et al. argue that delay is necessary to produce a good form level response. Thus the lack of delay in CF responses inherently involves poor form level responses, leaving the

responses with an impulsive character. They also caution that impulsive acts and affective outbursts may be expected in records with many CF responses. FC responses, when well formed, indicated that the subject is able to utilize delay in such a way as to gain some control over the form level.

Rapaport et al. state, "It appears that, dependent upon their organization of affects and impulses and their modes of control of these, people have associative processes that allow for dealing with the color impressions in a specific manner characteristic of their affective life (376)." They make the argument that the greater the control over the delay and satisfaction of the instinctual impulses, the more rich and varied the derivatives become. Conversely, to the extent that delay is difficult and repression becomes necessary, the derivatives become somewhat impoverished. However, the repression does not always work smoothly and instead sometimes occurs in an "explosive and spasmodic fashion" (p. 377). The more the subject uses repression in this form, the less variety they will show in their affective experience and the more impoverished their record will become. This is not unlike Knight (1953) who borrowing from Freud, uses the metaphor of an army to discuss defensive processes. Knight conceives of the defenses as troop deployments, with the strongest troops positioned closest to the frontlines. Thus, when these patients are in traditional psychoanalytic treatments, ones that set about to analyze the defenses, the first line defenses retreat upon attack (or analysis). While at times the retreating defensive troops can regroup, this process leaves the weaker troops, or more brittle defenses, left to protect the frontlines which often results in the entire army, or ego, being defeated (p. 164). Rapaport et al. argue that this process occurs when the repressive processes cease working. Thus the affective explosions are left with brittle defenses and prone to violent explosions.

Thus affects are viewed to be vents of the states of tension from which they are derived, and the color responses are thought to represent (1) the degree to which repressive control of instinctual needs has impoverished affective and feeling output of the subject; (2) the degree to which the control of these impulses functions smoothly allowing for delay and vigor; (3) the degree to which control is not achieved and instinctual tensions reveal themselves in violent affective display; (4) the degree to which attempts at all control is abandoned; and (5) the extent and mode of control over actions. They point out that the discussion of the role of color is incomplete without mentioning the importance of the role of form. The delay of impulses sought for in an integrated response allows for the development of thought processes which allow for reality testing.

Ernest Schachtel (1943) wrote what is widely considered to be a classic paper discussing the role of color and affect on the RIM. Principally, Schachtel argues that color on the RIM cards, as well as in life in general pulls for a passive response on the part of the subject who “bends beneath its impact.” He agrees with Rorschach (1942) that color represented and identified in the responses did reflect excitability and emotion. (329).

Of the experience of color, Schachtel writes that color must have an impact upon the subject for it to make its way into the response. If the subject has experiences of being impacted upon by color, or is “susceptible,” then his memory will be laced with experiences of color being salient. This will mean that the chromatic RIM plates themselves will impress upon the subject and an experience of having seen color will likely be evoked. He offers the reader a very compelling mental image, inviting the reader to imagine a large pencil drawing on a white wall with one splotch of bright red.

He then uses several action words to make his point that color acts upon us. The color “strikes the eye,” and “cries out;” the eye “is caught.”

He then goes on to discuss pure color (C) responses arguing that for these subjects, the red on cards does not just symbolize fire or blood, but actually becomes fire. The memory is so drawn to the associations to the color, that the recognition that it is simply a recall of something that resembles fire is lost. Rather than search memory for a percept that can match the salient determinant, the determinant simply becomes the percept, absent the associative process. Thus the color experience according to Schachtel becomes driven by both the passivity of the subject as well as the immediacy of the relation between the subject and the color. (333). As Schachtel writes, “(The) color *evokes* a response, and in persons susceptible to color practically always an emotional response; there are feelings of pleasure or displeasure, the color is felt as something lively, vivid, soothing, exciting, harmonious, shrill, even though such feelings may remain quite inarticulate and vague.” (334).

The experience of affect can also be an exercise in passivity. Schachtel writes that color is related to affect in that like a strong color in the corner of an otherwise barren sketch, a strong affect can effectively block out all other activity and thought. Again, he brings our attention to phrases like “moved,” “touched,” and “carried away” to impress upon us the potential passivity of a person taken hold of by strong affect. The word affect comes from the idea of being affected by or having done onto you. It’s etymological cousin emotion, comes from the Latin word meaning to be moved. Thus one who is overwhelmed by affect, loses control or is no longer in power.

In a quote that certainly could have been written about children with ADHD, he writes, “The affect-charged reaction is characterized, furthermore, by the *directness*, the

immediacy of the relation between the outer or inner cause stimulus—of the affect and the person affected by this stimulus. When the affect is strong, there is no time for thought, detachment, objectivity, deliberation.” (336).

Thus, color and affect are intrinsically related insofar as they both share passivity and immediacy. This is not to say that these are necessarily bad things, only that one would hope that subjects can see color and use it positively.

Finally, Schachtel points out that red, the only color on Cards II and III, has a special significance in that it is historically and culturally related to both sex and aggression. Red hearts from cupids speak to the passions coming from the heart, as well as the angry person seeing red. There are also studies that show that the first color perceived is red (refs?). In Schachtel’s words, it is the color that “grabs our attention” first.

In a later work (1966/2001), Schachtel makes a subtle, yet critical point about the role of color. He points out that there are two different reactions to color at play in the RIM situation. The first, is a person’s general reaction to color in the world. The second, is a person’s reaction to the specific appearance of color in the RIM test situation itself. Said differently, these two factors take into account a person’s reactions to color, including, but not limited to the person’s reactions to color on the RIM. Further, Schachtel argues that reactions to color, in either vein, are observable in two different ways. The first way, which is more apparently tied to the role of color, is the relative role played by color and form as determinants in the color responses, especially as evidenced by the form level of these responses. The second way, more subtle to be sure, are the ways in which reactions *other than color responses* appear on the record. These can include but are not limited to changes in manner, sequence, overall quality of response,

and expressed reactions to color, other than color responses. This is a crucial point as it argues for the care needed in examining protocols. One can not simply score the responses, one need regard the entire record as a whole to make sense of any one response.

Shapiro (1960) refines the theories of Schachtel and Rapaport and colleagues with his concept of *perceptual passivity*. He argues that unlike form or movement perception, color perception has a different quality to it in that it is more immediate and direct (Rickers-Ovsiankina, 1960). He conceptualizes color perception as taking place in a condition of relaxed active perceptual organizing capacities so that the subject is left at the mercy of the relative level of the vividness of the stimuli. Drawing on a study which showed that people born blind who then had their sight corrected tend to perceive color far more easily and earlier than they perceive form (Senden, 1932) he argues that color perception is as Schachtel argues inherently passive.

Shapiro criticizes other RIM theoreticians for essentially skipping over the unexplained link between color and affect. He also argues that he does not believe that all color responses are tied to affect, instead writing that only on protocols which are characterized by a preponderance of CF responses can one make the case that color seems to reflect some affective lability. He believes that color responses can run the range from a purely passive experience (C) to a well-integrated one (FC) where the integration of color in the response speaks to a flexibility and expansiveness that smoothly facilitates the elaboration of the percepts. Instead, he views the affect-color linkage as a part of the general perceptual and psychological organization of the subject (p.199) having to do with their ability to become impassive in the face of the immediacy of certain stimuli.

The RIM as a Research Tool for ADHD

A psychoanalytic perspective that assesses aspects of unconscious fantasy, conflict and defense can lend itself to the empirical research of the many difficulties associated with ADHD. With its rich psychoanalytic tradition (Klopfer & Kelley, 1942; Rapaport, Gill & Schafer, 1946; Ames, Métraux, Rodell & Walker, 1974; Holt, 1970), the RIM seems quite appropriate in studying this population. The RIM has historically been used to assess personality domains important to the study of this complex disorder. Indeed, a child's cognitive/perceptual style, stress tolerance and coping resources, quality of defenses, object relational capacities and themes, impulsivity, capacity for delay and affect regulatory abilities have all been assessed via the RIM (Mayman, 1967; Urist, 1977; Exner & Weiner, 1982; Tuber, 1989; Lerner, 1990; Bornstein, 2001, Reynoso et al., 2006), making it a potentially rich source of data for the understanding of ADHD.

Specifically, because children with ADHD symptomatology are often maladaptively sensitive to stimuli and have profound difficulty in regulating their affect, behavioral inhibition, and processing social interactions, it is expected that these ego impairments will be reflected in Rorschach variables sensitive to such vulnerabilities, namely movement and color variables, as well as ratios that depict the relationship between these variables. In addition, it is expected that these impairments will be manifested in percentages that reflect the capacity to maintain good form quality both with and without additional non-form determinants.

Exner (1993), Klopfer et al. (1954) and Schachtel (1966/2001) all agree that the capacity to represent human movement (M) on the Rorschach is an indicator of a relatively greater capacity for delay, social interest, and an ability to access and make effective use of fantasy life. In his research on child populations, Tuber (1983) has found

that the quality of human (M) and animal (FM) movement responses on the Rorschach relate in significant ways to the developmental level and affective quality of children's internal representations of self and others, as well as how a child's representations of human interaction may influence their social functioning. In assessing the quality of human and animal movement responses using the Mutuality of Autonomy Scale (MOA; Urist, 1977), Tuber (1983) was able to predict future rehospitalization among previously hospitalized children. An assessment of human and animal movement responses have also been useful in measuring psychological distress in children (Tuber, Frank, and Santostefano 1989), distinguishing children with gender identity disorder (Tuber & Coates, 1989) and assessing levels of separation anxiety (Goddard & Tuber, 1989). Because children with ADHD evidence impairment in their capacity for delay which impinges on their social fluency, it is expected that that these children would evidence less representations of social interactions through the use of human and animal movement (M, FM) as well as depictions of animal and human (or human-like) figures in general [H, (H), (Hd), Hd, A, (A), (Ad), Ad]¹².

An assessment of the use of color on the Rorschach is also expected to relate to the type of impairment evidenced in children with ADHD; specifically difficulty in regulating affect. As Schachtel (1966/2001) argued four decades ago, an individual's responsiveness to the stimulation of the bold colors in the Rorschach is indicative of one's responsiveness to one's own internal affectivity. Because children with ADHD can become easily dysregulated by affective stimulation, it is expected that these children would tend to either avoid using color to form their percepts (FC, CF, C) or be swamped

¹² These notations refer to various human, human-like, animal and animal-like content scores given to responses.

by bold color (CF and C dominating over FC responses). Some children may seek to avoid the feeling state of being overstimulated by simplifying the stimulus demands of the blot and focusing excessively on form (F) in order to organize their percepts, resulting in a high percentage of pure form responses (Lambda or F%), while others may barge ahead, overwhelmed nonetheless resulting in a low percentage of good form level responses (X+% or F+%).

Exner (1993) also argues that the ability to represent human movement and color indicates an overall capacity to access internal resources; represented by a variable termed the Experience Actual (EA) score.¹³ He defines internal resources as “the collective cognitive capabilities that have been developed, including the manner by which feelings are identified and utilized” (Exner, 1993). He also evaluates the capacity to access internal resources in relation to the individual’s current stimulus demands, as represented by nonhuman movement determinants, shading and achromatic determinants (D score)¹⁴. Stimulus demands are understood by Exner as externally or internally originating and drawing on the emotional or mental activity of the person. Thus, as a measure of the difference between one’s available resources and one’s experienced demands, a person’s D score can be thought of as indicative of capacities of control and stress tolerance. Because, as Barkley (1997) argues, children with ADHD have an impaired ability to draw on inner resources to delay gratification, inhibit behavior and regulate emotional responses, it is expected that these children would be found to have

¹³ The EA score represents the total number of human movement responses and a weighted sum of the chromatic color responses. $EA = \{M + [0.5(FC) + (1.0)CF + (1.5)C]\}$.

¹⁴ The D-score represents the EA score minus the sum of all nonhuman movement determinants, the shading and achromatic determinants.
 $D = [EA - (FM + \text{all } m + \text{all } C' + \text{all } T + \text{all } V + \text{all } Y)]$

less adaptive scores on variables signifying resources and capacities of control and stress tolerance (lower EA score; higher D score).

While Rorschach's book (1942) is a report of his initial findings, he explicitly states that the RIM is meant to be used primarily as a tool for clinical diagnosis. However, there is a small literature examining children with ADHD utilizing the RIM (Bartell & Solanto, 1995; Exner & Weiner, 1982). Much of this research takes its lead from Exner and Weiner (1982), who cited unpublished studies to suggest that impulsivity (defined as lack of control) may be related to several RIM variables from his Comprehensive System: the D score as an indicator of stress tolerance and control, the Experience Actual (EA) score as an indicator of available resources to initiate behavior, the affective ratio as an indicator of affective responsiveness and emotional control, and the FC: CF + C ratio as an indicator of modulation of emotional discharge or displays, human movement (M) as an indicator of a capacity for delay and interest in social exchange, and X+% as an indicator of conventional reality testing and perceptual accuracy.

Gordon and Oshman (1981), in evaluating 40 boys (ages 6 to 11), found that boys designated as hyperactive produced fewer Human Movement (M) responses, Human Content (H) responses, and more Animal Content (A) responses as compared to the nonhyperactive group. In a sample of 24 children (ages 5 to 11) diagnosed with ADHD, Bartell and Solanto (1995) found that these children produced fewer Human Movement (M) responses, poorer form quality (X+%), and a lower Experience Actual score (EA) in comparison to Exner's (1993) norms for children of the same age. Pantle, Ebner, and Hynan (1994), in evaluating impulsivity in 55 adolescent inpatients (ages 11 to 18), found that individuals with lower D scores, a lower Form-Color ratio (FC:CF+C), and

fewer Human Movement (M) responses exhibited more failure to inhibit responses on a continuous performance task, a widely used computer-based task for assessing vigilance and the ability to inhibit a response in the face of rapidly presented stimuli (CPT; Conners, 1999). Cotugno (1995) compared the protocols of 120 children (ages 5 to 6) that comprised an ADHD group, a non-ADHD clinical control group, and normal control group. Most relevantly, he found that, as compared to the normal control group, children in both the ADHD and clinical groups produced a higher frequency of pure form responses (Λ), fewer color responses (FC+CF+C), more shading responses, fewer popular responses, fewer depictions of whole humans (H), and overall less accurate responses (X+%).

