

THE UNIVERSITY OF CALGARY
Concurrent Validation of the Thematic Apperception Test with
Lazarus' Ways of Coping Questionnaire on Two Negative
Emotional States

by

Gregory S. McKenna

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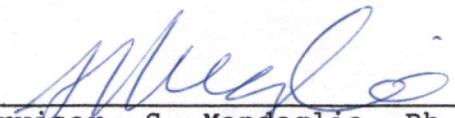
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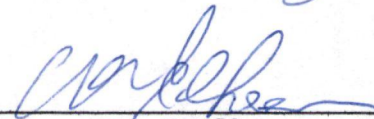
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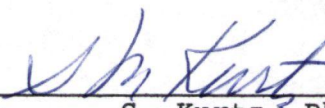
The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies for acceptance, a thesis entitled, "Concurrent Validation of the Thematic Apperception Test with Lazarus' Ways of Coping Questionnaire on Two Negative Emotional States" submitted by Gregory S. McKenna in partial fulfillment of the requirements for the degree of Master of Science.



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ABSTRACT

This exploratory, descriptive study is designed to determine whether the Thematic Apperception Test (TAT) (Morgan & Murray, 1935) can be used to assess coping styles. Ten volunteers acted as subjects. These individuals reported on five anger and five sadness experiences. These incidents were described in writing and the Ways of Coping Questionnaire (WCQ) (Folkman & Lazarus, 1988a) was completed. The descriptions were coded for situational determinants. These subjects later provided ten TAT stories, five associated with each emotion. The stories were scored for coping styles and situational determinants. The stories and incidents were then compared according to these factors. The results demonstrated that situational determinants in the stories and incidents differed considerably and correlations between assessments were poor. Coping style trends in the TAT data were investigated. Other analysis provided information on the TAT stimuli and scoring procedures. Results were discussed in relation to the transactional theory of coping and past TAT research.

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My mother, father, and brother.

DEDICATION

To my mom and dad,
whose love and nurturance has provided me with all the gifts,
talents, and support, necessary to pursue and successfully
complete those endeavors I have chosen to pursue.

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Chapter 1

INTRODUCTION

Statement of the Problem

The Thematic Apperception Test (TAT) is a projective assessment "...in which subjects reveal their attitudes, feelings, conflicts, and personality characteristics by making up stories about a series of relatively ambiguous pictures." (Goldenson, 1984, p. 744). Research on the TAT is voluminous, in fact, according to Reynolds & Sunberg (cited in Polyson, Norris, and Ott, 1985) between 1940 and 1971 the TAT was the third most heavily researched psychological assessment device. However, Polyson, Norris, and Ott (1985) indicate the amount of research on the TAT has been in decline since the mid-seventies. This trend was discovered by reviewing the Buros publications (the *Mental Measurements Yearbooks*, 1972, 1978; *Tests in Print II*, Buros, 1974) for the years 1970 through 1976 and *Psychological Abstracts* from 1970 through 1983. To illustrate the degree of decline from the mid-seventies through to the early eighties note that in the early seventies (ie. 1970, 71 and 72) *Psychological Abstracts* reported between forty and sixty references and Buros publications between sixty-five and seventy references. The number of references declined sharply until in the years 1976 through 1983 references ranged from ten to twenty-five per year. Despite this decline in research the TAT remains one of the most popular assessment devices ranking number six in a survey of American psychologists (Lubin, Larsen, & Matarazzo, 1984) and number five in a survey of Ontario

psychologists (Lapointe, 1974). In a more recent survey, Piotrowski and Keller (1989) noted the TAT was ranked among the top ten assessments most commonly used by psychologists in outpatient mental health facilities in the United States. They also noted that "testing trends have not changed much over the last decade." (p.424).

Much of the previous research on the TAT involves the testing of the assumptions on which it was based, the properties of the stimuli, the influence of various administration procedures, its psychometric properties, and its usefulness in assessing various psychological constructs (Zubin, Eron, & Schumer, 1965; Murstein, 1963). It seems the need for continued research in these and other areas is important given the TAT's continued use in clinical settings.

One area in which the TAT has yet to be applied is in the study of how people cope with everyday life stressors. Lazarus (1966) and Lazarus and Folkman (1984) proposed a cognitive transactional theory of stress that has received considerable support from research. In their formulation, coping is viewed as transactional in that a person and the environment are seen as being in constant dynamic interaction; the person affects the environment and the environment affects the person in a reciprocal and continuous process. In their view, the individual's appraisal of an encounter influences the response. As the encounter unfolds and changes so do the responses to it. Thus, in order to understand the coping process the investigator must understand the dynamic interaction taking place. In the

majority of assessment procedures this understanding of the dynamic process is not possible since most assessments of coping are designed to measure traits or common responses as opposed to discrete incidences. The Ways of Coping Questionnaire (WCQ) is an exception to this, and was designed to be sensitive to the complexity of human coping responses (Folkman & Lazarus, 1988a). Research on the WCQ has shown it to be a valid measure of the dynamic process of coping (Folkman & Lazarus, 1988a).

The TAT by its very nature also seems capable of assessing the coping process while maintaining an eye to the complex person-environment interaction. After all, it is designed such that a response to the stimuli must include details of the person-environment interaction, the pressures and needs associated with the individual as well as the pressures and needs of other individuals with whom the main character may be interacting (Zubin, et. al., 1965). In addition, the diversity inherent in the administration and scoring procedures of the TAT make it possible to control many "extraneous" variables such as feelings, and potential costs, of an interaction (Rabin, 1968a), which are thought to be important and influential aspects of an individual's "choice" of coping style (Lazarus & Folkman, 1984). The TAT, to date, has generally been overlooked as a tool appropriate for this type of assessment. However, it may prove extremely useful given that it can a) potentially provide information on how various encounters are appraised and subsequently responded to, b) eliminate much of the artificiality

associated with laboratory studies, and c) circumvent the incomplete nature of self-report and description of each situation by the subject; all of which, according to Lazarus & Folkman (1984), are drawbacks to traditional assessment modalities.

Purpose of the Study

The present research is an exploratory, descriptive study to determine whether TAT stories are effective for the assessment of coping styles. This will be determined by comparing the coping styles found in the TAT stories (involving either sadness or anger) to self-reported coping styles specific to real life situations involving the same negative emotional states. It is expected that this research will provide some insight into whether or not the TAT's domain of usefulness can be extended to coping research and theory as conceptualized by Lazarus and Folkman (1984). This is a logical progression for the TAT given that it has been used in the study of defense mechanisms (Cramer, 1991) and type A behavior (Hooker, Blumenthal, & Siegler, 1987). Which according to, Coyne and Lazarus (1980), Lazarus and Folkman (1984) and, Billings and Moos (1981) are precursors to coping style research. Thus, it seems appropriate to extend TAT research to include a more recent conceptualization of coping, specifically Lazarus and Folkman's (1984) conceptualization.

The research questions are:

- 1) Within each assessment what patterns are found, in terms of involved persons, issue/task, and severity, between

emotional states?

2) Do the situations in one assessment match or parallel those in the other, in terms of involved persons, issue/task, and severity, in each of the emotional states?

3) Can the TAT be applied to the assessment of coping styles?

Chapter 2

REVIEW OF RELATED LITERATURE

The following chapter will review the literature in terms of the history and theory of projective techniques, with emphasis on the TAT, as well as a brief note on the uses of the TAT. This will help provide the background necessary for discussion of the TAT research. Further, this chapter will review a) the nature of the TAT stimuli, b) the influence on projective content that administrative factors have on the TAT, c) scoring and interpretative procedures with the TAT, d) issues of reliability and validity associated with the TAT, and e) a description of the cognitive-transactional theory of coping and the Ways of Coping Questionnaire.

Historical Overview of Projective Techniques

People's predilection to impose structure on relatively ambiguous stimuli has been noted and occasionally recorded in centuries past. One example comes from da Vinci's *Introduction to the Painter* (cited in Zubin et al., 1965); where he comments on the associative experiences of viewing a blot of paint on a wall left by a sponge. Leonardo states, "... various experiences can be seen in such a blot, provided one wants to find them in it - human heads, various animals, battles, cliffs, seas, clouds or forests and other things..." (p. 117). Another example, that involves written and spoken themes, comes from Nietzsche (1966) who states "every great philosophy so far has been: namely, the personal confession of its author and a kind of involuntary and unconscious

memoir; ..." (p. 13).

These are examples of pre-experimental observations of how ambiguous stimuli can elicit various associations and responses from individuals who allow themselves freedom of imagination. At the end of the nineteenth century and beginning of the twentieth, psychologists began a more systematic/experimental investigation of the use of relatively ambiguous visual stimuli in order to elicit personal information from subjects (Rabin, 1968a).

In 1895, two psychologists, Binet and Henri (cited in Zubin et al., 1965) suggested the use of inkblots for the investigation of visual imagination. Dearborn (cited in Zubin et al., 1965) in 1897 proposed the use of inkblots in experimental psychology to investigate such things as the content of consciousness, memory, qualitative and quantitative imagination. A number of other studies using inkblots followed including a) Sharp's (cited in Rabin, 1968a) 1899 investigation of imagination; b) Pyle's (cited in Rabin, 1968a) 1913-1915 studies of children and their associations; and c) Parson (1917; cited in Rabin, 1968a) who investigated the range and content of associations in boys and girls on twenty inkblots. Each of these investigators reported findings that reflected aspects of the subject's thought processes. It was not, however, until Hermann Rorschach's Psychodiagnostik in 1921 that projective techniques began to emerge and become generally accepted in the world of psychological assessment (Rabin, 1968a).

Concurrent with these initial attempts at using inkblots

were attempts at using picture-story methods. However, assessments involving story production based on picture stimuli are more limited as compared to inkblots (Zubin et al. 1965).

One of the earliest investigations using picture-story methods, in a way that clearly anticipated current clinical use, took place in 1907. Brittain (cited in Rabin, 1968a; Stein, 1978; Zubin et al., 1965; Murstein, 1963) used the picture-story method to assess the story production of boys and girls. His research revealed qualitative differences in the type of story told by boys as compared to girls. The girls revealed more religious, moral, and social elements in their stories with greater interest in clothes and preparation of food, while boys were more interested in the consumption of food. Despite these findings picture-story assessments were not used as clinical tools until 1932 when Schwartz (cited in Rabin, 1968a; Semeonoff, 1976; Stein, 1978; Zubin et al., 1965; Murstein, 1963) discovered, by using pictures depicting common situations of delinquent boys, he was able to expedite the interview process, establish better rapport and acquire more extensive information about the subjects. Schwartz's method of assessment, however, did not gain great popularity in clinical practice, perhaps due to its circumscribed area (Rabin, 1968a; Semeonoff, 1976; Stein, 1978; Zubin et al., 1965; Murstein, 1963).

