

2-2018

The Development of Affect and Defense in Childhood and Adolescence

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THE DEVELOPMENT OF AFFECT AND DEFENSE IN
CHILDHOOD AND ADOLESCENCE

BY KARI B. GRAY

A dissertation submitted to the Graduate Faculty in Psychology in partial fulfillment of the requirements for the degree of Doctor of Philosophy, The City University of New York 2018.

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

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AbstractTHE DEVELOPMENT OF AFFECT AND DEFENSE IN
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By

Kari B. Gray

Chair: Steven Tuber, Ph.D.

The purpose of this study is to further determine the nature of the relationship between how defense mechanisms affect and are affected by the ways in which feelings are modulated and regulated in children and adolescents. This study has been built upon an IRB-approved research project conducted under primary investigator Steven Tuber, Ph.D. at the Psychological Center and the City College of New York (*From Child Assessment to Child Treatment; A Preliminary Investigation*). The study data are pre-existing, collected from 5 – 16 year old children and adolescents presenting for treatment and/or assessment at the Psychological Center, a community clinic. This group's age range span major developmental shifts in terms of cognitive capacity during childhood, which allows for an exploration of these shifts in terms of affect and defense. All children were consecutively selected, without any additional screening procedures, as they presented for psychological treatment. Demographic information including age, gender, IQ, and SES was collected. The current study focuses on the participants' response to the Thematic Apperception Test, which was part of a short protocol. The TAT transcripts were assessed using both the Affect Maturity Scale (AMS), and the Defense Mechanism Manual (DMM). Defenses were calculated proportionally, while affect maturity was calculated as a mean within each record. The study supported hypotheses (i) that age is positively correlated with increasing maturity of defense and (ii) increasing level of affect maturity, and (iii) that defense maturity and affect maturity are be positively correlated. Results from correlational analyses are described, as

are ancillary analyses that address differences between age groups and prior studies. These analyses provide quantitative evidence for the relationship between the developing maturity of defense and affect in a clinical sample of children and adolescents.

Acknowledgements

I have struggled to write this section, mostly because it seems terribly unwieldy to attempt to acknowledge all of those who have contributed to this document's existence and the culmination of my graduate degree, but I will take my best crack at it.

First and foremost, I must thank the wonderful people on my committee and in particular, my chair, Dr. Steve Tuber. As my chair, Steve was patient and practical, even when I missed deadlines or emails, he sidestepped my tendency to shame-spiral with aplomb. Throughout my studies, particularly in my first few years, when I felt painfully fraudulent as a graduate student and beginning clinician, Steve provided two essentials: thoughtful, warm, well-timed feedback and a beautiful example of someone who has found comfort in their own messy, soulful brilliance. In multiple settings, I was lucky enough to be mentored and supervised by Dr. Diana Puñales, who is a clinical genius, and illustrated with ease how to organize and synthesize clinical information in less time than it took me to write this sentence. Diana was always ready to help me write a to-do list or timeline or to simply take delight in and rage at various absurdities of our work. Mentor and supervisor does not quite capture the various roles and support that Dr. Ben Harris has provided me with over the years. Ben has been my endless editor and brother in baseball, but also provided a fearless example of how to use associations, mistakes and negative emotions with patients and supervisees. Also, I need to thank Ben in particular for always telling me I am wicked smart—I needed to hear it. Dr. Henry Kronengold has my gratitude for being a supervisor who taught me a slew of things about being a child therapist and good human, particularly when it comes to feeling helpless. I am indebted to another amazing supervisor, Dr.

Santos Vales, who showed me how to use humor and make space for aggression in my clinical work.

Outside of my committee, I need to thank Dr. Sasha Rudenstine, who helped make a home and space for me to complete the last of my dissertation. Sasha's encouragement and staunch, unflappable support pushed me over the finish line and for that, I am forever grateful. The coders on this study, Leo Cancelmo, Ariel Westerman and Jessica Danial, were terribly generous with their time and impressed me with their dedication to an essential, if rather repetitive task—I would be nowhere without them. I would also like to mention a few colleagues that inspired, supported and slogged through the trenches with me: Carolina Franco, Felix Garcia, Anjali George and Vickie Sliva. I am fortunate that there are too many more to name who have encouraged and pushed me, but thank you to all the professors, researchers and others who thought I could do this.

Lastly, I would like to thank my family, friends and partners, past and present, who sacrificed along with me, cooked for me, covered for me, or at the very least, forgave my absences, early exits, late arrivals, disheveled appearance and general preoccupation due to graduate school. I must thank my twin brother, Peter Gray, who was and is my forever playmate. My mom, Karen Rheinlander, taught me how to put words to feelings and how to be endlessly curious about people, what is just and my own mind. My mom also taught me about how things are allowed to be magic, like how the light hits at certain times of day or the hollow beneath low-hanging branches—and for that I am endlessly grateful. I also want to thank my dad, Jeffrey Gray, for making being anything but kind seem impractical, for teaching me about baseball and for coming back to us when you were once so far away. Thanks to both my parents for letting me run wild at times, whether on the block or in the woods and mountains—it has served me well.

Table of Contents

Abstract	iv
Acknowledgements	vi
Table of Contents	viii
List of Tables	ix
Introduction	1
Background and Literature Review	3
Theoretical Forbearers of Defense and Affect Development	3
Defense Mechanisms	5
Defense Development in Children: Maturing Mental Capacities	9
Defense Development in Childhood: Stress, Trauma & Psychopathology	17
Affect Maturity	22
Affect Maturity Scale	25
Projective Assessment	33
Summary and Hypotheses	34
Methods	35
Participants	35
Instruments	36
Procedures	37
Hypotheses	38
Data Analysis	39
Results	40
Preliminary Analyses and Demographic Characteristics	41
Defense Mechanism and Affect Maturity Measurement	42
Inter-Rater Reliability	43
Relationship Between Age and Affect Maturity	44
Relationship Between Age and Defense Mechanism Use	45
Relationship Between Affect Maturity and Defense Mechanism Use	46
Discussion	53
Developmental Shifts in Affect Maturity	53
Developmental Shifts in Defense Mechanism Use	57
The Relationship Between Defense Mechanism Use and Affect Maturity	60
Limitations of the Study	65
Future Directions and Conclusion	66
References	69

List of Tables

Table 1: <i>Demographic Characteristics of Participants</i>	42
Table 2: <i>Correlational Relationships Between Variables</i>	47
Table 3: <i>Proportional Defense Use Between Age Groups</i>	49
Table 4: <i>Affect Maturity by Age Group</i>	51
Table 5: <i>Proportional Affect Level Between Age Groups</i>	52

Introduction

The nature and quality of both affect maturity and defense mechanisms have been empirically and theoretically explored from both a psychoanalytic and developmental perspective (Cramer, 1987; A. Freud, 1946; Thompson, 1985), but few studies have looked at the possible developmental relationship between the two. Both affect maturity and defense configurations are essential ego functions in negotiating inner and outer realities—in other words, both are essential to understanding our ability and style of adapting. The developmental interplay between affect and defense mechanisms is an important relationship to elucidate, due to the centrality of both within psychological health and the development of personality throughout the lifespan (Cramer, 1999a; Vaillant, 1977; Vaillant, Bond, & Vaillant, 1986). Longitudinal and cross-sectional analyses of Thematic Apperception Test (TAT) narratives in children have found evidence for a developmental view of defenses (Cramer, 1987; Cramer, 2007) and affect (Cramer, 1987; Thompson, 1981; Thompson, 1986) based on an increasing capacity for cognitive complexity. Taken together, the literature suggests affect maturity is a capacity that shapes and is shaped by an individual's defensive tendencies and that both are deeply influenced by cognitive development.

The purpose of this study is to further determine the nature of the relationship between how defense mechanisms affect, and are affected by the ways in which feelings are modulated and regulated in children and adolescents. The TAT narratives of a clinical sample of children and adolescents who had presented at a community clinic for psychological treatment will be analyzed for this purpose. These TAT records were collected through the Child Intake Research Group (CIRG), an IRB-approved research project conducted under primary investigator Steven Tuber, Ph.D. at the Psychological Center at the City College of New York. Fifty-two children

aged 5 – 16 years who presented for treatment at The Psychological Center during their intake process were assessed. This group’s age range spans major developmental shifts in terms of cognitive capacity during childhood, which allows for an exploration of these shifts in terms of affect and defense (Cramer, 1987; Fast, Erard, Fitzpatrick, Thompson, & Young, 1985; Piaget & Inhelder, 1969). Defense will be scored using the Defense Mechanism Manual (DMM; (Cramer, 1991), a systematic assessment of the presence of three defenses chosen for their discrete cognitive-developmental aspects. Denial is considered the most “primitive” as least complex, but most powerful in shifting reality and emerges earliest in development. The use of projection marks vital cognitive developments, particularly in terms of differentiated self and other and internalized standards of right and wrong. Identification is the most complex of the three and represents important developmental tasks associated with adolescence. The systematic assessment allows for different aspects within each defense and assesses how each defense is used or which aspects of the defense are utilized. Affect maturity, or the ability to recognize and make sense of emotion, will be measured with the Affect Maturity Scale (AMS) (Thompson, 1981), a measure similarly designed for the TAT. The five developmental levels of the AMS are not attributed to a particular emotion (e.g., anger, happiness), but instead focus uniquely upon how affect is cognitively organized and *intensional* (e.g., directed towards something/someone) (Brentano, 2012/1874; Thompson, 1985). Affect maturity and defense are intertwined and inseparable, but in order to review the literature that is central to this study, each will be presented individually. This decoupling of defense and affect is limited in real-life meaningfulness, but will allow for the most clarity in examining each domain.

Background and Literature Review

Theoretical Forbearers of Defense and Affect Development

Sigmund Freud. Although the theories regarding the motivation and purpose of defense mechanisms have shifted and expanded since they were initially theorized, in every conceptualization they play the role of maintaining some kind of affective equilibrium, whether internal or interpersonal (Cooper, 1998). The concept of defense mechanisms was initially presented by Sigmund Freud through his studies of the origins of the neuroses (e.g., hysteria, phobias and obsessions) he saw in his patients. Defenses were a mental mechanism “mediating” unconsciously between the opposing wishes of the id and superego (1894/1962). This defensive mediation was observed when an “incompatibility took place in their ideational life” arising from impulses of biological instinct or drive (the id) that, in the context of internal social expectations (e.g., sexual impulses towards a parent), were deemed unacceptable and thus requiring the use of defense to protect conscious interactions with the unacceptable wish. His earliest conceptions assumed these mechanisms were pathological or the means by which pathological symptoms were formed, though some later writings allowed for their non-pathological use, the focus on these mechanisms was largely in the context of neurotic pathology and symptoms (1922/2003; S. Freud, 1936/1926; S. Freud, 1958).

Anna Freud. Anna Freud, clearly identified defenses as a normal part of human psychology, drew attention to their individual ontological development and understood them as having a range of adaptive and maladaptive uses and consequences (A. Freud, 1946; A. Freud, 1965). This perspective stemmed from her aim to understand both normalcy *and* pathology in psychological development, believing that one informed the other. She reasoned that knowing if a child was in or out of line with his or her peers could clarify the range of normal to abnormal

(A. Freud, 1965). These wide ranging observations of development led Anna Freud to feel defense mechanisms had a possible “chronology.” Even though the mechanisms for developmental shifts in defense use were unclear to her, it was clear that the same defense could be pathological or healthy depending on the individual’s age and environmental circumstance. Her theoretical interpretations of what triggered mechanisms of defense differed from her father’s focus on internal conflicts and fantasies, giving more credence to the need for individuals to manage the pressures of external reality and ego expectations. Anna Freud’s perspective introduces the importance of the external environment’s role in shaping an individual’s developing defensive style and how an assessment of this style can provide information about ego development.

Ego psychology. In the 1930’s Heinz Hartmann and his contemporaries began presenting new ideas about the development and role of the ego within the psychic realm. In contrast to Sigmund Freud’s suggestion that the ego develops from the id and its conflict with the frustrations of reality and super ego, Hartmann presented the “undifferentiated phase,” from which the id and ego develop alongside one another (Hartmann, Kris & Lowenstein, 1946). This perspective importantly sees development as a process of “differentiation and integration”, meaning that certain abilities, capacities, experiences or psychic structures develop uniquely but are then integrated adaptively. For example, the ego has inborn capacities (e.g., “innate apparatus”) that unless developing in extreme instances of deprivation, later become means of adaptation to the external environment as autonomous ego functions, such as attention, memory etc. or the “cognitive processes that are the underpinnings of the development of all we hold as human” (Tuber, 2012). The focus on the ego’s response to reality as opposed to simply focusing on the battle between the id and superego ushered in what is now termed *ego psychology* and

created a platform for later theory and research on affect, defense use and development. The primary purpose of defenses now went beyond avoidance of internally produced anxiety of clashes between the id versus superego alone, as Sigmund Freud had first posited, toward being considered a means of adaptation to the demands of reality and the environment in order protect the ego from untenable and potentially fragmenting conflict (Loewenstein, 1967).

The shift from drive theory to ego psychology provided the theoretical framework for psychological testing such as the Rorschach Inkblot Test (Rorschach, 1942) and the Thematic Apperception Test (Morgan & Murray, 1935; Murray, 1943) that explored the nature of a person's ego, which in turn could illuminate defense use and affect. Unlike directly seeking the id and superego, which are rarely seen, the ego's regulatory processes can be observed attempting to make sense of and maneuver adaptively around these unconscious processes. Observations of affect and defense are observations of the ego's functioning, and in the case of this study, illuminate how unconscious defensive processes in children and adolescents regulate emotions.

Defense Mechanisms

Current conceptualizations of defense mechanisms. Defense mechanisms are unconscious processes that attempt to protect an individual's intra and interpersonal equilibrium in various ways and with varying levels of success. Defenses are kept out of consciousness, for they seek to protect by keeping certain experiences implicit or unconsciously transformed. This essential aspect of what constitutes a defense mechanism, that it is operating outside of consciousness, is also what makes defenses so difficult to study and has inspired many differing interpretations.

