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THE ROLE OF ANNIHILATION ANXIETY IN SCHIZOPHRENIA

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ABSTRACT

THE ROLE OF ANNIHILATION ANXIETY IN SCHIZOPHRENIA

By

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Annihilation anxiety (AA) is defined as a fear of ego disintegration or a loss of self which may include the fear of non-existence, and has been speculated to be a central component in psychotic disorders and relevant symptomatology. Hurvich (see Hurvich, Benveniste, Howard, & Coonerty, 1993) developed the Rorschach Content Scale (RCS) to measure AA from projective tests. One goal of this study was to check the reliability and ease of use of the RCS. The second goal of this study was to use the RCS to compare Rorschach protocols from 20 college students to 20 diagnosed schizophrenics. Results revealed that the RCS is a reliable measure that can be used with minimal training. Additionally, as predicted, it was shown that the schizophrenic group had a significantly higher level of AA than the college student group. Results suggest that AA should be a recognized component in the diagnosis and treatment of psychotic disorders.

Hurvich, M., Benveniste, P., Howard, J., & Coonerty, S. (1993). Assessment of annihilation anxiety from tests. Perceptual and Motor Skills, 77, 387-401.

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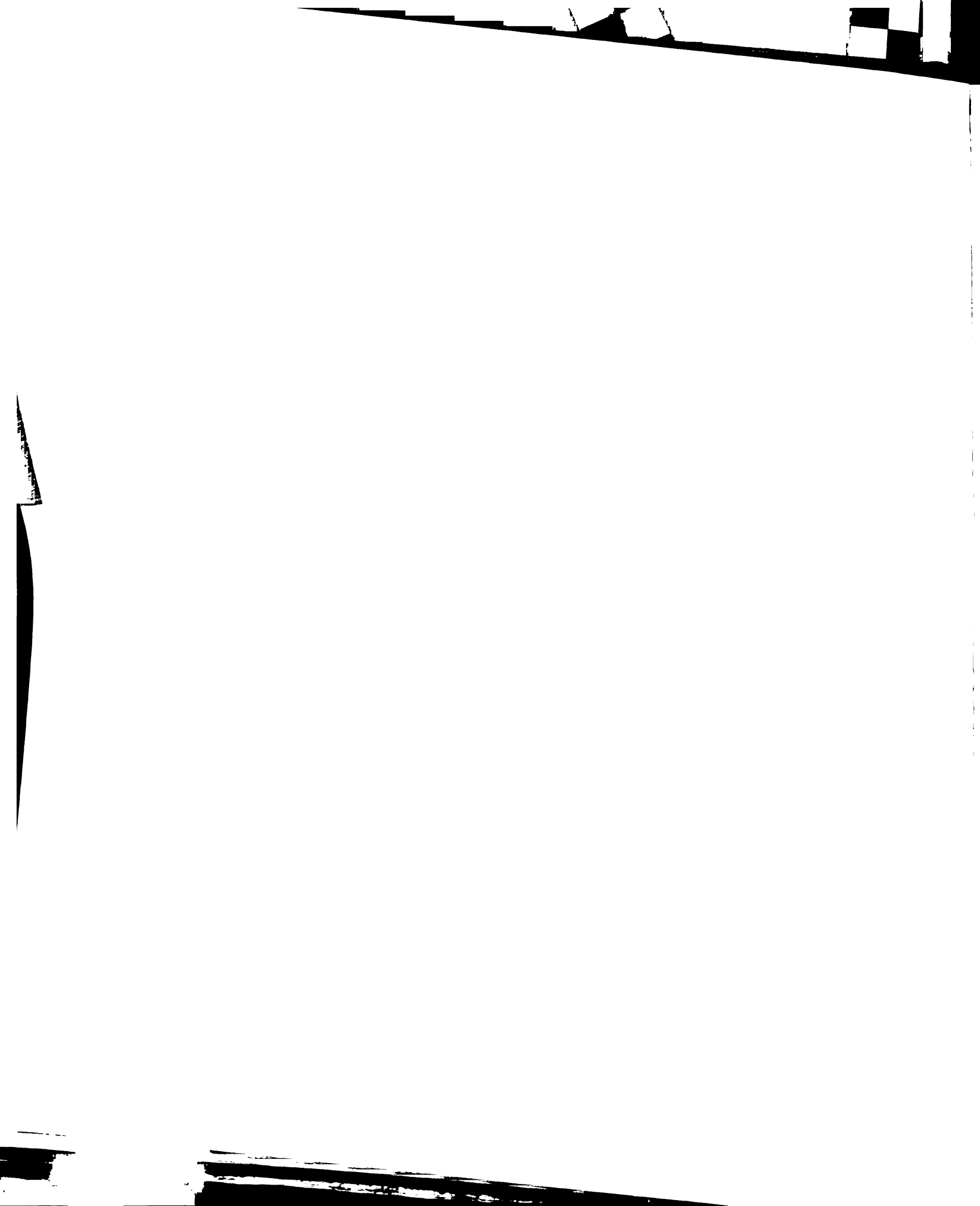


The Role of Annihilation Anxiety in Schizophrenia

Introduction and Overview of the Present Study

Annihilation anxiety has been discussed by several authors for many years in the literature (e.g., Chadwick, 1929; Fairbairn, 1952/1994; Guntrip, 1969/1989; Kohut, 1977; Winnicott, 1965). However there has been little agreement of its precise meaning or its etiology. Hurvich (1989; 1991) surveyed the literature and compiled the major definitions of what constitutes annihilation anxiety. From his work, annihilation anxiety can generally be defined as a fear of ego disintegration, or a loss of the self. That is, annihilation anxiety is an experience that may be equated to feelings of non-existence, impending danger or dread. Annihilation anxiety may be aroused in response to either conscious or unconscious malevolence from caretakers or noxious environmental stimuli that threaten or impinge upon the infant. This fear may then persist throughout life and detrimentally impact object relations. Further, annihilation anxiety is believed to be the earliest, most basic, form of anxiety that people experience. It originates in early infancy, even predating what Freud (1926/1959) discussed as the earliest experienced anxiety, that is, the fear of the loss of the object.

It has been postulated that when a person has been repeatedly exposed, over an extended length of time, to an environment that would likely produce annihilation anxiety, he or she may be more likely to develop a subsequent psychotic disorder, especially schizophrenia. In fact, schizophrenia and its symptom constellation may best be understood as a response

to, or way of coping with, annihilation anxiety (e.g., Bettelheim, 1967; Karon & Vandenbos, 1981).

This view is in contrast to the commonly held belief that schizophrenia is primarily a biological disease(i.e., brain dysfunction/neurotransmitter disorder) (e.g., Tsuang, Faraone, & Day, 1988). From this viewpoint, researchers, propelled by a medical model, may ignore or downplay the role of annihilation anxiety. For example, in the Diagnostic and Statistical Manual of Mental Disorders (1994) fourth edition, there is no mention of any sort of anxiety or fear listed as a criteria for recognizing and classifying schizophrenia, or any of the psychotic disorders. Further, it is often believed that schizophrenics have no affect (or have flat or blunted affect).

The following thesis shall begin by discussing the theoretical background of annihilation anxiety as the first, most basic, fear of life. This view will be contrasted with Freud's (1926/1959) revised theory of traumatic and signal anxiety. Next, annihilation anxiety will be discussed as it relates to schizophrenia, as well as the symptoms commonly seen in schizophrenia. The focus of this study is to measure annihilation anxiety from Rorschach protocols gathered from both college students and schizophrenics using the Rorschach Content Scale (RCS) devised by Hurvich (see Hurvich, Benveniste, Howard, & Coonerty, 1993).

One goal of this thesis is to determine the usability of the RCS by college undergraduates as well as to perform checks on reliability. Second, assuming acceptable reliability of the RCS, this study will attempt to demonstrate that the schizophrenic group will have higher scores reflecting

annihilation anxiety on the RCS than a reference college student group. Thus, the present study is an attempt to support the view that the schizophrenic is terrified of his or her world. This fear will be discussed in terms of the driving force behind the commonly seen symptoms in schizophrenia

Theoretical Discussion of Annihilation Anxiety

Freud's (1926/1959) monograph Inhibitions, Symptoms and Anxiety, which contains his revised theory of anxiety, posited that there are two forms of anxiety: traumatic anxiety, and signal anxiety. This revised theory of anxiety is the most familiar in psychoanalytic circles and is often accepted and incorporated into treatment modalities by therapists (e.g., Eagle, 1984; Paolino, 1981). As such, it will be used as a comparison theory to contrast against the theory of annihilation anxiety. As described by Freud, traumatic anxiety happens automatically in response to a perceived experience of helplessness or overwhelming on the part of the ego. These traumata may happen often in early infancy, especially in an undeveloped ego that lacks the organization necessary to discharge or regulate an influx of stimuli. Over time, as the ego develops, it is able to "signal," or predict, the possible advent of a traumatic situation before it occurs full-blown.

Thus, anxiety can serve an adaptive, self-protective role, in that it can initiate a fight-or-flight reaction, or trigger appropriate defenses. The advantages of being alerted by such a signal seem clear. Freud (1926/1959) called the situation in which a person is signaled by anxiety a "danger-situation." He stated "The signal announces: 'I am expecting a situation of

helplessness to set in,' or: 'The present situation reminds me of one of the traumatic experiences I have had before. Therefore I will anticipate the trauma and behave as though it had already come, while there is yet time to turn it aside'"(p.102).