In short, though attempts had been made, the use of picture-story methods of assessment were generally ignored

until the development of the Thematic Apperception Test (TAT) by Morgan and Murray (1935). A number of circumstances lead to the TAT becoming successful where previous attempts with picture-story tests had failed. These included Murray's recognition of the utility of these methods for investigating inner tendencies and cathexes of normal subjects, and his initial success with the instrument. Moreover, many of the researchers at the Harvard Psychological Clinic, who believed in the utility of the TAT, became well known in the field of clinical psychology. Finally, there was a growing interest in projective techniques at the time, stimulated by success with the Rorschach (Zubin et al., 1965).

The TAT was introduced to the psychological community in 1935 by Morgan and Murray (Stein, 1978; Vane & Guarnaccia, 1989). The original version was developed for males. Later versions incorporated cards considered more appropriate for females. The current, now standard series contains items for males, females and, boys and girls under the age of 14 years. There are thirty one cards in the series (all of which are numbered), eleven of these are used irrespective of the sex and age of the subject. The other twenty cards are labelled and were originally intended to be used specifically with subjects of a particular age and or sex (Semeonoff, 1976). According to the manual a subject typically receives a series of twenty cards, (Murray, 1943) (for specifics of administration see pp. 27-39 and p. 65) nine are chosen according to the sex and age of the subject (Semeonoff, 1976). Twenty-seven of the cards contain a picture of one or

more individuals, two cards have pictures of common objects (eg, a boat in one, a house in the other), one has a vague shadowy scene, and one is blank.

The assessment is based on the hypothesis that imaginal productions by subjects, based on selected pictures, would make inferences possible about themata, that are important to that subject's life. From these themata further inference can be made regarding the "needs", and "press" that were significant in the psychological life of the subject - "... especially if the pictures suggested typical conflicts and scenes seemingly charged with emotion (Wyatt, 1958, p.229; cf. Rapaport, Gill, & Schafer, 1968). In other words, by having an individual produce stories in relation to a picture stimuli, particular themes of relative importance to that person's psychic life may emerge revealing environmental forces (press) and internal needs most significant to that person's personal world.

Uses of the TAT

The TAT, as alluded to above, was originally designed to "reveal some of the dominant drives, emotions, sentiments, complexes and conflicts of personality." (Murray, 1943, p. 1). With its utility, according to Murray (1943), lying in any comprehensive study of personality. The "wideband" applicability of the TAT, "...through which a more comprehensive (not merely deeper) view of personality may be had..."(Cronbach, 1960), resulted in research being performed in a vast array of areas related to personality. According to Rosenwald (1968) " ...it is undoubtedly futile to set limits

on relevant dimensions..." (p. 174) of personality tapped by the TAT. Some of the better known areas of research, which attempted to define or extend the applicability of the TAT, include such topics as need for achievement (nAch), need for power (nPow), and need for affiliation (nAff) which have been presented in Atkinson's (1958) *Motives in Fantasy Action and Society*. However, research on the applicability of the TAT in measuring different aspects of personality is diverse and far reaching including such areas as measuring an individual's ability to handle emotionally relevant material (Zimring & Balcombe, 1974), the relationship between dependency themes on the TAT and group conformity (Kagan & Mussen, 1956), as well as in the study of defense mechanisms (Cramer, 1991).

It is this latter research topic that acts as a springboard for the current research. According to Coyne and Lazarus (1980), Lazarus and Folkman (1984) and, Billings and Moos (1981) the concept of defense mechanisms, such as projection, denial, and rationalization, are the intellectual precursors to Lazarus and Folkman's (1984) coping styles.

Theory and Assumptions of Projective Techniques

Projective techniques like many new developments in psychology arose and took hold during a period of intellectual "rebellion". The use of objective assessment techniques had become strongly established at this time and were considered very successful in the areas of intelligence, achievement, attitudes, and interests. This success, however, was not observed in the areas of emotion, motivations, and values. It was this failing of objective measures that spawned an interest in projective techniques (Zubin et al., 1965). The difficulty that accompanied projective measures was their inability to meet the reliability and validity standards that grew from the objective testing movement and classical psychometric theory (Zubin et al., 1965) (see section on reliability and validity, pp. 43-56). Even without the endorsement of classical psychometric theory projective techniques became widely accepted among clinical psychologists. Part of the reason for this acceptance without psychometric backing was due to the different set of assumptions on which projectives were based (Zubin et al., 1965).

The seminal assumption of projective techniques is that of projection. Freud is credited as having developed the notion of projection within personality theory. His concept of projection can be defined as a tendency for people to ascribe their own drives, thoughts and feeling to others and to the world around them, such that they defend against the awareness that said attributes are aspects of themselves

(Zubin et al., 1965; Rabin, 1968a).

Murray (cited in Zubin et al., 1965, p. 4) examined Freud's concept of projection and extracted five essential components of Freudian projection which are:

- a) The occurrence of a veritable delusion or misbelief (misapperception, misinterpretation). The patient *really believes* something about another person that is not true, not justified by the observed facts....
- b) The subject... ascribes to the object... either a tendency directed toward another object... or a tendency directed toward himself....
- c) The ascribed tendency is a significant constituent of the projector's own personality.
- d) The projected constituent is unacceptable (seems shameful or blame-worthy) to the subject, and is therefore repressed or suppressed. The subject is unconscious (or only half-conscious) of its existence in himself.
- e) The goal of the projective process is the maintenance of self-esteem, and freedom from admissions of inferiority and guilt...
(cf. Piotrowski, 1950)

Murray noted the above assumptions are not assumed to be met in the use of projective measures. In fact projection in the Freudian sense is different from projection in assessment situations. For instance, many subjects are aware the attributes ascribed are present in themselves. It is also common for positive traits (not just negative) to be ascribed. Thus it is common for projective protocols to contain unrepressed, conscious, acceptable and even admirable characteristics. Projection in measurement is further complicated (at least in the TAT) in that projections are now extended to qualities, descriptions, characteristics of figures, etc. not pertaining to the self, but to others such as mother, father, and sibling (Murray, 1951; Zubin et al., 1965; Lindzey, 1952; Piotrowski, 1950).

Projective instruments utilize an ambiguous or semi-ambiguous stimulus. The subject is required to impose some structure on the stimulus in order to give it personal meaning. The subject does this by drawing on his or her own past experience, needs, emotions, feelings, and/or level of knowledge (Zubin et al., 1965; Murray, 1943). The projections do not necessarily include defensive, unconscious, unacceptable, or anxiety-avoidant components (Zubin et al., 1965). In fact for the subject "whose psychological functioning is relatively stable and adaptive, the TAT is an opportunity for the discharge of tension, the rehearsal of significant images of themselves and others, the exercise of various skills and defenses, and the implementation of important values" (Rosenwald, 1968 p. 178).

According to projective theory, there is a commonly perceived world that all members of a culture share (Frank, 1965; Zubin et al., 1965). Projective techniques provide a stimulus on which these perceptions can be imposed. The deviations from expected perceptions and response patterns which characterize an individual are those that are of most interest to the psychologist in attempting to understand a person (Zubin et al., 1965).

A basic assumption of projective techniques shared with other aspects of psychology is that response to a stimulus is determined and predictable. Another assumption associated with projective techniques is that projective measures tap the essence of personality - that an underlying personality structure which expresses itself in all behaviour exists

(Zubin et al., 1965; Korner, 1965) and this underlying structure is tapped equally in every individual (Zubin et al., 1965). In other words, a test protocol is a sufficient representation of personality such that generalizations can be made from how an individual responds in the assessment to how that individual responds to events and situations in everyday life. A more implicit assumption related to this is the test stimuli are unstructured or semistructured such that a person's response is a spontaneous reflection of that person's own unique personality and will not reflect cultural or conventional forces (Zubin et al., 1965). According to Lindzey (1952), who experimentally investigated many of the assumptions of the TAT, "... in the light of evidence, the assumption that motivational factors are revealed in completing unstructured situations seems clearly warranted" (p.5).

These assumptions are not accepted by all researchers, however they can be considered as a set of working hypotheses from which to explore - eventually to be confirmed or refuted!

In an effort to better utilize projective techniques in the study of personality, Frank (1965) provided a theoretical framework in which the nature of projective techniques relative to personality could be explained. He suggests personality is a "... dynamic process of *organizing experience and structuralizing life space in a field* according to the unique individual's *private world*." (p.12, italics added). According to Frank, organizing experience and

structuralizing life space involves a configuration being imposed on any perception, in order that that perception will fit with a person's preconceived notions of the world. This process necessitates the subordination or ignoring of certain aspects of a situation that hold little or no relevance to the individual and the selective focusing and reacting to those aspects of a situation that are personally significant (Frank, 1965; Korner, 1965). Criteria for selection of relevant stimuli develops as a result of life experiences (Frank, 1965). Further, within this definition a field is considered the individual-environment interaction, where the individual and environment are seen as existing together as complimentary units, each influencing the other simultaneously. They must be considered in relation to each other and not as separate entities. In other words, every observation or measurement is relative to the frame of reference or field in which it occurs. The "private world" of the individual is referring to that aspect of a person that has developed as a result of the impact of experience (Frank, 1965).

Projective techniques were designed in an attempt to provide insight into the nature of a person's private world, and how they structuralize their experience without distorting that process. Projective researchers attempted to do this by providing a field which contained relatively little structure and cultural patterning. This was done intentionally so the person would have to organize the field. The organization would be provided from within the subject

and their own private world; including the person's way of seeing life, significances, patterns of thinking, and feelings (Frank, 1965).

The projective method should require a subject to organize, interpret, and react affectively to its stimuli. The projective is designed, not so a subject needs to respond in a particular way as previously determined by the administrator (as is the case in some objective measures), but in a way the subject chooses such that it will be meaningful according to his/her own personal world (Frank, 1965; Korner, 1965). It is this imposition of meaning on the stimuli by the subject that will result in a reaction that will be revealing of her/his personality (Frank, 1965). The personality acts on the stimulus, shaping it, in the same way that it acts on and shapes everyday experiences. To use Frank's terminology, the personality structuralizes life space (Frank, 1965). It is assumed that as the subject becomes absorbed in explaining a seemingly objective bit of material he/she loses sight of the fact that these explanations/interpretations reveal his/her own preoccupations, wishes, fears, and aspirations (Frank, 1965; Korner, 1965; Murray, 1943; Morgan & Murray, 1938). Thus the projective method, according to Dunbar (cited in Frank, 1965), elicits the very process of personality as it has developed to that specific point in time. As Rosenzweig (1951, p. 215) asserts "... the stimulus is often merely a trigger, sometimes only an 'excuse' for evoking prepared reactions that have already been set in motion by the inner

stimulation of an impulse".