The precise thoughts, affects and internal or external stimuli that trigger defenses are not easily observed, measured or agreed upon: these vary greatly depending on the theoretical perspective of the writer. For example, defense or defense organization works in the service of any number of motivations: avoidance of internal/external conflict; maintaining a coherent, integrated sense of self; protecting self-esteem; safeguarding an important relationship and/or removing overwhelming affects like anxiety and shame that threaten any of the aforementioned. How these childhood defenses develop, operate, or are named, as well as the identification of their use, their effectiveness and where they stand in regard to normalcy and pathology also vary greatly depending on the theoretical understanding underlying the formulation: they depend on age (Cramer, 1987; A. Freud, 1946; A. Freud, 1965), capacity for cognitive complexity (Chandler, Paget, & Koch, 1978), overall ego development (Cramer, 1999a; Loewenstein, 1967), temperament (Shaw, Ryst, & Steiner, 1996), current and past stressors, situations, trauma (Cramer & Gaul, 1988; Sandstrom & Cramer, 2003; Silverman, 1999) and early relationships (Laor, Wolmer, & Cohen, 2001; Poikolainen, Kanerva, & Lönnqvist, 1995).

The literature that relates to childhood and adolescent defense mechanisms is relatively small and even more limited when it comes to the development of defenses before adulthood. With the exception of a handful of researchers who have directly studied the development of defense mechanisms in children (e.g., Phoebe Cramer), relevant research to the development of childhood defense mechanisms often requires shifting findings about adults into the wider developmental frame of defenses throughout the lifespan, including childhood. For example, there is widespread agreement and reference to maladaptive adult defenses as being “primitive” or “immature” which suggests a theoretical development of defenses and defenses that are specific to childhood. Another example is in the tendency for primitive defenses to be described

as involving manipulating the boundary between the self and the external environment (e.g., denial) and this differentiation between the self, the environment and other as a major aspect and goal in descriptions of childhood development (e.g., Mahler, Pine, & Bergman, 1975). Despite the developmental path of defenses or their influence upon development being most often seen in longitudinal assessments of adult psychosocial adjustment, this research can provide important contexts for the importance of childhood defense development and the assessment, study and understanding of defensive phenomena.

Defense development across the lifespan. One of the most prolific researchers in defensive phenomena is George Vaillant, who has dedicated himself to long-term longitudinal research of adult personality development and adjustment. To Vaillant, defenses are unconscious, conflict driven attempts of the ego to deny or alter awareness of affects, ideas, the self and others (1995). These defensive processes—18 in all—are arranged in a hierarchy using the categories of psychotic, immature, neurotic (intermediate) and mature and are synonymous with the developmental continuum of defenses from childhood to adulthood (Vaillant, 1992; Vaillant, 1995; Vaillant et al., 1986). His interest in defense use stemmed from repeated longitudinal evidence for the significant positive relationship between adult maturity of defenses and positive aspects of adult psychosocial health like the capacity to work and love (Vaillant, 1992; Vaillant et al., 1986).

While seeking empirical evidence that defenses were in fact an adaptive process, rather than a pathological mechanism, Vaillant came upon an unexpected yet important finding regarding childhood environment: the level of defense maturity was most predictive of adult mental health in the context of more difficult childhood circumstances (Vaillant et al., 1986). The sample he assessed at age 47 for defense maturity and general mental health had also been

assessed while in junior high for “familial strengths”, labeling their family environment as “bleak”, “intermediate” or “warm” through the combination of three subscales. Assessed through interviews with both parents, the child, the child’s teacher and social service records this measure hoped to look at “nurture” with less influence of “nature”. The first two scales assessed the child’s maternal relationship and paternal relationship for warmth, nurturance and encouragement of both autonomy and self-esteem. The third scale measured general home atmosphere, particularly the ability to achieve harmony in the context of difficulties. The relationship of adult defense maturity and positive psychosocial health was weaker in adults who came from “warm” childhood environments, yet for those from “bleak” childhoods defense maturity was the strongest factor in positive adult psychosocial health (Vaillant et al., 1986).

First, this finding suggests that mature defense use is less likely a byproduct of overall positive mental health, but rather plays an active role in achieving psychosocial health. Second, it suggests that defenses play a more influential role when an individual’s early primary relationships are either tumultuous or lacking—furthering the importance of attending to the development of these defenses in childhood and to the lasting influence of childhood caregiver relationships. Lastly, those who emerge from a childhood where one is not adequately and individually loved, cared for or encouraged, are more likely to do so with a weaker more vulnerable sense of self and self-esteem and will require developing the best defenses to survive and flourish, whereas those who do not find adaptive defenses, are left ill prepared and vulnerable. This study provides clues to how childhood environment can influence the importance of defense development in adulthood, or arguably, mitigating the influence of stressful childhoods requires a more adaptive set of defenses, even in adulthood. Further, the

disparity in the influence of adult defensive maturity upon psychosocial health suggested a causal relationship between mature defense use and positive adult psychological health.

Defense Development in Children: Maturing Mental Capacities

Children's Understanding of Defenses. Many theories and interpretations of adult defense use assumed a developmental continuum of defenses implicitly through descriptions of maladaptive adult defenses as “primitive” or “immature” long before researchers had provided empirical evidence of this developmental continuum's existence. Oddly enough, a developmental sequence for children's ability to *understand* a defense was established first. Martin Whiteman explored children's understanding of “psychological causality” or their ability to identify other's motivations and intentions as causes of behavior. One study explored this through understanding and explanation of stories involving children using defenses such as denial, repression, regression, wishful thinking and projection (1967). Whiteman found that children's understanding of defense mechanisms grew with age and that there was a significant shift in understanding for preoperational 5 and 6 year old children versus concrete operational 8 and 9 year olds: denial was understood by all but the youngest children whereas the ability to understand projection differentiated all but the oldest children (Whiteman, 1967; Whiteman, 1970). This research also found that preoperational children rarely had the ability to attribute, connect and identify thoughts, feelings and behavior, whereas the operational age group was able to decode defenses.

In the same vein of children's understanding of defense, Chandler, Koch and Paget looked at the Piagetian stages of cognitive development as a theoretical predictor of the child's understanding of defense mechanisms (Chandler et al., 1978; Piaget & Inhelder, 1969). Using the language of structural analysis, these authors conceived of “affective interchanges”, which

are combinations of the author/subject, his or her impulse/affect and the object that is the target. In this language, a defense occurs when this subject-affect-object (S-A-O) is felt to be unacceptable and must be partially or wholly transformed. They then hypothesized that understanding defenses requires certain cognitive operations that are associated with developmental shifts: simple defenses like denial and repression are “inversions” that act by deleting the offending aspect; “reciprocals” are slightly more complex defenses that instead neutralize the unacceptable, such as rationalization, reaction formation, turning against the self and displacement; while most complex defenses, like projection and introjection involve negations, inversions and reciprocals.

The study grouped children by their previously assessed Piagetian stage of cognitive development rather than age, but both age and cognitive stage ultimately predicted the amount of correct responses to defense understanding. The preoperational group, who’s average age was 6.3 years and ranged from 5.3 to 9 years, correctly identified only 10% of inversion defenses (denial and repression), 5% of reciprocal defenses (rationalization, reaction formation, turning against the self and displacement) and 0% of the most complex defenses (introjection and projection). As with Whiteman, these numbers shift hugely for the concrete operational group, who’s average age was 9.7 years, ranging from 8.7 to 11 years. This group correctly identified 75% of denial and repression use, 48% of reciprocals and 25% of projection and introjection. The formal operations group, with an average age of 11.4 years and a range from 9.5 to 12.3 years, performed similarly on denial, repression and identification (80%), but were able to understand 70% of reciprocals and 60% of projection and introjection use.

The general age trends seen in Whiteman (1967) and Chandler et al (1978) for defense understanding were also seen in a study by Dollinger and McGuire (1981) on the development of

psychological mindedness in children. The study had less clarity regarding the reasoning for age groupings and differed slightly in terms of defenses chosen for identification. However, beyond showing that there was increasing understanding for defense use with age, particularly for denial, Dollinger and McGuire discussed the ratings of the characters' goodness-badness, dumbness-smartness, sadness-happiness and likability given by the children. Not surprisingly, the story characters were rated as "less smart" and "less likable" when a child had been able to identify the defense used in a particular story. This changing defense awareness and shift in opinion of the characters' draws attention to a central aspect of the effectiveness of defenses—that they are unconscious. For a young child who is using denial, to identify denial in a story would suggest awareness of the fallibility of their own unconscious adaptation, making it an ineffective defense. These studies support the idea that defenses are continually used and "demystified" during development, in other words, once defenses become consciously understood, they lose their effectiveness and motivation for use (Chandler et al., 1978; Cramer, 1983).

The developmental course of defenses. Working from these earlier studies, Phoebe Cramer began her own work to bridge the gap between theories of defense development in children and systematic empirical study of the actual development and use of these defenses. Cramer states that there are two important tenets of defense mechanism development in children and across the lifespan (Cramer, 1991; Cramer, 2006). The first is that certain defenses appear, dominate and decline during particular times in development and the timing of these defenses' emergence and predominance is related to the child's expanding level of cognitive ability (Chandler et al., 1978; Cramer, 1983; Cramer, 1987). Within this frame, various judgments of the maturity or relative immaturity of a defense and its effectiveness or ineffectiveness (Loewenstein, 1967) are dependent on the developmental age of the individual. This has major

implications for assessment of normalcy and pathology. Second, as suggested by Anna Freud (1965), each defense has its own developmental history. Early beginnings of defense mechanisms have been theorized to start with a motor reflex during infancy, or a “biologically given defensive reflex”, which then becomes internalized as a “mental mechanism” with advancing development (Mahler et al., 1975; Spitz, 1961). This process results in an internalized ideational representation of conscious, voluntary and controlled action, which are the psychological beginnings of defense mechanisms.

The Defense Mechanism Manual (DMM). In 1987, Cramer presented empirical evidence of a developmental course in children’s use of three defenses: denial, projection and identification. This study provided the groundwork for Cramer’s Defense Mechanism Manual (1991), which specified her method of identifying and measuring defense use. The three defenses of denial, projection and identification were chosen for this study—described in greater detail below—due to each being considered relatively mutually exclusive from one another and representative of increasing cognitive abilities. Unlike previous studies (i.e., Cramer, 1983) that looked at defenses through short stories of conflict situations and the child’s answers to questions such as, “what would you do?” or “what happened?” Cramer looked at defense use in 4 differing age groups of children through their narratives from the Thematic Apperception Test (TAT). Cramer found that denial was used more often in the youngest group (mean age = 5 years 8 months) than in all other groups and use of denial lessened with increasing age (1987). Cramer also found use of projection reached its peak in the intermediate group (mean age = 9 years 10 months) and early adolescent group (mean age = 14 years 6 months). Lastly, use of identification had the lowest frequency in the youngest group and the highest in the late adolescent group (mean age = 16 years).

Denial. Denial holds the theoretical status of among the most “primitive” or one of the earliest available defenses. Denial requires the withdrawal of attention from stimuli that is believed to be psychologically harmful and most strongly works to avoid external reality. Early versions of denial can be seen in infants who turn away from upsetting or over stimulating experiences (Tuber, 2012), whereupon a child may “not see” what exists in reality (i.e., perceptual denial) or tell an improbably happy ending to their story that had begun to spin into darker themes (i.e., imposition of personal fantasy). Previous research has found use of denial is more common in younger, preschool children (Brody, Rozek, & Muten, 1985) and associated with psychological difficulties when used in adulthood (Cramer, 1999b; Cramer & Tracy, 2005; Cramer, 2011).

Projection. Projection requires an additional level of cognitive complexity: rough differentiation between inner/outer stimuli, a rudimentary sense of the self and other and an internalized sense of what thoughts and feelings are not acceptable (e.g., right-wrong; good-bad) (A. Freud, 1946; S. Freud, 1894/1962). With these developments in differentiation, splitting off the unacceptable inner thought/feeling and locating or attributing it outside the self becomes possible (Klein, 1946). From another perspective, the child who uses projection is now able to imagine another person’s mind and emotions, albeit with an idiosyncratic viewpoint.

Identification. Identification is the most complex of the three. Beyond the differentiation between self and other required of projection, identification requires one to have solid, reasonably stable representations of others in order to take on their qualities. This taking on of other individual’s qualities most often serves the purpose of maintaining and developing self-esteem and important relationships with others (Cramer, 2006). Early beginnings of identification can be seen in infants imitative behavior with their caregivers, the development of

the superego in toddlerhood/preschool age and then the later adolescent identification, which is experimentation in seeking their identity/ego ideal (Cramer, 2006)

The developmental shifts in defense use between these three defenses during the course of childhood and adolescence has been supported in subsequent cross-sectional studies (Cramer & Gaul, 1988; Dollinger & Cramer, 1990; Porcerelli, Thomas, Hibbard, & Cogan, 1998; Tallandini & Caudek, 2010) and longitudinal studies (Cramer, 1997; Cramer, 2008; Cramer, 2007; Diehl, Coyle, & Labouvie-Vief, 1996). Summarizing her findings and those from other researchers, Cramer (1996) states that denial dominates early childhood, but trends downward in use by ages 7 and 8. In the range of about 7-8 years old, childhood defense use sees the most significant shift, with projection used as often as denial, which has declined significantly. Projection use continues increasing and often dominates defense use throughout latency (ages 8-11) and early adolescence (roughly, 12-14 years), while denial use continues to decrease. The use of identification begins after early childhood, but does not dominate until late adolescence (roughly 16 years and older). It is of note that there is a rough relationship between the previously mentioned ages at which the ability to *recognize* defense use increases and the ages where these defenses are no longer dominating, which again points to the essential power of defenses as unconscious to the user. According to Cramer, denial dominates in use before age 7 generally and marks a stark drop off in denial use, which fits well with findings from Whiteman(1967) and Chandler et al (1978) showing that denial is rarely recognized by 5 and 6 year olds until a huge shift in recognition around age 7-8. A similar pattern can be seen for projection recognition, increasing more gradually after 10, but not recognized by more than half of children until after age 12.