Freud (1926/1959) specified that there are four basic danger-situations common to early life: fears of loss of the object, loss of love of the object, castration fears, and fear of superego disapproval. When an infant (or toddler/young person--as the case may be) experiences a perceived threat of one of the four danger-situations, he or she is signaled to anticipate (and hopefully avert) an experience of an earlier, remembered traumatic situation of helplessness during which the immature ego was overwhelmed.

Hurvich (1989) took issue with Freud's four basic dangers and contended that the fear of annihilation (e.g., overwhelming and mortal danger) should constitute a basic danger situation. Hurvich stated, "Based on the assumption that overwhelmed helplessness can at some point be anticipated, I believe it qualifies as a basic danger; indeed, as the first basic danger, of which the later dangers, beginning with the loss of the object, may be derivatives, and partial transformations" (p.313).

To support his contention, Hurvich (1989) pointed out that Freud discussed the fear of loss of the object (the first basic danger) as a displacement from the growing tension due to need onto the mother. Therefore, what subsequently becomes feared is the mother's absence (because her presence was associated with

reducing tension). Thus, although the mother is recognized as a protector against danger, Hurvich (1989) pointed out that "Freud does not see the fear of the mother's loss as the first danger. The fear of being overwhelmed or annihilated precedes, and is present during, the development of the fear of object loss." (p.314).

Teixeira (1995) observed that Freud, in discussing the so-called "wolf-man case," commented that oral phase anxiety is manifested as a fear of death. Thus Teixeira pointed out that Freud's commentary suggested "that the fear of death, like separation anxiety, is one of the earliest, and therefore, most overwhelming of human anxieties" (pp. 4-5).

Other psychoanalytic authors after Freud (see below) have also discussed experiences of fear and anxiety that occur before the danger situation of the loss of the object as delineated by Freud. This early, most primitive anxiety is often referred to as annihilation anxiety in the literature, and its felt experience in most likely akin to what Freud (1926/1959) described as an overwhelming of the ego, or state of utter helplessness.

According to Winnicott (1965), the infant requires the ego-support from maternal care in order to survive. The maternal care supplements the infant ego during the dependent state until it becomes strong enough that the infant can detach and differentiate into a separate personal self.

During the dependent state, Winnicott (1965) described the infant as having an "inherited potential" of growth given the necessary maternal care. The earliest necessary maternal care

involves creating a holding environment which minimizes adverse impingements upon the infant. If the holding environment is not adequate, the infant will experience feelings of annihilation to his personal being. Winnicott (1965) stated:

> As a result of success in maternal care there is built up in the infant a continuity of being which is the basis of ego-strength; whereas the result of each failure in maternal care is that the continuity of being is interrupted by reactions to the consequences of that failure, with resultant ego-weakening. Such interruptions constitute annihilation, and are evidently associated with pain of psychotic quality and intensity. (p.52)

Additionally, Winnicott (1965) described the dependent infant as "living on the brink of unthinkable anxiety," and it is the mother's (or primary care-givers) responsibility, via the holding environment, to prevent lapses into anxiety. Winnicott provided further descriptions of unthinkable anxiety as going to pieces, falling forever, having no relationship to the body, and having no orientation.

Kohut (1977) made a distinction between two different classes of anxiety experiences. He described the first class of anxiety as being experienced by persons with a relatively cohesive self, and the anxiety is in response to danger situations as specified by Freud (see above). Kohut emphasized the point that the experience of this first class of anxiety is related to the danger situation and not to the state of the self.

The second class of anxiety, according to Kohut (1977), is

"experienced by a person who is becoming aware that his or her self is beginning to disintegrate; whatever the trigger that ushered in or reinforced the progressive dissolution of the self, the emphasis of the experience lies in essence on the precarious state of the self and not on the factors that may have set the process of disintegration into motion" (p. 102). This description of the disintegration of the self is consistent with what has been defined as annihilation anxiety.

Fairbairn (1952/1994) posited that when a child expresses libidinal needs to a ridiculing or rejecting mother, the result will be a devastating affective experience--one of discharging libido into an emotional vacuum. When this happens to an older child there will be feelings of intense humiliation over the deprecation of his love. When the child is younger, Fairbairn stated:

> At a somewhat deeper level (or at an earlier stage) the experience is one of shame over the display of needs which are disregarded or belittled. . . His sense of his own value is threatened. . . At a still deeper level (or at a still earlier stage) the child's experience is one of, so to speak, exploding ineffectively and being completely emptied of libido. It is thus an experience of disintegration and of imminent psychical death. (p. 113)

Fairbairn (1952/1994) also discussed that separation-anxiety is the earliest form of anxiety experienced by the infant, and further, that this separation-anxiety is based on the prototype of birth trauma--the first, original separation experience. Although Fairbairn denied any conscious memory of

the birth experience, he likened post-natal trauma, and subsequent separation-anxieties, to a deep mental reactivation of acute anxiety that was first modeled by the birth trauma.

It is interesting to note that Fairbairn (1952/1994) described the period of separation as tumultuous. As the young child transits between states of identification versus separation with the primary object, both experiences may be fraught with anxiety. In the state of identification, the child may have a feeling of retention and bursting; whereas in the state of separation there may be an experience of being emptied or drained. From these descriptions of separation and identification, the anxiety experienced seems to fit within the definition of annihilation anxiety.

According to Guntrip (1969/1989), the core of psychological distress is fear. When a weak infantile ego cannot cope with an inadequate or traumatic environment, it will experience a regressive longing and a state of profound infantile dependence. Further, Guntrip proposed that although the regression may be an attempt at security, in another sense it may be felt as annihilation in that the regressive wish to return to the womb may be felt as the wish to die.

Guntrip (1969/1989) delineated three situations that may result in intense anxiety and a subsequent withdrawal (i.e., a regression, or a schizoid state) from the outside world. First, the primary care-giver may tantalizingly refuse to satisfy the infants libidinal needs. Second, the care-giver may impinge on the infant and overwhelm him or her. Third, the infant may be rejected and neglected. Given this third situation Guntrip

stated "In this case the danger of ego-loss and depersonalization is at its maximum. . . [this situation] leads to the most profound regression of all, which the patient can experience as dying and death" (p. 75).

Melanie Klein also believed that infants only a few months old are capable of experiencing fear so intense that it may amount to a fear of death and a sense of absolute annihilation. From the infant's perspective, it's ego maintains a relationship with two part-objects--an ideal breast and a persecutory one. Whereas the good breast (i.e., the nurturing mother) provides love and nourishment and keeps persecution at bay, the infant may also experience more than a mere lack of gratification; it may experience a threat of persecution which is akin to annihilation. (e.g., Guntrip, 1969/1989; Segal, 1964). Thus, both Guntrip and Klein theorized about infantile fear and anxiety in a period of life that would antedate Freud's first basic danger of loss of the object.

From a less theoretical perspective, there is evidence that a child's idea of being destroyed or annihilated may be permeated in our culture in various manifestations. For example, in discussing childhood punishments, Chadwick (1929) stated:

> Present-day parents may still in their anger make use of threats and punishments that show a more or less direct reference to the same idea [i.e., killing the child], which call forth the cry from the child, "Then I will go away and kill myself instead." The parent who hears this will often say that he or she cannot remember the words which provoked

> the outcry of the child, which is an interesting example of convenient forgetting, but one may surely assume that it was something pertinent, and in the symbolic punishments still in use in the modern nursery we may find the similar idea of banishment representing death, in the sending out of the room, away from sight, into the corner, where the child cannot see others and its face is hidden, which seems regarded by the child as a serious punishment as well by its elders. One will remember in this connection that in the Bible death is frequently referred to as hiding the face, or being no more seen, sometimes as the result of God hiding His face from those who had done wrong. (p. 326)

Another manifestation of annihilation anxiety may be present in fairy tales. Chadwick (1929) discussed the role of fairy tales as being both entertainment as well as being instructional and serving admonitions to children. That is, in most fairy tales good children are rewarded whereas bad children are punished (e.g., stuffed in an oven, or eaten), often with death as a consequence. Thus the child must work to please and win the affection of the parents. If this struggle is lost, then life itself may seem uncertain.

Bloch (1978, 1985) has proposed that infants have a universal potential fantasy of being killed or annihilated in some manner. These fantasies can act as an outlet to channel feelings of rage, fear of abandonment, and other infantile terrors. To wit, in the child's fantasy, the fear of being killed by his or her parents is displaced onto monsters and imaginary creatures, thereby preserving the idealized image of

the parent, and to some extent, ensuring his or her own survival.

Thus, as discussed above, several authors (mostly object-relations theorists) have discussed an experience of anxiety in infantile life that predates anxiety related to fear of the loss of the object--Freud's conception of the earliest fear--that may be best described as annihilation anxiety.