Reynoso et al. (2006) investigated differences among ADHD and comparison children along several Rorschach variables and ratios. In this initial study, the ADHD group was found to have significantly lower EA scores than the comparison group, suggesting that the ADHD group displayed poorer accesses to internal resources. There was a trend in the ADHD group towards lower D scores than the comparison group, suggesting that the ratio of internal resources to stimulus demands was poorer for the ADHD group, indicating lower stress tolerance and less control. With regard to movement variables, the ADHD group was found to have significantly fewer human movement (M) scores than the comparison group. However, there were no significant differences between the groups in the frequency of either animal movement (FM) or inanimate movement (m) responses. Similarly, the ADHD group was found to have significantly fewer human content scores (H+(H)+(Hd)+Hd) than the comparison group, as predicted, but a difference in animal content scores (A+(A)+(Ad)+Ad) was not found.

The following chapter will present the RIM protocol of Henry which will help to elucidate and contextualize the hypotheses to be investigated in the present study.

CHAPTER TWO

CLINICAL EXAMPLE: HENRY'S RORSCHACH

Thus far I have argued that though there have been many attempts to codify and conceptualize the coping mechanisms and behavioral patterns in children with ADHD, none of the existing research and models sufficiently examines the phenomenology of the inner worlds of these children. Consideration of these ADHD children's unconscious lives, object relations and ego resources is necessary to better understand the nature of their classroom, familial and peer difficulties.

Furthermore, while nomothetic studies are persuasive (Bartell & Solanto, 1995; Exner & Weiner, 1982; Gordon & Oshman, 1981), they tell us precious little either about the range of functioning of a given child with ADHD symptomatology, or under what circumstances such symptomatology is most likely to erupt and why. I suggest that an idiographic approach to such questions may shed additional light on the matter. For while it is crucial to endeavor to understand how ADHD children *as a group* respond to affective stimuli, it is necessary to do this simultaneously with trying to understand how *an individual* child diagnosed with ADHD responds to affective stimuli. In turn, a more nuanced understanding of an individual child can often elucidate potential group trends. Holding this dialectic is the mandate of clinical psychologists.

To that end, I will now present the RIM protocol of a Henry, a child independently diagnosed with ADHD (Combined type). As opposed to a static and narrow view of ADHD children as having little access to human representations and internal resources across all settings, this protocol vividly illustrates how dynamic and context-dependent an ADHD child's responses can be. In this protocol, Henry exhibits a

bimodal approach to the Rorschach and to his experience of the world, at times constricting and simplifying his subjective experience in a deadening way and at other times acknowledging affect and vitality to the extent of being overwhelmed by it.

Henry

At the time of the referral to the study, Henry was exhibiting disruptive behavior at school, which included kissing girls against their will and looking up their skirts. When interviewed at the testing sessions, Henry's mother reported that his teacher described him as "very active and impulsive" at school. Similarly, she noted that he was disruptive at home as well, unsolicitedly offering, as if reciting a DSM-IV checklist, that he was "always on the go."

Henry's Rorschach Protocol

With two notable exceptions, Henry's overall record does not differ dramatically from that of a typical seven year-old. He matches or approximates norms on most determinants (C, C', T, V, Y, M, FM, A, H), with the notable exceptions of inanimate movement (m) and form-dominated responses (Ext. F%).

Table 1: Henry's Performance on all Cards

Determinant	Henry	Typical 7 year-old ¹⁵
R	23	18.3
M	1	1.4
FM	2	1.9
m	8	0.8
H+Hd+(H)+(Hd)	1	2.6
A+Ad+(A)+(Ad)	7	7.6
FC+CF+C	4	2.9
FC'+CF'+C'	1	1.1
FT+TF+T+FV+VF+V+FY+YF+Y	0	0.5
F%	35%	52%
F+%	83%	82%
Ext. F%	47%	79%
Ext. F+%	73%	N/A ¹⁶
X+%	39%	N/A
EA Score	4	4.65
D Score	-2	0

However, upon closer inspection Henry's Rorschach record reveals a bimodal way of looking at and interacting with the world, which is highlighted by the ways in which he deals with bold color and blackness.

¹⁵ All Norms are derived from Ames et al., 1974.

¹⁶ Ames et al.'s norms are reported such that it is not possible to extrapolate norms for the Ext. F+% or the X+%. However, it is important to note that Henry's Ext. F% (the percentage of his responses that are form-dominated) is substantially lower than a typical seven year-old. Given that so many more of his responses are outside the bounds of form-domination it is reasonable to presume that his X+% would be substantially lower than that of a typical seven year-old.

Table 2: Henry's Performance on Achromatic vs. Chromatic Cards¹⁷

Determinant	Achromatic Cards	Chromatic Cards
R	5	18
M	1	0
FM	0	2
m	0	8
H+Hd+(H)+(Hd)	1	0
A+Ad+(A)+(Ad)	4	3
FC+CF+C	0	4
FC'+CF'+C'	0	1
FT+TF+T+FV+VF+V+FY+YF+Y	0	0
F%	100%	16%
F+%	80%	100%
Ext. F%	100%	33%
Ext. F+%	80%	83%
X+%	80%	27%

One mode or strategy Henry seems to be engaging on the test involves a simplification and dampening down of the percepts to pure form responses that have a deadened quality. The five achromatic cards elicit only five of his twenty-three total responses; all of these responses to achromatic cards are whole responses. These responses use only pure form, and his form quality on these cards is quite good ($X+\%_{\text{black}}=0.80$). He does not represent interaction in any way, and he rejects one of the cards (VII) altogether. In terms of the RIM ratios representing access to internal resources, his D score and EA might be considered low¹⁸ on these cards because of the relative absence of determinants, indicating limited access to internal ego resources.

In contrast to his sparse responses to the achromatic cards, Henry shifts into a

¹⁷ Achromatic Cards are I, IV, V, VI, & VII; Chromatic Cards are II, III, VIII, IX & X.

¹⁸ A low EA score indicates a paucity of resource-laden responses; a low D score indicates the ability to avoid what Exner (1985) considers to be less adaptive determinants. It should be pointed out here that the Both the EA and the D scores are calculated using color responses. Despite the near impossibility of a color response on an achromatic card, his achromatic cards are still striking in their relative absence of determinants other than form, even allowing for the notion that a color response is highly unlikely to occur.

second mode or strategy on the five chromatic cards. Here he looks like a different child in that his responses to chromatic cards are full, alive, and elaborated at the expense of his form quality. His capacity to integrate the whole of the cards becomes more limited as he gives eighteen responses, only two of which are whole responses. He provides very few pure form responses, and thus his form quality on these chromatic cards is significantly weaker ($X + \%_{\text{color}} = 0.27$) than on his achromatic cards. Henry's increased production is also striking on these color cards. The total number of words he uses on the first all-color card (VIII; 211 words) surpasses the total number of words he uses on the previous four achromatic cards combined (IV-VI, and VII was rejected; 109 words). His responses to chromatic cards are marked by an enormous amount of movement, especially inanimate movement (m), and several CF responses. While he provides six form-dominated responses, the remaining twelve responses are all outside the boundaries of form-domination. All twelve non-form-dominated responses are of vague form level, a less developmentally advanced type of response. In terms of RIM ratios for internal resources, Henry musters a higher EA score and greater access to internal resources due to the increase in his use of color in contrast to the achromatic cards. However, he still exhibits a low D score due to an increase in stimulus demand as represented by his high frequency of inanimate movement responses, suggesting a strain on his capacity for control and stress tolerance.

A disparity between achromatic and chromatic cards was also noteworthy with regard to content, in that the content of Henry's responses to the chromatic cards reflect the degree to which he is overwhelmed by the stimuli. With one exception, the responses to achromatic cards have very ordinary content: two bats and a butterfly. There is one response which consisted of "a human, inside" and one rejection, but those seem mild

when compared to the content on the chromatic cards: explosions, fire, volcanoes, lava, fiery chaos, speed, motion and electricity.

Thus, Henry's presentation is quite different depending upon the type of stimuli presented to him. Much like a child who receives a Full Scale IQ of 100 with a 120 Verbal IQ and an 80 Performance IQ, it is only when one parses out the achromatic and chromatic cards that the full picture of his Rorschach comes to light. While Henry attempts to rely on a strategy of simplifying the stimulus by focusing excessively on form when presented with achromatic cards, the stimulation of the chromatic cards seems to be too great for him, leading to a "fiery chaos" of inanimate movement and vague forms. The chromatic cards afford him increased access to internal resources (e.g., EA), but this is accompanied by increased strain (e.g., stimulus demands in the D score). He has markedly different responses depending on the degree of bold color he must wrestle with on the RIM. This in turn may have direct implications for both the influence of environmental conditions on Henry's behavioral adaptations in everyday life and the kind of variability in self-regulation we may observe in other children like Henry.

To illustrate the dynamic quality of his performance in response to different stimuli, let us look more closely at Henry's progress through the protocol:

Table 3: Henry's Rorschach Record

<p>I.</p> <p>1. A Butterfly. [Anything else?]</p> <p>W¹⁹, Fo, A²⁰, P²¹</p> <p>2. A bat, that's all. [Anything else?] No.</p> <p>W, Fo, A, P</p>	<p>1.[What makes it look like a butterfly (points) This and these things. [What makes those thing looks like a butterfly?] The eyes and the feelers. [Shows the examiner feelers.] Not feelers, the decoration; these are the eyes, the little hands poking up, these are the decorations.</p> <p>2. [What makes it look like bat?] It has these for the wings, and these things up there, and this. [What makes these things look like bat?] I don't know what that is but it looks like a bat with those. The feet.</p>
<p>II.</p> <p>3. Explosion. D] W, m, CFv, Explosion D]</p> <p>4. Volcano lava...I don't know any more. D] W, m, CFv, Lava D]</p>	<p>3. [What makes it look like explosion?] (points to top and bottom detail). [Explosion?] This happens, poom! (top large detail exploding) and this thing that's littler (large detail) goes like that (motions lava coming out). This thing is from far distance you can see these, so from close distance it's big like that. When this thing goes it's little from far distance (large detail) but you can see this (large detail) from close distance.</p> <p>4. [What makes it look like volcano lava?] (points to everything) [Volcano lava?] Because the volcano lava has this (bottom large detail and this thing breaks sometimes through that (large detail). This is the lava (the red under the large detail) and this thing breaks (large detail) and looks just like that (red coming out looks like large detail), like you see its there and it's breaking on the side. [Breaking as if?] It has this (red) inside of it, and you can see its poking out, because you made it just like what I wanted. Yeah, I know I was gonna see something like that.</p>

¹⁹ A full explanation of scores can be found in chapter 1.

²⁰ The A is a content score (animal). Content scores are typically the last score denoted on a scoring line, with the exception of P which indicates the response is a popular response. A list of content scores used in Henry's protocol is contained in the appendix.

²¹ The P indicates that the response is a popular response.

Henry's Rorschach Record (continued)

<p>III.</p> <p>5. That one looks like a bug, 'cause look it has a bow, a bow on it, and these are the eyes, the feelers, and these things are the back of it.</p> <p>Dr, Fw+, Fo, A, Obj.</p>	<p>5. [What makes it look like bug?] The eyes, the mouth, the back of it, that leads to the...foot, the feelers.</p>
<p>IV.</p> <p>6. This one looks like a bat too, upside down.</p> <p>W, F+, A</p>	<p>6. 'Cause it has this...are the ears, the head, the little eyes, look the little eyes, the wing, and the legs upside down, and this is the bottom.</p>
<p>V.</p> <p>7. Bat again.</p> <p>W, Fo, A, P</p>	<p>7. It looks like a bat because of the legs, the ears, and the wings, and this is the little hands. Why do so many look like a bat?</p>
<p>VI.</p> <p>8. I don't know what that looks like...a human being, inside.</p> <p>W, Fw-, H</p>	<p>8. Cause of the hands, the head, and...I don't know, this, the hand, the feet. [Human being inside?] Just this (center large detail). [What about it makes it look inside?] I don't know.</p>
<p>VII.</p> <p>9. I don't know what that is. [Take you time, it's hard sometimes but I think you'll see something.] I don't see nothing...(15 seconds) I don't see nothing. [Nothing?] No.</p> <p>No Response</p>	

Henry's Rorschach Record (continued)

<p>VIII. 10. A picture, cause of the colors, colors of a picture.</p> <p>DJFMo, (A) DJFw+, Obj. DJC'Fv, m, Abs.</p>	<p>10. [What makes it look like picture?] The colors, and this little line, and that's it. [Lines?] These lines and the shape. [Show the examiner the shape] (points around perimeter) The shapes...this one looks like a cat, and this, I don't know what that looks like, but this looks like a spaceship lighting off the back of it going up, that's it. [Back of it going up?] Back of it, no, this is the spaceship, but the back has the fire, this is the fire. No, this whole thing is a spaceship. This is the front, this is the back, this is space animals, space cats, and this is the fire, this is the back of a thing, and this is the front. This is the missiles. [What makes it look like space cats?] No I just say space cats, they're not space cats, but I say it because I don't know what, I just put something there. [Going up?] The space things are climbing up the ship. [As if?] To...cause they're the enemies from the sky and he's gonna be brave and take out the missiles so they can shoot it. This is the missile. [What makes it look like fire?] That this goes down and this is smoke. [What makes it look like smoke?] This is the fire, this is the smoke going up, it's kinda grayish.</p>
<p>IX. 11. No. [Take you time, I know it's hard.] Dragon-fly.</p> <p>D, FMw-, A D, CFv, m, Fire D, mFv, Abs.</p>	<p>11. This is the speed that's pushing the air out. This is the fire that's behind it because he's going fast, cause he's going super fast, and this is the dragon in the middle, this is the wings. [Super fast as if?] It was a rocket. [What makes it look like fire?] Cause it's yellow, no orange. [Speed?] It's pushing the speed. [What makes it look like speed?] Cause you see how fast he's going? This is him, and this is where he's, the air is coming, this drops of water cause he's going fast and he's sweating, and this is the air cause, to show how fast he's going. [Sweating?] (points) [What makes it look like water?] It's little.</p>

Henry's Rorschach Record (continued)

<p>X. 12. It's an electro-clip. [?] An electro-clip.</p> <p>Dr, Fm+, clip</p>	<p>12. Cause it's got this (points to large detail) and this is the clipper (large detail). [What's an electro-clip?] You know when you put those electro-clips in the car (jumper cable clips)? Or if it's a toy one, you know Operation, the toy where you put the batteries in and then you pick up those little pieces? [Yes. Show the therapist again now.] This opens, and this you squeeze to go like this (imitates squeezing handles) and this whole thing is a clip, but leave this out (side detail). This closes, this is the opening thing, and then this is the the thing that's like this (motions) and this has a line going across like that (center detail). So when it's apart, to keep it together, not to fall apart. And this things, this, looks like screws, and that's it. [Squeeze as if?] To, pretend this is what you are squeezing this, like if your taking a splinter out, that's sort of it.</p>
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On Card I, Henry starts off with a butterfly and a bat. Each response is pure form. However, when the examiner presents him with Card II and the first hints of color, he responds, "Explosion." He is then asked what made it look like an explosion and his associations take over. He then gives a second response, volcano lava, continuing to produce associations fluidly.