IQ, Race/Ethnicity & Socioeconomic Status. There are mixed findings regarding the relationship of childhood defense development and various factors of social location such as intelligence quotient (IQ), gender and socioeconomic status (SES) and nearly no literature, theoretical or empirical, regarding the influence of race and ethnicity. IQ is understood as a type of measure of intelligence, usually calculated through comparing an individual's performance on standardized assessments to those of similar age. Although some studies have found no significant relationship between defense development, IQ and childhood socioeconomic status (SES) (Cramer & Brilliant, 2001; Vaillant & Vaillant, 1992), a more recent study questioned their role in the dampened use of identification in a community sample of older adolescents and adults when compared to previous samples taken from more highly educated and affluent enclaves (Cramer, 2007). One possibility is that, as seen with age, increasing cognitive abilities and adaptive defense use, there is a certain adaptive "fit" between defense use and IQ. Evidence for this possibility is seen in the use of more "primitive" or cognitively simple defenses, like denial, predicting higher ego levels in adults with lower IQ, while the opposite is true for high IQ individuals. Though this finding is of limited consequence during childhood, it can be seen as further evidence of the central influence of cognitive ability and adaptive defense use (Cramer, 1999a).

The relationship between IQ, SES and defense use was explored with longitudinal data that looked at these variables in the context of defense development style from pre-adolescence to early adulthood (Cramer, 2009a). As predicted from previous cross-sectional studies, SES and IQ predicted change in adulthood denial use: while the use of identification and projection rose regardless of IQ/SES during latency and adolescence, childhood IQ/SES predicted which adults would continue to use identification or decline in identification use in favor of denial. Adult use

of projection and identification could not be predicted from childhood SES or childhood IQ, but there was a strong relationship between adult SES and adult IQ. Ultimately, Cramer postulated that perhaps those from lower SES backgrounds experienced more stress during the appropriate developmental period for childhood defenses, particularly denial, and their relative overuse at that time encouraged the carrying of childhood defenses into early adulthood (2009a).

Poikolainen, Kanerva and Lonnqvist had similar findings in a cross-sectional study of defense use in adolescents (i.e., lower SES was significantly associated with increases in lowered maturity of defense use), but had an alternate theory that SES changed one's sense of how much control, or lack thereof, one has over a potential threat, which would also influence the need for defenses that distort reality such as denial (1995).

Unlike more current conceptualizations of gender as a spectrum, all the studies that examine gender and defense use assumed that gender and biological sex are synonymous and binary. Within the review literature, participants are understood as male or female only. With that caveat in mind, gender differences are often cited within the literature on childhood defense use, however, a review of child and adolescent defense studies that included males and females show the data do not support the extrapolated strength, generalizability and importance of gender differences that are presented in some discussions. There are a few exceptions (Diehl et al., 1996), but nearly all of the data show chronological age, degree of stress and cognitive maturity as the primary indicators of defense use and style, whereas the data that show gender differences are inconsistent in their findings (Cramer, 1983; Cramer, 1987; Cramer & Gaul, 1988; Cramer & Block, 1998). There are studies that suggest different rates of defense development in childhood by gender, but the differences are most commonly observed in preschool aged children (Cramer, 1987). The differing gender pathways of defense development are not clearly seen until

adulthood, though this could be a matter of limited research looking specifically at gender (Cramer & Tracy, 2005).

Defense Development in Childhood: Stress, Trauma & Psychopathology

While children will utilize the best defense available to them in any given moment, the amount and type of defenses used in childhood is dependent on a number of factors. As previously discussed, the child's level of cognitive development is central to defense use—developmentally younger children will not be able to effectively use or access higher level defenses such as identification, making denial a much more effective option due to its simplicity (Cramer, 2006). However, the primary purpose of defense mechanisms, both in childhood and adulthood, is to moderate the threatening emotional influence of conflicts, stressors and trauma through transforming internal thoughts and feelings and even the perception of outer realities. Therefore, it would be expected that childhood defense use is influenced by stress levels. For example, when experiencing moments of increased stress (e.g., situations that the child feels they cannot control, threats to self-esteem, disappointment) defense use would be expected to increase. There is also the question of how defense use and development is influenced by the length of time and level of stress experienced, along with the type of stress that is experienced and the actual effectiveness of the defense (i.e., the defenses' ability to minimize psychological disequilibrium). These stress inducing environmental factors and the possible patterns in response are most essential to understanding defense use in childhood and the possible variables motivating or stunting development.

Defense use in experimentally provoked stress. Cramer and Gaul created an experiment to look at how an experience of failure might influence defense use in 2nd and 6th grade boys and girls (1988). They sought to test two theoretical assumptions: first, that

experiencing failure would lead to increased stress and increased defense use in all children, and second, that children's post-failure defenses would be developmentally regressed, while children's post-success defenses would be enhanced (i.e., developmentally appropriate/mature). Children were matched for similar defense use in TAT stories taken 2 weeks before the experiment and randomly assigned for the failure or success conditions. During the experiment, all participants were informed of their success or failure and the success group were given an award that displayed their names on an "honor board" to increase the intensity experienced by success and failure¹.

Results in this study supported the finding that increased stress likely leads to increased defense use in children, seen in reports of stress and significantly higher defense use of children who experienced the failure condition. However, the second assumption, of defense regression-enhancement, was not clearly supported, due to insignificant findings between grade level, success/failure grouping and pre/post defense use. Additional analysis provided some evidence of age differences in the influence of success or failure on defense use: 6th graders in the success group used projection and denial less than in their pretest measures, whereas 2nd graders in the failure group used more denial (Cramer, 2006). This was interpreted to mean that depending on age, negative experiences result in increased lower level defense use and that positive experiences support mature defense use. These findings are not strongly supported, as they are from post-hoc analyses alone. It also seems possible that success encourages more age appropriate defense use in older children.

Sandstrom and Cramer (2003) looked at the level of stress and use of defense mechanisms before and after an experience of peer rejection in girls who had been grouped by their peers' ratings of social status (i.e., "accepted" or popular and average; "poorly accepted" or

¹ All children in failure group experienced successful trials afterwards.

neglected and rejected). Levels of pre-rejection stress and defense use did not differ between groups. Heightened stress from pre to post rejection was significant for all groups, yet there was significantly more stress in the “poorly accepted” group in comparison to the “accepted” group post-rejection. In addition, the “poorly accepted” girls used significantly more defenses than the “accepted” girls post-rejection. Stress post-rejection was found to be a significant mediator of the relationship between social status and level of defense use in the “poorly accepted group”, rather, the lower the social status the higher the stress reaction to rejection, and the higher the stress reaction the higher the defense use. Stress was a non-significant mediator for defense use in the “accepted group”. While this could suggest dispositional differences in the groups, it strongly suggests that the higher level of defense use was due to heightened negative emotional response to peer-rejection for the girls who were likely familiar with experiencing peer-rejection.

Both studies of experimentally induced stress suggest that increased stress, particularly stress related to being socially ostracized (e.g., not having your name on the “honor board” or being “poorly accepted”) will often result in increased defense use. Further, Cramer and Sandstrom’s study suggest that a history of positive peer-interactions is protective for stress levels and subsequent defense use in reaction to a singular negative peer interactions (Cramer, 2006; 2003), whereas a history of negative peer-interactions makes a momentary rejection all the more painful and stress inducing, requiring more defense use.

Defense use in naturalistic studies of stress. Dollinger and Cramer performed a study of defense use and emotional upset in boys aged 10-13 years who had experienced a shared traumatic event: a lightning strike had killed one child and injured several others during their soccer match (1990). In this group, defense use was significantly and negatively correlated with level of observed emotional upset (i.e., the more defense use, the less emotional upset).

However, as defense use increased, so did the disparity in emotional upset reports between children and their parents, suggesting a key difference in awareness of upset. Most interestingly, when the type of defenses used in the more highly defended group were analyzed, it became clear that emotional distress was further reduced when this increased defense use was with age-appropriate defenses, such as projection. This suggests that beyond defense use increasing with stress, these increased defenses are most effective when age appropriate.

Some have theorized that stressors can potentially cause regression in defense use (Cramer & Gaul, 1988), a study by Silverman (as cited in Cramer, 2006) used the DMM to assess defense use in children (aged 9-18 years) who had a younger HIV positive sibling, and for the majority of participants, also had a deceased parent due to HIV. This type of stress is unique in containing a significant stressful event with the loss of a caregiver along with the daily worries and vague threat related to having an HIV positive sibling. In comparison to “normal” childhood measures of defense use (Cramer, 1987), these children used denial at a doubled rate, but experienced somatic, anxious and depressed symptoms at a normal or even below normal rate. It seems likely, due to the self-report style of symptom measurement, that these children are protectively barred from recognizing their traumatic experiences through a heavier use of denial.

When significant stress and trauma are introduced through the relationship between children and their caregivers, many aspects of development are negatively influenced. The development of defenses during childhood is particularly sensitive to this type of stress:

“The younger we are, the more heavily we depend on others to contain us, to provide a stimulus barrier that prevents us from feeling overwhelmed by our inner sensations. This barrier must also protect us from external intrusions when we are too young to adequately

keep them at bay. Thus the burden of defenses in our earliest life depends more upon our caretakers.” (Tuber, 2012, p. 37-38)

The importance of accessing caregiving is so paramount that even when caregiving is problematic, children are strongly motivated to maintain these relationships, regardless of the cost to their own development. In coping with a warped environment, a child’s adaptation will often be similarly warped at the cost of healthy socialization, reality testing, impulse control and overall (ego) development. A comparison of defense mechanism use in a sample of an Israeli children (ages 6-12; mean = 9.77 years) who were physically abused, neglected or neither abused/neglected by their caretakers found significant differences in maturity of defense use, affect, impulse control and reality testing (Finzi, Har-Even, & Weizman, 2003). Immature defense use dominated the defenses used by physically abused children and was significantly higher when compared to neglected children and children who were neither neglected nor abused. Similarly, neglected children also used immature defenses at a higher rate than non-abused/neglected children (Finzi et al., 2003). These children who were physically abused also showed significantly more issues with regulating negative affect, impaired reality testing and lower impulse control. The authors concluded that parental violence was likely a harmful influence on the child’s developing ego functions—including defenses and the ability to use age-appropriate defenses.

The age at which a disturbance in caregiving occurs is also a factor in how defenses develop. A 5-year follow-up longitudinal study of defense use in Israeli mother-child dyads that had experienced a missile attack, found that the caregiver’s initial reaction and level of psychological symptoms was representative of their child’s adjustment 5 years later (Laor et al.,

2001). For mothers who had higher amounts of psychological symptoms post attack, the strength of this influence was dependent on the age of the child during the attack. Children who were younger (3-5 years) were significantly more likely to have problematic symptoms and relatively primitive defense use five years later, whereas this relationship was much weaker in children who had been older (9-11 years) during the attack. This suggests the role of the caregiver not only as a potential model of good psychological adjustment and defense use, but also the role of acting as a defensive buffer when children are younger and have fewer defenses at their disposal. Lastly, this study shows that trauma can influence the development of defenses.

The use of defenses in childhood is dependent on a variety of factors, including family environment and trauma history, the current context of emotional strength and the presence of conflict, but is primarily best understood as the child's attempt to maintain psychological equilibrium with the best available defense in terms of cognitive development and the level of stress. With this in mind, I will now turn to the relevant literature on affect in childhood.

Affect Maturity

The theory and research on emotion and its development is often problematic. Subjective experiences of emotion, attempts to define emotions, or focus on particular emotional states can be valuable, but often idiosyncratic or similarly difficult to generalize. Classic psychoanalytic and Piagetian (e.g., S. Freud, 1936/1926; Piaget & Inhelder, 1969) views of emotion see affect as vital, but simply as an energy source for cognition or "ideas", with no content, intentions or aims of their own (Thompson, 1985). Though recent literature on affect and emotion has been dominated by the model and language of emotion regulation, the following section will address the cognitive organization of affect and affect maturity.

Theoretical background of affect maturity. Anne Thompson's model of affect maturity is based on her "cognitive-intensional-constructivist" view of emotion, which in turn, is deeply influenced by psychoanalytic, Piagetian and cognitive developmental theory. Emotion is more than the fuel for Piaget's cognition or Freud's "ideas"—it has its own cognitive structure and related motivations (Thompson, 1985, p.152). Seeing emotions as at least partially comprised of cognitive structures, both conscious and unconscious, makes space for their intensional quality. By intensional, Thompson explains affects are, "'of' something", and are "'directed' to objects" (1985, p. 152)—in other words, affects are most often goal-directed at someone or something, including the self. Emotions are "constructivist" because they develop in reaction to the environment that they are directed toward, rather than being inborn. Due to its intensional quality, affect development occurs in repeated interactions with the environment/other. These repeated interactions with the environment are the impetus for affect development in cognition and self-other differentiation.

Systems theory provides a complimentary way of thinking about how the essential elements of affect interact and mature (Thompson, 1985). In an organizational or systems view of developmental psychology, differentiation of any capacity or response provides an opportunity for further integration or organization into a variety of systems. With further differentiation and integration, the elements of affect, such as representations of self-other, cognition, action, somatic sensations and expression become more and more hierarchically organized within a system (Thompson, 1981). How and at what level affect has been differentiated and integrated will influence the experience and expression of that emotion.

The concept of differentiation and integration is central to the concept of the nature of emotions and affect maturity. As a student of Irene Fast, Thompson was deeply influenced by

Fast's "Event Theory", which itself was inspired by an integration of Piagetian and Freudian concepts (Fast et al., 1985). In this theory an "event" is any interaction ("action") between the self and non-self, which at early developmental stages includes animate and inanimate objects. Over time, these events, or "actions" with the environment allow for differentiation and integration, leading to psychological development.

Donald Winnicott's (1945; 1965) ideas about early development parallel both Fast and Thompson, providing support and theoretical nuance for psychological development through differentiation and integration. Winnicott felt that for the infant, experiencing the world as safe, continuous and predictable, in other words, being reliably taken care of, was essential in early development. At first, this learning comes from the "good enough" mother who is able to provide consistent care through responding to the infant's active wish within a time frame and in a manner that makes the infant feel that he has magically "created" this response (Winnicott, 1945). Once the infant can take this care for granted, the coherent if not omnipotent illusion of the now reliable mother he created allows him to take in future "misses" on the mother's part because she has been internalized, not as a traumatizing deprivation, but instead as the important beginnings of "not-me" and objective thinking (RW.ERROR - Unable to find reference:141; Winnicott, 1945). The beginnings of "not-me" are the beginnings of early differentiation between objective and subjective described by Fast and Thompson. When the mother is "not good enough" she cannot provide a healthy ratio of responsiveness and misattuned moments to facilitate the infant's understanding of the difference between subjective and objective. The subjective (e.g., omnipotent fantasy) and objective (e.g., mother is busy now) become unclear or inconsistent to the infant. Without continued support of the infant's omnipotence in the external world via the mother's "good enough" provisions, the spontaneous gestures that are the

precursors of aliveness, creativity and authenticity can wither, making such representations of the True Self muted. Winnicott felt that these early experiences were the foundation of later developments, including defensive organization and tolerance of difficult affects.