Eagle (1984) made the observation that both Freud and the object relation theorists (i.e., Winnicott, Kohut, Fairbairn, and Guntrip) describe the ultimate anxiety as an experience of annihilation via a threat to the integrity of the self. Although the two classes of theorists do not disagree about the result of intense feelings of anxiety, they do disagree about the source of where these feelings originate. Regarding the source of the threat, Eagle stated:

> [For Freud] it is an excessive degree of excitation resulting from, to put it as simply as possible, accumulating undischarged instinctual drive tensions. For [object relation theorists] the threat to the self results from sensed and actual defects and weakness in the structure of the self interacting with situations in which one experiences oneself either isolated from or merged with the needed object. . . there is no "libidinal danger" to be contrasted with danger to the self. There is only danger to the self and different conceptions regarding the source of this danger. (p. 46)

McCarthy (1981) also discussed that the fear of death is equated with experienced threats to the self or to the fear of

the loss of the self. Like Eagle (1984), McCarthy also distinguished classic psychoanalysts from contemporary Freudians. To wit, the classic analysts attribute the fear of death to guilt, the death instinct, castration anxiety, and Oedipal guilt; whereas the contemporary Freudians (i.e., object-relationists) are more likely to stress a fear of maternal destructiveness.

As witnessed above, annihilation anxiety has been discussed by various psychoanalytic authors, both new and old, without a unified conceptualization or definition of the concept. Hurvich (1989), after a review of several works in the literature on annihilation anxiety summarized that:

> The major meanings of annihilation anxiety in the writings of these authors are the fears of ego disintegration, the loss of the self, the loss of identity and of personal characteristics, the loss of the object world, breakdown of self and object representations, the loss of control over ego functions, the disintegration of the self, and the perception of deficit. (p. 317)

Further, in a later paper, Hurvich (1991), addressed the fact that there are several considerations that need to be taken into account when attempting to define annihilation anxiety. One consideration includes the level or organization and developmental period of a person. In the worst case scenario, Hurvich described annihilation anxiety as:

> a virtually intolerable anxiety experience, felt and believed to be over psychic survival and accompanied by

> fears of imminent death or psychological destruction. There is a sense of helplessness in the face of an utterly frightening danger experienced as having no foreseeable end. It is a danger against which the person feels he or she can take no constructive action and that threatens to overwhelm and disorganize him or her. It may lead to panic, paralysis, and other maladaptive responses rather than to effective or adaptive behavior; in some cases, primitive fight-or-flight reactions occur, such as blind assaultiveness, running headlong into oncoming traffic, or jumping out of windows. (p.139)

In sum, the discussion has primarily focused on an experience of anxiety that is tantamount to a feeling of annihilation. It is acknowledged that the different authors do not share the same precise meaning of annihilation anxiety (Hurvich, 1991), though they do seem to capture the same general phenomena. Thus, it was discussed that annihilation anxiety is rooted in infancy in response to: an experience of impingement from care-takers (e.g., Winnicott); the display of needs to a rejecting care-taker (e.g., Fairbairn, Guntrip); or to the anticipation of the dissolution of the self (e.g., Kohut). As will be discussed later, these differing conceptions of annihilation anxiety are used by Hurvich et al. (1993) to develop the Rorschach Content Scoring manual for annihilation anxiety, which is described in greater detail below.

At this point it should be noted that this early anxiety experience may persist throughout life, although in muted, disguised, and defended against forms. Annihilation anxiety may

exist in differing degrees in each individual and the extent to which it persists throughout life may also run along a continuum (Hurvich, 1991). Freud (1926/1959) similarly discussed that the danger-situations and the resultant anxiety can work throughout life at periods beyond the prescribed danger-situation, and further, the danger-situations can exist along side one another and compound the anxiety. Also, Freud discussed that the root of the anxiety (i.e., which danger-situation is being experienced) may be played out in the form that an ensuing neurosis may take.

In addition to individual differences, certain groups of people may have experienced differing degrees of annihilation anxiety early in life. Central to the present thesis is the role of annihilation anxiety in schizophrenia, and how an understanding of annihilation anxiety may help make sense of the constellation of symptoms commonly seen in schizophrenia.

Increased Annihilation Anxiety in Schizophrenia

Having established a general description and theoretical background of annihilation anxiety, the focus will now be shifted to a discussion of annihilation anxiety as it applies to schizophrenia. Hurvich (1989) hypothesized that annihilation anxiety is dominant in the psychotic disorders, whereas anxiety over object loss and loss of love tends to be central in borderline conditions, and castration and superego anxieties and fears of loss of love are characteristic of neurotic disorders.

Several clinicians and researchers (e.g., Bettelheim, 1967; Bloch, 1985; McCarthy, 1981; Teixeira, 1984) have observed that the fear of annihilation (expressed as a fear of death, a fear

of overwhelming, etc.) is a central component underlying, and antedating, schizophrenia and psychotic disorders. Also, there is some evidence which indicates that annihilation anxiety may often immediately precede a psychotic decompensation in schizophrenia (e.g., Karon & Vandenbos, 1981; Teixeira, 1984).

Winnicott (1965) discussed the role of parental impact on the development of psychotic disorders as follows:

> The mental health of the individual, in the sense of freedom from psychosis or liability to psychosis (schizophrenia), is laid down by [adequate] maternal care. . . [Thus] schizophrenia or infantile psychosis or a liability to psychosis at a later date is related to a failure of environmental provision. (pp. 49-50)

Further focus on the role of maternal care as it relates to schizophrenia is provided by Karon and Vandenbos (1981), who stated that:

> Schizophrenic pathology is usually the result of a pattern of unconsciously malevolent parenting from the earliest days of infancy onward. It is not merely the result of isolated traumatic experiences, but of a pattern of pressures that continues throughout childhood in somewhat changing form. The basic problems that begin in infancy are strengthened rather than reduced by the continuing interaction between the preschizophrenic child and his or her parents, particularly the mother. The child is the victim of a series of subtle and unsubtle rejections, the end effect of which is to make him or her feel worthless, unlovable. But to be literally unlovable means that mother

> will not love you, that she will abandon you and, to the infant, this means pain and death. This is the infantile terror that lurks behind the schizophrenic symptoms. The schizophrenic individual's whole life is organized around the need to defend psychologically against this danger. (p. 74)

The data relevant to the hypothesis of malevolent parenting as a precursor to schizophrenia are summarized by Karon and Widener (1994). After reviewing a series of studies, they reported that there was a consistent finding in families of schizophrenic patients: there was an unconscious dynamic or defense that was labeled "pathogenesis." Pathogenesis occurs when the needs of the parent and the needs of the child are in conflict. More specifically, the parent of a preschizophrenic child, more often than other parents, acts in terms of the his or her needs without regard to the potentially conflicting needs of the child.

In their own study, Karon & Widener (1994) obtained a score of pathogenesis as follows. Stories on the TAT were marked pathogenic if there was an interaction between a dominant and a dependent character with the potential for conflict, and the dominate character does not take the dependent character's needs into account. Results revealed that mothers of normals average a score of 35 percent pathogenic; whereas mothers of schizophrenics average a score of 65 percent pathogenic.

Whereas Karon and Vandenbos (1981) discussed the effects of unconscious parental malevolence, Kahr (1993) used psychohistorical research on diagnosed schizophrenics and found

that many of his patients had experienced profound death threats and attempts on their lives in childhood and adolescence. He likened this phenomena to "psychological infanticide" and considered this to be a modern day version of past (though not so ancient) "actual infanticide." That is, many parents today may still have the same "desire" to annihilate their infant, but due to increased impulse control, different social standards, or legal repercussions, their desire has been tempered and transformed.

Teixeira (1984), working from an interpersonal perspective, discussed how the effects of pathogenic experiences between parent and child may be felt as annihilation anxiety to the child and thus act as a harbinger to schizophrenia. He stated:

> Characteristic and repeated pathogenic developmental experiences (involving separation, deprivation, neglect, rejection, hostility, conflict, criticism, and intrusiveness) in the pre-schizophrenic's significant early childhood relationships are internalized with traumatic affect and the experience of "victimization" and "helplessness" to form pathological experiential models of the world, the significant others, and the self. . . . In relation to the ontogenetic interpersonal experiences of trauma and frustration, the pre-schizophrenic individual has been conditioned to expect, and anticipates, criticism, hostility, intrusiveness, rejection, and helplessness in relation to others. These conditioned expectations in turn arouse schizophrenic annihilation anxieties of "being

killed" in relation to others. (pp. 378-379)

From an empirical standpoint, further evidence has also been published that demonstrated that fears and anxieties of annihilation are a correlate of schizophrenia. For example, Khanna, Khanna and Sharma (1988) found that on Templer's death anxiety scale, the trend was that schizophrenics rated higher on death anxiety than manic-depressives or normals. Further, when the scale was broken down into subcomponents, schizophrenics had significantly higher scores than normals on "fears of personal death," and "concern about suffering and lingering death."