When Henry looks at this card, the color explodes out at him and he reacts to it accordingly. Unable to find the words to describe his reaction, he turns to action language (poom!). He moves from an explosion to lava in an attempt to slow down the speed with which he sees the percepts (though the inanimate movement is clearly still there), and to retreat somewhat (he sees it from a far distance). Whatever anxiety and/or affect have been stimulated by the color in this card is breaking through just like the lava. The quality of his language worsens, and he perseverates from the explosion to the lava. The experience of seeing the color renders him passive (Schachtel, 1966/2001) in that he is unable to actively impose good form on the percept.

On Card III, Henry "recovers" by successfully not using the color. Indeed, he treats this card as if it were achromatic. This color avoidance keeps his response bland and simple, and suggests that on the RIM, just as in his everyday life, there may be

pockets of time when he can avoid affective dysregulation by avoiding a stimulus he senses would overpower him.

With the absence of bold color on the next four cards, Henry utilizes his strategy of constriction and simplification. He gives a relatively sparse response to this sequence, registering only 109 words on these four cards, including a rejection of Card VII. Thus on the five achromatic cards, we are left with little sense of Henry's resources. He does not appear to be able to access determinants such as achromatic or chromatic color, movement, or shading, and there is little to no mention of human percepts or interaction, leaving the impression that his world is quite barren.

When Henry gets to the vivid color of Card VIII, he becomes derailed. At first he gives a vague, formless response, but when he is asked to elaborate on it he is off to the races. Here he produces a response with 211 words, almost twice the entire length of the previous four cards. Henry starts this card with an attempt to stay bland (a picture), an initial approach akin to his color avoidance on Card III. As the inquiry progresses, however, and there are no achromatic areas to which he can turn, his associations become more idiosyncratic. His responses go from an ordinary form-dominated animal movement response (the cats), to a good pure form level response, albeit one with implied inanimate movement, though that is not scored (the spaceship), to a vague achromatic color-dominated response (the smoke and fire coming out of the spaceship). By the end of the inquiry it is clear that he has been overwhelmed. It is noteworthy that his description of "a spaceship lighting off the back" provides an apt and vivid metaphor of how he experiences himself in the face of intense stimuli. In addition, this is the only response of the entire ten-card record that contains any interaction. He projects his feelings of attack onto the spacecats so that a good original percept (the commonly seen

cats) becomes tainted with malevolence.

On Card IX, once again confronted with the color stimuli, Henry is unable to use a constricted approach, repeating his pattern of bimodal functioning. He initially tries to reject the card, and then when encouraged by the examiner he says that it looks like a dragonfly. When asked to elaborate, he describes the process of his thinking to the examiner. This response—dragonfly, is actually a dragon-fly. It is a thought-disordered contamination, suggesting that his words cannot match the speed of his associations. As with his previous card, his percepts become poorer as his responses go on. He starts out with form dominated percepts of poor form level, moves to a vague color-dominated response and finishes with the anxiety of a vague, inanimate movement-dominated response.

Henry finally achieves some integration of his two modes of response on Card X, which he sees as an “electro-clip,” a jumper cable that one uses to charge a stalled car battery. This provides one example of how Henry copes with vitality and affect in his life. As he presciently tells us in his response, he has “to clamp down to keep it together, not to fall apart.” This method of coping works for him sometimes (he receives the highest form level score possible on this response), but it also bespeaks the degree to which he is experiencing bodily discomfort and squeezing and pinching. Unfortunately, his experience of marshalling the resources to give a good percept includes an experience of himself as being squeezed, clamped or pinched off in order to feel held together.

Thus Henry’s Rorschach protocol nicely illustrates the hypothesis that there may be two modes of response by ADHD children, each of which come with a cost. The achromatic card mode which corresponds with low EA, reflects a constriction of affect and experience leaving a deadened feel to the percepts. The chromatic card mode allows

for a high EA but the chaotic, unformulated nature of the responses brings with it a high D score. Interestingly, Henry's total number of human movement and human content scores are both lower than most children his age, in keeping with other children with ADHD, but both his single human movement and human content responses occur on the chromatic cards, maintaining his dichotomized, all or nothing approach to the RIM.

Henry's RIM protocol provides a vivid clinical example of an individual ADHD child's discrepant performance on chromatic and achromatic cards.

CHAPTER THREE

METHODOLOGY

Participants

The participants for this study were 42 children (15 females and 27 males) between the ages of 7.0 and 10.0 years ($M = 99.40$ months; $SD = 10.46$ months). All children were culled from a National Institute on Deafness and Other Communication Disorders (NIDCD) funded project at the City College of New York examining attention and language in community children. Most children were originally referred for either behavioral or reading problems in school. All of the children were fluent English speakers enrolled in English only classrooms, but 14 of the children came from bilingual households. Self-reported ethnicity/race and gender is reported in the table below:

Table 4: ADHD Diagnosis by Gender & Ethnicity

	All Children (N=42)		Boys (N=27)		Girls (N=15)	
	ADHD	Comparison	ADHD	Comparison	ADHD	Comparison
Total	28	14	21	6	7	8
African-American	13	7	10	2	3	5
Latino/Latina	11	5	7	3	4	2
Caucasian	3	2	3	1	0	1
No Information	1	0	1	0	0	0

Children were excluded from the larger NIDCD and hence 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. Further, they had to achieve either a score of 80 or better on the Test of Nonverbal Intelligence-Third Edition (TONI) (Brown, Sherbenou & Johnsen; 1990) or a Performance IQ score of 80 or better on the Wechsler Abbreviated Scale of Intelligence (WASI, Psychological Corporation, 1999), report normal hearing and normal or corrected to normal vision, and pass a hearing screen. Eleven additional children were removed from the data set for this particular study because 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), which was deemed to be too great a confound in evaluating Rorschach responses.

Children were categorized as ADHD using a “best estimate” procedure in which information from multiple sources were integrated (Schaughency & Rothlind, 1991). In this study a symptom was considered present if any of the three informants (parent, teacher, and examiner) endorsed that particular symptom. This was then aggregated into a total score for the inattentive and hyperactive categories respectively, reflecting the total number of unique symptoms endorsed by at least one of the informants for each category. Children were then categorized in the ADHD group if they met at least six of the nine criteria specified on the DSM-IV checklist in either the inattentive and/or hyperactive categories, and these behaviors were present before the age of seven. Children were categorized in the comparison group if they met fewer than six of the nine criteria specified on the DSM-IV checklist in both the inattentive and hyperactive categories. The children in the ADHD group are better conceptualized as “at risk” for ADHD, or showing clinically significant signs of ADHD, rather than carrying the diagnosis proper. Using this “best estimate” procedure, 28 children met criteria for

ADHD, and 14 children met criteria for the comparison group. In terms of the breakdown of gender, 21 boys and 7 girls met criteria for ADHD, and 6 boys and 8 girls met criteria for the comparison group.

Measures

Parents were asked to complete the following rating scales with regard to their child's behavior: the DSM-IV ADHD rating scale (DuPaul et al., 1997), the Child Behavior Checklist (Achenbach, 1991), and the Social Skills Rating Scale (Gresham & Elliot, 1990). In addition, the examiner and the child's teacher were asked to complete the DSM-IV attention deficit hyperactivity disorder (ADHD) rating scale.

The RIM was administered to the participants in the standardized manner as outlined by Exner (1993) with the exception that an inquiry was conducted following administration of each card as recommended by Ames and colleagues for young children (1974).

The two expert raters who coded the protocols were blind to clinical status and social functioning of the children. One rater coded 24 of the protocols, the other rater coded 28 protocols, 10 of which had been coded by the first rater. Inter-rater reliability was estimated for 10 of the 42 protocols (146 percepts) by comparing the ratings of the two coders and calculating kappa coefficients (Cohen, 1988). The coefficients were 0.90 for Location, 0.89 for Determinants, 0.70 for Form Quality, 0.87 for Contents, and 0.94 for Popular, indicating strong inter-rater agreement. Scores of the more experienced rater were used in the data analysis when discrepancies between the raters occurred.

Procedure

Testing was performed in a small, quiet testing room. Each child was administered the RIM as part of a two day battery of language, attention, and intelligence

testing. The RIM was usually administered toward the end of testing on the second day. Responses were transcribed as well as tape recorded for confirmation of written transcription.

Hypotheses

The present study represents a further refinement of a study conducted by Reynoso et al. (2006). Using the same data set (with 8 additional children), the purpose of the present study is to investigate the relationship between ADHD diagnosis and chromaticity of the RIM cards, as manifested in group differences on *separate performances on chromatic and achromatic cards* across several RIM variables and ratios. Due to difficulties with affect regulation, I predict that in relation to comparison children, ADHD children will have:

- 1) Fewer human movement responses (M).
- 2) Fewer animal movement responses (FM).
- 3) Fewer representations of humans [H+(H)+Hd+(Hd)]
- 4) More representations of animals [A+(A)+Ad+(Ad)]
- 5) Fewer inanimate movement responses (m) on achromatic cards
- 6) More inanimate movement responses (m) on chromatic cards
- 7) Fewer shading responses (FT+TF+T+FV+VF+V+FY+YF+Y) on achromatic cards
- 8) Lower Overall form quality (X+%) on chromatic cards²²
- 9) Comparable Overall form quality (X+%) on achromatic cards
- 10) Higher Percentages of pure form responses (F%) on achromatic cards
- 11) Lower Percentages of pure form responses (F%) on chromatic cards
- 12) Higher ratios of pure form responses to total responses (Lambda) on achromatic cards
- 13) Lower ratios of pure form responses to total responses (Lambda) on chromatic cards
- 14) Lower EA Scores on chromatic cards
- 15) Lower D Scores on chromatic cards

Data Analysis

All Cards, Regardless of Chromaticity

²² It should be pointed out here that any variable that represents either a percentage or ratio (hypotheses 8-15) will be affected by performance on “counting” variables (hypotheses 1-7). For example, if a participant produces one movement responses, his F% will be higher than if he had produced five movement responses. This issue will be revisited in the discussion section.

A preliminary data analysis was done to compare the responses and ratios of ADHD and comparison children across all RIM cards regardless of chromaticity. This analysis largely replicated the study done by Reynoso et al. (2006); the only difference was an increase in the number of subjects used in the data set.

Separate Performance on Chromatic and Achromatic Cards

The purpose of the present study was to further refine the work by Reynoso et al. by assessing the manner in which responses to bright color relate to the difficulties with affect regulation manifested in the ego impairments and lack of access to internal resources of children with ADHD symptomatology using the RIM. This study investigated group differences on the following ten variables²³, broken down by chromaticity²⁴ of the RIM cards.

²³ Four variables from Reynoso et al.'s study (color responses, achromatic responses, EA score & D Score) were deemed to be invalid in an investigation of the role of chromaticity. Color responses are nearly unheard of on chromatic cards and a weighted sum of color responses is used to calculate both EA and D scores. Additionally, achromatic responses were felt to be too likely to occur on achromatic cards (though cards II and II both have chromatic and achromatic elements) to be a valid measure.

²⁴ There are five achromatic cards (I, IV, V, VI, VII) and five chromatic cards (II, III, VIII, IX, X).

CHAPTER FOUR

RESULTS

Demographics

There was a significant association between boys and girls on ADHD diagnosis ($\chi^2(1, n = 42) = 4.20, p = .04$.) By a factor of three to one, more of the 28 ADHD children were boys ($n = 21; 75\%$) than girls ($n = 7; 25\%$). This finding is quite consistent with the most comprehensive national demographic study to date (Visser & Lesense, 2003) which found that boys were nearly two and a half times more likely to receive a diagnosis of ADHD than girls. Of the 14 Comparison children, boys ($n = 6; 43\%$) and girls ($n = 8; 58\%$) were more equally represented.

There were no significant associations between ethnicity and ADHD diagnosis ($\chi^2(1, n = 42) = .142, p = .931$.)

Initial Analysis: Group Differences Regardless of Chromaticity

Independent-samples t-tests were conducted to compare the ADHD and comparison groups on Rorschach variables and ratios associated with problems with inattention and hyperactivity. The results of these analyses largely replicated the findings of Reynoso et al. (2006). Table 1 displays the means, standard deviations, and group differences. It is important to note that the two groups did not differ in terms of the number of responses given, and therefore group differences cannot be simply attributed to overall productivity.

With regard to movement variables, the ADHD group was found to have significantly fewer human movement (M) scores than the comparison group. However, there were no significant differences between the groups in the frequency of either animal movement (FM) or inanimate movement (m) responses. Similarly, there was a trend in

the ADHD group towards fewer human content scores ($H+(H)+(Hd)+Hd$) than the comparison group. There was also a trend in the ADHD group towards more animal content scores ($A+(A)+(Ad)+Ad$); this was the only finding that differed from the initial study by Reynoso et al (2006). There were also no significant differences between the groups on color or shading variables; specifically total chromatic color responses ($FC+CF+C$), total achromatic color responses ($FC'+CF'+C'$), and texture/shading responses ($FT+TF+T+FV+VF+V+FY+YF+Y$).