Despite this theory the relationship between story content and behaviour is not fully understood. That is, researchers are unsure whether the above relationship is compensational, representational, or neither. Murray (1943) suggested these considerations could be best understood by taking into account the societal norms associated with the particular construct being analyzed. If the construct being investigated is socially undesirable, one would not expect it to be manifest in overt behaviours (Murray, 1943; Kagan & Mussen, 1956). This may explain some instances of researchers finding significant sex differences for some constructs while others have found no differences (Zubin et al., 1965; Garfield, Blek, & Melker, 1952). Feshbach (1961) believes the complexity of TAT responses, including intervening variables such as guilt and fear, make prediction of actual behaviour based solely on test scores unacceptable. Murstein (1961) also indicates that in order to determine the nature of the subject's response (representational or compensational) one must consider the "background" (environment in which the test was taken) and "organismic" (past experience, self concept, etc.) variables, in addition to the stimulus. Symonds (1949) found that sometimes themes in the stories corresponded to the narrators behaviour and other times they were compensational (cf. Murray, 1938). It was suggested, that even if a disproportionately large number of stories contained a particular theme, the only assumption that could be safely made is the theme played a significant role in the

fantasy life of the subject. Symonds believed assumptions regarding the nature of the connection between themes and overt behaviour (ie. compensational or representational) were inappropriate without comparing the stories to actual behavioral data (cf. Murstein, 1963).

Nature of TAT Stimuli

The stimulus properties of the TAT cards had long been ignored by researchers and clinicians alike. Both groups having accepted unquestioningly, assumptions related to the stimulus influence on subject's responses, and the type(s) of stimulus best suited to eliciting responses. However, these, and other, assumptions have been addressed in the literature, leading to some important discoveries essential to clinical practice and research.

The assumption that characters resemble the individual taking the test in order that identification can occur more readily has been refuted consistently. According to Piotrowski (1950, p. 108):

The verbalization of an unpleasant tension-creating desire, pressing for outward manifestation, can be accomplished with less anxiety if the desire is projected into a person of an age or sex different from that of the testee; *especially if that person is by virtue of his age, or social position, a more suitable person to entertain such a desire.* (Italics added)

Schwartz, Reiss, and Cottingham (1951); Reiss, Schwartz, and Cottingham (1950), and Korchin, Mitchell, and Meltzoff (1950) using the Thompson version of the TAT for negroes found no differences in story length, or number of ideas, solely attributable to whether the characters resembled the racial characteristics of the subjects or not. Related studies using Thompson's version of the TAT by Light (cited in Murstein, 1965), and Cook (cited in Murstein, 1965) yielded similar results.

Others, researching the relationship between subject and

test stimuli include Weisskopf and Dunlevy (1952) who demonstrated that increasing body similarity between character and subject did not increase productivity - as measured by the transcendence index (the number of responses going beyond pure description). When obese, physically disabled, and "normal" subjects were compared using altered TAT cards depicting obese, physically disabled and "normal" characters no significant difference was found. A related study by Greenbaum, Qualtere, Carruth, and Cruickshank (1953) using a sample of physically challenged children and a set of modified TAT cards depicting physically challenged people found that altered cards resulted in lower rating on depth of projection than did the original set of TAT cards.

In another study (Weisskopf-Joelson & Money, 1953) the TAT cards were altered such that one set of cards had relatively neutral faces on the central character and the second set had the subject's face appearing on one of the characters. In this case no statistically significant differences in the amount of projection or in the diagnostic value of the stories were reported.

Studies in achievement motivation found that sex and the activity of the character were important in the elicitation of high or low achievement material. In both male and female subjects, male characters tended to elicit a greater degree of achievement oriented responses (Veroff, Wilcox, & Atkinson, 1953). Weisskopf, (cited in Zubin et al., 1965) using her transcendence index, attempted to determine whether males would be more productive when male characters were

depicted and whether females would be more productive with female characters. Her results indicated that, although females tended to have higher transcendence scores in general, productivity was not influenced by the presence or absence of same sex characters for either male or female subjects. Similar results were found in a later study by Weisskopf-Joelson and Wexner (1970). The degree to which the sex of the character depicted and the sex of the subject influences both projection and overall usefulness of the TAT cards, was indirectly addressed in a study by Hartman (1970). In this research Hartman was attempting to establish a standard set of TAT cards for use in clinical practice. Using a questionnaire format he was able to collect from 170 clinicians highly experienced with the TAT, a list of the TAT cards they believed to be the most valuable. The information gathered suggested the cards chosen were not influenced by the sex of the subject. In fact, the clinicians ascribed greater value to those cards designated by Murray for use with males, regardless of the sex of the subject to be assessed.

Veroff (1961), in a large-scale study of need for achievement, affiliation, and power investigated need for achievement between blue and white collar workers. He noted, contrary to expectations, that cards depicting blue collar workers better predicted job dissatisfaction for both groups. Also white collar pictures were better predictors of perceptions of achievement gratification for both groups. Finally, blue collar pictures elicited more meaningful

achievement material from white collar workers. Each of these results suggesting that similarity of picture to subject does not necessarily result in better projections.

Weisskopf-Joelson, Zimmerman and Mcdaniel (1970) used a slightly different approach in assessing similarity of subject to stimulus character and the resultant level of projection. In previous studies the degree of similarity between subject and stimulus character was determined by the experimenter. Obviously, the confounding variable in these situations was the subject may not have identified the stimulus character as being similar. To eliminate this difficulty Weisskopf-Joelson et al. allowed the degree of similarity to be determined by the subject. Twenty-nine male subjects were presented with twenty figures and asked to rate these figures using semantic differential scales for fifteen characteristics. The subjects were also asked to rate themselves on the same scales. Twenty-four hours later the subjects were presented with those characters they rated as highly similar to themselves and with the characters they rated as highly dissimilar to themselves, and asked to describe the figures. The descriptions were scored using Weisskopf's transcendence index. Results indicated no significant difference between transcendence scores of highly similar and highly dissimilar characters.

Various alterations in the TAT cards for different groups have yielded similar results. Namely, the degree of similarity between the subject and the character does not increase the level of productivity, and in some cases may

reduce the level of productivity, presumably as a result of defensive anxiety reactions to revealing oneself (Zubin et al., 1965; Murstein, 1965).

The second assumption investigated was the degree to which the stimulus properties of the cards would influence the subject's projection. Initially it was believed the stimulus maintained little or no influence over the subject's projections. However, this assumption was demonstrated to be inaccurate. In fact the stimulus has a considerable influence over the type of stories told (Jacobs, 1958). This influence of the picture is referred to as the "stimulus pull" of the card (Stein, 1978).

The original research in this area generally centered on the differences between the first and second half of the cards (Zubin et al., 1965), since the second set of cards are "... more unusual, dramatic, and bizarre than those of the first (Murray, 1943, p. 2). However, it is studies like those carried out by Eron, Terry, and Callahan (1950) that are of greater relevance to the current work. Their study demonstrated that each of the TAT cards has a stimulus value of its own that largely influenced the emotional tone of the story. Eron (1950) in a study compared six groups (including both hospitalized and non-hospitalized subjects) on a number of variables including themes of stories for each card for each group. He found the cards themselves had a greater influence on the type of stories told than did the psychiatric classification of the patient.

Different responses may be forthcoming from different

subjects depending on the subject's initial categorization of the stimulus. For instance, if a male subject is involved in an achievement situation he may report achievement content if he recognizes the stimulus as being relevant to achievement. If he does not make this initial attribution to the stimulus, very little achievement material may emerge (Zubin et al., 1965; Murstein, 1963; Veroff, 1961). O'Gorman and Stair (1977) state "... that 'stimulus pull' interacts with personality type and cannot be considered constant over individuals..." (p.594). Consistent with this information Feshbach (1961) suggests, when administering the TAT, cards be chosen that have a high probability of eliciting the type of imagery that is under investigation. Others, such as Bentley (cited in Hartman, 1970) and Katler (1970), go still further by suggesting subjects be allowed to select the cards they wish to use.

In order to further clarify and define what properties each of the TAT cards has a number of research studies designed to provide normative data were undertaken. Eron (1950, 1953) and Rosenzweig and Fleming (1949) provided norms based on frequency data. Other researchers such as Bellak (1975) and Rapaport et al. (1968) have described common responses for each TAT card but did not substantiate these claims with empirical data.

Rosenzweig and Fleming (1949) studied fifty men and fifty woman aged 20 - 40 with no history of psychiatric disturbance, and representing a broad spectrum of the adult population. Responses were analyzed according to

identification of figures and objects and, problems and outcomes. Also investigated for this sample was reaction time, total time, and total wordage. Separate norms were provided for both men and women.

Eron (1950) presented norms based on 150 male veterans in a veterans hospital for the male series of the TAT. The subjects included both normal and psychiatric populations, of at least normal intelligence, and with a high school education. The responses were analyzed according to emotional tone, outcome, themes, identifications, and levels of interpretation. Eron (1953) provided similar norms based on sixty American females.

The presence of such norms allows investigators to distinguish between those aspects of a story that are generally agreed upon and those which are idiosyncratic in nature, thereby providing opportunity for more accurate interpretation (Zubin et al., 1965; Rosenzweig, 1951; Rosenwald, 1968).

In all, a number of non-projective determinants influence the nature of perception on the TAT (Murstein, 1958a).

Influence of Administration

Many aspects of the administration procedure have been studied in order to determine the effects of varying components of the procedure. Areas investigated include the number of cards administered, the order of card presentation, the length of time of card exposure, variations in instructions, the effect of subject's mood, and environmental effects.

The use of twenty cards in the original series was believed to provide a representative sample of S's fantasy. However most clinicians and researchers do not use all twenty cards. The majority of clinicians choose cards they feel have some relevance to the patients problems (Zubin et al., 1965). According to Zubin et al. (1965) this "stacking" of the cards may not be appropriate. If a clinician chooses cards in an attempt to elicit specific types of content the clinician may be biasing results. For instance, Bellack (1975) suggests that cards 6BM and 7BM elicit considerably more Oedipal material. Thus a subject would be expected to relate stories to these cards which contain that type of material. The clinician may then be receiving an unrepresentative picture of the patient (Zubin et al., 1965). In terms of the current research, it is just such a biased representation that is sought in order to compare specific themes with specific real world events.

Kalter (1970) and Bentley (cited in Hartman, 1970) advocate the self-selection process (having subjects choose the cards) for choosing cards. Kalter determined by way of

case studies that this process facilitated the emergence of thematic material and was anxiety reducing; presumably because of the resultant shift in the power differential between subject and tester. White and Schreiber (1950) noting the relatively large number of refusals to participate in the assessment by patients in clinical settings, advocate using the first two cards, as a basis for comparison. Then allowing the patients to flip through the cards and choose those they would like to tell stories about. Each of these researchers report an increase in the elicited materials richness for interpretation.

According to a study by Terry (1952), which examined emotional tone, outcome and level of response, the order of presentation of cards did not seem to have a significant effect on projection. This study used four cards that were systematically rearranged for order of presentation. It was found that the card just preceding had no effect on stories. However, Kannenberg (cited in Zubin et al., 1965) suggested that a number of preceding cards may have a cumulative effect on variables she investigated, namely need for friends and social approval, and general state of apprehensiveness.