Development of Affect Maturity. Though Thompson stresses the continuous nature of affect development and the ability to regress under trauma and stress, it is helpful for the purposes of this review to make some generalizations that characterize affect in various age ranges. Additionally, the use of Piagetian developmental phases, also used by Thompson, and similarly utilizing age determined levels or phases, will help illuminate and clarify the phases or levels of affect development. Anna Freud's concept of "developmental lines" (A. Freud, 1965, p. 245) has a number of key aspects that inform the development and observation of affect maturity as described by Thompson. The concept of developmental lines represents how maturational/biological, psychic and environmental aspects interact like so many intersecting threads that make (or break) the developmental pattern, as is the case with affect maturity (A. Freud, 1965; Thompson, 1985; Thompson, 1986). This can be seen in Thompson's Affect Maturity Scale (AMS), which attempts to represent the changing developmental patterns of affect during different levels of differentiation of self, environment and other, temporal reality, amount of agency felt towards an emotion, ability to attribute emotion to others and the self. These aspects are expanded on in the 5 levels of affect maturity as understood through the Affect Maturity Scale.

Affect Maturity Scale

Level One. Primitive affect is powerful and holds sway in a globalized manner—as it shifts, so do cognitive representations of the self, other, environment and reality. Borrowing from Werner (1948) and Fast et al (1985), Thompson aptly names this type of primitive emotion as the

“affect-event” (1986, p. 210). The affect-event is undifferentiated and unsystematized hierarchically—for the differentiation of self and other has not yet developed. Emotions are entirely event-like, “atmospheric”, an emotion is belonging to no one and everything, swathing everything in the same color, a person is “in” the emotion, but can just as easily move to being “in” another emotion—it is ephemeral and unrelated to the individual’s history (Thompson, 1986, p. 214). Without differentiation, affects, self, other, environment etc. are all one and the same. There is no temporal reality as the primitive cognitive systems of affect lack connection to one another and snap rigidly in and out of awareness, one at a time. An alternate affect cannot be held in mind during an affect event, bringing the sense that nothing can change the affect, it is forever, yet this forever affect never happened as the disappearance of one affect occurs and when another comes into dominance(Thompson, 1986, p. 209). Actions are not separate from emotion; actions are involuntary, imposed by the event. There is no sense of agency, it is “just happening”, the affect-event is attributed to the self, other, bodily sensations, external environment etc. and only regrettable as an uncontrollable weather event. Therefore, at the most primitive, affects are not expressed or described directly, they are most likely described and expressed in terms of action and bodily sensations.

The primitive affect thus described is representative of affect in the sensorimotor periods, generally ranging from birth to 2 years. In this framework, it would make sense that event-like affect is experienced, due to the phase culminating in achievement of object permanence through sensorimotor interactions (e.g., touching, hearing, grasping, sucking and so on). Through these experiences, differentiation between the self and the environment, along with the awareness that these things exist outside of the immediate sensorimotor experience, are developed (Thompson, 1986, p. 210). However, Mahler, Pine and Bergman point out that obtaining object *constancy* is a

more complex notion that involves more than the “inanimate, transiently cathected, physical objects” of Piaget’s object permanence (1975, p. 111). Object constancy involves the more complex internalization of the caregiver, who once internalized, remains constant and soothing in the physical absence of that caregiver. Thompson appears to agree, for she clarifies the self-other differentiation of this phase: “Although there may be differentiation within the affective event, the object is not differentiated *from* the affective event.” (Thompson, 1985).

Level Two. Event-like affects continue within the next level with the preoperational child’s level of cognitive development (2-6 years) when the hallmark cognitive processes of this stage are considered. First, sensorimotor operations still carry weight, but there is also egocentrism, or the inability to understand or conceive of things outside of one’s own perspective. Another cognitive aspect of this age is “centration” or focusing on one aspect of an event in isolation to interpret or attribute the entire event. Lastly, and perhaps most significant, is the inability to transform or reverse thoughts. Taking “irreversibility” from the perspective of affect would suggest that preoperational children cannot access other feelings, thoughts and object representations associated with one affect while in the grips of another. For example, “I hate you” for a child is likely “I have a hateful feeling towards you right now”, though is deeply felt as the former and cannot be seen otherwise in the moment—yet as the affect switches to another, the child then cannot access the previous version of the situation, person or target of their anger. Similarly, mixed or ambivalent feelings are not experienced by the preoperational child (Thompson, 1986, p. 210).

During this phase, there is some amount of attribution to self and other, though it is rudimentary and lacks individuated selves with inner psychological realities. Emotions are not yet represented outside of concrete observations such as body position, facial expressions. Affect

can be happening or located in similarly physical ways: it is outside of the self, moving toward, away or “lodged inside” the self. The child is more likely to have anger rather than be angry. An emotion might similarly be “warded-off, expelled, or eliminated in some way.” (Thompson, 1986, p. 214) Affects here cannot be reversed, but they can cycle rapidly and be successive without being integrated or being consciously related. The child may have some vague sense that they are the “doer” but without agency. They may have the beginnings of guilt or regret but only for the consequences of the affect-event.

Level Three. During the concrete operational phase (Piaget & Inhelder, 1969), which occurs roughly around age 6 and lasting through early adolescence, reversibility becomes increasingly possible (Thompson, 1986, p. 211). This ability marks the shifting development of a number of important aspects of affect maturity. The development of reversibility in affect terms means that the child can realize that the present emotion can change and that an object can be evaluated outside of the present emotion. However, at this level, when affects are reversed, it is without the awareness of how individual internal states influence affect. Though inner life is known to exist for the self and other, they do not exist independently. For example, while both individuals may still be caught in the same emotion, when emotions do differ, the other’s emotion compliments the emotion of the self or is in direct reaction or compliment to the self’s emotion somehow. The child cannot understand that despite two people having the same emotion it could be for two different reasons. Emotions no longer intrude from the outside, but external situations/objects are still seen as the cause of emotions within the self, rather than independent feelings(Thompson, 1986, p. 214). Similarly, two affects can be held simultaneously, but they are segregated due to the lack of awareness of the inner psychological experience: the child

might feel hurt and angry, but not angry in reaction to being hurt. Affects are still vaguely described or confused in this phase.

During the phase of concrete operations children are aware of faked emotions and some choice is involved in acting on emotions, due to the introduction of internalized social expectations (Thompson, 1986). However, Camras and Shuster, found that children's ability to "dissimulate their expressive behavior" or mask emotions with a more favorable response, has been seen to start in preschool children as early as age 3 (2013). However, these studies were interested in observable behaviors rather than the child's consciousness of these behaviors, their intention or their or their ability to discern similar behavior in others.

Developmental Differences in Affect Maturity. The developmental differences in affect at different ages is well represented in two studies comparing children in the age range of 4-5 year old to children who are aged 7-8 (Arsenio & Kramer, 1992; Strayer, 1986). In a comparison of boys and girls, each of whom were asked to describe what would make someone happy, sad, angry etc., Strayer found that there were significant age differences in the contextual explanations of emotions. 7-8 year olds used significantly more interpersonal responses (e.g., "sad because the boys teased him") than the 4-5 year olds, who gave explanations based on material goods (e.g., "happy because she gets presents") or environmental events (e.g., "angry because the wind blew her balloon away"). In fact, the 4-5 year old group had so many responses related to "food" (e.g., "getting to eat cookies all the time") and "animals" (e.g., "having to go where the raccoons can get you") that researchers added these response categories post-hoc (Strayer, 1986).

A second study also addressed different understandings of emotion in children. The study looked at how children described the emotions of two children in a story told through a 3-frame

image sequence where one child stole the candy of the other. Both victim and victimizer had neutrally affective expressions. Significant age differences emerged in the stated feeling state of the victimizer; all but one 4 year old attributed a singular positive feeling to the victimizer, whereas 8 year olds were just as likely to assign the victimizer with negative or mixed negative/positive emotions as positive emotion. Lastly, there were also strong age differences in the rationale of feelings for both victimizer and victim: 4 year olds described emotions through the loss or gain of material things, whereas 8 year olds were much more likely to point to the emotional consequences of violating morals or being betrayed by others (Arsenio & Kramer, 1992). In terms of affect maturity, this displays important developmental differences. The attribution of emotion for 4 year olds is concrete—about a material, measurable gain or loss, which is partially connected to this age group’s relatively less differentiated self, other and environment. In the 7-8 year olds, affect has become linked more directly to relationships between self and other: the loss of candy is secondary to the betrayal and hurt from having someone steal from them.

Level Four. In adolescence, affect maturity shifts again. There is individuation at this stage, with affects being attributed to individuals, but in a one-dimensional and inflexible way. Part-object like characteristics such as gender, occupation and so on are the main means for meaning-making of affect characteristics and the assumed inner motivations/wishes of others. Conflicts within the subject’s emotions are recognized, but not well tolerated or resolved. The situation/cause is interpreted/modified by the person as an individual and the cause can be quite complex/contradictory within the individual, situation/event, but do not modify one another. This is the beginning of reversibility. Decisions can now be made more thoughtfully, thinking through

actions and options rather than just inhibiting a certain response. Thus, remorse is felt for impulsive responses.

Level Five. Adult affect maturity displays the highest levels of differentiation and integration of the self, other and affect. Thompson explains this best, “Self and other are perceived as individuated affective beings with enduring inner dispositions and capabilities that affect their emotional responsiveness.” (1981, p. 105) The cause of emotion, even if connected to external events, is evaluated outside of the emotion it causes. For example, the ability to realize the other who inspired the emotional reaction in the self did so without intending to, or recognizing this reaction is due to an idiosyncratic sensitivity. Affects are seen as an important part of an individual’s self-history and conflicting emotions are accepted and tolerated when needed.

The most central changes in affect maturity during childhood are in the context of the changing relationship between self and other. A stark example of how experience of the self and other are limited without affect is seen in alexithymic adult patients. Alexithymics suffer from a deficit in the ability to identify emotions, describe them to others, or, in some cases, recognize emotions in others. In other words, without affect, these individuals struggle to separate and connect aspects of the self and others. It is unsurprising then, that alexithymics often have trouble differentiating between the physical sensations of emotional arousal and other somatic sensations, leading to misinterpreted signs of physical illness.

Making use of Thompson’s Affect Maturity Scale (1981) and a measure of self-other differentiation, Hering conducted a study of adult chronic pain outpatients (1987). Nearly half the sample met criteria for Alexithymia and when compared to those who did not meet criteria for alexithymia, alexithymics had significantly lower affect maturity and self-other

differentiation (Hering, 1987). Additionally, post-hoc analysis also provided evidence of the alexithymic individuals' confusion between affect and somatic sensations. While the AMS and Thompson's view of affect are deeply rooted in the cognitive and structural understandings of affect, this view also assumes that maturing interactions with others are deeply connected to the level of maturity affectively. This can also be seen as affects developing within and in relation to various object relational constellations. "Put simply, you can't have a "self" and an "other" without affect." (Tuber, 2012, p. 29) Affects are the "experiential medium" through which internalization takes place.

Affect tolerance is an important component to affect maturity—as affects mature they also become easier to tolerate. At all levels of maturity, defenses may be used against affect. The type of defenses activated are likely influenced by the experienced level of affect maturity in that moment and the capacity for cognitive complexity. Additionally, these defenses operate in different ways to manage affect. For example, lower affect maturity levels are likely to require more primitive "all-or-none" defenses such as denial, avoidance, and withdrawal, which shutdown affective experience, unlike more mature defenses, such as displacement that allow affect, if altered. (Thompson, 1981, p. 91). Tolerance of affect is a key aspect of affect maturity and the need for defensive response, but is also not always constant across all affective experience. For example, someone could be high functioning, both in terms of affect maturity and defense use, but regress when confronted with their own anger that is difficult to tolerate due to the meaning of anger to the individual within their psychic history. On the other hand, Thompson hypothesizes that individuals who have "a widespread inhibition of affect, or other pervasive characterological defenses against affect" are unlikely to avoid some amount of significant affect immaturity and some related delays of development (1981, p. 91).

Projective Assessment

Though first used with adults, the use of projective methods in the assessment of children has a long history, dating back to the 1940's. This early application of projective assessment to children reflects the interest in children's inner worlds. Also in the 1940's, was the work of Roy Schafer, David Rapaport and Merton Gill who applied psychodynamic theory to projective assessment in order to examine personality and ego functioning (Rapaport, Schafer, & Gill, 1946) For example, all assessment responses could be considered a combination of external structure and individual personality structure, yet projective tests provide less external structure so as to allow more space for the expression of the individual's personality structure (Rapaport, 1967).

The Thematic Apperception Test (TAT; Morgan & Murray, 1935; Murray, 1943) is one of the most commonly used projective tests for both children and adults. During the TAT, the individual is presented with evocative images printed in black and white on a series of cards, usually chosen beforehand by the assessor. This task requires the respondent to tell a story about the card including: (1) what is happening currently (2) what led up to the current situation (3) what will happen in the future (4) what are the characters thinking and (5) what are they feeling. Unlike other projective tests that are more ambiguous, the TAT imagery is meant to pull for strong reactions. Tuber aptly states that: "the TAT is a storytelling task under morbid conditions." (Tuber, 2012, p. 113) In these conditions, the TAT is particularly well poised to observe affect and its level of maturity as well as the defenses that are potentially employed to manage these affects.