Planansky and Johnston (1977) selected 80 schizophrenic men out of 205 men that were admitted to a mental hospital over an 18 month period that explicitly expressed a fear of death or of being killed. A semi-structured interview and daily observations were used to determine fears and preoccupations concerning death. Although the men were considered to be a heterogeneous group (with the exception of having served in the Armed Forces), the authors found that the fear of death displayed a continuity throughout the whole course of a psychoses. Further, Planansky and Johnston (1977) reported that:

> [The 80 men] were all tormented by the same primitive, diffuse fear, or revealed the same constricted choice of delusional constructs and projections, and employed the same imagery for the description of their anguish. This uniformity in their expressions of the fear of death could have been brought about only by the force of psychotic changes, independent of personal, cultural, or formative

> influences. . . Since the dissolution of personality is the basic event in all modes of active schizophrenia, the fear of death as an expression of the psychotic existential anguish can be regarded as a core component of schizophrenic psychopathology. (p.196)

Symptoms of Schizophrenia Consistent with Annihilation Anxiety

In addition to discussing annihilation anxiety as a precursor and a correlate to schizophrenia, it is also interesting to consider that many of the symptoms of schizophrenia are congruent with fears of annihilation and resulting anxieties (Bettelheim, 1967; McCarthy, 1981).

Catatonia

It is well known that when animals are in a life-threatening situation (i.e., a fear of annihilation) they may resort to playing dead, which increases their chances of being left alone and not eaten by the predator. In humans, Chadwick (1929) discussed catatonia as a means of escape from a hostile enemy. By becoming rigid and acting as if dead, the person, if only in fantasy, can pretend that he or she has control over the situation and thereby is spared the anguish and humiliation of acknowledging a power greater than their own. Without resorting to catatonia as a means of escape, the person would have to succumb to the greater power and would be filled with intolerable anxiety (i.e., annihilation anxiety) at the thought of being controlled or impinged upon, which is menacing to the ego and may be equated with death.

Catatonia has been frequently likened to a state of paralyzed fear in schizophrenia. Kahr (1993) observed that in

the schizophrenic patients he encountered, they often sought refuge in a catatonic stupor for days or weeks at a time. He speculates that the catatonia serves two functions: first, it is a means of withdrawing from a terrifying world of interpersonal relationships, and second, the catatonia serves as a way of communicating an internal deadness to the surrounding world.

Karon and Vandenbos (1981) discussed the catatonic stupor as the last line of defense in both animals and humans. Animal research has revealed that nearly 70 percent of animals can survive an attack by resorting to an immobile state, as if dead. Subsequently, the predatory animal may disengage the attack and save its "kill" for later. Evolutionary advantages of the catatonic defense can easily be seen. This emergency reaction, commonly seen in schizophrenics, is the last stage of defense when faced with an inescapable threat of violent death.

Nightmares

Nightmares are another symptom, or phenomena, that may be indicative of annihilation anxiety and that are common in pre-schizophrenics and schizophrenics alike. Levin and Hurvich (1995) reviewed the literature on nightmares and reported that nightmares can be so severe as to be likened to brief psychotic episodes. Frequent nightmares (i.e., once per month with chronicity) may be a sign of underlying psychological distress, and further, Levin and Hurvich stated that investigators have speculated that persons with schizophrenic disorders display a continuity between frequent nightmares and waking psychopathology.

Levin and Hurvich (1995) also stated that it has been

speculated that childhood nightmares may predict adult schizophrenia. Underlying these nightmares may be a sense of overwhelming anxiety, panic, feelings of fragmentation, and a sense of annihilation. It has been theorized that nightmares may develop as a result of the internalization of early parental objects who have been inconsistent and\or malignant. That is, a child with these destructive internalizations may have weak or disjointed ego boundaries which may leave him or her feeling unsafe and possibly fragmented. As a result of this process the child may experience manifest anxiety, general fearfulness, and a heightened fear of death that is subsequently expressed in nightmares.

To empirically validate the theories and speculation about nightmares being an expression of underlying annihilation anxiety, Levin and Hurvich (1995) gathered data on over 1300 college students. They measured the frequency, vividness, severity, and perceived distress of the participant's nightmares, and they also obtained a level of annihilation anxiety via the Hurvich Experiences Inventory. Results in this study clearly demonstrated that people prone to frequent nightmares also experienced heightened levels of annihilation anxiety as compared to participants that did not report frequent nightmares.

Hallucinations

Another symptom of schizophrenia similar to nightmares is hallucinations. Hallucinations have been likened to waking dreams or nightmares, except that the motivation behind the hallucination is stronger (Karon & Vandenbos, 1981).

Hallucinations may be rooted in infancy or very early childhood when the infant or child was ignored, under which circumstances he or she withdrew from all interpersonal relationships into a state of autism. Subsequently, auditory hallucinations replaced real human contact. Karon and Vandenbos pointed out that even malevolent voices (i.e., auditory hallucinations) are better than being alone.

Similarly, Teixeira (1984) reported that schizophrenics may withdraw as a defense against over-stimulation (e.g., maternal impingement), and that this process may lead to hallucinations. He stated:

> Although withdrawal may reduce annihilation anxieties aroused in relation to others, withdrawal resulting in isolation and increased autism can only intensify hallucinations of condemning, terrifying, malevolent internalized figures and fantasies based on the distortion of actual traumatic interpersonal experiences and patterns of relationship, leading to exacerbation of annihilation anxieties. (p.379)

Suicide

Suicide, although not a symptom, may be considered a common sequel in schizophrenia that has some connection to (or roots in) annihilation anxiety. Statistically, there has been a consistent finding that suicide is excessively high in schizophrenia (Allebeck, Varla, & Wistedt, 1986). In fact, suicide is the leading cause of premature death among schizophrenics (Caldwell & Gottesman, 1992). Allebeck (1989) reported that in one ten-year follow-up study of 1,190

schizophrenic patients, the suicide rate for schizophrenics was more than ten times higher than that for the general population.

These exceedingly high rates of suicide may be understood as the schizophrenic's attempt at escaping unbearable, chronic states of anxiety, terror, panic, and torment. Thus, the schizophrenic individual may turn to suicide as an escape from a more overwhelming fear of living with its conjoint annihilation anxieties (Teixeira, 1995).

It has been observed that immediately prior to a suicide attempt, the schizophrenic individual tends to be highly agitated and anxiety prone (Drake, Gates, Cotton, & Whitaker, 1984; Planansky & Johnston, 1971). It could be hypothesized that an underlying state of annihilation anxiety (although perhaps in a transformed manner) is being experienced by the schizophrenic individual from which he or she is seeking escape.

In fact, Planansky and Johnston (1971) stated that some of the suicidal schizophrenic patients used in their study spontaneously reported unbearable feelings of autistic separation and alienation as the reason underlying their suicidal urges. There may be a connection between these reported feelings of alienation as compared with transformed feelings of an annihilated non-existence.

Similarly, McCarthy (1981) also stated that suicide and self-mutilation among schizophrenics can be understood as a defensive attempt to blot out feelings of depersonalization and inhibit further disintegration. He stated:

> Their cutting themselves and attempting suicide may serve to combat the fear of the loss of the self by acting out

> the experience of the disintegration of the self. Ironically, schizophrenic or borderline individuals who attempt suicide under these circumstances could be characterized as trying to kill themselves in order to stay alive. (p. 23)

In summary, theory and research has focused on the early parent-child interaction and how, under unfortunate circumstances, this interaction (i.e., malevolent parenting and resultant annihilation anxiety) may lay the groundwork for later schizophrenia. This process is perhaps most clearly evidenced in that the role that annihilation anxiety appears to be underlying and contributing to some of the most common symptoms seen in schizophrenics. Further evidence of disturbed object-relationships in schizophrenia has been found in studies using the Rorschach.

The Quality of Object Relations Measured in Rorschach Protocols

Lerner (1986) discussed how a knowledge of object relations within different forms of psychopathology help in understanding the pathology as well as in determining a treatment process. He further suggested that the Rorschach is an ideal tool to assess an individual's representational world. That is, the Rorschach can be thought of as a microcosm of the larger world and is thus useful in determining how a person perceives himself, others, and their world.

Mayman (1967) focused on the use of content scoring on the Rorschach to assess the quality and type of object-relations a person may have. He summarized a study that was done at the

Menninger Clinic in which an attempt was made to see how well ratings of psychopathology could be established based on content scores (focusing on self and other representations) on the Rorschach as compared to other clinical ratings. To keep the focus on content, references to color, shading, location, and other cues were deleted before the records were scored. The content scores were transposed to a scaled score using the Luborsky Health-Sickness Rating Scale. Subsequently, the data from the Rorschach correlated well (most correlations were between .60 and .70) with eight other patient variables (e.g., severity of symptoms, ego strength). Thus, Mayman made the claim that a person's level of pathology could be inferred from Rorschach content (see also Krohn & Mayman, 1974, for an additional study that validates the use of projective measures to determine the quality of object relations).