Reitman and Atkinson (1958), and Atkinson (cited in Reitman and Atkinson, 1958) reported an effect for serial order of card presentation when studying achievement motive, with the first four cards revealing the most telling information. Similarly, Epstein (cited in Murstein, 1963) suggests the first card in a series is the best measure of a simple drive. Thereafter, the low-relevant cards are not as

sensitive to those drives (Murstein, 1963). Reitman and Atkinson (1958) suggested this trend may be the result of a "drive reduction" effect resulting from the imagery produced in the first stories. This speculation is corroborated by Feshbach (1958) and Tachibana, Ohgishi, and Monden (1984) who found that provoked subjects level of hostility was reduced after relating stories based on a TAT stimuli.

Lowe (cited in Murstein, 1963) studied motivating sets (neutral, praise, and punishment) in two different settings (individually or taking the test in front of a class). The six conditions were arranged in five latin square designs for a total of thirty conditions. The cards used proved to have significant differences with regard to the elicitation of hostility. However, position effect had little or no effect. Mason (cited in Murstein, 1963) using a latin square design also noted significant differences in the material elicited by each card. In contrast to Lowe's study Mason also noted an effect for serial positioning of the cards. Specifically, elation, anxiety and, use of content categories were effected by sequence. However a full explanation for this position effect was not included.

In short, position effects, when stimulus properties of the cards are not considered, have an insignificant effect on story content. However the interaction of position and stimulus properties does seem to influence story content in some situations (Murstein, 1963).

The influence of exposure time of stimulus on story content has also been the subject of investigation. It

appears that exposure time which is too short (a few seconds) reduces productivity because the subject does not have time to fully absorb the stimulus. On the other hand, increasing exposure time beyond a certain point (one or two minutes) does not increase the richness of story content (Murstein, 1965, 1961; Zubin, et al., 1965). A study by Stang, Campus and Wallach (1975) investigated the relationship between exposure time and affective response to TAT stimuli. Ten male and 24 female subjects were exposed to TAT pictures for 10, 35, or 60 seconds. After the stimulus was exposed and removed the subjects had 5 seconds to rate the stimulus on a 7-point scale ranging from extremely pleasant to extremely unpleasant. The results indicated a significant effect in the form of a linear decrease in pleasantness as a function of exposure time. The researchers believed this finding suggests increasing exposure time is likely to reduce stimulus pleasantness and this may be reflected in the story content. However an earlier study by Lindzey and Heinemann (cited in Zubin et al., 1965) determined that increasing exposure time from five to eight minutes had no effect on story content. These two studies combined suggest there may be an initial effect for exposure time of the stimulus on response content but this effect is not linear (in fact it plateaus) beyond a certain exposure period.

The set induced by particular instructions can also have a tremendous influence on response to cards. Sumerwell, Campbell, and Sarason (1958) endeavoured to determine the effect of differential motivating instructions on two aspects

of TAT stories. They used 106 university students placed in one of four conditions. The conditions involved the type of instructions given and included Murray's standard instructions; a set of instructions which touted the TAT as an intellectual assessment; instructions that indicated the TAT was a personality assessment; and neutral instructions which simply stated what the subjects were expected to do, with no indication of the purpose of the assessment. The results indicated that use of Murray's instructions, the intellectual assessment instructions, and the personality assessment instructions result in more negatively toned stories when compared to the neutral instructions. Interestingly, it was noted that a card retains its stimulus pull relative to other cards despite differing instructions.

Lundy (1988) used a similar technique to determine whether instructional set influenced the validity of the TAT. He gave the TAT to 199 adolescents following one of four instructional sets; neutral, following a personality test, emphasizing it as a personality test, and in a nonthreatening but structured setting. Prior to the administration of the TAT, a questionnaire and a game of anagram (making as many words as possible from a key word) were administered and used as a criteria measure. The game of anagram was considered a measure of need for achievement. The questionnaire was designed to tap three motivations, need for achievement, need for affiliation, and need for power. The TAT was scored for each of these criterion as well as for ego-control. Results indicated significant differences between

the validity correlations obtained in the neutral instructions condition and the non-neutral instructions condition. Specifically, the derived motive scores from the TAT correlated significantly with criteria in the neutral instructions condition but not in the non-neutral conditions, which had either very low or negative correlations with criteria. In addition, those groups who received neutral conditions demonstrated less ego-control in their stories, suggesting more freedom in expressing fantasy material and less defensiveness.

In a similar vein, Lubin (1960) administered either two cards with high sexual cue value or high aggressive cue value to sixty college males who were divided into three groups. Each group received one of three instructional sets: facilitated - well adjusted people usually let there imaginations go as it is stimulated by the card; inhibited - well adjusted people are the masters of the their imaginations and emotions; neutral. Lubin found that under the facilitative instructions subjects produced more sexual and aggressive content than in the other conditions. These studies suggest subjects attitude and expectations about the test influence the responses given for cards.

Leuba and Lucas (cited in Zubin et al., 1965) used hypnosis in order to induce different moods in subjects. They then presented the subjects with six pictures and asked them to tell what they thought of the picture and what it reminded them of. In each condition there were significant differences between the picture descriptions in one induced mood when

compared to another.

A number of other studies have induced moods in order to determine the effect on story content. Bellack (cited in Zubin et al., 1965) found that subjects who were criticised for poor quality stories were, in subsequent stories, more likely to have verbs and nouns which related to aggression. Interestingly criticism appeared to have different effects on different individuals, as suggested by the increase of the standard deviation from 9.81 before criticism, to 22.2 after criticism. Another important observation was that the effect of criticism was noted on some cards and not on others, once again suggesting the importance of stimulus on eliciting the expression of predominant needs.

Some researchers have noted that environmental characteristics surrounding the administration can also influence the content of the stories. Kenny and Bijou, (1953) noted, during post hoc analysis, differences in the amount and type of material elicited by different examiners despite attempts to control the administration procedure to eliminate this confounding variable. Turner and Coleman (1962) investigated examiner influence on TAT productions specifically. The examiners consisted of 24 third and fourth year graduate students in clinical psychology who were involved in an internship at a VA hospital. The examinees were 204 male outpatients. Protocols were collected from sessions between an examiner and a patient. The examiner was unaware that the protocols were being used for research. The richness of information gained from the protocols was

compared to a number of examiner characteristics including years of experience using the TAT, preference for using the TAT, number of TAT's given during the internship, personality traits of the examiner and, level of diagnostic competence of the examiner. Results indicated that examiners did differ in the type of material elicited from patients. Number of years of experience with the TAT, personality characteristics, and diagnostic competence did not influence responses. However, those who administered fewer TAT's elicited more material than those who had administered a greater number.

The method used to record subject's stories is another environmental influence that has been an issue considered worthy of investigation. According to the TAT manual (Murray, 1943) the administrator records the protocols by writing the stories as the subject produces them, having a stenographer scriptiously record the stories, or by making a permanent record. It has also been suggested that subjects write their own stories (Zubin, et. al., 1965). The question that arises is "Which method of recording protocols provides the best information for scoring?". Baty and Dreger (1955) addressed this question in a study where 72 subjects were asked to produce TAT stories in three different conditions, machine recorded, experimenter recorded, and subject recorded. None of the three conditions resulted in a significant increase in content. An analysis comparing machine recorded versus experimenter recorded protocols, indicated that a great deal of information was lost in the latter condition. The researchers concluded that machine recording and subject

recording of stories reduced the amount of information lost in comparison to experimenter recording. Teevan, Smith and Greenfield (1982) compared subject recording versus machine recording on two content areas; need for achievement, and fear of failure. They divided 42 males and 19 females into two groups, machine recorded and subject recorded and analyzed responses for 4 TAT stimuli for each of the content areas. Results indicated that no statistically significant difference resulted from recording method for one content area; but differences were present in the other content area. Specifically, more significant results were gained from machine recording when need for achievement was analyzed. The reason for the difference in one content area compared to the other was unclear. The authors, however, suggested that comparison of subject recorded and machine recorded protocols should be done cautiously until the factors involved are determined. Another tentative conclusion is that machine recording may be more sensitive to certain content areas than subject recording.

The numerous variations employed in the administration of the TAT reflect the TAT's versatility and its capacity to yield meaningful information about many different aspects of personality. Given this it should be noted that story content is extremely sensitive to variations in administration procedures. As a result it is very difficult to compare studies that utilize different methods (Murstein, 1963).

Scoring and Interpretation of the TAT

A single widely accepted and generally used method of scoring and interpretation of the TAT has not been developed, in contrast to other projective assessment devices such as the Rorschach (Murstein, 1963). Aside from the sparsely detailed manual, and the non-technical nature of the TAT, the content-oriented character of the TAT has given rise to a veritable plethora of scoring systems designed to assess specific portions of content such as, sex, aggression, achievement, affiliation, and many more (Murstein, 1963). Thorndike and Hagan (1955) state " ... there is little uniformity in procedure for analysis, the method of interpretation and aspects analyzed depending upon the original purpose of giving the test " (p. 407). In fact it has been stated that, there are as many scoring systems as there are topics to investigate (Holt, 1958). Bellack (1975) lists over twenty scoring systems. Many of the systems developed rely on variations of Murray's formulation of needs-press categories while others have evolved based on different concepts. Some of the more well known scoring systems include Bellack's system (1975) which involves analyzing story thema for needs and press of the subject from which further inferences are made regarding the salient dynamics of the subject's personality; Rapaport's (Rapaport et al., 1968) system which involves examining story structure (ie. compliance with instructions, consistency of the stories) and story content (ie. tone of the stories, figures in the stories, and obstacles and barriers in the stories);

McClelland's system (McClelland, Atkinson, Clark, & Lowell, 1958) for scoring need for achievement, to name a few. In this study a system was generated following the principles used by Sutton and Swensen (1983) in their research on ego development; Rodgers' (1973) investigation of self-report versus TAT responses for *n* Agg, *n* Nur, and *n* Ach; and Child, Frank, and Storm's (1956) study of self-ratings and TAT responses.

The primary purpose of the Sutton and Swensen (1983) research was to determine reliable, and concurrently valid methods for assessing ego development. The Loevinger's Sentence Completion Test (SCT) was used as a criterion measure. The TAT was one of the devices assessed for concurrent validity and reliability. Scoring of the TAT was "based on the experience of learning to rate SCT protocols" (p. 468) and on Loevinger and Westler's ego development theory. Essentially the TAT was treated as though it were providing the same type of information as that rendered by the SCT and rated accordingly.

In Rodgers' (1973) research a 24 item self-report measure was designed based on Murray's (1938, 1943) categories relating to *n* Agg, *n* Nur, and *n* Ach. Eight statements measuring each need were devised. These statements were then used as the bases for scoring the TAT protocols. The judges rated statements in the TAT protocol according to the degree to which the statement represented one of the needs. As in the last study, the items in the self-report measure were used as the underpinning for rating statements

in the TAT protocols.