Summary and Hypotheses

The empirical literature exploring the cognitive components, developmental shifts and environmental factors in developing affect and defense provides evidence for the theoretical frame of this study. Together, affect and defense influence both internal and external experiences, but perhaps most importantly, manage and shape the boundary between inner and outer experience. As the experience of the self and other becomes more differentiated and integrated, more complex and subtle defenses are employed against similarly developing affect. Cognitive abilities, which often increase with age, are an important factor in the complexity of defense that is potentially used and the nuance of the emotions experienced. Similarly, environmental stressors, both current and past, influence the dynamic between affect and defense.

Beyond the theoretical assumption that connects affect and defense in a protective pact to maintain psychological equilibrium, we can now see evidence that suggests a more nuanced relationship. Theory suggests that the level of affect maturity (e.g., the affect-event) must be met with a complementary defensive reaction (e.g., denial) to best manage the type of affect. Therefore, higher levels of affect maturity will be matched with higher proportions of mature defense use. Put another way, beyond the assumption that upsetting affect results in defense use, it seems likely that particular levels of affect maturity and defense are matched in terms of the developmental level and cognitive complexity of the individual or the individual's reaction to a particular event. This assumption, that the level of affect maturity will be more adaptively managed by a developmentally matched defense, is the central hypothesis of this study and is partially represented by the additional hypotheses that age will be related to both affect maturity and defense use.

Methods

This study has been built upon a preliminary study addressing child assessment and treatment of child patients at the Psychological Center, an independent community based mental health clinic located in West Harlem, New York City. Participants are children and adolescents, aged 5 – 16 years, who sought psychological services at the Psychological Center between 2009-2017. The current study focuses on the participants' response to the Thematic Apperception Test (TAT; Morgan & Murray, 1935). TAT transcripts were assessed using both the Affect Maturity Scale (AMS) (Thompson, 1981), and the Defense Mechanism Manual (DMM) (Cramer, 1991).

The current study addresses the hypothesis that there is a developmental relationship between defense mechanisms (as measured by the DMM) and affect maturity (as measured by the AMS) in children and adolescents. More specifically, that more primitive affect will be associated with more primitive defense use. Using these preexisting TAT data, this study empirically explores the relationship between affect and defense use in children.

Participants

There are 52 participants in this study, ranging from age 5 to 16 years old. As the TAT was part of the intake protocol within the Psychological Center, all children were consecutively selected, without any additional screening procedures, as they presented for psychological treatment. Children were participants in the project *From Child Assessment to Child Treatment; a Preliminary Investigation* through the Child Intake Research Group (CIRG), under primary investigator Steve Tuber, Ph.D. Children were administered the Rorschach, the TAT and The Raven Progressive Matrices. Informed consent was given to and affirmed by all caregivers in the study, with the IRB approval process fully engaged. Demographic information was also collected from these participants, including their age, gender, IQ, ethnicity/race and socioeconomic status.

Instruments

Children in the CIRG sample were assessed over the course of 1-3 assessment meetings with the Rorschach Inkblot Test (Rorschach, 1942), The Thematic Apperception Test (TAT; Morgan & Murray, 1935) and The Raven Progressive Matrices (Raven, 1965). In addition, a separate assessment was completed with the parent or caregivers' of the child who were interviewed with the Parental Development Interview (Slade, Aber, Berger, Bresgi, & Kaplan, 2003). Only data from the TAT are relevant to this study. Thus, the other measures will not be discussed further.

The Thematic Apperception Test. (TAT; Morgan & Murray, 1935) The TAT is one of the most commonly used projective tests for both children and adults. It consists of the presentation of a number of cards to participants; each card depicting a drawing or photographic black and white image. The cards all contain a level of ambiguity, but vary widely in terms of content, situation and characters. The number of characters depicted, their mood, actions and emotional expression varies greatly. The underlying assumption of the TAT is that the cards will elicit, through the narratives told for each card, an individual's underlying motivations, assumptions and worries.

The same 10-12 TAT cards were presented to all 52 participants in this study. Cards 1, 2, 3BM, 3GF, 4, 6BM, 7GF, 8BM, 12M, 13MF, 18GF, 13B were chosen for their variety of themes. The variance in how many cards were given is due to the earlier protocols that required particular TAT cards be exchanged based on biological sex and assumed gender. Specifically, cards 6BM and 7GF as well as 12M and 18GF were pairs not always used together, but often traded in or out on the aforementioned reasoning based on biological sex of the child. Protocols that did not include the minimum of 10 cards were excluded from this study. The TAT presents

the respondent with the basic requirements to tell a story, created from five questions: (1) what is happening currently? (2) what led up to the current situation? (3) what will happen in the future? (4) what the characters are thinking? (5) what they are feeling? The story that is constructed by the participant is ideally considered both from the perspective of actual content, but also from how the narrative is constructed and organized (Schafer, 1958).

The Affect Maturity Scale. This scale looks at the intersection between cognition and affect. The AMS is structured to rate TAT responses on a scale of 1-5. Each of the transcribed Thematic Apperception Test narrative was scored by two raters blind to additional participant information (e.g., demographical data, DMM scoring) using the Thompson Affect Maturity Scale. Though the Affect Maturity Scale has only been used in one application to children, it has shown adequate inter-rater reliability (Cohen, 1988) with the aforementioned procedure on children's TAT protocols in Goudsmit (2010) (kappa coefficients of 0.78, 95% CI: 0.74 to 0.83). Additionally, the AMS has been shown to have discriminate validity for both IQ and age, but not education level in adults (Thompson, 1981).

Defense Mechanism Manual. This manual provides a guide to coding TAT responses for three types of defense: denial, projection and identification. Each of the three defenses has 7 subtypes of that defense that are also codeable. Since it is expected that TAT narratives often contain more than one codeable defense, all instances of defense use are coded.

Procedures

As a part of the CIRG project, children took part in a battery of projective and nonverbal intelligence assessments. These assessments were usually completed in 1 to 2 sessions during the same time period that the child was going through the intake process for psychological treatment at the Psychological Center. In some circumstances, 3 sessions were required. A separate

interview was also conducted with the child's parent or guardian to administer the Parental Development Interview (Slade et al., 2003). These data are presented to CIRG and the intake therapist in order to inform the clinical recommendations of the intake.

Testing was performed in a small, quiet therapy room within the Psychological Center. Each child was administered the TAT as part of a short battery of projective and nonverbal intelligence testing. The TAT was administered before the Rorschach administration, but not necessarily in the same session. Responses were transcribed and the data were de-identified.

A panel of two advanced doctoral level clinical psychology students, blind to age and demographic information of the participants, with training in the Affect Maturity Scale, scored the TAT responses according to the guidelines of the Affect Maturity Scale. A panel of two other advanced doctoral level clinical psychology students, also blind to age and demographic information of the participants, scored the TAT participant responses according to the guidelines of the Defense Mechanism Manual. Scores were assessed for inter-rater agreement using correlational analyses and in cases of disagreement, a licensed clinical psychologist previously trained in the aforementioned scoring systems scored contested TAT responses.

Hypotheses

The main hypotheses and foci of the study are to better understand the relationship of affect and defense in childhood and adolescence, as measured by the Affect Maturity Scale (AMS Thompson, 1981) and the Defense Mechanism Manual (DMM Cramer, 1991), among children and adolescents presenting for intake at The Psychological Center.

Hypothesis I: Confirming Anne Thompsons' theory of affect maturity (1981; 1985), results will demonstrate a statistically significant positive correlation between age and level of affect maturity.

Hypothesis II: Replicating past findings (Cramer, 1987; Cramer, 1991; Cramer, 2006) results will show a statistically significant positive correlation between the proportion of mature defense use and age.

Hypothesis III: The level of affect maturity will be positively correlated with an increasing proportion of mature defense use.

Data Analysis

The TAT narratives of children presenting for psychological treatment were coded to identify the levels of affect maturity displayed in each narrative using the Affect Maturity Scale. The mean of affect maturity was calculated for each participant's TAT record. These same TAT narratives were coded to identify each use of three defenses, denial, projection and identification, as described in the DMM. The ratio of these three defenses was calculated for each participant's TAT record from the raw coding of defense use. Sample demographics were analyzed and descriptive statistics were computed for the study variables. For hypotheses I and II, correlations determine direction and significance between predictor (age) and outcome (proportions of defense use and mean level of affect maturity) variables. For hypothesis III correlations determine the direction and significance of the relationships between mean level of affect maturity and proportions of defense mechanism use.

Results

The focus of this study was to examine the nature of the relationship between affect and defense in a clinical sample of children and adolescents. Affect maturity (AM) was measured using the Thompson Affect Maturity Scale (AMS) (1981), a scale created to capture qualitatively differing levels of emotional sophistication within TAT narratives as defined by both object relational theory (Mayman, 1967) and Piagetian (1969) understandings of cognitive development. Defense mechanisms (DM) were measured using Cramer's Defense Mechanism Manual (DMM) (1991), a detailed manual developed around three defenses that have been shown to represent differing levels of cognitive and object relational development within TAT narratives (Cramer, 1987; Cramer, 1997; Cramer & Block, 1998; Cramer, 2007; A. Freud, 1965). A review of the literature led to the hypotheses that 1) age would be positively correlated with AMS scores and similarly, that 2) age would be positively correlated with proportions of mature defenses and negatively with immature defenses. Lastly, 3) it was hypothesized that there would be a positive correlation between AMS scores and DM proportions due to the theoretical assumptions regarding the intertwined nature of defense and affect in terms of cognitive development.

The results section will begin with a review of the demographic and background information of the participants in the sample, followed by the sample's performance on the Affect Maturity Scale and Defense Mechanism Manual. The statistical analyses used to investigate this study's three main hypotheses are then addressed. First, the relationship between age and AMS will be explored in order to investigate the potential role maturation has upon the ability to conceive of and express increasingly complex affective situations and experiences. Second, the relationship between age and DM proportions of denial, projection and identification

will be explored. Lastly, the relationship between AMS and DM will be addressed in order to illuminate the connection between affect and defense maturity.

A number of exploratory analyses were performed by grouping participants into three age groups. The grouping was informed by prior research using the DMM and Piagetian theory regarding cognitive development. These groups will be examined for shifts in defense use and affect.

Preliminary Analyses and Demographic Characteristics

The basic demographic characteristics of the study sample's 52 children and adolescents are displayed in Table 1. All the children and adolescents were between the ages of 5 years, 3 months and 16 years, 5 months ($M = 10$ years, 4 months; $SD = 2$ years, 8 months). Gender and biological sex were not differentiated and hence presented as a binary male/female option, thus the incidence of possible non-binary gendered children is not represented within this sample. With that caveat in mind, 34.6% ($n = 18$) of the sample were identified as female, while 65.4% ($n = 35$) were identified as male. It should be noted that the average age for females ($M = 11$ years, 6 months) is nearly two years older than the average age for males ($M = 9$ years, 8 months). It is not uncommon for clinical samples of pre-adolescent children to contain more males than females, though this pattern begins to shift in adolescence, where an increase in females seeking services is often seen (World Health Organization, 2002). Gender differences in terms of the hypotheses will be addressed below. The collection of caregiver-reported race/ethnicity was inconsistent and, at times, entirely absent or unknown (21.15%, $n = 11$) within this sample. For this reason, analyses of possible race/ethnicity differences were not performed. Despite this missing information, the known race/ethnicity data is believed to be representative of the entire sample, as it echoes similar percentages of our clinic population and the surrounding

community. The vast majority of this sample are people of color (71.16%), with White/Caucasian in the minority (7.69%). Specifically, Hispanic/Latino (25%), Black/African American (21.15%), Mixed Race and Ethnicity (21.15%), Asian (1.92%) and Other (1.92%) populations were represented in the overall sample.

Table 1

Demographic Characteristics of Participants

	All Participants (<i>N</i> = 52)	Female (<i>n</i> = 18; 34.6%)	Male (<i>n</i> = 35; 65.4%)
Mean Age (<i>Std Dev.</i>)	10y, 4m (2y, 8m)	11y, 6m (2y, 8m)	9y, 8m (2y, 6m)
Race/Ethnicity			
Black/African-American	11 (21.15%)	3 (16.66%)	8 (23.52%)
Hispanic/Latino	13 (25%)	3 (16.66%)	10 (29.41%)
Mixed Race& Ethnicity	11 (21.15%)	5 (27.77%)	6 (17.64%)
White/Caucasian	4 (7.69%)	0 (0%)	4 (11.76%)
Asian	1 (1.92%)	1 (5.55%)	0 (0%)
Other	1 (1.92%)	1 (5.55%)	0 (0%)
Unknown	11 (21.15%)	5 (27.77%)	6 (17.64%)

Defense Mechanism and Affect Maturity Measurement

TAT protocols were assessed using the Defense Mechanism Manual (DMM Cramer, 1991) and the Affect Maturity Scale (AMS Thompson, 1981). Each TAT card and associated response was given an affect maturity (AM) score of 0-5; 0 referring to no affect event occurring in the response, 1 referring to the most primitive affective events and 5 referring the most mature affective events. Means of each TAT record's AMS scores were used in the statistical analyses detailed in the hypotheses section. Defense scoring was categorical (1 = denial, 2 = projection and 3 = identification) and defenses were scored as many times as they appeared. DM scores were calculated as proportions of each defense across the record. In other words, a percentage of

the overall defense use was given for each of the three defenses for each record. This method helps to manage the potential influence of differing defense frequency between longer and shorter narratives. The same statistical analyses were employed to further explore the possible influence of gender in each hypothesis. Lastly, ancillary analyses were performed by grouping participants into three age-based groups: 63-95 months ($n = 9$); 96-143 months ($n = 28$); 144-197 months ($n = 13$) that roughly reference Piagetian stages of cognitive development and prior findings from research that employed the DMM to represent shifts in defense use across similar age groups (Cramer, 1987; Cramer, 1997; Cramer, 2007; Piaget & Inhelder, 1969).

Inter-Rater Reliability

Two pairs of advanced doctoral students in clinical psychology worked on the AMS and DMM scoring. All were aware of this study's hypotheses, but blind to all other participant data such as name, age, gender, race/ethnicity and diagnoses as well as being blind to the scores of the other coders. For the AMS and DMM, one coder within the respective pair coded the entire sample of 52 TAT records, while the other coded a sample of 11 randomly selected TATs for inter-rater reliability purposes. Each record contained 10-12 cards. The AMS inter-rater reliability was calculated from the TAT record means using Pearson correlation two-tailed test; it was both strong [$r(10) = .913, p < .01$] and significant. DMM inter-rater reliability was calculated separately for each defense proportion using Pearson correlation two-tailed tests. For denial and projection, inter-rater reliability was both strong [$r(9) = .819, p < .01$; $r(9) = .805, p < .01$, respectively] and significant. Identification inter-rater reliability was also strongly and significantly related [$r(9) = .644, p < .05$].