Blatt, Brenneis, Schimek, and Glick (1976) conducted a study that compared control participants to adolescent and young adult psychotic inpatients on their perceptions of human objects in Rorschach protocols. As compared to the controls, the psychotic inpatients showed a differentiation in the objects they reported. First, when they had reported realistic human perceptions (as denoted by an F+ score), the objects were perceived as more malevolent and destructive, as well as being active-passive or active-reactive in their interactions. Second, those human perceptions that were perceived as unrealistic (scored F-) were seen as more benevolent and kind. With these findings, Blatt et al. suggested that for psychotics, their interactions with reality are painful and threatening,

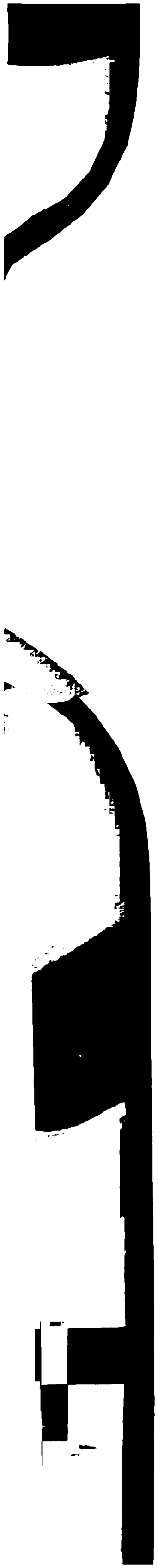
whereas their escape to fantasy provides them with a world where their interactions are perceived to be safer and provide comfort and peace. A replication of this study by Ritzler, Zambianco, Harder, and Kaskey (1980), found nearly identical results.

The Assessment of Annihilation Anxiety in Rorschach Protocols: The Development of the Rorschach Content Scale

Relevant to the present study, Hurvich, Benveniste, Howard, and Coonerty (1993) devised a measure, the Rorschach Content Scale (RCS), that assesses annihilation anxiety from projective tests. Because the RCS grew out of a theoretical background, as described above, and previous research on annihilation anxiety, it is necessary to consider the history of this line of work.

Before developing the RCS, Hurvich et al. (1993) devised another measure to assess annihilation anxiety, the Hurvich Experience Inventory (HEI, see Appendix A for a copy of this measure). The HEI is a paper and pencil test that uses a 25-item scale in Likert format on which participants indicate to what extent certain descriptive events are consistent with their experiences. The questions were derived from therapy sessions with patients that would theoretically be expected to have annihilation anxiety.

In several different samples of participants Hurvich et al. (1993) reported that the HEI was found to have alpha coefficients consistently above .80, which is indicative of good internal consistency. Also, when the researchers compared HEI scores across different groups of participants, the mean group scores reflected the expected differences between the patients. That is, a college student group received a lower mean score on



the HEI (indicative of less annihilation anxiety), as compared to psychiatric patients (who received the 2nd highest score) and phobics (the highest scoring group).

Next, when scores from the HEI have been compared to other established measures of anxiety, the correlations have been respectable. For example, college students' scores (n=205) on the HEI yielded a product-moment r of .69 with trait anxiety and .56 with state anxiety on the Spielberger State-Trait Anxiety Inventory. A comparison 218 participants scores on the HEI revealed a correlation of .63 with the Taylor Manifest Anxiety Scale. Thus, Hurvich et al. (1993) stated that the HEI seems to be measuring what is generally agreed upon in clinical psychology as anxiety.

Further studies were carried out with the HEI on more unique groups of participants (e.g., blood phobics, abuse victims, agoraphobics, frequent nightmare sufferers) to determine if the measure is getting at general anxiety, or a more distinct anxiety akin to annihilation anxiety. This series of studies is reported in Hurvich et al. (1993), after which they conclude that the HEI

appears to have good internal consistency, some construct validity, and that it specifically measures annihilation anxiety.

Encouraged by the results with the HEI, Hurvich et al. (1993) decided to construct a second instrument, the RCS, to assess annihilation anxiety from projective measures. The RCS is presented in manual form and consists of nine interrelated categories that Hurvich et al. determined were indicative of

varying perspectives of annihilation anxiety from an extensive review of the literature.

These nine categories include: (1) the fear of being overwhelmed or engulfed, (2) fear of merger, (3) fear of disintegration, (4) fear of impingement, (5) fear of loss of needed support, (6) fear of inability to cope, (7) fear of loss of self-cohesion, (8) concern over survival, and (9) catastrophic mentality. Hurvich et al. (1993) provided an exemplary account of the content within the domains of the nine categories which is reproduced in Appendix B. Additionally, a copy of the RCS is attached to this thesis.

The nine separate but interrelated categories listed above are what constitute the RCS. Each of these categories are further broken down into subcategories and specific items. As an example, the first category, "The Fear of Being Overwhelmed," has six subcategories that further describe the category concept. If a Rorschach response fits the description, a score of 1.0 is marked for annihilation anxiety for Category I. Each response is subsequently scored as 0.0 or 1.0 for annihilation anxiety, and each positive answer is equally weighted. Additionally, each positive answer can subsequently be scored from 1 to 3 to indicate the severity of the annihilation response, with 3 being the most severe. The front page of the RCS manual provides the instructions and examples for classifying the severity.

Construct validity for the RCS was supported by comparing scores on the RCS with scores obtained on the HEI. In this initial study, Hurvich et al. (1993) used twenty participants

from a college psychology clinic and outpatient hospital facilities. The Rorschach, the Thematic Apperception Test, as well as the HEI were administered to the participants. After matching the zero points on the RCS and the HEI, the correlation coefficient between the two measures was .56 ($p < .01$) for one rater and .47 ($p < .05$) for a second rater. The interrater reliability for the two raters was .94 when the presence or absence of annihilation anxiety was assessed. The interrater reliability dropped to 82 percent agreement when the raters had to determine which of the nine categories (described above) best represented the participants responses.

Further psychometric integrity of the RCS was supported by a study carried out by Benveniste, Papouchis, Allen, and Hurvich (1995). In this study, the RCS, as well as several other measures of anxiety, ego functioning, and reality testing were used to assess annihilation anxiety in groups of college students, in inpatients with diagnosed Borderline Personality Disorder (BPD), and in inpatients with diagnosed Schizophrenia (N=75, n=25 in each group). As predicted, their results showed that both the BPD and schizophrenia groups scored significantly higher for annihilation anxiety as measured on the RCS than the college student group.

When Benveniste et al. (1995) did three checks on interrater reliability for two raters, the results showed Pearson correlations above .95 for the total number of annihilation responses in a record, for the presence or absence of annihilation anxiety in each response, as well as for the agreement on which category specific annihilation responses

belonged in (all correlations significant at the $p < .001$ level). Additionally, the researchers organized ten psychologists and had them rate the RCS's nine categories for content validity. Overall there was an 81 percent agreement that the nine RCS categories were content valid. The range of agreement ran from 6 of 10 to 10 of 10 judges in agreement on the RCS categories.

The Present Study

The present study had two goals. To begin with, this was be the first attempt to determine if the Rorschach Content Scale (RCS) recently devised by Hurvich et al. (1993) is able to be used outside the originator's research group. To provide an indicator of the RCS's ease of use, this study trained 2 psychology undergraduates to use the instrument, which will also provided a measure of reliability.

The second goal of the study, if the RCS was found to be usable with sufficient reliability (above 80 percent agreement), was to determine if there was a difference in the amount of annihilation anxiety between a group of schizophrenics as compared to a college student control group. It was predicted that the schizophrenic group would have a higher mean score for the percent of annihilation anxiety in their protocols, as measured by the RCS, when compared to the college student group.

A percentage score of AA was used because it was anticipated that the schizophrenic group would give significantly briefer protocols than the college student group based on previous research (e.g., Benveniste et al., 1995; Karon & Vandenbos, 1981). To help control for this difference, a

group mean was calculated based on the percent of responses for each participant's protocol scored positive for AA on the RCS.

A second method of controlling for differences in protocol length (R) is to use a partial correlation that controls for the number of Rorschach responses. This method is consonant with suggestions in the literature regarding how and when to normalize for different protocol lengths (Appendix C contains a discussion of the literature on the rational for controlling differences in Rorschach protocol length). When holding R constant by partial correlation, it was hypothesized that being in the schizophrenic group would be a significant predictor of both a higher total score of AA, and a higher score of AA when including the severity scores (i.e., the 1 to 3 ratings).

The hypotheses stated above are in line with recent findings from Benveniste et al.'s (1995) unpublished study. However, the present study used different statistical methodology (i.e., partial correlation as well as percentage scores) and individuals from a different geographical location, thus extending the validity of the RCS. The present study also explored the effect of socio-economic status on AA.

Method

Participants

There were two groups of participants: a college student group, and a group of diagnosed schizophrenics. The first group was made up of twenty Michigan State University undergraduate students that were volunteers from the psychology department subject-pool. All students received extra-credit for their participation, and for some it was a course requirement.

By putting restrictions on the volunteer sign-up sheets, an attempt was made to match the college student group with members in the schizophrenic group (discussed below) on the demographic variables of age, race, and gender. In addition, this study used mostly freshmen students to reduce the discrepancy in the education level.

The second group was made up of a subgroup, chosen for their age, of twenty out of a possible 36 participants that had participated in the Michigan State Psychotherapy Research Project (see Karon & Vandenbos, 1981). The project originally consisted of 36 participants selected from patients admitted to the Detroit Psychiatric Institute in the 1960's. As part of the project, the participants were assigned to different treatment groups and their progress was monitored over eighteen months. They were given a battery of measures throughout the project and the present study used the Rorschach protocols that were administered by advanced psychology graduate students before treatment began.

The participants in the project were selected on the basis of being: (1) unquestionably schizophrenic; (2) they had an onset of blatant psychotic symptoms within 3 months prior to admission; (3) this was their first admission; (4) they had no ECT or insulin shock treatment, no organic brain damage, and no history of alcohol or drug abuse (Karon & Vandenbos, 1981). They were all selected within a four-month period and were primarily poor, inner-city, and African-American. Of the 33 participants used in the project (three of the original participants were dropped due to drug or medical complications),

20 were selected for use in the present study to allow for optimal matching in age to the college student group (Karon & Vandenbos, 1981, report complete participant characteristics on pp. 392-393).