Finally, a similar method was used in the work of Child, Frank, and Storm (1956). In their study, they developed two questionnaires designed to rate 20 variables ranging from achievement and aggression to sociability and succorance. The scored results in each category, based on these questionnaires, were used as criterion on which TAT scores for each of the categories measured would be compared. The TAT was scored in two ways 1) using McClland's system, and more importantly for this study 2) using a system of categorical analysis designed to match the 20 variables being studied.

In the first study the TAT was scored based on the theory associated with the topic under investigation (which was also the theory the criterion measure was based on) and based on the scoring criteria designed for the criterion measure. In the last two studies, the categories that were build into the self-report measures were specifically sought within the TAT protocols. Thus the TAT scoring systems were tailored specifically to match the type of information gathered from the criterion measures. The TAT responses were scored according to the individual items and/or the general categories of the criterion measures; TAT responses were scored based on whether they were endowed with the same essence as the responses gleaned from the individual items or general categories of the criterion measures.

Reliability and Validity of the TAT

Issues of reliability and validity have plagued the projective testing movement since its beginning. Reliability in psychometric testing is defined as the degree to which an assessment provides the same results from one assessment period to the next, or if different parts of the test measure the same thing (Goldenson, 1984). Statistically reliability is the ratio of true to total variance and has two aspects, stability and equivalence (Murstein, 1963). Validity is the ability of a test to measure what it purports to measure (Goldenson, 1984). Each of these psychometric properties (reliability and validity) may be assessed using a number of different methods, with each method providing different information (Cronbach, 1960).

According to Cronbach (1960) there are four types of validity against which an assessment can be measured; predictive, how well an assessment predicts future performance; concurrent, how well an assessment estimates present performance; content, does the test provide a fair measure of performance on particular tasks; and construct, whether scores on the test can be explained psychologically.

Attempts have been made to validate the TAT based on the different types of validity, however given the nature of the current research concurrent validity is of primary interest. According to Zubin et al. (1965) early studies of TAT validity were summarized by Tomkins (1947) and Bell (1948). Tomkins suggests that insofar as the experiments demonstrate, the validity of the TAT was established. In contrast Bell

states "to a marked extent clinicians have been willing to accept the procedure as valid and reliable without further scientific evidence than their own experience..." (cited in Zubin et al., 1965, p.421). Research from 1948 to 1965, as summarized by Zubin et al. (1965), has not clarified the issue of TAT validity.

Henry and Farley (1959) attempted to determine the level of agreement between the TAT and more direct instruments or more subjective reports. They used several assessment devices and data from other sources including Stanford-Binet, Standard Achievement Tests, questionnaires, observations, and interview material. Blind interpretation of TAT protocols were compared with various aspects of criterion data. Their results were encouraging with the authors concluding the TAT was a valid instrument.

Calogeras (1958) studied the relationship between fantasy and self-report data using fifty-seven tenth grade boys with average to superior intelligence. He compared intrafamily attitudes as measured by a group administration of the TAT with self-report data including direct and indirect questionnaires, and an individual interview. Results demonstrated a significant positive relationship between the TAT results and the self-report data; although the author believed correlations were too low to accurately be used for individual prediction. Rodgers (1973) used 161 non-psychotic subjects to test the validity of the TAT. He divided the subjects into three groups, presumed high overt aggression, presumed high overt achievement and, presumed high overt

nurturance and high overt achievement; with further divisions according to sex, socioeconomic status (SES), and education; to assess the validity of the TAT. Each group of subjects was administered a group TAT consisting of 12 cards. One to two weeks later the groups were administered a self-report schedule related to the three needs being assessed (achievement, aggression, nurturance). The self-report consisted of 8 statements for each need in question. The subjects were to rate the statement on a five point scale indicating the degree to which she/he felt the statement reflected his/her motivation to perform the activity described, regardless whether they would actually perform the activity. TAT protocols were scored using a five point scale reflecting the degree to which the experimenter believed the subject was expressing one of the needs in question. Interrater reliabilities between the experimenter and judge A, the experimenter and judge B, and judge A and judge B, were very high with the average intercorrelation above .95 ($p < .001$). Comparisons of between group rating on the TAT demonstrated significant differences in the expected directions, based on the composition of the groups, on all but one of the comparisons. This exception being need for aggression, which was not significantly higher in group A (presumed high overt aggression) when compared with group B (presumed high overt achievement). However, for the most part the TAT as a method of assessing need strengths was able to differentiate well among groups. Similar comparisons based on the self-report data found differences in the expected directions but seldom

did they reach statistical significance. The authors concluded "... using presumed differences among groups in the strength of n Agg, n Ach, and n Nur as the criteria, projective assessment was more valid than was self-report." (p. 575). Correlations between self-report and projective measures was positive but low. Wotruba and Price, (1975) noted a small but statistically significant correlation between the TAT scored for need for achievement and a Hermans achievement measures.

Sutton and Swensen (1983) investigated the concurrent validity of the unstructured interview (INT), the TAT, and Loevinger's Sentence Completion Test (SCT). Subjects were drawn from six different populations, a juvenile detention center, a junior high school, a high school, undergraduates, college graduates and graduate students, and retired university professors. The subjects were administered each of the assessments. The assessments were then rated for level of ego development according to Loevinger and Wessler's scoring rules. Inter-rater reliability scores were .88 for the SCT, .95 for the TAT and .96 for INT. Correlation between the SCT and the TAT was .79, and between the TAT and INT .81. The authors concluded " The interview and TAT appear to be reliable alternatives to the SCT for assessing level of ego development and may be even more reliable than the SCT for testing people with very high ego levels." (p.472). Barends, Westen, Leigh, Silbert, and Byers (1990) using a sample of 96 subjects drawn from introductory psychology courses assessed the convergent validity of the TAT with a number of

instruments. The primary hypothesis tested was, that the relationship between affect-tone of TAT representations and affect-tone of representations in interviews about interpersonal interactions would be positively correlated. This was in fact the case with statistically significant positive correlations being found. Other correlations with additional instruments were performed. Statistically significant correlations, were found between the TAT and the SCT; and the TAT and Faith in People Scale. A third correlation just missed significance in the predicted direction between the TAT and the Blatt Malevolence dimension. Each of these studies supports Allport's (1965) contention that "... normal subjects, ..., tell you by the direct method precisely what they tell you by the projective method." (p. 39).

Davids and Rosenblatt (1958) examined the TAT's ability to accurately assess the personality syndrome of alienation. They used two groups of 20 male undergraduates. Members of group one were assessed for alienation and rank ordered by an experienced clinical psychologist. Conclusions regarding alienation, and the rank ordering, were based on information gathered over a three year period including personal interviews, written autobiographies, case conferences, and information provided by assessment batteries. Members of group two were also assessed using clinical interview, questionnaire, selective auditory memory for statements reflecting alienation, and a sentence completion task. The TAT was then administered to the members of each group,

scored for alienation and rank ordered. Results demonstrated a statistically significant correlation between the rank ordered TAT protocols of members in group one and the rank ordering based on the psychologist. A statistically significant correlation was also found for the rank ordering of TAT responses of individuals in group two and the rank ordering based on the clinical measures. The authors concluded the TAT provided consistent and valid results in the investigation of alienation syndrome. Magnusson (1959) in a large scale study on the TAT corroborated the above conclusion.

Less encouraging results have also been reported consistently in the literature. Dilworth (1958) and Wotruba and Price, (1975) found no significant relationship between TAT material and the fifteen Edwards Personal Preference Schedule variables.

Ehrenreich (1990) compared TAT protocols of 41 subjects scored for dependency with a self-report measure of dependency (Measure of Interpersonal Dependency). No significant correlations were found between the two measures. The author explained this discrepancy by suggesting the assessments were actually measuring different constructs. Moreover, he believed many of the questions on the self-report may have been confounded with other constructs such as fear of abandonment, fear of negative evaluation, etc. This suggests the notion of dependency is multidimensional and poorly defined. Another explanation involves the social desirability of responding to dependency questions as found

in a questionnaire format.

Child, Frank, and Storm (1956) examined the relationship between self-ratings, and childhood background, to the TAT. They were interested in 10 forms of socially relevant behaviour and the anxiety potentially associated with them. A 200 item self-rating questionnaire and a 100 item childhood background questionnaire were used as criterion measures. Correlation between the forms of behaviour as scored in the TAT and those same behaviours as rated on the questionnaires were extremely low and were interpreted as being nothing more than error variance. On comparison of the two questionnaires, despite the absence of statistically significant correlation coefficients, the authors noted " ... there is a rather remarkable degree of consistency among the different forms of behaviour [measured]." (p. 109). In short these investigators concluded the TAT had no apparent relation to the corresponding measures obtained from the questionnaires, and that consistent but small correlations existed between the two questionnaires. It is worth noting that both questionnaires were not systematically validated. In addition, the background questionnaire was systematically designed in relation to the self-report questionnaire, such that for every variable represented in the self-report questionnaire five questions were developed for the background questionnaire. The items were chosen to reflect events that might be expected to influence the production of behaviour tendency or anxiety. As a result it may not be surprising that consistent correlations were found between

the two questionnaires and that the TAT did not correlate with either questionnaire.

Lindgren, Moritsch, Thulin, and Mich (1986) examined the relationship between TAT scores of achievement and affiliation with scores on NachNaff and Ray's score. Seventy-nine woman and 47 men completed NachNaff scale and supplied information on sex, age, birth order, academic major, and GPA. They then wrote stories to four TAT cards selected to elicit achievement motivation. Finally they completed Ray's AO scale. The data suggests that TAT measures were essentially unrelated to behavioral indices and correlations between TAT and the other indices were poor. The authors concluded the TAT was not a valid measure of achievement motivation.

Although a number of explanations exist for why inconsistent finding are frequent in validity studies involving the TAT (some of which have been addressed previously) an interesting study was carried out by Heilbrun (1977) bringing into focus a confounding variable hitherto ignored. The variable in question is the defensive style of the subjects involved in the study. Heilbrun hypothesized that individuals who typically rely on one of two different defenses will yield differing results on TAT and self-report measures. Specifically he believed that subjects who generally utilized the defensive style of projection would prove to yield higher positive correlations between TAT material and self-report material when negative attributions were involved; and that subjects whose defensive style was

more in keeping with repression would provide TAT material that was negatively correlated with self-report measures where negative attributions were involved. Results of this work supported Heilbrun's specific hypothesis - that defensive style does influence the validity of TAT performance as described above. Similarly, Matranga (1976) in examining the relationship between behavioral indices of aggression and hostile content on the TAT controlled for the effects of defensive style. He noted that type of defense - controlled expression of aggression, overcontrol with defensive expression of aggression, overcontrol with avoidance of aggression and, uncontrolled expression of aggression - was positively correlated with the amount of fantasy aggression in the TAT stories. In particular, results indicated that a more emotionally mature defense resulted in higher levels of fantasy aggression. Korner (1965), based on clinical experience, theory, and research, believes scrutiny of both needs and defenses may be the approach required to reveal the nature of those interacting variables responsible for the production of behaviour.