Hypotheses

Relationship Between Age and Affect Maturity

The first hypothesis of this study was that age and affect maturity levels would be positively correlated, suggesting that increases in developmental maturation would similarly lead to increases in maturity of affect. In order to test this hypothesis a Pearson correlational two-tailed analysis of participants' age (in months) and AMS mean scores was performed. As predicted, there was a significant, strong and positive relationship [$r(50) = .556, p < .01$] between age and AMS means.

To further explore this relationship, additional analyses were run to explore the possible role of gender. When males and females were separated, the male group continued to show a significant, strong and positive correlation [$r(32) = .623, p < .01$] between AMS means and age, yet the female group's correlation was no longer significant, it remains positive [$r(16) = .318, p = \text{n.s.}$]. With this finding in mind, we looked at the possibility that gender was a moderator of the relationship between AMS means and age. This analysis showed that gender was not a significant moderator between AMS mean and age, rather that the relationship between AMS mean and age is not dependent on gender. This finding suggests that other factors may be at work such as the considerable differences between the participants within the male and female groups. The female group is smaller than the male group ($n = 18$ vs. $n = 34$) and older than the male group (female $M = 11$ years, 6 months, $SD = 2$ years, 8 months; male $M = 9$ years, 8 months, $SD = 2$ years, 6 months). Perhaps most important in terms of the theoretical basis for the AMS mean and age hypothesis, is that the female group only has one participant below the age of 9 years, 2 months, whereas there are eight males under this age. Taken together, it appears that sample size and the aforementioned skew of clinical samples in terms of gender and age at which

one seeks treatment is more likely to be the reason for the female group's insignificant correlation between AMS mean and age.

Relationship Between Age and Defense Mechanism Use

The second hypothesis of this study was that age and defense mechanism proportions would be positively correlated for more mature defense proportions (e.g., identification) and negatively correlated for age and immature defenses (e.g., denial). As expected, there was a significant, moderate negative correlation [$r(50) = -.337, p < .05$] between denial proportions and age. Similarly, as predicted, there was a significant, strong positive correlation [$r(50) = .635, p < .01$] between identification and age. Unexpectedly, there was no significant relationship between age and projection

[$r(50) = -.134, p = \text{n.s.}$].

As with the prior hypothesis, gender differences for the relationship between age and each defense was explored. In the male group, the correlation of age and denial proportions remained a significant moderate negative correlation, though slightly stronger [$r(32) = -.369; p < .05$] than the overall sample [$r(50) = -.337, p < .05$], whereas the same relationship for females remained negative, but insignificant and weak [$r(16) = -.077, p = \text{n.s.}$]. As with the overall age and projection proportions, both relationships were insignificant and negative. However, the female group remained more similar to the overall age and projection proportion with insignificant, though moderately negative correlations [overall $r(50) = -.337, p < .05$; female $r(16) = -.309, p = \text{n.s.}$] than did the male group, which displayed an insignificant, weakly negative correlation [$r(32) = -.062, p = \text{n.s.}$]. Following a similar pattern to denial, age and identification for males remained a significant, strong positive correlation [$r(32) = .683; p < .01$] and the female group showed an insignificant, moderate positive correlation [$r(16) = .397, p =$

n.s.]. Again, due to these correlational differences between male and female groups and each group with the overall sample, gender was explored as a possible moderator for age and denial proportions as well as age and identification proportions. As with AMS mean and age, there were no significant findings for gender as a moderator between age and denial or age and identification. Again, this finding suggests that perhaps the differences in sample size and age between the two gender groups is more likely the reason for the differences in correlational relationships compared to the overall sample.

Relationship Between Affect Maturity and Defense Mechanism Use

The third hypothesis of this study was that AMS means and defense mechanism proportions would be positively correlated for more mature defense proportions and negatively correlated for less mature defense proportions. As hypothesized, AMS means and proportions of identification had a positive, significant and strong correlational relationship [$r(50) = .588, p < .01$]. Similarly, AMS means and proportions of denial had a negative, significant and moderate relationship [$r(50) = -.483, p < .01$]. As with age and projection, the relationship of projection with AMS means was weak and insignificant [$r(50) = .082, p = \text{n.s.}$].

Gender differences were also explored for each defense proportion with AMS means. In terms of denial proportions and AMS mean, males continued to have a significant, though slightly more moderate, negative correlation ($r(32) = -.462; p < .01$) than the overall sample [$r(50) = -.483, p < .01$]. The female group's denial proportions and AMS means correlation remained moderate and negative, but was no longer significant [$r(16) = -.465, p = \text{n.s.}$] as seen in the overall sample. Despite the AMS mean and projection proportion correlations not being significant for males and females, as with the overall sample, they do differ slightly from the overall sample's strength and direction, which was weakly positive [$r(50) = .082, p = \text{n.s.}$].

Female AMS and projection proportion was instead weakly negative [$r(16) = -.057, p = \text{n.s.}$], whereas male AMS and projection proportion was still positive, but slightly less weakly [$r(32) = .148, p = \text{n.s.}$]. Similar to the overall sample ($[r(50) = .588, p < .01]$), AMS means and identification proportions remained strongly and positively correlated for both males [$r(32) = .552; p < .01$] and for females [$r(16) = .547; p < .05$]. Gender as a moderator analyses showed that gender was not a significant moderator for AMS means and denial proportions nor was it for AMS means and identification proportions. This again mirrors findings in the prior gender is not a significant moderator in the other two hypotheses.

Table 2

Correlational Relationships Between Variables

	Age	Affect Maturity	Denial	Projection	Identification
Age	-	.556**	-.337*	.134	.635**
Affect Maturity	.556**	-	-.483**	.082	.588**
Denial	-.337*	-.483**	-	-	-
Projection	.134	.082	-	-	-
Identification	.635**	.588**	-	-	-

* $p < .05$
 ** $p < .01$

Ancillary Analyses

Ancillary analyses were performed by grouping participants into three age-based groups: 63-95 months or 5 years and 4 months-7 years, 11 months ($n = 9$); 96-143 months or 8 years-11 years, 11 months ($n = 28$); 144-197 months or 12 years-16 years, 5 months ($n = 13$). These groups roughly reference Piagetian stages of cognitive development and prior findings from

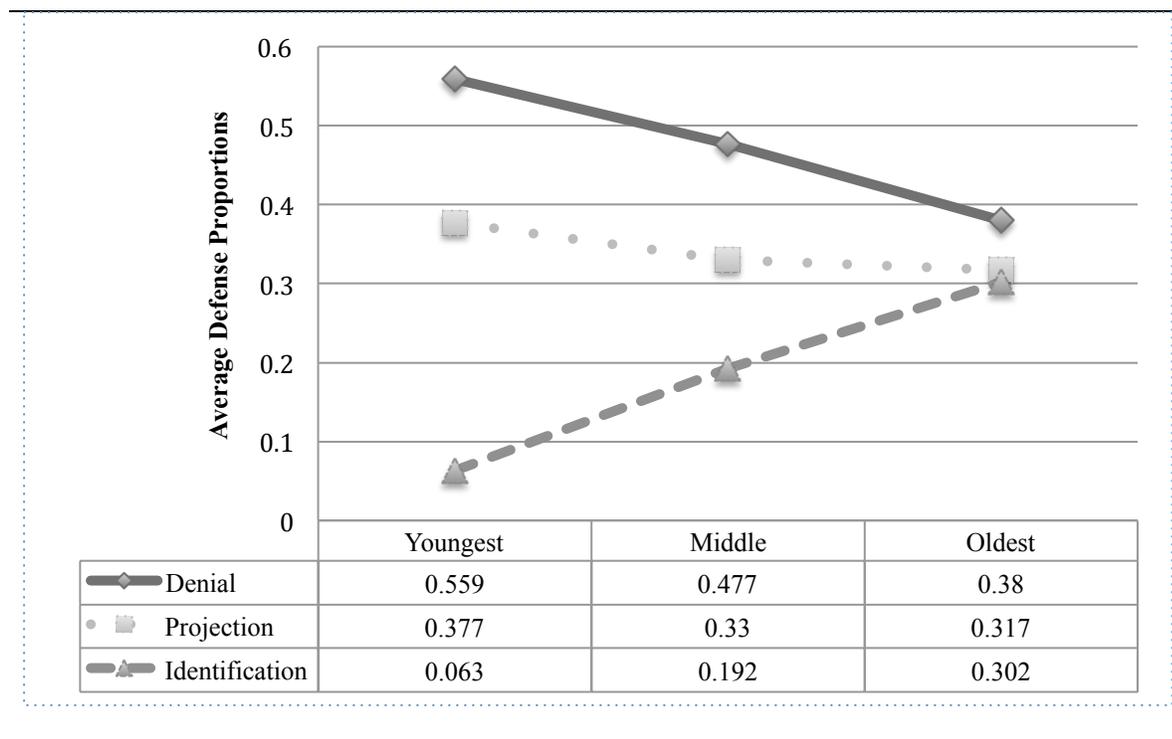
research that employed the DMM to represent shifts in defense use across similar age groups (Cramer, 1987; Cramer, 1997; Cramer, 2007; Piaget & Inhelder, 1969).

A one-way ANOVA was performed between the three age groups for each defense proportion (see table 3) in order to determine any potentially significant differences between groups for each defense. There were a significant differences of denial proportions $F(2, 49) = 3.299, p = .045$. Post-hoc comparisons using the Tukey HSD test show significant mean score differences ($mdiff = .178, SE = .071, p = .041$) between the youngest group ($M = .559, SD = .153$) and oldest group ($M = .380, SD = .093$), while the middle group ($M = .477, SD = .194$) did not differ significantly in terms of denial when compared to the middle and oldest groups. There were also significant differences between the average identification proportions $F(2, 49) = 16.934, p < .001$ (youngest: $M = .063, SD = .045$; middle: $M = .192, SD = .107$; oldest: $M = .302, SD = .094$) and post-hoc comparisons using the Tukey HSD test indicated significant mean score differences between all three groups (youngest vs. middle: $mdiff = -.128, SE = .036, p = .003$; youngest vs. oldest: $mdiff = -.238, SE = .041, p = .000$; middle vs. oldest: $mdiff = -.109, SE = .031, p = .003$). While no significant differences were found between the different age groups' projection proportions $F(2, 49) = .500, p = .610$ it is of note that the proportional average use of projection is very similar across all three age groups (youngest: $M = .377, SD = .120$; middle: $M = .330, SD = .170$; oldest: $M = .317, SD = .091$). Similarly, use of all three defenses in the oldest group are proportionally very similar (denial: $M = .380, SD = .093$; projection: $M = .317, SD = .091$; identification: $M = .302, SD = .094$). Denial use wanes as the group age increases, but remains the most frequently used defense proportionally across the three groups. Directly opposite, identification proportions increase as the group age increases, but it remains the least

used defense proportionally in all groups. An analysis of gender differences for each defense and group did not show significant differences from the overall sample.

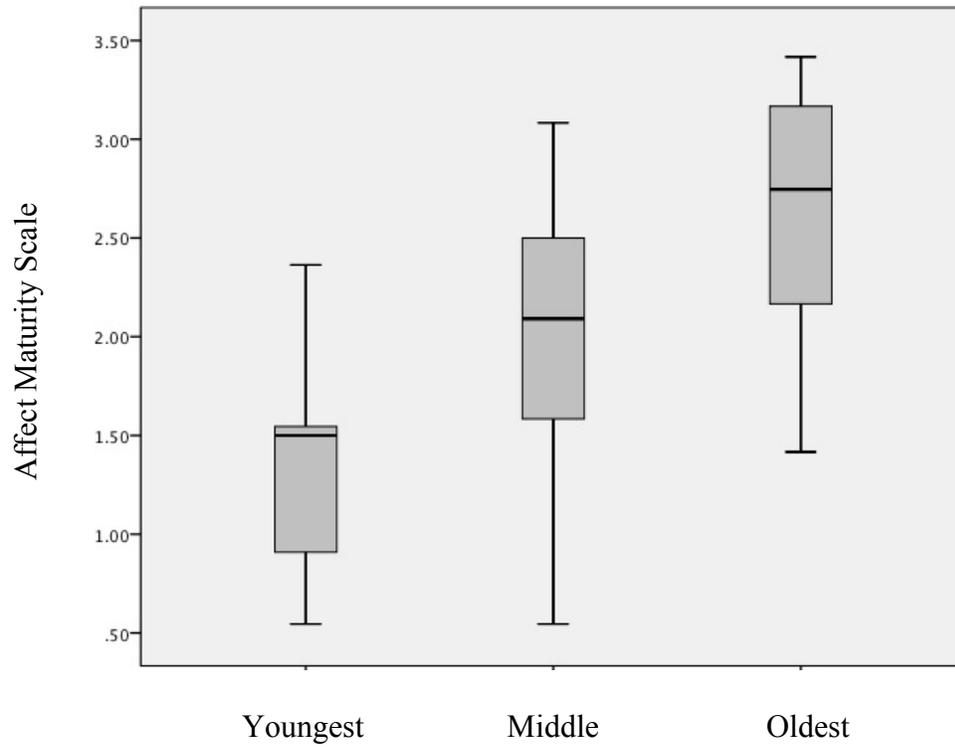
Table 3

Proportional Defense Use Between Age Groups



To further explore shifts in affect maturity between the three age groups, AMS means, medians, modes, standard deviations and ranges were calculated for each group (see table 4) and a one-way ANOVA was performed for the three age groups in terms of the six possible AMS scores (0-5) (see table 5). While AMS scores were treated as a continuous variable in the primary analyses, table 5 represents each AMS level categorically in a proportional calculation in order to see possible age group differences in use of particular levels of affect maturity. No participants in this sample scored level 5 on the AMS for any narrative, making the AMS score of level 4 the highest throughout the sample. Significant differences between groups for AMS scores of 0 (no