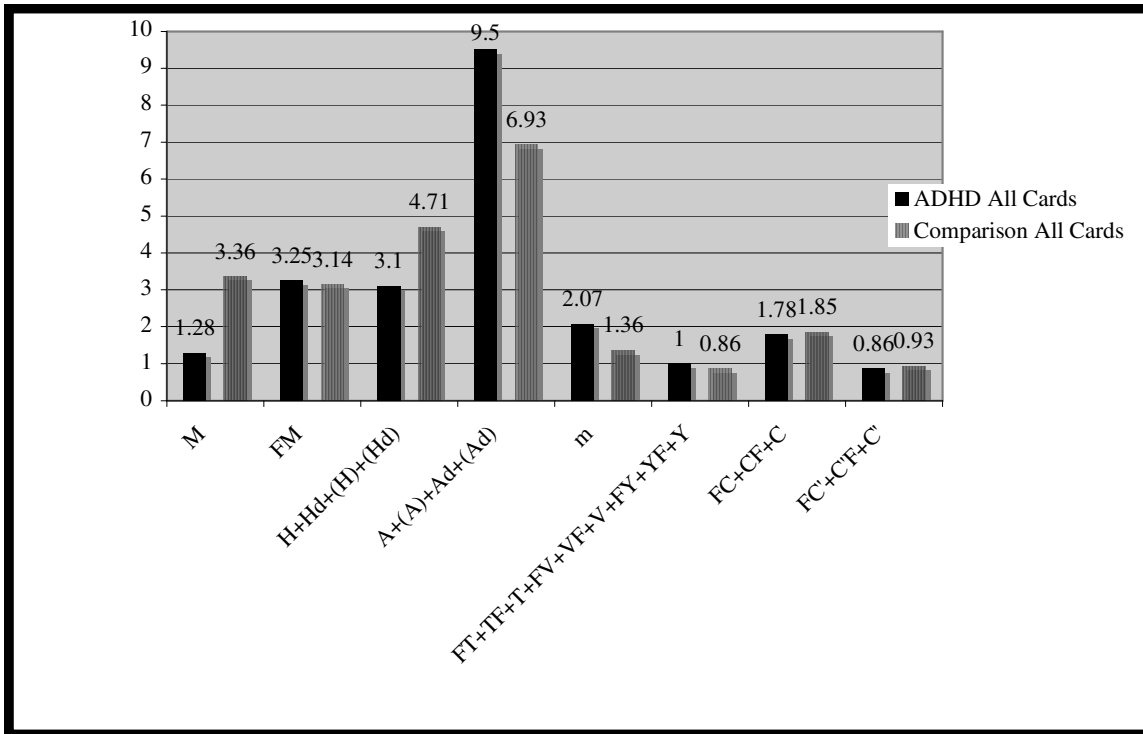
In terms of percentages and ratios were no significant differences between the groups in terms of accuracy ($X+\%$) or percentage of pure form responses ($F\%$, Λ). With regard to ratios reflecting children's access to internal resources, the ADHD group was found to have significantly lower EA scores than the comparison group, suggesting that the ADHD group displayed poorer accesses to internal resources. There was a trend in the ADHD group towards lower D scores than the comparison group, suggesting that the ratio of internal resources to stimulus demands was poorer for the ADHD group, indicating lower stress tolerance and less control. Results are listed in Table 1 and Bar Graphs 1, 2 and 3.

Table 5: Independent Samples t-tests in ADHD and Comparison Groups: All Ten Cards

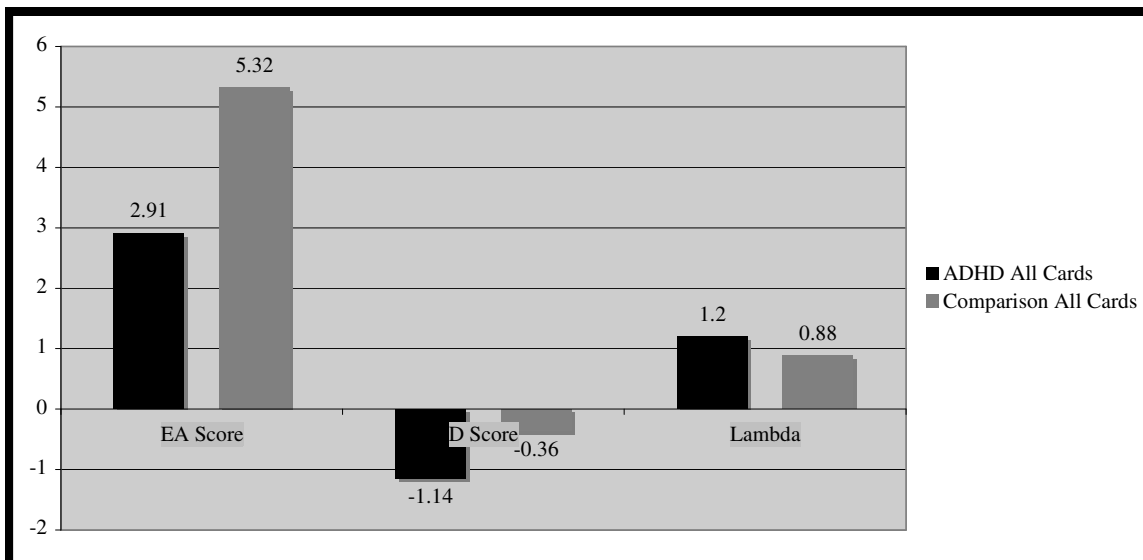
	ADHD (N=28)		Comparison (N=14)		Significance
	<i>M</i>	(SD)	<i>M</i>	(SD)	
Responses	19.79	(6.13)	20.79	(5.86)	.616
M	1.28	(1.74)	3.36	(3.39)	.012**
FM	3.25	(2.73)	3.14	(1.75)	.895
H+(H)+Hd+(Hd)	3.10	(2.51)	4.71	(3.56)	.098*
A+Ad+(A)+(Ad)	9.50	(4.76)	6.93	(1.94)	.061*
m	2.07	(2.62)	1.36	(1.60)	.357
FC+CF+C	1.78	(1.77)	1.85	(1.70)	.901
FC'+C'F+C'	0.86	(1.21)	0.93	(1.27)	.860
FT+TF+T+FV+ VF +V+FY+YF+Y	1.00	(1.19)	0.86	(0.72)	.685
X+%	52.36	(22.07)	56.64	(19.28)	.540
F%	49.07	(21.56)	40.21	(19.06)	.200
Lambda	1.20	(1.10)	0.88	(0.80)	.344
EA Score	2.91	(2.59)	5.32	(3.97)	.023**
D Score	-1.14	(1.18)	-0.36	(1.45)	.066*

**significant at $p < .05$ *trend at $p < .10$

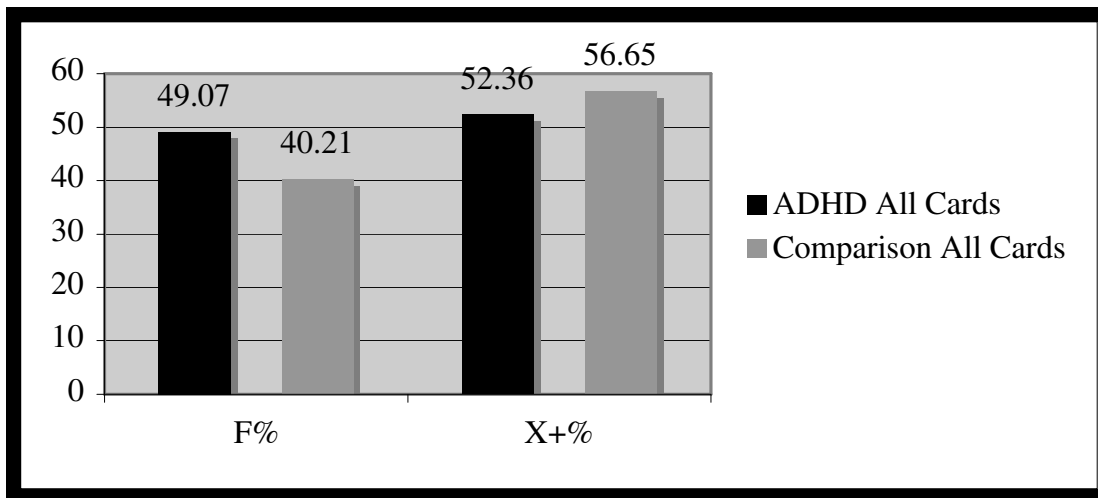
Bar Graph #1: ADHD vs. Comparison on RIM Variables: All Ten Cards



Bar Graph #2: ADHD vs. Comparison on RIM Ratios: All Ten Cards



Bar Graph #3: ADHD vs. Comparison on RIM Percentages: All Ten Cards



Secondary Analysis: Group Differences On Chromatic and Achromatic Cards

Independent-samples t-tests were run to test hypotheses that ADHD children would differ from comparison children along several variables and ratios when performance was broken down separately between chromatic and achromatic cards. There were several findings in the secondary level of analyses in which separate performances on chromatic and achromatic cards were tallied and compared between ADHD and comparison children. It is important to note that the two groups did not differ significantly in terms of the number of responses on either chromatic or achromatic cards, so group differences cannot be attributed to productivity.

In terms of movement, ADHD children produced significantly fewer human movement responses (M) on both chromatic and achromatic cards. There was no significant difference in the incidence of animal or inanimate movement by group on either chromatic or achromatic cards.

In terms of representations of figures, ADHD children produced significantly fewer human responses [H+(H)+Hd+(Hd)] on achromatic cards than the comparison group, but did not differ in the production of these scores on chromatic cards. There was

a trend towards more animal representation responses ($[A+(A)+Ad+(Ad)]$) by ADHD children on achromatic cards; the groups did not differ in the number of animal representation responses on chromatic cards.

Additionally, there were two trends towards difference between ADHD and comparison children on ratios that measure the percentages of pure form responses ($F\%$ and Λ) on achromatic cards; there were no differences between ADHD and comparison children on these percentages on chromatic cards.

There were no significant differences in percentages that measure form quality ($X+\%$) on either chromatic or achromatic cards. In terms of ratios that measure access to internal resources, there was no significant difference between ADHD and comparison on EA Scores on chromatic cards.²⁵ There was a significant difference between groups in D Scores on chromatic cards, with ADHD children having significantly lower D Scores than the comparison group. Results from these analyses are in Table 2 and Bar Graphs 4, 5 and 6.

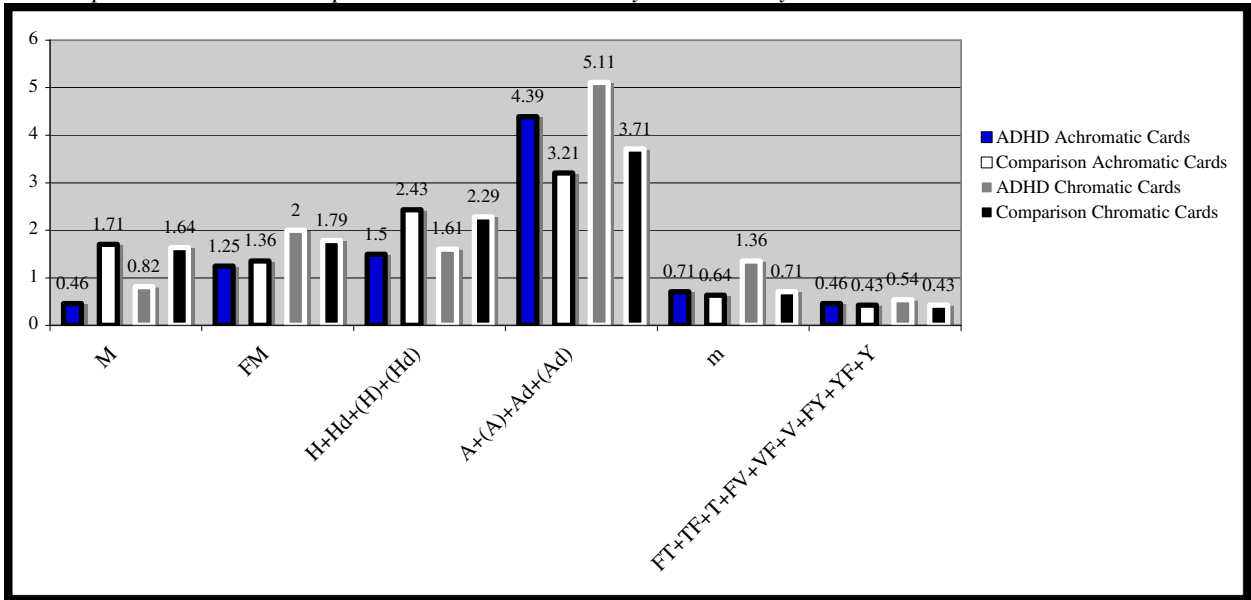
²⁵ Because the EA and D Scores are calculated using a weighted sum of color scores, it is not possible to calculate these values for achromatic cards. Accordingly, analyses were only run on the chromatic cards.

Table 6: Independent Samples *t*-tests in ADHD and Comparison Groups by Chromaticity

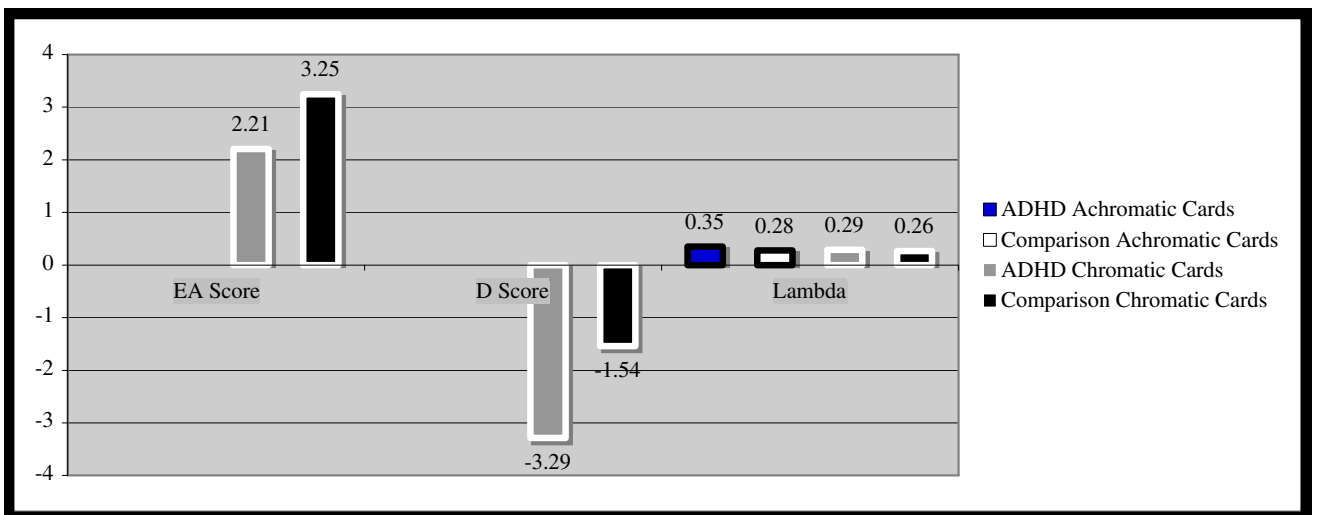
Variable x Chromaticity	ADHD (N=28)		Comparison (N=14)		Significance
	<i>M</i>	(<i>SD</i>)	<i>M</i>	(<i>SD</i>)	
R					
Achromatic Cards	7.86	(2.86)	8.50	(2.07)	.458
Chromatic Cards	12.04	(4.23)	11.71	(5.12)	.830
M					
Achromatic Cards	0.46	(0.75)	1.71	(1.73)	.002**
Chromatic Cards	0.82	(1.28)	1.64	(1.91)	.020**
FM					
Achromatic Cards	1.25	(1.51)	1.36	(0.93)	.809
Chromatic Cards	2.00	(1.72)	1.79	(1.48)	.693
H+Hd+(H)+(Hd)					
Achromatic Cards	1.50	(1.26)	2.43	(1.72)	.049**
Chromatic Cards	1.61	(1.52)	2.29	(2.27)	.256
A+Ad+(A)+(Ad)					
Achromatic Cards	4.39	(2.41)	3.21	(1.25)	.095*
Chromatic Cards	5.11	(3.11)	3.71	(1.90)	.133
m					
Achromatic Cards	0.71	(1.18)	0.64	(0.84)	.841
Chromatic Cards	1.36	(1.89)	0.71	(0.83)	.233
FT+TF+T+FV+VF +V+FY+YF+Y					
Achromatic Cards	0.46	(0.88)	0.43	(0.51)	.890
Chromatic Cards	0.54	(0.70)	0.43	(0.65)	.632
X+%					
Achromatic Cards	61.14	(23.62)	59.29	(21.91)	.807
Chromatic Cards	45.21	(26.35)	53.43	(24.84)	.338
F%					
Achromatic Cards	57.86	(23.83)	44.64	(23.58)	.097*
Chromatic Cards	43.89	(23.42)	37.93	(19.84)	.419
Lambda					
Achromatic Cards	0.35	(0.10)	0.28	(0.13)	.067*
Chromatic Cards	0.29	(0.11)	0.26	(0.11)	.448
EA Score					
Chromatic Cards	2.21	(1.89)	3.25	(2.90)	1.71
D Score					
Chromatic Cards	-3.29	(2.77)	-1.54	(2.26)	.048**