Korner (1965) approaches validity issues from a rather unique perspective. Projective stimuli, according to her, elicits behaviour and it is the conclusions or interpretations of that information that require inferences on the part of the clinician. Accordingly, it is not the instrument itself that is invalid but the clinicians interpretations. These misinterpretations may be in part due to lack of clinical ability, but are probably more contingent

upon the underdeveloped state of psychological theory. As a concrete example, before trying to predict on the basis of projective techniques who will make a good engineer, pilot, etc., it is necessary to establish - based on theory and clinical experience - what needs, patterns of impulse control, etc., are a hinderance in the given field. In a related approach Little (1965) believes clinicians and researchers are trying to do too much with the limited number of stimuli in projective assessments like the TAT. He expresses the opinion that attempting to interpret such instruments in search of innumerable personality characteristics is unreasonable; and it is no surprise that such global approaches tend to yield less than valid results. One possible answer to this dilemma, according to him, is to narrow the focus of investigation and to structure the stimuli to very specific areas when using these assessments; thus eliminating the large number of the confounds now present during interpretation.

Reitman and Atkinson (1958) provided another possible explanation for inconsistent findings when comparing TAT results to criterion. In their research, it was discovered that position effects influenced the attained results. As cited above, Atkinson determined the first four, in a series of eight, TAT stimuli provided the most telling information. It was noted when comparing achievement scores of the TAT stimuli with criterion measures, that better prediction of criterion performance was made when only the first four pictures were utilized. In short, if scores from all eight

pictures are combined predictive efficiency is decreased. Atkinson (1958b) suggests that a series of cards used in an investigation should not exceed six pictures in length. This is in striking contrast to non-projective measures where increasing the length of the test typically acts to increase its correlation with criterion. Armed with this information it would be interesting to revisit the work of such researchers as Child, Frank, and Storm (1956) (described above) who used the combined scores of eight TAT cards, in the measure of need for achievement, to compare to criterion measures.

Reliability of the TAT has also been under scrutiny. Feld and Smith (1958) upon reviewing a number of inter-rater studies using various forms of content analysis reported reliability scores ranging from .66 to .96 with a median of .89. Veroff, Atkinson, Feld and Gurin (cited in Zubin et al., 1965), using rank-order correlations between scores of different scorers noted correlations ranging from .72 to .91. In another study involving the use of Eron's scoring procedure for emotional tone and outcome, an average interrater reliability for 12 cards was found to be .87 for emotional tone and .79 for outcome (Sarason & Sarason, 1958). These values were in line with previous findings (Zubin et al., 1965).

In general fairly high reliability values are found when specific scoring systems are used in the evaluation of particular constructs, whereas the use of more global holistic scoring systems tend to result in lower reliability

values (Zubin et al., 1965).

Other forms of reliability including split-half and test-retest have been used for the TAT, however, studies consistently report discouraging results. Henry and Farley (1959) discuss the issues pertaining to reliability studies on projective techniques. One of the main difficulties is projective devices must be both stable and sensitive. That is the test should be sensitive to changes in the subject over a period of time, while showing stability when dealing with enduring personality characteristics. The difficulty arises because both of these features are measured at the same time. The variance between test and retest is a reflection of individuality, and is a natural product of subject-test variations and changes in the subject resulting from varying contexts (cf. Rosenzweig, 1951). Tomkins uses an appropriate analogy to illustrate this point,

Assuming we can accurately estimate the test-retest reliability of fantasy response is like assuming we can measure the reliability of a response to a joke. If I tell it to you twice in a row, or even separated by two days, and you don't laugh as much the second time, I say this is no measure of the reliability of that first response. (Tomkins, 1961, p. 279).

This argument seems particularly apt when dealing with projective assessment since these assessments are often designed to tap motivational or emotional characteristics. Moreover, there is no reason to assume these characteristics are temporally stable. In fact it is clear that temporally stable measures of some motivations must be invalid. For example measures of hunger or mood that are stable across time must not be measuring the desired variable. Most

personality variables require empiricle investigation to determine whether or not it is temporally stable, and to determine what cyclical patterns may be present in those found to be unstable - like those cyclical patterns found for hunger. In short, temporal stability must be investigated rather than just assumed. Given this, temporal consistency cannot be used as criterion for the reliability of an assessment unless it is known in advance (as is rarely the case) that the variable to be measured is in fact stable (Karon, 1968). Even if the construct under investigation is stable the relatively ambiguous nature of the stimuli may result in vastly different responses from session to session (Fiske, 1965).

Similarly, split-half reliability presents some challenging obstacles for the researcher to overcome since each card varies in stimulus-pull, ambiguity, etc. This makes it extremely difficult to construct two half series that are equivalent (Rosenzweig, 1951). For instance Lindzey and Herman (cited in Zubin et al., 1965) reported poor split-half reliabilities on two studies involving six TAT measures. Rosenzweig (1951) states, " Any two 'halves' of the method are simply not intended to be equal and hence should not correlate with each other if the projective technique lives up to its configurational design".

Lundy (1985) makes this same observation and addresses it admirably by taking a closer look at the underlying assumptions associated with the classical psychometric concept of internal reliability. Lundy quotes Nunnally

regarding internal reliability " any particular measure [is] composed of a random sample of items from a hypothetical domain of items"(p.141). This according to Lundy is not the case with an assessment like the TAT, since with such a limited number of stimuli it is impractical to rely upon random sampling. The implicit model on which the TAT is based is that of multiple regression. The researcher attempts to select those stimuli that will maximize the set of predictors' (the test's) correlation with a criterion.

This is a valuable observation since in classical psychometric theory the dictum has been that intercorrelation among a small sample of predictors should be high, usually measured by coefficient alpha. In contrast according to the multiple regression model, the intercorrelation among a small set of predictors should be zero.

Lundy also addresses the issue of coefficient alpha. Typically it is assumed the coefficient alpha sets the upper limit to reliability. However coefficient alpha is only an unbiased estimation of reliability in the case of perfect domain homogeneity, which is never achieved in practice. This is especially true in the case of the TAT where the domain is highly heterogeneous.

Ways of Coping

Lazarus' conception of coping is based on his cognitive transactional theory which hypothesizes that individuals and their environments reciprocally affect each other. In the face of a potentially stressful encounter, two cognitive processes are activated. The first process is primary appraisal during which the individual will determine the level of personal significance the event engenders. Primary appraisal involves the individual determining the degree of threat the situation may hold, whether it may be harmful or affect them in a significant manner. Secondary appraisal involves determining whether anything can be done to reduce the potential harm, and if so what can be done. During this secondary appraisal process, the individual will consider various alternative coping strategies, including those that will alter the situation, problem-focused strategies, and those that will reduce the psychological tension, emotion-focused strategies (Tennen & Herzberger, 1985). The key to this theory is conceptualizing the process as a dynamic interaction involving continuous appraisal and reappraisal of the shifting person-environment relationship (Folkman & Lazarus, 1988a). The shifting of this relationship may result from coping efforts directed toward the environment, coping efforts directed toward changing the meaning of the event, or because of changes in the environment unrelated to coping efforts. Changes in the person-environment relationship lead to a reappraisal of the situation which in turn influences subsequent coping efforts (Folkman & Lazarus, 1988a).

Within this framework, coping is defined as "constantly changing cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person." (Lazarus & Folkman, 1984, p. 141). This definition implies that coping strategies are altered continuously as a stressful encounter develops; coping will depend on current appraisals of the stressful event and the resources available to deal with it; coping involves management not mastery; coping is the effort to deal with the situation and not the outcome of those efforts; and finally that coping is distinct from automatic adaptive behaviours (Tennen & Herzberger, 1985; Lazarus & Folkman, 1984; Folkman & Lazarus, 1988a).

According to Lazarus' theory people vary their coping style depending upon the individual's appraisal of the nature of the stressor. In keeping with this, various reports (Folkman & Lazarus, 1980; Tennen & Herzberger, 1985) have suggested that problem-focused coping is more commonly used when the situation is seen as controllable, and emotion-focused coping is paramount when the situation is seen as immutable (Folkman & Lazarus, 1980; Tennen & Herzberger, 1985). Moreover, the cognitive-transactional theory would suggest coping style is effected by the type of threat that is being faced. Folkman and Lazarus (1988a) confirmed this in a study reported in the WCQ manual demonstrating that individuals are more inclined to use the strategies of, self-control (e.g. Try not to act too hastily, Not letting others know how bad things were), accepting responsibility (e.g.

Apologizing or doing something to make up, Realized I created the problem), escape-avoidance (e.g. Wish the situation would go away, Tried to feel better via substance abuse), and seek less social support when encounters are perceived as threatening self-esteem, than they would in encounters that did not pose this threat. When a loved one is being threatened, confrontive coping (e.g. Expressed my feelings directly, Fought for what I wanted), distancing (e.g. Went on as though nothing had happened, Made light of the situation), escape-avoidance, and planful problem solving strategies (e.g. Made a plan of action are more commonly used, Concentrated on what I had to do).

The cognitive-transactional theory also suggests coping style will change as an encounter unfolds. Folkman and Lazarus (1985) administered the WCQ to university students at three different stages of an exam, two days before the exam was taken, two days after the exam (before grades were returned), and after grades had been returned. As predicted, coping strategies varied depending on what stage of the exam they were in. For example, problem focused coping was used more before the exam, distancing was used most after the exam and before the grades were returned, and wishful thinking, self-blame, and seeking social support (e.g. Talked with someone to learn more about the situation, Asked someone I respected for advice) were used most after grades were returned. Drumheller, Eicke, and Scherer (1991) performed a replication and extension of the above research using 104 subjects from a university population. These researchers

administered similar assessments in a similar situation. Their finding corroborated those of Folkman and Lazarus (1985).

These research findings are consistent with theoretical predictions that coping is determined by the relationship between the person and the environment (Folkman & Lazarus, 1988a). As Tennen and Herzberger (1985) state "... a growing series of studies using the WCS {Ways of Coping Scale} with varied samples and stressors have generated findings consistent with theory" (p. 692; brackets added).

Situational Determinant Classification Codes

Classification coding protocols have been developed to allow researchers to categorize situations in terms of a) persons involved (Thomas & Dudek, 1985; Atkinson, 1992), b) the types of issues or tasks associated with the event (Dolan & White, 1988; Atkinson, 1992), and c) the severity of the event (Kanner, Coyne, Schaefer, & Lazarus, cited in Jung & Khalsa, 1989; Holmes & Rahe, 1967). In this study three classification coding protocols were used, the Involved Persons (IP) and Issues/Tasks (IT) classification protocols developed by Atkinson (1992), and a severity scale based on the work of Holmes and Rahe (1967).