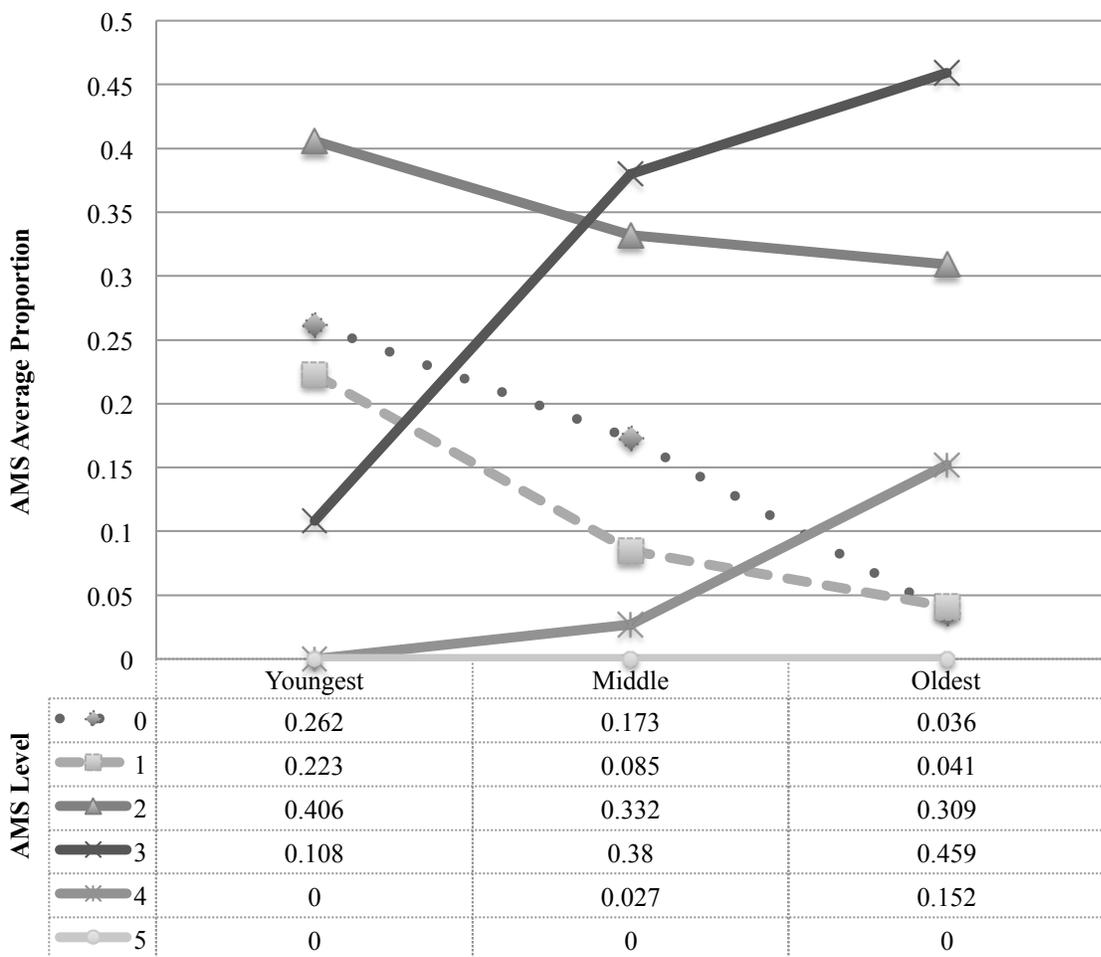
affect event) [$F(2, 49) = 4.394, p = .018$], level 1 (most primitive affect event) [$F(2, 49) = 6.551, p = .003$] and level 3 (middle high end of maturity of affect event) [$F(2, 49) = 5.257, p = .009$] were found. No significant differences were found for level 2 [$F(2, 49) = .594, p = .556$] or level 4 [$F(2, 49) = 11.035, p = .000$]. Post-hoc comparisons of narratives that lacked any affect event (AMS score of 0) using the Tukey HSD test show significant mean score differences between the youngest group ($M = .262, SD = .255$) and oldest group ($M = .363, SD = .071$) (youngest vs. oldest: $mdiff = .225, SE = .080, p = .019$), while the middle group ($M = .173, SD = .201$) did not differ significantly from either group. In narratives that scored a level 1 on the AMS scale, the most primitive use of affect, post-hoc analysis using the Tukey HSD test indicated there were significant differences between the youngest ($M = .223, SD = .213$) and middle ($M = .085, SD = .099$) groups (youngest vs. middle: $mdiff = .137, SE = .045, p = .012$) as well as between the youngest and oldest groups ($M = .041, SD = .071$) (youngest vs. oldest: $mdiff = .181, SE = .051, p = .003$). Similarly, for the AMS score of level 3, there were significant differences found in post-hoc Tukey HSD tests between the youngest ($M = .108, SD = .125$) and middle groups ($M = .380, SD = .303$) (youngest vs. middle: $mdiff = -.272, SE = .099, p = .024$) as well as the youngest and oldest ($M = .459, SD = .221$) groups (youngest vs. oldest: $mdiff = -.350, SE = .111, p = .008$). Taken together, the tendency towards the most primitive affect (AMS = 1) shifts downwards after the age of 8, whereas the understanding of a relatively more mature affect (AMS = 3) seems to become significantly more possible after the age of 8 and more so after the age of 12.

Table 4*Affect Maturity by Age Group*

Age Group	Mean	Median	Mode	Standard Deviation	Range
Youngest	1.361	1.5	1.5	.554	1.82
Middle	2.003	2.09	1.58	.687	2.54
Oldest	2.651	2.746	2.00	.586	2.00

Table 5

Proportional Affect Level Between Age Groups



Discussion

The present study explored the relationships among age, affect maturity and defense mechanism use in a diverse clinical sample of children and adolescents. The existing literature that informed this study's hypotheses centered conceptually upon how both the kind of defenses used and the maturity of affective experience are developmentally based, that is, they develop alongside increasing cognitive and object relational abilities (Cramer, 1987; A. Freud, 1965; Thompson, 1981). Thus it was assumed that children of differing ages would show differing levels of cognitive maturity and object relational capacity. With this in mind it was expected that with increases in age, there would be increases in affect maturity and maturity of defense use. Similarly, it was predicted that affect maturity and defense use would tend to be matched in terms of maturity—in other words, the ability to use more mature defenses would suggest a higher affect maturity and vice versa.

The following discussion section will consider findings related to these initial predictions in depth, including additional information gained by grouping the participants into three groups based on age. Potential parallels between this study and others will be explored. Lastly, possible clinical uses and limitations will inform a consideration of potential areas of interest for future research. Throughout the discussion, it will be important to keep in mind that these findings are correlational in nature—limiting possible interpretations of the results.

Developmental Shifts in Affect Maturity

One area this study explored was the relationship between affect maturity and chronological age with the aim of increasing a developmental understanding of affect maturity in children and adolescents. Thompson's Affect Maturity Scale is based on theoretical assumptions regarding increasing cognitive and object relational development throughout childhood and

adolescence, but has not been used with a sample of children and adolescents prior to this study (Thompson, 1981; Thompson, 1985; Thompson, 1986). The current findings of this study support the initial hypothesis that affect maturity and age would rise together, seen through a strong, positive and significant correlational relationship between increasing age and increasing affect maturity. This lends credence to Thompson's theory by supporting a developmentally driven shift in the ability to express, understand and interpret affective experiences over time.

Additional support for affect maturity following a developmental course was seen in age differences that emerged in ancillary analyses that looked at proportional use of each AMS level among three age groups: youngest (5 years, 4 months-7 years, 11 months), middle (8 years-11 years, 11 months) and oldest (12 years-16 years, 5 months). Strikingly, none of the participants told narratives that reached a level 5 on the AMS. This level requires a very complex understanding of affects as expressing aspects of each individual's psychological history as this history interplays with others, who similarly have their own complex psychological history. This type of thinking requires an adult-like cognitive ability as well as a flexible and thoughtful object relational life. It is likely that individuals must be firmly in the formal operations level of thinking (Piaget, 1936) before a score of five on the AMS is possible. Defensive processes that get in the way of higher level thinking, such as those warp reality (denial) or the boundary between self and other (projection) dominated across all three age groups and may also partially explain the difficulty in reaching a level 5 on affect maturity. In contrast, an AMS level 2 score was the most common score, accounting for at least a third of all expressed affect across the groups. Level 2 suggests the beginnings of affects being attributed to persons, but affect remains externalized and is not seen as a psychological state. The highest affect level reached was level 4, suggesting that one is able to differentiate the self and other, have some sense of the temporal

nature of affects and their psychological underpinnings—yet the complexity of individuals is limited. Individuals are seen through the lens of their gender, occupation etc. instead of their own individualized internal histories. This particular aspect of a level 4 response mirrors an aspect of identification, rather, to see people through their various social location roles rather than individualized experience.

A pattern of significant differences emerged between the groups for levels of 0, 1 and 3 on the AMS: the youngest group had a significantly larger proportion of 0 and 1 scores when compared to both the middle and oldest groups and similarly, the youngest group had a significantly smaller proportion of level 3 scores when compared to the middle and oldest groups. No significant differences were found for AMS level proportions between the middle and oldest groups, however, AMS level proportions for 0, 1 and 2 trends down from youngest to oldest, while AMS level proportions for 3 and 4 trends up from youngest to oldest.

Each score that showed significant differences is worth exploring for its primary features. The most unique score given on the AMS was a 0. This is because a score of 0 represents the absence of any affect event occurring within the participant's narrative and it is difficult to know the meaning of this absence. It could be theorized that 0 is representative of a complete avoidance that is more often turned to for the youngest group with children under the age of 8 and this group did have the most "0" scores. Level 1 represents the most primitive affect—it colors the entire scene and is akin to a weather event, without reason or attribution to an individual. Again, we see that children under 8 are interpreting and expressing this type of affect significantly more often than their older peers. Level 3 represents an important shift from the prior levels: the beginnings of seeing affect as a psychological state, something that is no longer entirely concrete and externalized. Again the youngest group differs from the others, suggesting

that this level of complexity is less common in children under 8. This study shows a significant shift in affect maturity after the age of 8 moving away from more primitive, externalized and concrete affect maturity towards the ability to see affect as a psychological state within individuals.

A similar pattern emerged in two studies that examined emotional understanding in two groups of children. Strayer (1986) compared the contextual explanation of emotions from two groups of children, the first aged 4-5 years and the second, aged 7-8 years and found significant differences in their reasoning for emotional states presented. The older group used significantly more interpersonal or internal expectations to explain an emotional state, whereas the younger group tended to use more concrete explanations of receiving of material goods or externalized events that were not involved with individuals or their relationships. Arsenio and Kramer (1992) looked at the differences between a group of 4 year olds and a group of 8 year olds in terms of their understanding of the emotions in a story that depicted two children, one of whom steals candy from the other. The 4 year olds tended to focus their understanding of the emotion only upon material goods and whether or not the relevant child had candy or lost it (happy and sad, respectively). The 8 year olds took into account the internal experience of stealing or being stolen from as the primary experience related to emotion and this moral transgression negatively affected their read of how the victimizer might be feeling (e.g., guilty). While the ages are slightly different, these two studies and this current study reflect a possible shift in cognitive ability that is akin to Piaget's understanding of the differences between preoperational and concrete operational stages of childhood cognitive development. Preoperational children (approximately age 2 to 7) are egocentric, struggling to see or acknowledge the perspective of others and tend to understand the world in very concrete, externally observable terms. In

contrast, egocentrism fades in the later stage of concrete operations (approximately age 7 to 11) allowing children to think about the thoughts and feelings of others, which would be required in order to reach level 3.

Developmental Shifts in Defense Mechanism Use

This study sought to provide further evidence of developmental shifts in defense mechanism use as seen in the work of Cramer and to expand this understanding in a diverse clinical sample of children and adolescents. As is true of this entire study, underlying theoretical assumptions regarding cognitive and object relational development informed these assumptions as well. Thus, it was predicted that chronological age and defense proportions would be significantly correlated—more specifically, that age and primitive defense use would be negatively correlated, while age and more mature defenses would be positively correlated. The results of this study primarily support these predictions, with age and denial being significantly and negatively correlated as well as identification and age being significantly and positively correlated. Ancillary analyses provided both further evidence for expected shifts in defense use, particularly in terms of denial and identification, as well as an illuminating contrast to prior DMM studies that sampled non-clinical, more affluent and less diverse children of similar age groups. Contrary to prediction, projection had no significant correlations with age, nor did it have significant differences between age groups in ancillary analyses. However, the unexpected finding in regard to projection use suggests important possible differences with regard to this study's demographic differences from comparable DMM studies. In fact, perhaps most interesting in terms of clinical understanding, is the unexpectedly high and consistent use (in comparison to prior studies) of relatively more primitive defenses across all three age groups. A

discussion of possible reasons for this difference in terms of this sample being a clinical one are discussed further below.

Denial represents the most primitive defense in this study. Denial requires little in terms of cognitive or object relational complexity: reality can be ignored and differentiation between self, other and external environment is not needed. This study provides evidence that use of denial is significantly related to age, decreasing with increasing age. Ancillary analyses that grouped children by age also showed that there were significant differences between children under 8 years old and children 12 years and older—the younger group used significantly more denial. Of note, while proportional denial use drops from the youngest to the middle to the oldest group (.559, .477 and .38 respectively), it remains the highest proportion of defense use throughout all three age groups. In studies of non-clinical populations, denial is expected to drop off significantly and not dominate defense use after age 8 (Cramer, 1987; Cramer, 1997; Cramer, 2007).

A few explanations are possible for this pattern of denial use. It has been theorized that when an individual is under stress during childhood that they may become dependent on the defense that was most developmentally appropriate at that time and continue to use it in later ages (Cramer & Tracy, 2005). It is possible that many children and adolescents in this sample, who are presenting for psychological treatment, have had a greater need for defense mechanisms such as denial since they were young if we assume that they may have been dealing with a higher incidence of stressors and stress. In addition, this sample has a predominantly low SES and an increased use of denial has been seen in samples that are of a lower SES (Cramer, 2006; Cramer, 2009a). While some have interpreted this as simply a reaction to higher levels of distress being present in a lower SES sample (Cramer, 2006), other studies have theorized that the inability to

change the very real circumstances of a lower SES status, such as poverty, requires a reality-altering defense such as denial to counter related distress (Poikolainen et al., 1995).