**significant at $p < .05$ *trend at $p < .10$

Bar Graph #4: ADHD vs. Comparison on RIM Variables by Chromaticity



Bar Graph #5: ADHD vs. Comparison on RIM Ratios by Chromaticity



Bar Graph #6: ADHD vs. Comparison on RIM Percentages by Chromaticity

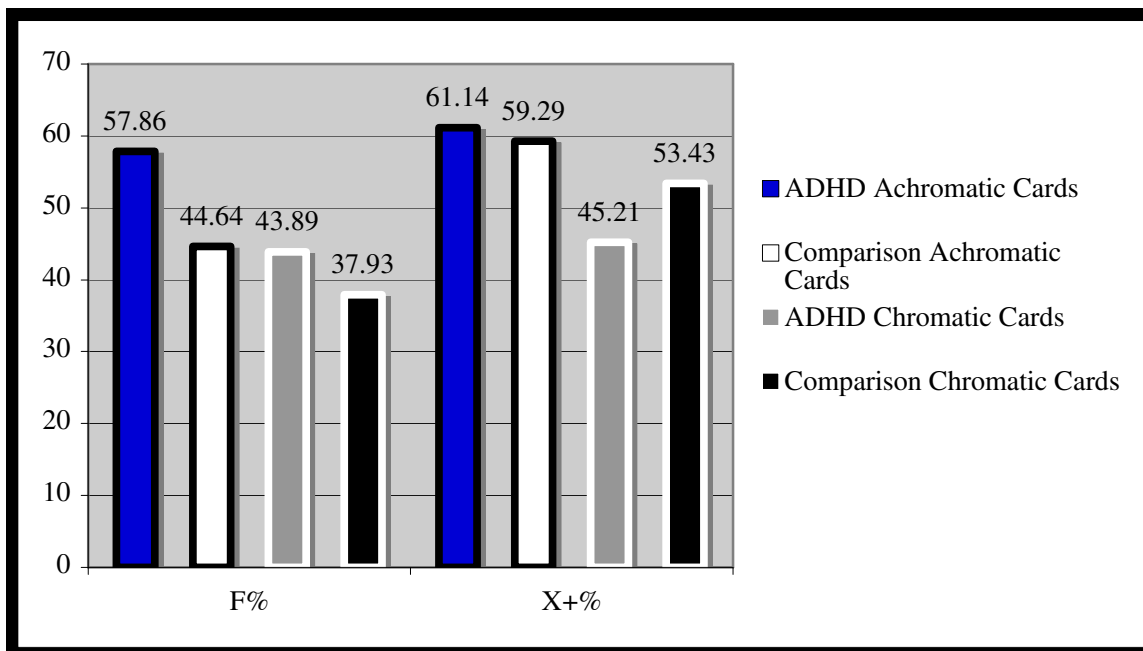


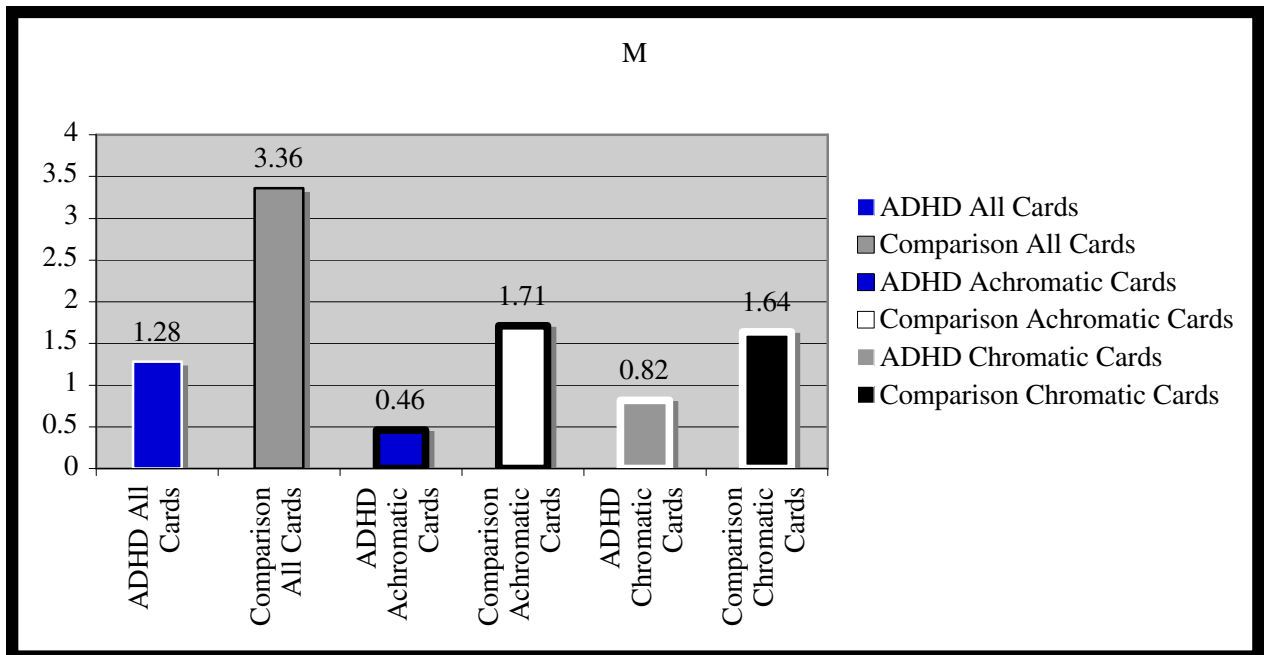
Table 7 lists both initial and secondary analyses of group differences.

Table 7: Independent Samples t-tests in ADHD and Comparison Groups

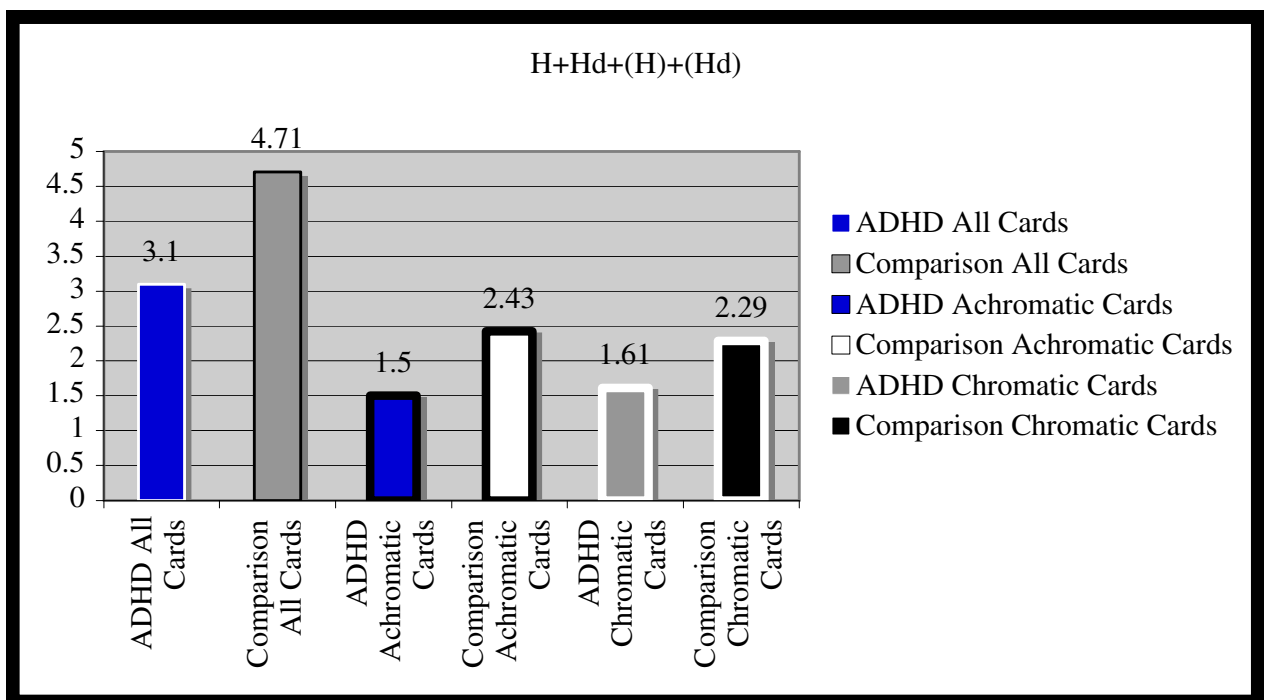
	ADHD (N=28)		Comparison (N=14)		Significance
	M	(SD)	M	(SD)	
M All cards	1.28	(1.74)	3.36	(3.39)	.012**
Achromatic Cards	0.46	(0.75)	1.71	(1.73)	.002**
Chromatic Cards	0.82	(1.28)	1.64	(1.91)	.020**
FM All Cards	3.25	(2.73)	3.14	(1.75)	.895
Achromatic Cards	1.25	(1.51)	1.36	(0.93)	.809
Chromatic Cards	2.00	(1.72)	1.79	(1.48)	.693
H+(H)+Hd+(Hd) All Cards	3.10	(2.51)	4.71	(3.56)	.098*
Achromatic Cards	1.50	(1.26)	2.43	(1.72)	.049**
Chromatic Cards	1.61	(1.52)	2.29	(2.27)	.256
A+Ad+(A)+(Ad) All Cards	9.50	(4.76)	6.93	(1.94)	.061*
Achromatic Cards	4.39	(2.41)	3.21	(1.25)	.095**
Chromatic Cards	5.11	(3.11)	3.71	(1.90)	.133
m All Cards	2.07	(2.62)	1.36	(1.60)	.357
Achromatic Cards	0.71	(1.18)	0.64	(0.84)	.841
Chromatic Cards	1.36	(1.89)	0.71	(0.83)	.233
(FT+TF+T+FV+VF +V+FY+YF+Y)					
All Cards	1.00	(1.19)	0.86	(0.72)	.685
Achromatic Cards	0.46	(0.88)	0.43	(0.51)	.890
Chromatic Cards	0.54	(0.70)	0.43	(0.65)	.632
X+% All Cards	52.36	(22.07)	56.64	(19.28)	.540
Achromatic Cards	61.14	(23.62)	59.29	(21.91)	.807
Chromatic Cards	45.21	(26.35)	53.43	(24.84)	.338
F% All Cards	49.07	(21.56)	40.21	(19.06)	.200
Achromatic Cards	57.86	(23.83)	44.64	(23.58)	.097*
Chromatic Cards	43.89	(23.42)	37.93	(19.84)	.419
Lambda All Cards	1.20	(1.10)	0.88	(0.80)	.344
Achromatic Cards	0.35	(0.10)	0.28	(0.13)	.067*
Chromatic Cards	0.29	(0.11)	0.26	(0.11)	.448
EA Score All Cards	2.91	(2.59)	5.32	(3.97)	.023**
EA Score Chromatic Cards	2.21	(1.89)	3.25	(2.90)	.171
D Score All Cards	-1.14	(1.18)	-0.36	(1.45)	.066*
D Score Chromatic Cards	-3.29	(2.77)	-1.54	(2.26)	.048**

**significant at $p < .05$ *trend at $p < .10$

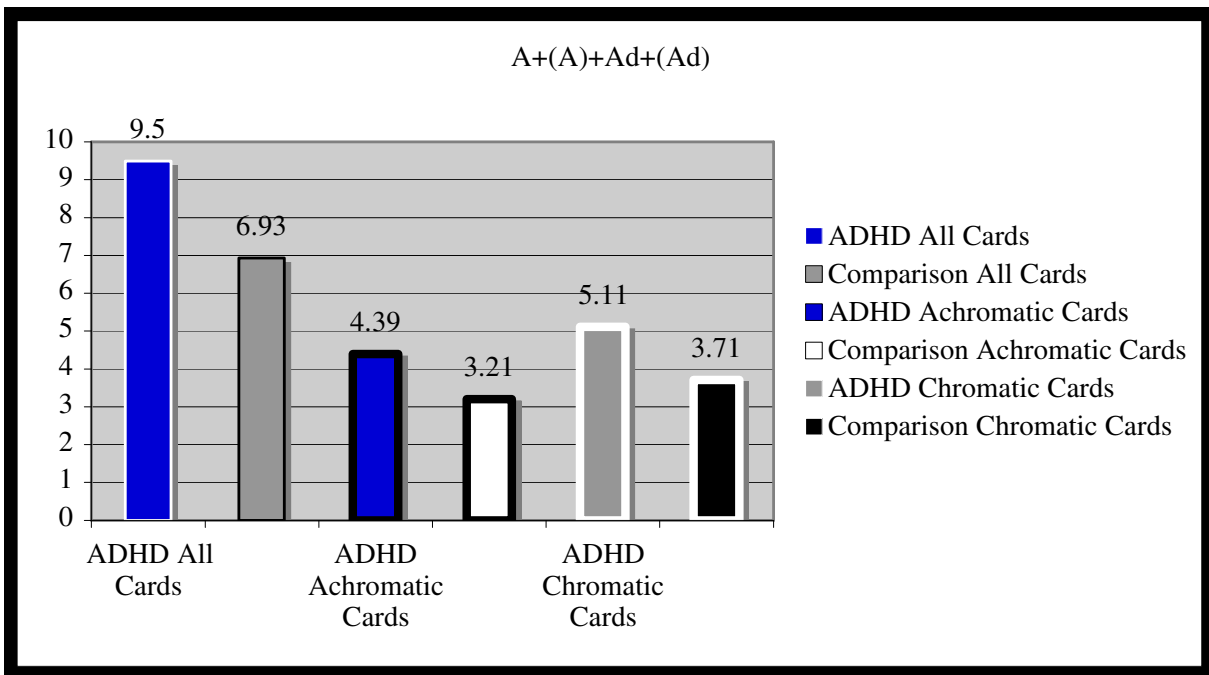
Bar Graph #7: ADHD vs. Comparison on M; Chromaticity and Entire Protocols