Materials

The Rorschach Ink Blot Test was administered to the college student group. As mentioned above, the Rorschach Content Scale for annihilation anxiety was used on the Rorschach protocols from both the college student group and the schizophrenic group to obtain quantitative scores of annihilation anxiety.

Procedure

For the college student group, the Rorschach Ink Blot Test was administered by the author to the college students. These students were contacted by phone to set a meeting time and were informed that they would be participating in research that required them to take the "ink blot" test. They were not informed of the study hypothesis or that their protocols would be scored for annihilation anxiety.

When a participant arrived for their meeting, they were engaged in a brief rapport-building session and basic demographic factors were recorded (i.e., age, education, parents education and occupational status). Additionally, the participants were informed that their participation was voluntary and that were able to terminate participation at any point. This information was also included on the informed consent form, contained in Appendix D, which each participant was required to sign.

The Rorschach was administered in accordance with the instructions discussed in Beck, Beck, Levitt, and Molish (1961). These were the same instructions that were used to administer the Rorschach to the schizophrenic participants. The instructions are essentially the same as the more commonly used method of administration discussed in Exner (1993).

The administration of the Rorschach took approximately 1.5 hours, after which the participant was thanked for their help and general questions about the Rorschach were answered if the participant was curious.

After collecting the Rorschach protocols from the college student group, those from both participant groups were typed and printed in an identical format and each participant was randomly assigned a subject number. The protocols were then intermixed and scored blindly using the RCS. Two senior-level psychology undergraduate students were enlisted to participate as volunteer research assistants (one assistant offered his help while the researcher was acting in the capacity of a teaching assistant, the other was a co-worker of the researcher). After a one-month training period in the use of the RCS (see Appendix E for a complete description of the training procedure), each assistant scored a random sample of 30 protocols as follows: Working independently, the raters both scored 20 identical protocols to provide a check of interrater reliability; additionally each rater was assigned a random sample of 10 protocols that was not given to the other rater. The assistants were blind to the study hypotheses as well as to the source of the Rorschach protocols.

Results

Interrater Reliability

The RCS was found to be developed enough to be used outside the research group that developed the instrument, and to have adequate interrater reliability. Two senior level undergraduate psychology majors used the Rorschach Content Scale (RCS) to score a random selection of 20 out of the 40 Rorschach protocols used in this study. A Pearson product-moment correlation was used to check interrater reliability on two different scores on the RCS. The first reliability check was performed on the two rater's scores of the total number of responses scored positive for annihilation anxiety (AA) in each protocol. The two raters' scores yielded a significant Pearson $r(17) = .89$, $p < .001$. (An alpha level of .05, used for all statistical tests in this study).

The second reliability check was performed on a total AA score for each protocol that included not just the sum of the positive AA scores, but the sum of severity scores of AA when it was present (each positive AA score was ranked from 1 to 3, with 3 indicating the most severe score of AA). The interrater reliability of these scores yielded a significant Pearson $r(17) = .93$, $p < .001$.

There was also an 83% agreement between the two scorers regarding the presence or absence of AA for each Rorschach response (i.e., the raters agreed that AA was present or absent on 387 out of 465 responses that were included in the 20 protocols used for the reliability check). Further, there was a 78% agreement between the two scorers when they had to select

which of the nine categories best represented the type of AA in the response (see Appendix B for a review of the nine different categories). In subsequent statistics, for the 20 protocols scored by both assistants, the 2 scores were averaged and then the unified scores were used in conjunction with the other 20 protocols that were scored by only 1 rater.

Group Differences

Despite restrictions placed on the college student sign-up sheets, there were significant differences between the 2 groups. As shown in Table 1, the schizophrenic group had a slightly lower education level and a much lower socio-economic status (SES) (Appendix F contains a discussion of how SES was calculated), and a higher mean age than the college student group. Both groups were comprised of 15 African-Americans and 5 caucasians. The schizophrenic group contained 10 males and 10 females, the college student group had 9 males and 11 females.

As anticipated, there was a significant group difference in the Rorschach protocol length (R), with the schizophrenic group having a lower mean number of responses (M = 18.15, SD = 15.02) than the college student group (M = 28.60, SD = 7.27), $t(38)$ = 2.80, p = .008, two-tailed (shown in Table 1). Additionally, R was strongly and significantly correlated to both the total AA score (Pearson $r(37)$ = .77, p < .001) and the AA severity score (Pearson $r(37)$ = .65, p < .001). Given these 2 conditions, as discussed in Appendix C, R was normalized by using a group mean percentage score of AA, as well as using partial correlations that control for R, in the following analyses.

As shown in Table 2, the schizophrenic group, as hypothesized, had a significantly higher group mean (M = 53.28, SD = 25.50) for the percentage of responses scored positive for AA as compared to the college student group (M = 38.29, SD = 16.43), t (38) = -2.21, $p < .033$, two-tailed. Additionally, as predicted, when the number of Rorschach responses was partialed out, a subsequent Pearson correlation revealed that being in the schizophrenic group was a significant predictor for having both a higher score of AA (r(37) = .38, p = .017), as well as a higher severity AA score (r(37) = .42, p = .008) (i.e., the AA Total and AA Severity scores, respectively, as described in Table 2).

Also shown in Table 2, when R was not taken into account, there was not a significant difference in the total or severity scores of AA between the groups.

The Contributing Effects of Demographic Variables on the Percentage of AA Responses

Within the college student group, none of the variables in this study (i.e., age, SES, race, education, gender) were significant predictors for the percent of responses scored positive for AA. Table 3 contains the data.

Within the schizophrenic group, the only variable that was a significant predictor of the percent of responses scored positive for AA was race (see Table 3). A significant Pearson correlation r(17) = .49, p = .027 indicated that Caucasian participants (n = 5) were more likely to score higher for the percent of responses reflecting AA than the African-Americans (n = 15) in the sample. Even though the groups were matched for

race, a subsequent partial correlation was performed on the data from both groups that controlled for race which revealed that being in the schizophrenic group was still a significant predictor of having a higher percentage score of AA (Pearson $r(37) = .34$, $p = .034$).

The Frequency of the Themes of Annihilation Anxiety Chosen

For both groups of participants, the most frequently scored categories of AA were 1) The fear of being overwhelmed or engulfed; 2) The fear of disintegration, and; 3) The fear of impingement. These three categories contained 75 percent of all the AA responses given for both groups. Table 4 contains the full breakdown of the frequency of responses in each of the 9 categories.

Discussion

The Psychometric Properties of the Rorschach Content Scale

The Rorschach Content Scale (RCS) was found to be a reliable instrument that could be used with minimal training time by persons with undergraduate training in psychology. Scores of interrater reliability and agreement of which category represented the AA were very similar to the scores reported in 2 previous studies that used the RCS (Benveniste et al. 1995; Hurvich et al. 1993).

Additionally, Hurvich et al. (1993) reported that the RCS categories most frequently endorsed by the raters were the fears of being overwhelmed, of disintegration, and of impingement, which all together accounted for 72 percent of the Rorschach AA scores. The present study found the same three categories, in the same order of frequency, accounted for 75 percent of the

Rorschach AA scores. Similarly, Benveniste et al. (1995) reported that the fear of being overwhelmed and of disintegration were the two highest scoring categories (in that order) for their schizophrenic group, and the same two categories (in reverse order) were the highest endorsed for their college student group.

The three lowest scoring categories in this study, catastrophic mentality (not endorsed at all), inability to cope, and the fear of loss of needed support, were also the least endorsed in the Hurvich et al. (1993) study (similar results were reported again in the Benveniste et al. 1995 study). As mentioned in the Introduction section of this paper, Benveniste et al. had 10 independent ratings from psychologists to assess the RCS categories for content validity. It is noteworthy that the 3 most used categories were amongst the highest rated for content validity, and the 3 lowest used categories were amongst the lowest rated for content validity.

In sum, the fears of being overwhelmed, of disintegration, and of impingement make up the core of AA responses as they are reflected on the Rorschach stimuli. The lesser used categories of catastrophic mentality, inability to cope, and loss of support may either reflect a lack of content validity for AA, or the Rorschach stimuli may be inadequate to evoke responses that reflect these categories. Benveniste et al. (1995) discussed these low scoring categories as being representative of AA from a theoretical or clinical perspective (i.e., from therapy session and interview experience) that may not be reflected in Rorschach responses.

Also of note, the college student group and the schizophrenic group tended to report the same types of AA as represented in the different categories. Thus it is not possible to distinguish the groups based on the "type" of AA as reported on the Rorschach. As suggested by Benveniste et al. (1995), the RCS may benefit from refining the scoring system within the categories. For example, both "a human hand" and "rotting flesh" would be scored positive for AA as a fear of disintegration when it seems clear that the second response reflects much stronger AA than the first.