Unexpectedly, the relationship between age and projection use was not significant and weakly positive. Prior studies suggested that projection use would increase around age 8 and wane around age 14 (Cramer, 1987; Cramer, 2009a; Cramer, 2007). This expected pattern could arguably be difficult to recognize within a correlational analysis due to its expected waxing and waning within the sample's age range, however, ancillary analyses also suggested no major shifts. In fact, there were no significant differences between the youngest (under 8 years), middle (8 years to 11 years 11 months) and oldest (12 years to 16 years, 5 months) groups in their relative use of projection (.377, .33 and .317 respectively). One way to understand the finding that projection made up approximately one third of defense use regardless of age within this sample is to consider the defining characteristics of projection given that this sample is a clinical one. Projection within the DMM is defined by the attribution of hostile, aggressive and punishing characteristics to individuals or generally ominous story themes—in other words, projection here is an expression of disjointed, frightening and negative object relations. Many children who display psychological symptoms that might lead to seeking treatment are more likely to have experienced difficulty within their early and/or primary relationships, creating more negative object relational schemas and therefore a tendency towards projection as it is understood in the DMM. In addition, similar to the aforementioned understanding of the relatively higher than expected use of denial across groups, projection's failure to wane with age could be understood as its overuse at a developmentally appropriate time (e.g., middle age group) in order to deal with heightened distress, that then continued into less developmentally appropriate ages (e.g., oldest age group) (Cramer & Tracy, 2005).

Identification is the most mature of the defenses that were assessed within this study. The ability to use identification is a hallmark of more advanced cognitive abilities and object relations as well as being an important aspect of personality development during adolescence. More specifically, it requires not only a differentiation between self and other, but between self and multiple others, and the ability to create enduring internalized representations of others (Cramer, 1987). As predicted, age and identification use was significantly, strongly and positively correlated. In spite of its use being lower than expected for the oldest group in comparison to other studies (e.g., Cramer, 1987), ancillary analyses still provided significant findings of the expected increase in use of identification use with increasing age. Considering that expected shifts were depressed for denial and projection in comparison to other studies, the fact that each age grouping was found to be significantly different from the other in terms of their proportional identification use suggests that they are representative of unique and potentially important developmental shifts. The youngest group's (under 8 years old) proportional use of identification was significantly different and lower in comparison to both the middle group (8 years to 11 years, 11 months) and the oldest group (12 years to 16 years, 5 months), while the middle group was significantly different and lower than the oldest group in terms of identification use. This was the only defense that showed significant differences among all three age groups as would be expected from referencing other studies.

The Relationship Between Defense Mechanism Use and Affect Maturity

The main aim of this study was to examine the relationship between defense use maturity and affect maturity. The relationship between affect and defense is often discussed theoretically, but few studies have examined the relationship directly with quantified measures of each. As has been discussed, this study assumes that maturity of defense and affect are both aspects of ego

development and in turn related to cognitive and object relational maturity. Results of this study support the initial hypothesis that affect maturity and defense proportions would be significantly correlated. Further analyses of the initial hypothesis and ancillary analyses suggest that the pairing of lower AMS levels and use of denial as well as higher AMS levels paired with use of identification represent important developmental changes, even within a clinical sample.

As expected, affect maturity and denial proportions had a significant moderately negative correlation, supporting the idea that individuals with lower levels of affect maturity are more likely to use a higher proportion of denial while those with a higher level of affect maturity tend to use less denial. Adding to this understanding were the ancillary analyses that were performed to compare different age groups for proportional use of each defense and proportional use of each AMS level. In both affect maturity and defense use, the youngest group displayed the most significant differences when compared to the middle and oldest groups, suggesting that an important developmental shift may be occurring after the age of 8. Nearly half of the youngest group's affective responses contained no affect or the most primitive level of affect. These types of affect level (0 and 1 respectively) differed in proportional use significantly from their peers in both the middle and oldest groups. In addition, this same youngest group used denial significantly more often than the middle and oldest group. There are a few plausible explanations for this intersection of lower affect maturity and denial. First, the tendency to tell narratives that contained no affect event is reminiscent of a very strong use of denial—the affect within the card is not allowed expression or to come into consciousness at all. Similarly, the other most popular AMS level of 1 in the youngest group is likely to pull for denial. Level 1 is an affect event that colors everything, goes on forever, and is unmoored to individuals or any sense

of reason. It is imaginable that to contain such an overwhelming affective reality, a similarly powerful, reality-bending defense such as denial is in order to maintain equilibrium.

Contrary to earlier expectations, yet in alignment with other results regarding projection, there was no relationship between affect and projection. Similarly, ancillary analyses that broke the participants into three groups based on age did not display any significant differences. In fact, as noted above, projection use stayed very consistent at approximately one third of defense responses across groups. A similar finding was seen in the consistent proportional use of level 2 on the AMS across these same three groups (from youngest to oldest: .406, .332 and .309). This similarity of all three age groups using projection and level 2 on the AMS approximately one third of the time warrants an exploration of the theoretical similarities between the two.

Projection, akin to a level 2 on the AMS, requires a rudimentary ability to differentiate between the self and other, but also represents a confusion between self and other, with the understanding of the other being colored by the individual's experience. Both are representative of a preoperational level of cognitive development, which is partially defined by egocentric and concrete thinking (Piaget & Inhelder, 1969).

As predicted, a significant, strong, positive correlation emerged between AMS level and use of identification. Ancillary analyses provide additional information about identification and the more advanced levels of 3 and 4 on the AMS. Identification and advanced levels of the AMS both represent similar cognitive abilities such as increasing differentiation between self and other stable enough to allow the integration of the other into the self as well as seeing affect as a psychological and internal event that can be influenced by the individual. However, both are limited in their representations of the other as a specific individual, for they are seen primarily through their gender, occupation or additional roles they play. Uniquely, identification use

differs significantly among all three age groups, suggesting that it is representative of an important developmental shift. Similarly, use of level 3 on the AMS, the first level that sees affect as psychological, is significantly different between the youngest and oldest groups. Taken together, the strong relationship between affect maturity and identification suggests that they move together due to increasing cognitive and object relational complexity.

Clinical Implications

This study's finding that age and affect maturity are significantly and negatively correlated is an important one in beginning to provide evidence for a developmental line of maturing affect that previously had been largely theoretical (A. A. Freud, 1965; Thompson, 1985; Thompson, 1986). With the caveat that this sample is a clinical one, these findings can begin to inform clinicians who work with children of what levels of affect maturity should be expected at certain points in development. Knowing that there is possible developmental meaning to the levels of the AMS, clinicians can incorporate the knowledge of different levels of affect maturity into their assessment of the child's current developmental presentation. The AMS can also assist the clinician in understanding the child's experience of affect and how this may color their object relational schemas, social interactions, behavior and inner life.

While many prior studies (Cramer, 1987; Cramer, 2009a; Cramer, 2007) have examined the developmental course of the defense, this study adds to that body of research through representing a clinical sample. As with understanding the development of affect maturity, having expectations for what to expect in terms of defense use within a clinical population can help to inform treatment. Overall, the results of this study show similar shifts in defense use dependent on age to prior studies, but the use of denial and projection are used more frequently

across age groups and identification does not dominate proportionally in adolescence as would be expected in a nonclinical sample.

Studies, such as the ones described below, suggest that overuse of age inappropriate defenses, such as denial, lead to problematic outcomes, while use of developmentally appropriate defenses at the expected ages lead to more positive mental health outcomes in adulthood. For example, male children who use denial at higher levels in childhood due to stressors are more likely to overuse denial and have lower ego maturity in young adulthood as well as being more likely to display maladaptive narcissism (Cramer & Block, 1998; Cramer, 2011). Similarly, overuse of denial during adolescence is associated with “ego undercontrol”, rather, the inability to modulate the expression of emotion and behavior, difficulties in delaying gratification and being unable to reflect on how their actions influence themselves and those around them (Cramer, 2009b). In contrast, it has been shown that increased use of developmentally appropriate defenses, in this case projection in a group of 10-13 year olds, after a traumatic event is associated with reduced stress and emotional upset (Dollinger & Cramer, 1990). Similarly, higher use of identification in adolescence, is predictive of higher self-esteem, higher sense of competence and overall psychological health in adulthood (Cramer & Tracy, 2005; Cramer, 2008)

With this study’s findings suggesting an important developmental link between maturing affect and defense in children and adolescents, along with the knowledge that defensive processes by their definition are unconscious and that immature defense use can lead to problematic outcomes in adolescence and adulthood, behavioral interventions that are common in treating children and adolescents would not be particularly effective if they operate only at the conscious, rational level. Play therapy on the other hand creates a space in which both the

internal unconscious world and the external world can meet safely and communicate. In this process, fantasy and reality that might pull for a child to utilize denial can be explored and carefully examined, bringing the defensive process into consciousness, thus making it less effective and making room for more adaptive defensive processes.

Limitations of the Study

A number of limitations are present in this study. This study primarily involved correlational analyses that cannot definitively speak to the causation for the significant relationships found herein. While studies using the DMM have shown internal consistency for its method as well as validity and reliability (Cramer, 1983; Cramer, 1987; Cramer, 1997; Cramer, 2007; Porcerelli et al., 1998), there has been far less research utilizing Anne Thompson's AMS (Thompson, 1981). One issue that was reported by the AMS coders was that there was sometimes only a very slight linguistic difference in deciding between level 2 and level 3 on the AMS ("He *is* sad."; "He *feels* sad."). This difference is a vital one, for it marks the shift into seeing affect as a psychological state. While the coders were trained extensively in the DMM and AMS, and were shown to be reliable with one another and blind to demographic information, it is possible that knowledge of the study's hypotheses influenced their scoring. In addition, the collection of race/ethnicity data was incomplete and therefore was not explored or controlled for. Similarly, the binary method of gender identification did not allow for the reporting of gender identities outside of male and female. Lastly, not using information about non-verbal or other forms of intelligence is a major limitation since the theoretical basis for this study puts an emphasis on cognitive development and maturity and the analyzed material is language based.

Future Directions and Conclusion

The findings of this study only begin to illuminate the relationships between affect and defense and suggest a number of questions that could be explored in the future. This is especially true as this study continues to add new child and adolescent participants as well as developing follow-up assessments for current participants after 6 months of treatment and again at 12 months. In addition, TATs are only one part of a larger data collection that includes parental and child self-reports, additional projective tests and a test of non-verbal intelligence. The follow-up data could potentially make longitudinal studies possible as well as further exploration of variables that could be related to affect and defense.

Since the participant data were collected during the consultation process, it would be hugely valuable from a number of perspectives to administer the TAT to participants who had remained in treatment for a certain period of time (e.g., 2 years) and compare their affect and defense maturity to their initial performance. Not only would this provide longitudinal data about developing affect and defense in children and adolescents, but it would also provide information about the influence of psychological treatment upon affect and defense over time. Findings could be compared to prior longitudinal studies of non-clinical samples, not only to compare developmental changes over time, but also to see if after a course of treatment, the difference between clinical and non-clinical samples lessened in terms of defense proportions. Examining the shift in affect and defense for particular patterns could also prove fruitful. For example, one could examine if the proportional dominance of more advanced defenses allowed participants to have more thoughtful and nuanced affective understanding as seen in their use of higher levels of affect maturity.

Taking into account the additional data that are available for these participants a number of other areas of exploration are possible. For example, the parental and child self-report measures could provide information about past and current symptomatology and history of trauma to help inform and expand the understanding of this study's current findings. Specifically, to explore this sample's depressed performance in comparison to studies that looked at non-clinical samples or what types of symptoms are associated with different levels of affect or defense at different ages. One question could be to compare the participants who were using developmentally appropriate defenses to those who are not in terms of presenting symptoms. In addition, since object relations and cognitive maturity were central to the theoretical underpinnings of this study, an analysis of the participants' cognitive performance and object relations could provide important information about the assumptions underlying the correlation between affect and defense. This data would be particularly salient in a study that examined more closely the similarities this study has speculated between certain AMS levels and defenses. Lastly, the coders who worked with the AMS described finding themselves caught between level 2 and level 3 frequently and the possibility of adding a level between 2 and 3 was discussed. Adding an additional level to the AMS was outside of the focus of this study, but a future analysis of the same TATs utilizing an AMS level 2.5 in comparison to this study's AMS scores could prove helpful in making the scale more appropriate to use with children.

A gap seems to exist at times between the psychodynamic and psychoanalytic theories that shape and inform clinical work and their ability to be examined empirically. These theories are complex, messy and malleable, making them adept in addressing the messy complexity of individuals' psychology, but less so in attending to the needs of an empirical investigation. This difficulty only increases when it comes to studies of children, who pose their own unique

challenges in clinical research. As with lower levels of affect maturity or the use of denial, it takes much less ‘work’ to operationalize and quantify aspects of psychology that are less messy (e.g., behavioral symptoms) and to paint with a broad brush that avoids individual complexity and histories. The AMS and the DMM were chosen for this study because they have taken on the courageous task of operationalizing and quantifying the theoretical complexity seen in psychodynamic and developmental perspectives.

The initial motivation for this dissertation was to find a question that would add depth to my understanding of children and inform my clinical work with them. Coming from a perspective clinically that a developmental understanding is vital to working with and assessing children, I was drawn to areas of development that are meaningful in how children interact with and manage their world. The effectiveness and appropriateness of the defenses children use, as well as their understanding of emotions, both their own and others, are essential elements of how children experience the world around them.

This study begins an empirical exploration of the relationship between affect and defense by providing evidence that the maturity of both affect and defense are significantly related and that both are individually related to maturational development. These findings are exciting in that they are consistent with central assumptions made theoretically regarding affect and defense, but also that both these variables represent meaningful developmental shifts between particular age groups. In addition, the results of this study lend support to the AMS as a meaningful measure and adds to the DMM literature in showing that directional patterns for defense development are similar to a non-clinical sample, but depressed in terms of expected rate of increasing proportions of mature defense.

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