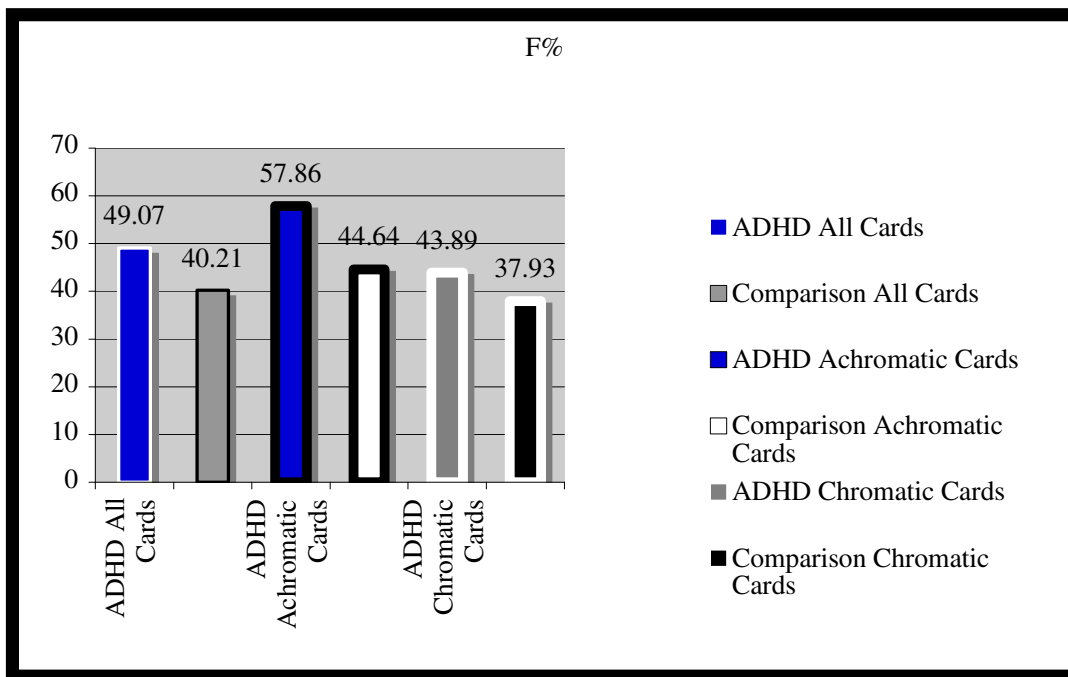
Bar Graph #8: ADHD vs. Comparison on Human Representations; Chromaticity and Entire Protocols



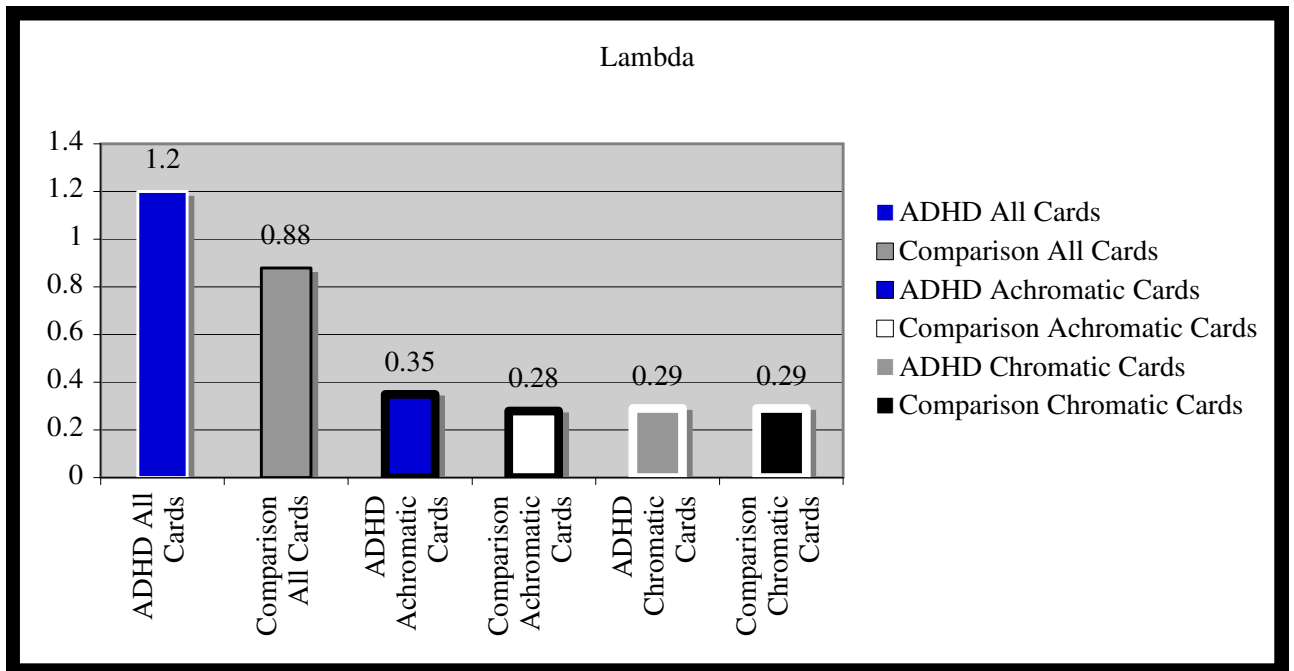
Bar Graph #9: ADHD vs. Comparison on Animal Representations; Chromaticity and Entire Protocols



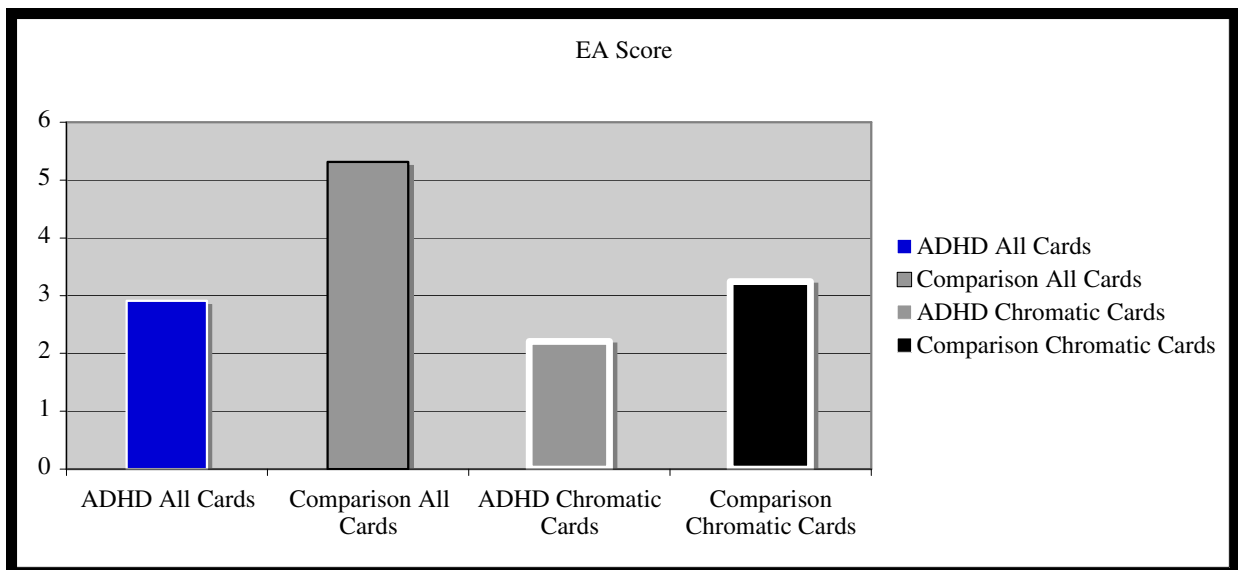
Bar Graph #10: ADHD vs. Comparison on F%; Chromaticity and Entire Protocols



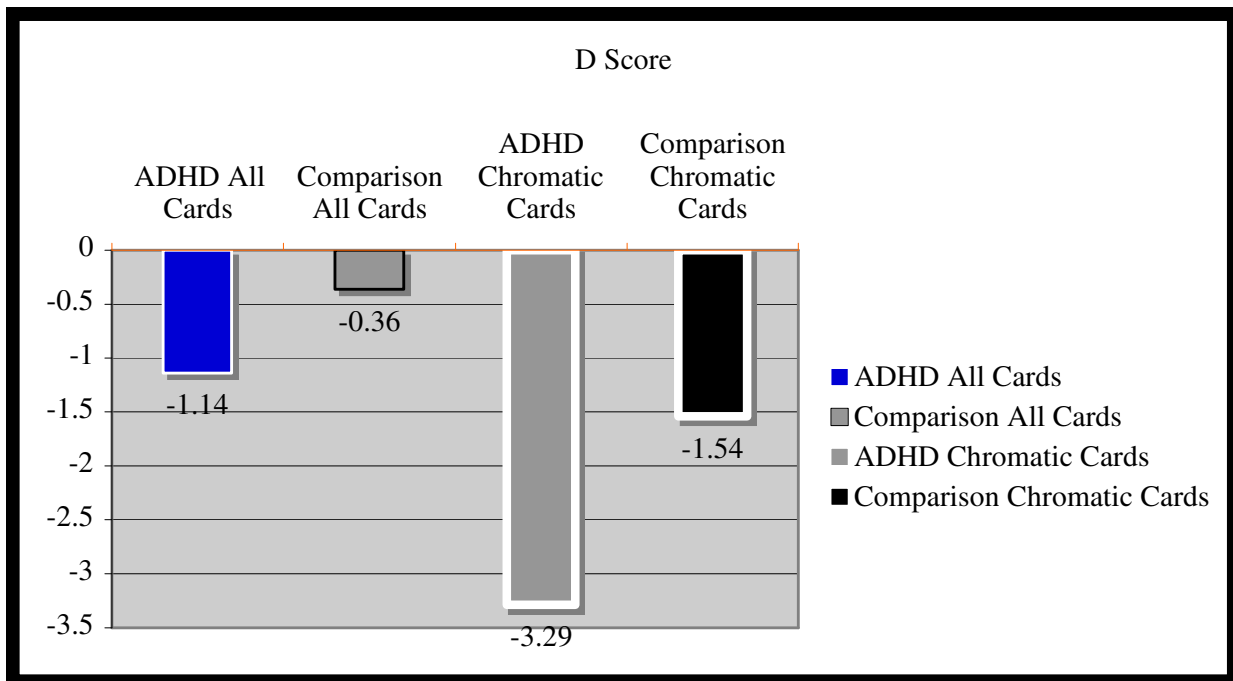
Bar Graph #11: ADHD vs. Comparison on Lambda; Chromaticity and Entire Protocols



Bar Graph #12: ADHD vs. Comparison on EA Scores; Chromaticity and Entire Protocols



Bar Graph #13: ADHD vs. Comparison on D Scores; Chromaticity and Entire Protocols



CHAPTER FIVE

DISCUSSION

The purpose of this study was to investigate the role that chromaticity of RIM cards plays in the manifestation of difficulties with affect regulation seen in ADHD children. This question has been investigated by parsing the RIM protocols of ADHD children in relation to a comparison group of children into two separate protocols: one with only chromatic cards, one with only achromatic cards.²⁶ Given the literature on both affect regulation and how it may manifest itself on the RIM, I hypothesized that the bright color of the chromatic cards would be experienced by ADHD children as flooding and over-stimulating. Thus their performance on these cards would be negatively affected by the extent to which affect regulation strategies failed in the face of such bright and colorful stimuli. The present chapter discusses the findings of this study.

Differences on Chromatic & Achromatic Cards

Before conducting this study, and thinking back to Henry's RIM protocol, I had thought that potential differences in ADHD children would manifest themselves predominantly on chromatic cards. It was easy to be "taken in" by the wild dysregulation of Henry's performance on the chromatic cards and thus clinically, because it was a more enlivened vantage point from which to investigate the protocol, the nature of his achromatic card performance fell back into the shadows.

ADHD children, similar to Henry, did have significantly lower D Scores than comparison children on chromatic cards, indicating a lower stress tolerance in the face of bright colorful stimuli (see below). But it was striking that they displayed no significant

²⁶ It bears repeating here that this is not unlike investigating a WISC protocol first as a Full Scale IQ, and then as separate Verbal and Performance IQs.

drop-offs in X+%, and no significant increases in m, CF, or C responses on chromatic cards when compared to the non-ADHD sample.

In addition to fewer M and lower D Scores on chromatic cards, on achromatic cards, ADHD children saw fewer human figures and saw less human movement than comparison children; they saw more animal figures; and they were more likely to use pure form responses. How can we understand and contextualize these findings?

It may be the case that ADHD children are not as disorganized by the bright color of the chromatic cards as I had hypothesized and instead use that color to help them enliven their inner worlds in substantial ways. In fact, they may need the excitement and dysregulation of the bright vivid color to maintain their vitality and proper reality testing. In other words, perhaps it is the case that they use the bright color as a way to stay focused and present in the world, much like they might use stimulant medication to paradoxically help them to focus in a classroom. If this were to be the case, it would be consistent with work that suggests that ADHD children have an under-stimulated reticular activating system that is brought back to adaptive levels of attentiveness by stimulant medication. The effect of the medication in turn allows ADHD children to in effect turn on a filter and focus (Halperin & Schulz, in press).