On the Rorschach, cards IX and X accounted for the highest number of RCS AA responses (frequencies = 81 and 80 respectively; see Table 5). These two cards are also the most colorful, and often cause the most difficulty for people to respond to (e.g., Exner, 1993). Hurvich et al. (1993), and Benveniste et al. (1995) reported the same results in their study and Hurvich et al. suggested that the affect-stimulating color and less structured stimuli may result in responses that reflect underlying AA. Rorschach card V was the least likely to provoke AA responses in the present study as well as in the two previous studies mentioned above. Card V is considered the least ambiguous card and is monochromatic, and these factors most likely account for its low "pull" of AA responses.

Overall, the results of this study using the RCS are very similar to, and in many cases identical to, the two previous studies that used the RCS (i.e., Benveniste et al., 1995; Hurvich et al., 1993). The result were similar in respect to the magnitude of difference of the percent of AA responses

between college students and schizophrenics; in respect to the most frequent and least frequently chosen categories; and in respect to which Rorschach cards accounted for the most and the least number of positive AA responses. These are very encouraging results for a rather new measure that Hurvich et al. considers to be in preliminary form.

Theoretical and Clinically Relevant Findings Regarding Annihilation Anxiety

The present study supports the theory that people with schizophrenia live in a world of fear. As hypothesized, when presented with ambiguous stimuli (i.e., Rorschach cards), schizophrenics were more likely than a reference group of college students to impose meaning on the stimuli that corresponded to themes of annihilation anxiety (AA). This is consistent with the theory that schizophrenics interact with a negative transference to the world around them (e.g., Bettelheim, 1967; Karon & Vandenbos, 1981).

The results of this study are similar to the results found by Benveniste et al. (1995). In their study, a college student reference group was found to have 29% (versus 38% in this study) of their Rorschach responses scored positively for AA and a schizophrenic group scored 41% positive (versus 53% in this study) for AA. Thus the Benveniste et al. study revealed that 12% more of the Rorschach responses were scored positive for AA in the schizophrenic group, versus 15% in this study. Although the present study tended to score higher overall on the percentage of responses positive for AA than Benveniste et al., there is a significant and reliable difference which reveals

that schizophrenics are more likely than the reference group to interpret their world through lenses of fear and annihilation.

Additionally, in the Benveniste et al. (1995) study, the college student group and the schizophrenic group did not differ significantly in education. This lends support to the finding in the present study that education is a non-significant contributor to AA.

It is important to recognize that the schizophrenic population has a significant amount of AA. This is often overlooked by researchers and clinicians that hold to a medical model of pathology. The oversight of AA may be best highlighted by reviewing the DSM-IV criteria for schizophrenia. Of the five "characteristic symptoms" of schizophrenia, there is no mention of increased fear, anxiety, or AA. In contrast, the DSM-IV does list "affective flattening" or "avolition" as a characteristic, as well as disorganized or catatonic behavior. This study provides support for the contention that what appears to be affective flattening, as well as a catatonic state, may be better understood as responses to extreme fear and AA.

In addition to rethinking the criteria for diagnosing schizophrenia, understanding that AA may be a central component in schizophrenia may also lead to a different attitude in the treatment of this disorder. By conceptualizing a schizophrenic's symptomatology as reactions to intense fear, it may be possible for the clinician to focus interventions on the underlying fear. Thus, the clinician may be able to strengthen the therapeutic alliance by addressing the negative transference, and subsequently relieve related symptomatology.

It has also been accepted that schizophrenia results in impaired information processing and cognition (e.g., Spohn et al., 1985). Zilboorg (1943) points out that if the fear of death is constantly on a person's mind (i.e., constantly conscious), they would be unable to function normally. Thus, if the clinician addresses an underlying fear of AA when working with schizophrenics it may result in cognitive improvement and less disorganization.

On a cautionary note, care must be taken not to approach therapy with a schizophrenic person in hopes of indiscriminately removing their symptomatology. McCarthy (1981) discussed that the loss of a symptom may signify a loss of the self and evoke feelings of death. In the case of schizophrenia this can be especially problematic given their heightened fear of death and annihilation to begin with. Thus it may be useful when working with a schizophrenic to discuss with them that you will not take away anything from them that they believe they need--over time, as the alliance strengthens, the patient may relinquish their symptoms.

The idea that annihilation anxiety has been a central component in schizophrenia has long been held by many clinicians based on clinical experience and observation (e.g., Bettelheim, 1967; Karon & VandenBos, 1981; Teixeira, 1984). The present study extended empirical support to these long-believed contentions.

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Table 1

Significant Mean Differences of Participant Characteristics

Characteristic	College Students (n = 20) M	SD	Schizophrenics (n = 20) M	SD
SES[a]	38.10	11.71	61.65	8.23
Education	14.10	0.97	10.55	1.93
Age	19.80	1.77	22.15	3.41
Number of Responses	28.60	7.27	18.15	15.02

Note. There is a significant difference between the groups on the variables of SES, Education, Age, and Number of Responses ($p < .01$).
[a]The higher the number the lower the socio-economic status. See Appendix F for a detailed description of how SES was calculated.

Table 2

Summary of Mean Group Differences and Partial Correlations on Different AA Scores

Type of AA Score	College Students (n=20) M	College Students (n=20) SD	Schizophrenics (n=20) M	Schizophrenics (n=20) SD
AA Percent*	38.29	16.43	53.28	25.50
AA Total	10.85	4.95	9.53	9.00
AA Severity	14.88	9.15	15.48	17.44

Type of AA Score	Partial Correlations (Controlling for the Number of Responses) Between Group Status and AA Scores Pearson r (N = 40)
AA Total*	.38
AA Severity*	.42

Notes. * indicates a significant difference, $p < .05$.

--AA Percent = the mean score of the percent of responses of each protocol scored positive for AA in each group.

--AA Total = the mean score of the number of responses that were scored positive for AA in each group.

--AA Severity = the mean score of the sum of severity scores (the 1 to 3 score for each response marked positive for AA) of each group.

--In the partial correlation, being in the schizophrenic was predictive of having the higher AA scores.

Table 3

Demographic Predictor Variables of the Percent of AA within Groups

		Percent of Annihilation Anxiety	
		College Students	Schizophrenics
		r	*r*
		(*n* = 20)	(*n* = 20)
1.	Age	.02	.25
2.	Race	-.40	.49*
3.	Gender	.18	.18
4.	Education	.37	.10
5.	SES	.22	.24

Note. All correlations nonsignificant except *Race\Schizophrenic group (*p* = .03).

Table 4

Summary of the RCS Categories Chosen Overall and by Groups

Category	College Students n = 20 Frequency	Schizophrenics n = 20 Frequency	Overall n = 40 Frequency
Overwhelmed	68	60	128
Merger	24	13	37
Disintegration	42	57	99
Impingement	36	38	74
Lost Support	7	4	11
Unable to Cope	2	0	2
Loss of Self	24	12	36
Survival	5	8	13
Catastrophe	0	0	0

Note. For the 20 protocols that were scored by 2 raters, the average score was used and added to the remaining protocols. Also, the category names are abbreviated--please see Appendix B for complete description of the categories.

Table 5

Summary of the RCS Responses On the Rorschach cards

Card	College Students n = 20 Frequency	Schizophrenics n = 20 Frequency	Overall n = 40 Frequency
I	28	20	48
II	27	36	63
III	39	25	64
IV	50	19	69
V	22	13	35
VI	34	30	64
VII	35	25	60
VIII	33	30	66
IX	35	46	81
X	41	39	80

Note. For the 20 protocols that were scored by 2 raters, both of their scores were included in the frequencies.

APPENDICES

Appendix A

Hurvich Experience Inventory

After reading each statement, decide which of the following best describes your experience. Then put the number beside the statement.

EXAMPLE.--1. Never 2. Not Very Often 3. Often 4. Very Often.

1. I feel I'm going to shatter or fall apart.
2. I am very afraid of fear.
3. I wonder who I really am.
4. I worry about my survival.
5. I feel like I am destroyed as a person.
6. I have trouble falling asleep.
7. I am afraid to get emotionally close to others.
8. I feel terror and panic.
9. My body feels like it doesn't belong to me.
10. I think about the world coming to an end.
11. I had frightening nightmares as a child.
12. I feel the dread of dying at any moment.
13. I feel that I have more than one self.
14. I feel intruded on, mentally or physically.
15. I keep searching for an identity I don't quite have.
16. Time seems to run very fast or almost stand still.
17. I need someone to reassure me when I become afraid.
18. I worry about my physical health.
19. I feel I can't pull myself together.
20. I have nightmares.
21. I feel like my mind is falling into bits.
22. As a child I was afraid of dying.
23. I have a feeling of falling in space.
24. When something makes me nervous it's hard for me to get over it.
25. I feel like I am being overwhelmed.

Note. From "Assessment of Annihilation Anxiety from Projective Tests," by M. Hurvich, P. Benveniste, J. Howard, and S. Coonerty, 1993, Perceptual and Motor Skills, 77, p. 400.