According to Atkinson (1992) the IP was developed so that descriptions of emotional events could be classified in terms of the types of persons playing a key role in the subjects' experience (those responsible for or toward whom the emotion was directed). The IT was developed in order that

the primary issue or task around which the emotional experience occurred could be delineated.

Both of these scales were developed by establishing an initial set of coding categories based on four hundred emotional event descriptions gathered from forty subjects (ten event descriptions per subject). Recursive readings and modifications of the two coding categories resulted in ten person categories for the IP and nine issue/task categories for the IT (Atkinson, 1992).

The IP can be collapsed into three general categories according to the degree to which the subjects/main characters are familiar with the person(s) involved. Similarly, the IT can be collapsed into three categories based on the situation type. The three collapsed categories and their respective sub-categories for the IP are: a) No Others (Personal Thoughts, and Response to Media), b) Unfamiliar others (Professionals, and Service Providers), and c) Intimate others (Primary Relatives, Secondary Relatives, Spouses/Lovers, Close Friends/Pets, Own Children, and Own Pupils/Others' Children). The collapsed categories and respective sub-categories for the IT include a) Familial and Social Unity (Family Involvement and Participation and Social Involvement and Participation), b) Instrumental Tasks (Scholastic and Other Achievement; Social Coordination and Organization; Employment and Finances; Maintenance, Accident, and Repair; and Transportation), and c) Empathic or Reflective Experiences (Media and Entertainment, and Empathic Experiences).

Reported intra-rater reliabilities for the IT and IP

were .87 and .97 respectively when the same coder rescored 10% of the total data two weeks after the original scoring. Percent agreement between the developer and an untrained coder after discussion and recoding was 86% for IT and 93% for IP (a complete description of the development of these coding schemes is reported in Atkinson, 1992).

Rating the severity of incidents has been undertaken by such researchers as Kanner et al. (cited in Jung & Khalsa, 1989) who had subjects rate stressful events on a three point scale indicating the severity of the situation (low, moderate, or high). Prior to this Holmes and Rahe (1967) conducted a study in which subjects rated a list of events, including such things as marriage, changing jobs, and the death of a parent, on a 100 point scale according to the degree of social adjustment required to manage the situation. In both studies it was the degree of impact a particular event had on one's life that was being assessed.

In conclusion, the TAT was a heavily researched instrument in the past, however, more recently there has been a dramatic decline in such research (Polyson, Norris, & Ott, 1985). Despite this decline in the area of empirical study the TAT remains one of the more popular methods of assessment in North American mental health facilities (Lapointe, 1974; Piotrowski & Keller 1989). These two facts combined with the constant evolution of psychological theory suggest the need for continued study of this device in relation to the newly developing areas of psychology. Given that researchers have

utilized the TAT in the study of such constructs as defense mechanisms (Cramer, 1991) and type A behaviour patterns (Hooker, Blumenthal & Siegler, 1987), which are considered by many (Coyne & Lazarus, 1980; Lazarus & Folkman, 1984; Billings & Moos, 1981) to be the theoretical precursors to the more "modern" conceptualization of coping, it seems reasonable to investigate the TAT's ability to assess, the current conceptualization (of coping).

Summary and Conclusions

Ambiguous stimuli have long been observed to elicit associative responses from subjects, but it was only after Rorschach's Psychodiagnostik in 1921 that such stimuli became popularized in the psychological community (Zubin et al., 1965); and not until 1935, with the introduction of the TAT, that picture-story methods began to emerge as an important method of psychological assessment (Zubin et al., 1965). With this emergence of projective techniques in psychology, the theory associated with them burgeoned. Frank (1965) describes a theory in which the stimulus and personality of the observer interact to elicit a response that is reflective of the individuals way of structuring everyday experiences.

Specific assumptions regarding the nature of the TAT stimuli were developed and later challenged by researchers. Though contrary to the original conceptualizations associated with the role of the stimulus in the TAT, it was consistently shown that many non-projective determinants influence the nature of the stories told by subjects, including subject-character similarity (Piotrowski, 1950) and, the stimulus properties of the cards (Jacobs, 1958).

In a similar vein the influence of administration procedures was assessed in various ways. The selection of specific cards for presentation (Zubin, et al., 1965), order of card presentation (Reitman & Atkinson, 1958), the number of cards administered (Reitman & Atkinson, 1958), and exposure time of the stimulus (Stang, et al., 1975) were shown to influence projective responses (Murstein, 1965).

Environmental influences such as instructions (Summerwell, et. al., 1958), administrator (Turner & Coleman, 1962), and recording methods (Baty & Dreger, 1955) were also shown to have an impact on the quality of the elicited material, with less threatening environments being more conducive to projective richness (Lundy, 1988).

The scoring and interpretation of TAT protocols is subject to tremendous variability depending on the nature of the topic under investigation (Thorndike & Hagan, 1955; Holt, 1958). In many cases the scoring system developed for the TAT is tailor made to match the type of information gathered from criterion measures (Sutton & Swenson, 1983; Rodgers, 1973; Child, et. al., 1956).

Reliability and validity are issues of concern for users of the TAT. Much of the research in this area has yielded contradictory findings (Zubin, et. al., 1965). Lundy (1985) suggests that the application of classical psychometric theory to projectives is inappropriate given that projective techniques utilize a different set of assumptions that are incompatible with those of classical psychometric theory.

Coping as conceptualized by Lazarus and Folkman (1984) is a transactional process during which there is a continuous person-environment interaction, where each influences the other. In the stressful encounter there are two cognitive processes activated, primary appraisal - the individual determines the degree of threat the situation holds - and secondary appraisal - the individual determines if anything can be done, and if so, what can be done. They suggest that

coping efforts will be altered based on the situational determinants, past experience and, appraisal of the encounter.

In sum, research on the TAT demonstrates the wideband applicability of the instrument as well as its flexibility in terms of administration, scoring, and interpretation. Given the versatility of the TAT and its use in a wide variety of psychological investigations it should be possible to effectively apply it to the field of coping as described by Lazarus and Folkman (1984).

Chapter 3

METHODOLOGY

Given that the TAT has been used to assess ego defences (Cramer, 1991) which are considered by many researchers to be the intellectual precursors of the current conceptualization of coping styles (Lazarus & Folkman, 1984; Billings & Moos, 1981), it seems the logical next step is to attempt to utilize the TAT as a method for the assessment of these coping styles. This research is an exploratory, descriptive study designed to investigate the TAT's ability to assess coping styles.

The Subjects

The sample consisted of ten subjects (Ss) enrolled in, or attempting to gain access to, the Education Faculty at the University of Calgary. The three males and ten females ranged in age from 19 - 40 years.

The thirteen Ss were part of a larger sample that had participated in a research project carried out earlier in the year. This larger research project was designed to investigate coping styles in two negative emotional states (sadness and anger) and their relationship to personality characteristics. The Ss participated in the original study as one option provided to meet course requirements. Volunteers were then requested from the original pool of Ss to participate in this research.

One S withdrew from the research due to an adverse reaction to the TAT. The S when presented with the TAT cards had difficulty performing the task and became agitated. The

experimenter (E) reminded the S that participation was voluntary and that it was not necessary to continue. The S opted to discontinue at that time. Two other Ss were eliminated from the study due to technical difficulties associated with the recording of their stories. Thus protocols of ten Ss were scored and used in the analysis.

The Instruments

Thematic Apperception Test

The instrument administered was the Thematic Apperception Test (TAT) (Morgan and Murray, 1935). The TAT consists of thirty achromatic picture cards, generally depicting an individual or individuals in various situations, and one blank card (Semeonoff, 1976).

A standard administration consists of presenting each card, one at a time, to the S. The S is then requested to relate a story about five minutes in length based on the picture, including what happened before the scene in the picture, what is happening at the present time, what the thoughts and feelings of the characters are, and what the outcome will be (Stein, 1978; Semeonoff, 1976; Murray, 1943). Variations of this procedure are common and are often incorporated depending upon the nature of the investigation (Zubin, et al., 1965). In this research, deviation from standard procedure involved the S's self selection of the TAT cards, the E specifying the primary emotion in the story, and the use of a total of ten cards per S (five for each of the two emotions).

Although Murray (1943) presented a scoring system for

the TAT, there is no set scoring procedure consistently used (Harrison, 1965). Thus a specialized scoring system was developed for use in this research (see pp. 71-73).

Ways of Coping Questionnaire (WCQ)

Folkman and Lazarus (1988a) developed the WCQ to provide a method for assessing what thoughts and actions people use to cope with everyday life stresses. It allows investigators to define and quantify coping so they can determine the relationship among life stress, coping strategies, and adaptation (Tennen & Herzberger, 1985).

The WCQ is based on the belief that "coping is a multi-dimensional process that changes over time and across different aspects of a stressful encounter" (Tennen & Herzberger, 1985, p. 686), as suggested by Lazarus' cognitive-transactional theory of stress (Lazarus & Folkman, 1984; Lazarus, 1966) (see Ways of Coping section of literature review, pp. 53-56).

The current revised edition of the WCQ, contains 66 items, takes approximately ten minutes to complete, and assesses a broad range of cognitive and behavioral coping strategies. The response format is a 4-point Likert scale (e.g. 0 = does not apply and/or not used; 3 = used a great deal) so that Ss can indicate the frequency of a strategy's use (Folkman & Lazarus, 1988a).

In the original version two rationally derived scales were developed under which each item would be placed. The scales were emotion focused coping, including items denoting efforts to regulate stressful emotions; and problem focused

coping, referring to efforts undertaken to manage the troubled person-environment relationship. However given the complexity of human response, these delineations of coping were not completely suitable. In addition it was found that certain of the items could be classified under both rubrics. Thus, for the revised version, empirically derived scales were developed (Folkman & Lazarus, 1988a).

The empirical derivation of these scales was based on a study of 75 middle and upper-middle class married couples who had at least one child living at home. The husbands and wives were interviewed separately by different interviewers once a month for a period of five months. Ss were asked to describe the most stressful period experienced during the previous week and then to fill out the WCQ. The observations from the five interviews were pooled. The items from the questionnaire were analyzed using alpha and principle factoring with oblique rotation. Three factor analyses were performed, each yielding similar factor structures. The eight factors were labelled as 1) confrontive coping - aggressive efforts to change the situation that includes some degree of hostility and risk taking, 2) distancing - cognitive efforts to become detached from, and to minimize the significance of, a situation, 3) self-controlling - efforts to regulate ones affect and behaviour, 4) seeking social support - efforts to seek informational, tangible, and emotional support, 5) accepting responsibility - to acknowledge one's role in the problem as well as making efforts to correct the situation, 6) escape-avoidance - cognitive (wishful thinking) and

behavioral efforts to escape or avoid the problem, 7) planful problem solving - deliberate problem focused efforts to alter the situation, coupled with an analytic approach to solving the problem, and 8) positive reappraisal - efforts to create positive meaning by focusing on personal growth (includes a religious dimension) (Folkman & Lazarus, 1988a).