On achromatic cards, we can understand the poorer performance of ADHD children in relation to comparison children as due to their having a relative paucity of resources. In the absence of the bright color, ADHD children more pervasively shut out both the worlds of affectivity and object relatedness in a way that the comparison children do not. Put another way, the comparison children do not need the bright color to stay focused and enlivened by the world, so that their performance does not shift

drastically across the two types of cards. For the ADHD sample, the lack of inherent affect stimulation of the achromatic cards may be linked to a relative diminution of available resources. Without the external environment to captivate and arouse them, they shut down. Thus, it is the ADHD children who see fewer M percepts, who see fewer H percepts and who see more A percepts on these cards. It is the ADHD children who see more pure form percepts. When ADHD children produce a significantly higher percentage of pure form percepts on achromatic cards, it necessarily means that they will see significantly fewer percepts with color, movement and texture. An inner world without color, movement and texture is a relatively more barren place.

Larger Composite Measures: EA & D

Just as it behooved us to parse entire protocols by chromaticity, it also served us to try to contextualize the significant findings and trends of this study in the context of larger composite measures. The EA Score and the D Score, both grosser composites than any single variable, may be able to help to shed some additional light on the phenomenology of these ADHD children in ways that the investigation of single variables cannot. ADHD children had less adaptive EA scores overall, and less adaptive D Scores on chromatic cards.

EA Score

When entire protocols were investigated, the EA Scores of ADHD children were found to be significantly different than those of the comparison children. However, when the protocols were parsed and EA scores on chromatic cards²⁷ were calculated, the groups did not differ significantly. This suggests that differences between ADHD and

²⁷ Because the EA Score is calculated using a weighted sum of Color scores, it is not possible to calculate it for achromatic cards.

comparison children in EA scores on entire protocols are being accounted for by their performance on the achromatic cards. In this case, since the EA Score is the sum of all M and a weighted sum of color scores, and given that color scores were not found to be significantly different between groups across entire protocols, it appears as though the differences between ADHD and comparison children in the number of M scores on achromatic cards is primarily what is accounting for the significant difference in overall EA scores. This is in keeping with the finding that ADHD and comparison children differ significantly across M scores on achromatic cards. Indeed, even though M is the one variable where ADHD and comparison children differ significantly *both* on chromatic and achromatic cards, the significant difference on achromatic cards ($p = .002$) is more dramatic than the difference on chromatic cards ($p = .012$).

D Scores

When differences between ADHD and comparison children are investigated across entire protocols, there is a trend towards ADHD children having significantly lower D Scores than comparison children. However, when the protocols are parsed, the differences in D Scores on chromatic cards²⁸ between ADHD and comparison children became significant. This finding suggests that in the face of bright color, while numbers of specific RIM variables do not differ between groups, the *combination* of variables seen as stressors overwhelm the ADHD children in ways the comparison children escape.

A constant struggle

Looking at all the significant findings across both types of cards, we can begin to better articulate the phenomenology of ADHD children. It may be the case that when

²⁸ Because the D Score is calculated using a weighted sum of color scores, it cannot be calculated for achromatic cards.

faced with chromatic and achromatic cards, both on the RIM, and in real-life correlates, ADHD children are faced with two impossible scenarios. Even though ADHD children look remarkably like comparison children on individual RIM variables (m, C, FM, C', T, V, & Y), the reality may be that their abilities to tolerate stress as measured by the D Score are not identical to those of comparison children. So while they may be able to use the bright color on the chromatic cards to enliven themselves, they may do this in a way that causes them to “go overboard” creating the sense that they are at best a nuisance, or at worst—as many a teacher or parent of an ADHD child has surely uttered—“a nightmare.” There is such a thing as *too much* vitality, and while perhaps we cannot enumerate the component parts of too much vitality in this study, we can begin to think about ways to investigate what that might mean, both in terms of what variables might measure “too much” as well as what the phenomenological experience of too much vitality is like, both for ADHD children as a group, as well as for *individual children*, including, but not limited to Henry.

This nuisance/nightmare behavior can be understood in a positive light. In his famous paper on the anti-social tendency (1956), Winnicott posited that the act of stealing implied hope because the act implied an effort on behalf of the anti-social child to connect with the mother in some way. Indeed, Winnicott uses the term “nuisance value” to capture the both the experience of frustration and crucial importance of tolerating this undesirable behavior with the understanding that behind the behavior lies a motivation to be related to important internal objects. Going back to infant development, Winnicott notes that proper infant care is littered with instances of nuisance, all of which point to a relatedness between mother and baby. Anti-social children “exploit” this

nuisance value with the hope of relating. Just as anti-social children become nuisances in the hope of relating, ADHD children may become nuisances in this same vein, indicating a desire for relatedness that is relatively more difficult to achieve given their difficulties with affect regulation.

Winnicott posits that the antidote to infant or child's need to "exploit" the mother in this way is "good-enough mothering" (cf, Winnicott, 1960b). Without good enough mothering, the infant will develop a "false self" (1960a) which can lead to, among other things: "...extreme restlessness, an inability to concentrate, and *a need to collect impingements from external reality so that the living-time of the individual can be filled by reactions to these impingements*" (p. 150, emphasis added). That description sounds an awful lot like the ADHD children in this study.

Indeed, the one variable in which ADHD children look relatively depleted in when held up to the comparison group is M, the traditional marker of the capacity to have access to inner templates of object representations (Mayman, 1967b). Though their chromatic cards may be identical to the comparison group in terms of color, shading, inanimate movement and form quality, this significant paucity of M may be the RIM analogue to relative deficiencies in the internalization (or at least retrieval of) benign, alive interactions between self and others.

When faced with achromatic cards or the real life correlates, relative to comparison children, ADHD children struggle to fill their inner worlds with affect and object relations, or they may more massively defend against such aliveness because these responses may not feel benign. We can understand the degree to which they see less movement on these cards as evidence of a barrenness that is not associated with

comparison children. If we conceptualize low D Scores as containing a composite of a large number of scores relating to anxiety, impulsivity and diffusion on the one hand, and the absence of movement and color on the other hand, their achromatic performance is also one that does not leave ADHD children with an inner experience of what might be considered normative or adaptive vitality. Rather, the low D Scores of ADHD children in relation to the comparison group speak to the extent to which the stress demands of the world impinge upon their ability to utilize their inner resources.

While significant differences in numbers of color and texture variables are not evident in these data, the D Score, a grosser measure of stress tolerance, does use all these variables in its calculation. Thus, it is likely that the differences in D Scores on chromatic cards are indicating that in some larger, clustered measure, ADHD children do look more dysregulated than the comparison group, but that we are unable to identify the factors of this dysregulation with the specificity with which we can identify the factors of the barrenness on achromatic cards. It may also be the case that the D score, by lumping together more data, brings out the differences between ADHD and comparison children which, due to the small sample size, are not seen when the variables are looked at individually.

This is not to suggest that the performance of ADHD children on achromatic cards is solely without non-form determinants. Unable to use the EA Score as a measure of access to resources on the achromatic cards, I created a new composite score, EA Achromatic.²⁹ EA Achromatic takes the weighted sum of achromatic color responses³⁰

²⁹ EA Achromatic = (WSumC' _{achromatic} + WSumTVY _{achromatic} + M _{achromatic})

³⁰ WSumC' = [(0.5)FC' + (1) C'F + (1.5)C']

on achromatic cards, the weighted sum of shading/texture/vista responses³¹ on achromatic cards and adds both to the number of M responses on achromatic cards. The purpose of the calculation of this variable on the achromatic cards is to pool the responses with the hope of getting a flavor of the nature of the response patterns seen on these cards by ADHD and comparison children. Indeed, ADHD children had significantly lower EA Achromatic Scores ($p = .013$) when compared to the non-ADHD sample. We can understand these findings to point to the idea that rather than having purely barren percepts on these cards, ADHD children are able to access the diffusion and dysphoric determinants that make up C', T, V, & Y. Taken separately, these four specific RIM variables do not significantly differ among ADHD and comparison children; when pooled with M, they differ in substantial ways between groups. Given that ADHD children see significantly fewer M responses on achromatic cards, and that their percentage of pure Form (X%) responses is comparable, we can presume that they likely see more C', T, V, & Y responses than the comparison group, accounting for some of the difference in EA Prime and EA Shading scores.

In the end, ADHD children are left with two adverse scenarios in terms of how to negotiate and relate to the world. When faced with bright color, they use the color to enliven themselves, but appear to do so in a way that overwhelms their caregivers, perhaps because they lack the buffering that M responses imply. Alternatively, in the absence of bright color, they are left relative barren and depleted. Their low F percentages and Lambda ratios speak to this phenomenon. They are significantly less

³¹ WSumTVY= [(0.5)FT + (0.5) FV + (0.5) FY) + (1) TF + (1) VF + (1) YF) + (1.5) T+ (1.5) V+ + (1.5)Y]

able to access the nutrients of life, namely M (and the accompanying human representation content).

Limitations of the Study

It is important to note that the sample from the present study is relatively small. While other studies investigating RIM protocols of ADHD children of these ages have been similarly small, there is no question that both the statistical power, as well as the accepted importance of the significant findings in this study would be greater with a larger sample of children. This study is a beginning, not an end.

Additionally, this sample reflects children who are predominantly from minority ethnic groups living in lower- to middle-income urban communities. While it might be argued that these results may not then generalize to populations of a different demographic, the findings are consistent with other studies of latency-age children (e.g., Gordon & Oshman, 1981; Bartell and Solanto, 1995; Cotugno, 1995). Furthermore, it is one of only a few studies of *any psychiatric disorder* using an ethnically diverse sample of urban, community children, a population that is poorly represented in the research literature. Given the bleak realities of the underrepresentation of these children in the research literature, there is an aspect of this study that represents an important step forward in the recognition that non-white, non-affluent children deserve a place in the literature on the most frequently diagnosed disorder of childhood.

Moreover, one can make the argument that because the ethnic and socio-economic groups that predominantly make up the sample are more likely to experience difficulties on many environmental levels, this study does not look at “pure” ADHD children, nor for that matter does it investigate “pure” comparison children. However,

the construct of ADHD is so broad, and the demographics of ADHD are such that it is often co-morbid with other psychiatric and/or learning disorders. Indeed, the argument can be made that the “pure” ADHD child is a fictitious child. While there are surely ADHD children who are not part of an urban, underserved sample, there is no reason that the children in this sample should be considered “less ADHD” than any other children.

Implications for Future Research

Further research should also replicate these findings using larger samples of randomly selected children from the community, as the sample size was small and participating families were self-selecting in the current study. Additionally, given the nature of the sample, a replication of these findings with a more affluent sample would go some way towards dispelling the notion that the findings are not generalizable beyond an inner-city sample.

Another direction for future research might include a longitudinal design that would look at the development of these children over time, as the current study only provides a snapshot of children’s functioning in latency. These children may look very different in adolescence, especially since some symptoms of hyperactivity abate as the children grow older (DuPaul et. al, 1998). Indeed, a longitudinal study that followed these children into adulthood would also be very interesting, as it would provide a bridge between child, adolescent and adult manifestations of ADHD.

Presently the EA Achromatic variable is purely speculative. Yet without it, there is no way to further refine this measure of internal resources while investigating achromatic cards. Further research would need to focus on the internal validity of this measures before being able to generalize findings about its relationship to other RIM

ratios. Alternatively, other new measures could be developed which could attempt to capture the larger picture of what occurs on achromatic cards.

Moreover, this study raises important questions about the nature of treatment for children with ADHD. This is a crucial set of questions, as ADHD is the most common source of referrals for childhood treatment. Given what we have learned in this study, should treatment focus on behavior as is common (Richters et al., 1995), or would ADHD children also benefit from more psychodynamic treatment that aims to find ways to improve upon their relatively diminished object relations? Are there ways to incorporate this new knowledge into psychiatric care when prescribing medicine for these children? It would be interesting to study the effects of different therapies and give the RIM to the children pre- and post-treatment to see if differences in outcome could be predicted by the D or EA score. Additionally, it would be interesting to find methods of tracking chromatic and achromatic ways of relating in sessions.

Finally, given the nature of the relative barrenness seen on achromatic cards by the ADHD children in the sample, it would be interesting to compare these children to a sample of age- and ethnicity-matched children diagnosed with depression to see if there were significant differences or overlaps on RIM protocols. It would be interesting to measure and compare the quality of responses on achromatic cards between these two diagnostic groups to begin to tease apart ways in which ADHD and Depression are similar and different.

Back to Henry

This discussion has endeavored to put the results of the data analysis in context for ADHD children as a group. In the last chapter, I will return to Henry, briefly

recounting his three and half year psychodynamic play therapy with me and see if there are ways in which the chromatic/achromatic patterns of relating to the RIM for Henry, and for other ADHD children, play out in that treatment.

CHAPTER SIX

CLINICAL EXAMPLE: HENRY'S TREATMENT

What can a single child, a real live child's RIM help us to elucidate in both formulating and executing a treatment plan? This final chapter investigates the three and a half year psychodynamic therapy of Henry, vividly capturing the extent to which his RIM protocol mirrored his initial presentation in the treatment situation at the age of 7, while tracking his progress in treatment until the age of nearly 11. Additionally, there are ways in which the findings presented and discussed thus far appear in various forms in Henry's treatment.

Henry's treatment

After his evaluation, Henry was diagnosed with ADHD (Combined type) and General Anxiety Disorder of Childhood and referred to twice-weekly psychodynamic play therapy, where I have seen him for the last three and a half years. Additionally, upon completing his intake, he was referred to a child psychiatrist for a medication consultation and was subsequently placed on stimulant medication, which he continues to take.

Henry's treatment has followed a trajectory that largely mirrors his Rorschach record. Unlike the RIM cards, no treatment can be so neatly parsed; however, there have been three relatively distinct phases of Henry's therapy. The first phase, which largely correlated with his bimodal way of dealing with the achromatic and chromatic cards on the Rorschach, lasted for the first nine months of the treatment. The second phase of his treatment, which resembled his more constricted way of dealing with the Black cards on the Rorschach, lasted for almost a year. The last twenty months have coincided with a broadening of his ability to relate directly with me and an increase in his capacity to use

his considerable resources. In this way, it is somewhat like the way he responded to Card X on the Rorschach. Over the course of the treatment he also has been increasingly able to represent human characters and conflicts in his play with greater mutuality.