Appendix B

Experiential Correlates (Themes) of Annihilation Anxieties

1. Fear of being overwhelmed or engulfed
   - A. Fear of overstimulation
   - B. Fear of reexperiencing a terrifying situation
   - C. Fear of disturbing affects: anxiety\depression, anger guilt
   - D. Fear of inner conflicts and pressures

2. Fear of merger
   - A. Fear of being swept up or lost in another person
   - B. Fear of losing one's separate sense of self
   - C. Fear of loss of body boundaries

3. Fear of disintegration
   - A. Fear of falling apart
   - B. Fear of dissolving
   - C. Fear of shattering into bits
   - D. Fear of exploding

4. Fear of impingement
   - A. Fear of being devoured
   - B. Fear of being smothered
   - C. Fear of being trapped
   - D. Fear of being intruded upon physically or mentally
   - E. Fear of being controlled

5. Fear of loss of needed support
   - A. Fear of falling
   - B. Fear of abandonment
   - C. Fear of rejection
   - D. Fear of silence, aloneness, darkness

6. Inability to cope (loss of ego function)
   - A. Fear of being unable to deal with people
   - B. Fear of being unable to generate an organized response
   - C. Fear of being unable to think
   - D. Fear of paralysis
   - E. Fear of facing problems one is incapable of mastering
   - F. Fear of going insane

7. Fear of loss of self-cohesion (fragmentation, depletion, or enfeeblement)
   - A. Fear of being destroyed as a person
   - B. Fear of not being sure of who one is
   - C. Fear of gaps in the continuity of self-experience
   - D. Fear of suffering shame or humiliation

8. Concern over survival
   - A. Fear of fatal disease
   - B. Fear of fatal accident
   - C. Fear of environmental catastrophe--exaggerated (fires, floods, tornados, earthquakes, nuclear holocausts, warfare)

9. Catastrophic mentality
   - A. Tendency to anticipate calamities from ordinary events
   - B. Tendency to exaggerate ordinary stresses

Note. From "Assessment of Annihilation Anxiety from Projective Tests," by M. Hurvich, P. Benveniste, J. Howard, and S. Coonerty, 1993, Perceptual and Motor Skills, 77, p. 401.

Appendix C

Discussion and Rational for Controlling for Rorschach Protocol Length

A debate has been carried out in the literature since the 1940's over how to account or control for differences in Rorschach protocol lengths (known as "R"), especially when conducting research (e.g., Exner, 1992). According to Exner (1992) most authors on this topic have cited back to Cronbach (1949) and\or Fiske and Baughman (1953), who addressed this issue and gave recommendations in how to deal with differences in R.

Cronbach (1949) stated that different methods of analyzing data from the Rorschach will lead to different results and that the analysis should not be carried out indiscriminately based on the experimenter's subjective judgement. He addressed the issue of R as problematic, especially if groups differ in R, stating that it may require some sort or normalizing. Fiske and Baughman (1953) followed suit with Cronbach, and both articles recommend normalizing R, usually by placing subjects in different groups that have a restricted range of R.

Exner (1992) agreed that normalizing for R may be appropriate when there is extreme variation, as there often was several decades ago. Currently, Exner believes that normalizing for R is not usually necessary because Rorschach protocols are much more uniform in R. This uniformity is evident in Exner's (1993) reference samples, where 700 adult non-patients have a mean R of 22.67 (SD = 4.23), and 320 inpatient schizophrenics have a mean R of 23.44 (SD = 8.66). Exner (1992) further stated that even if there is a significant difference in R between groups, logic (versus probability values) should dictate if the magnitude is sufficient to warrant some sort of normalizing for R. Given a meaningfully significant difference in R, Exner (1992) suggested that a stronger case could made for normalizing R if it is correlated with the variables under investigation. He went on to state

that using a percentage score may be too simplistic and suggested the use of a partialing technique.

Relevant to this study, both percentage and partialling techniques are used because of the magnitude of difference in R between the schizophrenic group and the college student group (R=29 versus 18, respectively). And further, R is significantly correlated with the 2 different scores of annihilation anxiety (AA only $r(37) = .77$; AA Total $r(37) = .65$, p's $<.001$) such that as R increases the AA scores increase. Thus, this study fits the conditions described by Exner (1992) and others (e.g., Kinder, 1992) that allow for normalizing of R.

Appendix D

Informed Consent

1. I have freely chosen to participate in psychological research being conducted by Mark Heim and supervised by Dr. Bertram Karon. I can contact Dr. Karon in 108 Psychology Research Building (or call 355-2159) if I have any questions regarding my participation in this study.

2. I have been informed that I will be taking the Rorschach Ink Blot test and that this process will require approximately 1 hour of my time.

3. It has been explained to me that my responses to the ink blots will be written down and scored for certain psychological concepts. I have also been informed that my responses will be kept strictly confidential, and that a subject number instead of a name will be used on all written material; only the primary researcher will have access to the names and corresponding numbers and he will keep this information under lock.

4. I understand that I can discontinue my voluntary participation at any time, and further, that there are other options besides research participation to fulfill course requirements (e.g., writing short papers).

5. I understand that any known risks to my participation have been explained to me and that I agree to participate in this research. I also understand that this research does not guarantee any beneficial results to me.

6. It has been explained to me that I can learn more about the Rorschach Ink Blot after my participation in the study. Additionally, I can receive information about the results of this particular study at a later date (early summer) if I provide optional mailing information below.

7. I have been provided a copy of this consent form, and I understand that an identical copy will be kept on file.

Signed:_____

Witness:_____

Date:_____

Optional Information (to obtain results)

Name: _____

Address: _____

_____

Appendix E

Training Procedure for the Use of the Rorschach Content Scale

The primary investigator met a total of 5 times with both of the research assistants for approximately 2 hours per meeting over a one month span. The first meeting consisted of informing the assistants that they would be required to learn the use of the Rorschach Content Scale (RCS) and would subsequently have to score a total of 30 protocols--a task requiring 20 to 40 hours of their time after training. Time was also spent informing the assistants about the concept of annihilation anxiety (AA) and how the RCS was developed, and they were given relevant articles to read before the next meeting (i.e., the articles by Hurvich 1989, 1991). The remaining time was spent going through the RCS page by page to become familiar with the instrument. The researcher and the assistants were then given the task to score three protocols before the next meeting.

For the next 4 meetings, the researcher and the assistants went through each Rorschach response and compared answers. When their was a disagreement about whether or not a responses reflected AA, or which category the response should be placed in, a discussion ensued until a consensus was met. If a consensus could not be agreed upon, the researcher made the final decision. This procedure worked very well and additional examples were added to the RCS that helped reduce discrepancies at each subsequent meeting.

Almost 300 responses were eventually compared and by the last meeting there was approximately a 90 percent agreement between the three raters. Additionally, it became clear by the end of the third meeting that certain responses resulted in confusion as to which of the nine categories best represented the type of AA (e.g., a response that included a fight or conflict). Subsequently, the researcher made an

addendum to the RCS to clarify some differences and help insure consistency in the scores. The addendum is added below.

RORSCHACH SCORING MANUAL FOR ANNIHILATION ANXIETY

ADDENDUM

Fights

Score arguing under category I C (Fear of Being Overwhelmed--Disturbing affects or conflicts)

Score actual fights under category I B (Fear of Being Overwhelmed--Overstimulation) unless the fight includes a stabbing, gunshot, or some other "Impingement" then score under category IV.

Score a pending fight under category IV B (Fear of Impingement) if it seems clear that the fight will lead to an impingement; if an impingement is not evident or predictable, then score the pending fight under category I B (Overwhelmed--out of control).

miscellaneous

Responses that don't have a definite form quality (e.g., smoke, clouds, bodies of water, heaven, hell) get scored under category II (Fear of Merger). The exception to this would be "disturbing affects" (e.g., "I feel scared", "this gives me a headache") which would get scored under category I C (Overwhelming).

Also scored under category II (Merger) are "Pure C" responses--the "C" stands for color. An example here would be a response such as "Oh, green, blue, and yellow." (Note: the pure c must be the whole response--not just a "comment" on the colors).

If you can't figure out which category a response fits under, it may help to back away from the details of the response and try to determine more generally which category it would fit under by re-reading the descriptions under the category titles. When this fails, list both categories that you think are appropriate but please circle which one is your main preference.

Appendix F

The Calculation of Socio-Economic Status

The participant's socio-economic status (SES) was calculated using Hollingshead's Two Factor Index cited in Myers and Bean (1968). Hollingshead originally used a three factor index to calculate SES which included the occupation, education, and residential setting of the head of household. The residential setting was dropped from the index because it was determined that a detailed knowledge about the residential setting within the city or suburb was necessary for this factor to be accurate. Subsequently, the education (measured in years of completed schooling) and occupation (divided into 7 categories to represent earning power) of the head of household became the common factors used to assign an SES.

In this study, if the participant was married and lived independent from the parents, either the participant or the participant's spouse, whichever would result in the highest SES, was used in the calculation of SES. If the participant lived with his or her parents or was dependent upon them for support (as in the case of most college students), the parent that placed the participant in the highest SES category was used as the head of the household for calculations.

Both the education and occupation indexes are multiplied by weighting factors then the two scores are summed. The range of scores run along a continuum from 11 to 77, with the lowest score equating to the highest SES. The range of scores are then subdivided into five social class categories as follows:

Range of Computed Scores	Social Class
11 - 17	I
18 - 27	II
28 - 43	III
44 - 60	IV
61 - 77	V

In this study the participant score (from 11 to 77) was used in statistical calculations to eliminate the use of a categorical variable, and subsequently improve statistical inferences.