Henry's early sessions illustrate the bimodal strategies of dealing with the world seen in his RIM protocol. In his first session he told two stories, one about the lights going out and one about a fire. Both were told with such agitation and confusion that I found myself helpless to either follow his narrative or stay with his affect. Sitting with him initially felt like riding a roller coaster with a broken seatbelt and no lights. There was no way of knowing what was coming around the corner, let alone whether or not I would be able to stay in the car. These periods of high-speed roller coaster rides lasted a few minutes during each session, and then Henry would calm down as soon as he had finished relating the story, reverting back to his deadened mode of being. In fact, the majority of these sessions were spent in a rather dull way, as if Henry and I were waiting in line for the roller coaster to take off.

Very quickly into the therapy, Henry began to bring items to session, often having to do with electricity or his new favorite character, the scary robot. One day he appeared and looked as if he had something in his mouth. I looked at him quizzically, and Henry opened his mouth to show off a snarl of tin foil on his teeth. He told me he was a robot, a character that was to become another expression of Henry's excited and lively mode of functioning. The "robot" proceeded to spend the next several months acting out sadistic fantasies of domination. I would be ordered to do bad things—robberies, shootings, blowing things up—by the robot, and then captured and placed in jail, punished for his bad deeds. Whenever I attempted to engage the robot, Henry quickly said "Never mind," and they moved onto what became a staple of this and the next phase of the treatment,

board games. Typically, the robot was present for five or ten minutes, while the rest of the sessions were constricted.

It seemed clear that whatever feelings Henry had—sadistic or otherwise—got stuffed into the robot character. Whenever I suggested that the robot seemed to have a lot of feelings, it was as if a switch was turned off. The robot went to sleep, much as an inactive computer might, and Henry and I returned to the safety of boring and constricted activities. The robot was a safe place to begin to play with these feelings, as long as Henry held the remote control.

Over the next six to nine months, Henry increasingly brought in all manner of things having to do with electricity and energy. Often, the robot would come for the first minutes of the session and then Henry would open his backpack and produce all manner of clamps, bulbs, wires, nails, batteries, and once an electric clip that resembled the one from his jumper cable response on Card X. Electricity literally ran throughout the sessions. In retrospect, it now seems as if he may have done this to jump-start himself in some way. Perhaps he was using the artificial excitement of the electricity to find vitality in an otherwise barren life.

To make matters more interesting, it was never entirely clear to me what triggered the different modes from session to session or even within sessions. Typically, the modes shifted as if a switch had been thrown. The only thing that was clear was that whenever I tried to engage him in the “chromatic” mode, he immediately returned to the “achromatic” mode. Indeed, much as he could not integrate his way of responding from achromatic to chromatic cards on the RIM, similarly, there seemed no way to trace his shifts from one aspect of his self to the other.

Meanwhile, things were getting worse at school. Henry was continuing to bother

girls in his class. In addition, he broke the classroom's electric pencil sharpener by cramming a piece of chalk in it. Whenever I attempted to discuss these things with him, he retreated into the robot or board games. He appeared wholly unable to engage me in any realm, play or verbal. I often left sessions wondering whether we would ever be able to get to a place where it would feel like the real vitality of this child would could ever be held and expressed spontaneously and flexibly.

About nine months into the treatment, Henry's mother began a new job that required her to work different hours. The new job required his coming to session once a week instead of the twice-weekly sessions he had been attending since the beginning of his treatment. As this shift occurred, Henry began a period of the treatment where he remained almost solely in the dampened down, constricted mode of relating. Certainly, this shift can be seen as due in part to the reduced frequency of sessions. However, it also seemed as though something had happened to allow him to constrict more in his interactions with me.

Often, he would come to session and pick up in mid-game where he and the therapist had been the week before. He and I took to spending the last five minutes of each session obsessively recording the exact amounts of Monopoly money and properties owned by each of us on the chalkboard so that we could start from where we had left off the previous session. Playing the games themselves was an incredibly tedious, dampened experience. In addition to his defense of shutting down, he had added obsessional defenses to his arsenal (Chethik, 1989). At the same time, there was a sense of "continuity of being" (Winnicott, 1965) that was conveyed by the pleasurable continuation of board games from session to session and week to week.

Meanwhile, Henry's behavior at school began to improve dramatically; he had

switched schools over the summer and the difference in environment seemed crucially important. As this phase of the treatment continued, Henry was most remarkable in his ability and willingness to talk. However, the moment that I introduced affect—either explicitly or implicitly, he shut down and turned to the game shelf.

Several months into this phase, Henry began to show an interest in shooting baskets with me. I had taken to this activity both as a means of seeing if Henry would join me in an activity, and as a way to keep my mind from wandering during Henry's obsessive set-up of games. As Henry became more interested in shooting, and playing a version of HORSE (a basketball shooting game) with me, the sessions began to have moments and then sustained periods of time where they felt interactive, *and alive*. Where in the beginning phase of treatment the points of human connection felt possible for only rare, fleeting moments, in this later phase in which Henry and I started playing an active game, conversations began to approach and stay with the previously avoided affect for a few minutes at a time. As the games of HORSE got more animated, so did Henry's ability and desire to not shy away from affect as he had before. The robot still had not appeared in over a year, but for the first time in ages, there were signs of an affective life with which he was becoming comfortable. In addition, for the first time he was able to express and experience affect not just within himself, but also in the presence of another.

Fortuitously, about a year and a half into the treatment, circumstances changed and Henry was again able to come to treatment twice a week. This shift coincided with the broadening of his ways of relating that had begun over the previous two or three months, and an increased capacity to represent human characters with mutuality, affect, and conflict. As Henry and I continued our games of HORSE, Henry continued to talk about things that bothered him, and began at times to feel angry with and disappointed in

me. It seemed as though his considerable resources were becoming available to him, but not overwhelming him in a chaotic fashion.

The character that replaced the inanimate robot was the “gangsta.” The gangsta had feelings, got angry when he felt that people had treated him unfairly, got disappointed in relatives who do not treat him with respect, and got frustrated with his therapist who badgered him with questions. In stark contrast to the robot, whose chief defense was to ignore and shut off all avenues of affective experience, the gangsta was able to engage and expose his feelings, as well as his experience of a significant other.

To be sure, there has always been a part of Henry that hinted at the ability to relate to others and to have access to his feelings. His RIM protocol amply revealed this potential. For example, Henry has always been very quick to say in a remarkably un-self-conscious way how much he loves coming to therapy and how he will never stop. Yet, prior to the emergence of the relatedness embodied by the gangsta, he could not access these resources without becoming overwhelmed and dysregulated.

This is not to suggest that the gangsta has been the only place where affect can be situated for him. As the gangsta and its associated relatedness came into the room, it went from being primarily a defense in which to stuff all things affective to a manner of being where he could occasionally retreat when affect feels too frightening. He increasingly, moreover, has been able to hold onto his affect without defensively invoking the gangsta. Indeed, the gangsta has been shed like a snakeskin to reveal a real person underneath: Henry.

Around this time, he came to a session in a bad mood. He picked up a basketball and suggested, rather gruffly, that he and I play HORSE. As we played, each time Henry missed a shot, Henry threw the ball at me for my turn, muttering under his breath. As

this continued for several minutes the therapist commented that Henry seemed to be throwing the ball extra hard at the therapist and wondered whether he was angry. “Yeah,” he replied. “I’m not sure why, but I’m pissed today.” As we shot baskets, we subsequently talked some about what Henry might be angry about. He had found a way to feel affect more directly in a session, rather than having to defensively compartmentalize it in the gangsta.

It was also the case that the gangsta represented for Henry a certain toughness that was both wished for and adaptive. When he was the gangsta he was able to withstand sharing feelings and being vulnerable because the gangsta could do it in his stead. Without this intermediate step, Henry would not have been able to do this in a sustained way. The gangsta made it tolerable to at least play with the idea of experiencing shared feelings. As Henry has continued to find a ways to integrate some of these gangsta qualities into himself, instead of shifting to the extreme and sometimes caricatured modes that he often slips into, his object relatedness has continued to bloom.

Moreover, his hyperactivity has also seemed to find ways to channel itself into more productive activities. As he and I have played more and more physically, he also found ways to express his pleasure. Often Henry brings a tennis ball to session. Typically, he takes it out of his pocket, along with his usual assortment of electronic paraphernalia, and places it down on the table. Not unlike the beginning of the basketball games, I often grab the ball and start lightly tossing it to him. Within a few minutes of playing catch, he typically tells me about things at home and school. Sometimes the content is tinged with affect, but more importantly, it serves as some template for our continually evolving relationship. Playing catch, throwing a football, or shooting baskets have become things that he and I do *together*. The ball passing between us somehow

allows affective communication to pass between us as well.

Recently, he brought a pair of mechanized tops to session. When he pulled them out of his pocket to show me, he suggested that we set up an arena—a ring built of children’s blocks—in which we could have top races. He and I set up the ring thoughtfully, checking with each other about where divisions would best lie and then got ready to have the race. “Which one do you want?” he asked me. I replied that Henry could decide. Henry gave me the green one, and we spent the session racing their tops, taking delight in the ways in which they crashed into the walls they had built to contain them. As the end of the session grew near, I told Henry he thought this was fun. He looked up delightedly at me and smiled, “Yeah. This is the most fun.”

In this session he finds a way to continue his compulsion to use inanimate movement, but he also finds a way to contain it and to share it with an other in a related, affectively enlightened way. While the intense movement so intrinsic to a diagnosis of ADHD is still there and likely will always remain there, its integration and subordination into a more regulated, modulated self gives it an entirely different character.

Notably, with these vital gains in selfhood come concomitant gains in object relatedness, as evidenced by this last vignette, occurring just prior to the submission of this dissertation. Henry and I became involved in a several-week long game of monopoly. After several sessions, Henry had hotels on almost all properties and copious amounts of cash on hand. I in turn had few properties and little money. After surveying the board, Henry looked up at me asked, “How do you win?” I told him that someone won, when the other ran out of cash, and then proceed to land on Boardwalk (with a hotel) and told Henry I thought the game was over. Henry took a few moments, scratched his head, and to my surprise handed me enough money to cover the rent. After

three more turns where the game could have ended, I asked Henry why he kept bailing me out. He replied simply, “If I take the rest of your money, the game will end. I don’t want this game to end.”

These last sessions vividly depict his growth in object relatedness. He now relates in a way that allows him to titrate feelings of competition and aggression, while substituting feelings of mutuality and pleasure.

Conclusion

This case reveals that disparate Rorschach patterns on an individual basis may be a function of whether cards are achromatic or chromatic and thus may reveal two distinct aspects of the mind of a child with ADHD. The dynamic interplay across Henry’s RIM protocol revealed a consistent pattern of deadening constriction and agitated chaos, which informed and reified one another. Stunningly replicated over the course of his dynamically oriented treatment, this pattern provides us with a window into the ways in which constitutionally-induced impulsivity and distractibility create a vivid, constantly interacting pattern of focus and retreat from focus with often devastating effects on social and academic competence. Staying aware of and eventually fostering an integration of these two modes has led to dramatic gains in treatment and thus in his everyday behavior.

The Connection

What can we say to neatly tie up Henry’s treatment with the findings of this study? To be sure, there is a way in which Henry’s default position has been deadness; indeed when I spoke to him recently about my upcoming termination with him, he responded by first becoming very excited, bouncing a ball against the wall with the vigor of a college freshman in his first NCAA tournament game. However, within a few minutes he had dropped his affect down to a deadened repetitive game he played with

himself. Perhaps, that it his baseline, and the excitement is a place to which he continually strives. In that way, we can say that his achromatic mode is a depleted one, one that is not buffeted with object relations and vitality, whereas his chromatic mode is the place he goes to experience some sort of excitement and vitality.

His treatment has been an effort to move the baseline up to a place in which he can have object relations, excitement and vitality. Indeed, after he finished playing the repetitive game with himself, he looked over at me and smiled. “Let’s shoot hoop.”
Indeed. Let’s.

APPENDIX

Diagnostic Criteria for Attention Deficit Hyperactivity Disorder (ADHD)

A. Either (1) or (2):

(1) six or more of the following symptoms of **inattention** have persisted for at least 6 months to a degree that is maladaptive and inconsistent with developmental level:

Inattention

- (a) often fails to give close attention to details or makes careless mistakes in schoolwork, work, or other activities
- (b) often has difficulty sustaining attention in task of play activities
- (c) often does not seem to listen when spoken to directly
- (d) often does not follow through on instructions and fails to finish schoolwork, chores, or duties in the workplace (not due to oppositional behavior or failure to understand instructions)
- (e) often has difficulty organizing tasks and behaviors
- (f) often avoids, dislikes, or is reluctant to engage in tasks that require sustained mental effort (such as schoolwork or homework)
- (g) often loses things necessary for tasks or activities (e.g., toys, school assignments, pencils, books, or tools)
- (h) is often easily distracted by extraneous stimuli
- (i) is often forgetful in daily activities

(2) six (or more) of the following symptoms of **hyperactivity-impulsivity** have persisted for at least 6 months to a degree that is maladaptive and inconsistent with developmental level:

Hyperactivity

- (a) often fidgets with hands or feet or squirms in seat
- (b) often leaves seat in classroom or in other situation in which remaining seated is expected
- (c) often runs about or climbs excessively in situations in which it is inappropriate (in adolescents or adults, may be limited to subjective feelings of restlessness)
- (d) often has difficulty playing or engaging in leisure activities quietly
- (e) is often “on the go” or often acts as if “driven by a motor”
- (f) often talks excessively

Impulsivity

- (g) often blurts out answers before questions have been completed
- (h) often has difficulty awaiting turn
- (i) often interrupts or intrudes on others (e.g. butts into conversations or games)

- B. Some hyperactive-impulsive or inattentive symptoms that caused impairment were present before age 7 years.
- C. Some impairment from the symptoms is present in two or more settings (e.g., at school [or work] and at home).
- D. There must be clear evidence of clinically significant impairment in social, academic, or occupational functioning.
- E. The symptoms do not occur exclusively during the course of a Pervasive Developmental Disorder, Schizophrenia, or other Psychotic Disorder and are not better accounted for by another mental disorder (e.g., Mood Disorder, Anxiety Disorder, Dissociative Disorder, or a Personality Disorder).

Content Scores used in Henry's RIM Protocol (Klopfer et al., 1954)

Score

- A An animal figure, whole or almost whole.
- Obj. Man-made objects such as aircraft, bedpost, chair, vase, top pliers. Distinguish from statues.
- H Human figures, whole or almost whole.
- (A) A mythological animal, a monster with animal characteristics; a caricature, drawing or the like, of an animal figure; an ornament in animal form; a fairy-tale or Walt Disney animal given human attributes. The symbol (A) is used generally where the animal figure is either deprived of reality or humanized.
- Abs. Abstract concepts are scored *Abs.* when there is no other specific content. For example, a "power" or "force."

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