The psychometric properties of the WCQ are acceptable but not ideal. Traditional measures of reliability such as test-retest and inter-rater are difficult if not impossible to attain for the WCQ. Test-retest reliability is difficult to achieve since coping is conceptualized as a process that changes over time in accordance with situational demands and earlier attempts at coping (Tennen & Herzberger, 1985; Folkman & Lazarus, 1988a). In addition, inter-rater reliability can not be obtained since the WCQ is a self report measure (Tennen & Herzberger, 1985). Internal consistency estimates generally fall at the low end of the traditionally accepted range (Folkman & Lazarus, 1988a).

The stability of the factor structure has also been investigated. Folkman and Lazarus (1988a) report studies carried out by Vitaliano, Russo, Carr, Maiuro, and Becker; Aldwin and Revenson; and Folkman, Lazarus, Pimley, and Novacek; where some variability in the emerging factors did exist. However, considerable overlap in factor structure has been demonstrated (Tennen & Herzberger, 1985; S. Folkman, personal communication, July 13, 1992). It remains unclear whether these differences were a result of the Ss, situations, method of administration, or the psychometric

properties of the instrument (Folkman & Lazarus, 1988a).

The validity of the WCQ has also been addressed. The items on the WCQ, according to Folkman and Lazarus (1988a), have face validity since they were derived from those methods of coping described by individuals for dealing with stressful situations. Construct validity is also apparent, given that results from research agree with predictions based on the cognitive-transactional theory of coping (Folkman & Lazarus, 1988a).

Overview of Procedure

The general procedure of the study involved:

- a) Having each S select ten TAT cards, five involving the emotion of anger and five involving the emotion of sadness.
- b) Asking each S to relate a story about each card.
- c) Scoring the TAT stories for the coping styles used by the main character (the character who is experiencing the emotion in question), the persons involved, the issues or tasks associated with the emotion, and the severity of the situation.
- d) Preparing this data for analysis.
- e) Acquiring behavioral data collected in a previous study that had used the WCQ to assess the Ss' method of coping with anger and sadness experiences. This data also includes ratings of the involved persons, and issues or tasks.
- f) Rating the newly accessed data according to the severity scale.

The emotions of sadness and anger were utilized in the current research, because the Ss, as part of the other

research study, had completed the WCQ in reference to these emotions. However, the use of these emotions is appropriate beyond this rationale, since they are consistently included in all lists of basic emotions and are intuitively understood and definable by most people (Harrison, 1986). Further, according to Lazarus and Folkman (1984) coping is more often associated with negative events.

Purpose

The purpose of this exploratory, descriptive study is to determine whether TAT stories are effective for the assessment of coping styles. This will be accomplished by addressing two preliminary questions and the overarching question. The questions, listed in order from the first preliminary question to the overarching question, are:

- 1) Within each assessment what patterns are found, in terms of involved persons, issue/task, and severity, between emotional states?
- 2) Do the situations in one assessment match or parallel those in the other, in terms of involved persons, issue/task, and severity, in each of the emotional states?
- 3) Can the TAT be applied to the assessment of coping styles?

Procedure

This study was designed to be an exploratory, descriptive study.

Initial contact, for the purpose of this study, was made in March, 1992, by the researcher conducting the parent study. It was necessary in order to ascertain which Ss were still interested in volunteering for this aspect of the

research. The present researcher contacted these Ss within three weeks in order to arrange a time to meet and carry out the procedure. A brief description of what would be required of the S was provided over the phone if requested. All of the Ss seemed enthusiastic about participating.

Each session was conducted in a quiet well lit office. The Ss were seated adjacent to the researcher. A few minutes were taken in order to establish a comfortable setting. The experimenter then recited the first set of instructions (see appendix A). The Ss were then provided with all thirty-one TAT cards in a single pile with the top card being number 1 and the other cards following in numeric order (cards with the same number were ordered generic, male, female, boy, girl).

The next step involved the S flipping through the cards in an effort to find five cards that, according to them, had sadness as the predominant emotion and five cards that had anger as the predominant emotion. These ten cards were then administered.

The Ss were grouped according to sex, then each member of each group was randomly assigned to one of two conditions of administration. The first condition involved the administration of those cards in which the predominant emotion was sadness followed by those cards in which the predominant emotion was anger (sadness first condition). The second condition involved administration in the reverse order (anger first condition). The cards in each of the groups were administered in the order in which they were chosen by the S

(ie. in the anger first condition the first card chosen for the anger cards was the first administered and the last card chosen for the sad cards was the last administered).

The administration procedure began with the reciting of the second set of instructions (see appendix A). The Ss were then given each card one at a time and asked to detail a story as per the instructions (see appendix B for an example of a sad and an angry story). Each story was audio recorded with the S's permission. Throughout the Ss' recitation of the stories the experimenter (E) was affirming and attentive. If important details of the story were not supplied the E gathered further information through non-directive questioning. The entire procedure took approximately one hour. Following Lundy's (1988) suggestion the procedure was conducted in "... as relaxed, friendly, and approving a manner ..." (p. 318) as was possible.

The WCQ was administered as part of another study. Once a week, over a period of ten weeks, each S was required to write a brief description of an event that elicited either sadness or anger. A total of five sadness provoking events and five anger provoking events were requested. After each description the S was responsible for completing the WCQ in relation to that event.

Scoring

The TAT scoring system used in this study was based on the work of Sutton and Swensen (1983), Rogers (1973) and Child et al. (1956). In Sutton and Swensen's research on ego development they scored the TAT in accordance with a

particular theory of ego development and a sentence completion assessment based on that theory (for details see scoring and interpretation, pp. 37-38). Similarly in the studies by Rogers, and Child et al., categories based on the theories relevant to their respective investigations, were built into the self-report measures. These categories were then sought and scored in the TAT protocols. The same principles are used here. The difference being that scoring is based on coping theory and a questionnaire based on that theory.

Each story provided by the S was scored independently of the other stories in the protocol. A common technique of scoring manifest content, as exemplified in Thomas and Dudek (1985), was utilized. The scoring procedure consisted of three steps, a) the incident or incidents that lead to the emotion in question were identified, b) phrases that suggested a strategy designed to cope with that incident were noted, and c) these strategies were classified as one of the eight coping strategies identified in the work of Folkman and Lazarus (1988a). The classification of the strategies was determined by comparing the statements from the TAT protocols to the descriptions of each of the coping styles provided in the WCQ manual. Further guidance was provided by comparing the TAT statements to the questions from the WCQ that were classified under each of the coping styles based on the factor analysis of the questionnaire (Folkman and Lazarus, 1988a), (described above). This method parallels that used by Sutton and Swensen (1983). Following a scoring procedure

similar to that designed by Moulton (1958) - for examining fear of failure in TAT stories - and McClelland, Clark, Roby, and Atkinson (1958) - for assessing need for achievement in TAT stories - each coping style is scored just once per story no matter how many times it appears. The resultant scores reflected the type or types of coping used in each story. These scores were aggregated across stories within each emotion for each S.

Each of the stories was further classified by the E according to Atkinson's (1992) Issues-Task Coding Protocol (IT) and the Involved Person Coding Protocol (IP). The issues/tasks in each story were labelled based on the manifest story content. For the IP the rating process was accomplished by identifying the relationship of other characters (if any) in the story to the main character. This was readily done since in all instances the Ss overtly labelled the other characters' relations to the main character (for more detail on the development of the coding protocols and on the psychometric properties see the section on Situational Determinant Classification Codes, pages 56-58).

In addition, each story was rated on a four point Likert scale for the degree of severity of the situation eliciting the emotion. The scale ranged from 1 (not a severe situation, eg. instructions were read to me that I could have read faster myself, thus causing anger) to 4 (severe situation, eg. someone kills father). This scale was based on work by Kanner et al. (cited in Jung & Khalsa, 1989) and the classic

study by Holmes and Rahe (1967).

The above procedures were completed before WCQ scores were examined.

The WCQ was computer scored and the results were used as a comparison measure. The descriptions of events were coded using the IT and the IP. Further, the present E scored the event descriptions for degree of severity on a four point scale as described above for the TAT. As Macrae (1984) indicates, an "... individual's subjective appraisal need not be obtained in order to classify events..." since, "... cultural norms lead most individuals to appraise events in a similar fashion..." (p. 927).

For the sake of brevity all the information collected based on the reported incidents for the WCQ, including IT, IP, and severity ratings, will be simply referred to as the WCQ data.

Preparation of the Data for Analysis

The preparation of the TAT data for analysis included determining a) which TAT cards were chosen for each emotional state, b) whether the length of a story's protocol influenced the number of coping styles that were coded, and c) the reliability of the scoring procedures employed.

Preparation of the data includes determining the total number of cards used and which TAT cards were used more consistently, since, as discussed earlier (see pp. 24-26), each TAT card has unique stimulus properties that influence the nature of the stories elicited (Eron, 1950).

In the sadness condition a total of twenty-one cards

were used by the Ss. The two most frequently used cards, chosen by two-thirds of the Ss, were 3GF and 3BM. In the anger condition twenty cards were used. Those used most often, by approximately half the Ss, were 4, 5, 9GF, and 15.

Controlling for story length is a concern that must be addressed before the data is analysed, since neglecting to control for this variable when necessary will result in a serious confound. According to McClelland (1958), when using the TAT it may be necessary to control for story length, since a S's verbal productivity may influence the degree to which the variable in question is presented. McClelland suggests that longer stories will produce more general imagery and therefore more imagery of the type sought. Hence, correction for protocol length is necessary (Wagner, McCormick & Alexander, 1984; Stewart, Sokol, Healy, & Chester, 1986). In this case one might assume greater verbosity will result in the incorporation of a larger number of coping styles. In order to assess this possibility the stories were divided into four groups, using a quartile split. This seemed to be appropriate given the good separation, in terms of word count, at the quarters. Further, this would provide an opportunity to determine if the relationship, between story length and number of coping styles, is linear as McClelland states. The approximate number of words per story in each of the quarters is: 150 words or less (-150), 151-250 words, 251-450 words, and 450 words or more (450+). The average number of coping styles per story is 1.88 in group -150; 1.68 in group 151-250; 1.80 in

group 251-450; and 2.12 in group 450+. A student's t-test between the group of stories with the least number of words (-150) and the group with the most number of words (450+) revealed no statistical difference in the number of coping styles used ($t=.35$, two tailed). Given this - and the fact that the mean number of coping styles per story drops from group 1 (-150) to group 2 (151-250) in direct contradiction to McClelland's postulation - it was concluded that controlling for story length was unnecessary in this study.

Finally the issue of the scoring systems' reliability must be addressed. An intra-rater reliability estimate and percent agreement for the scoring system used to assess coping styles in the TAT stories, was calculated. In addition, percent agreement for the IP and IT, and inter-rater reliability for the severity rating scale was performed.

For the TAT coping style scoring system, the E first scored the protocols, then three to six weeks later re-scored them. This time period was chosen since it would limit the degree to which the re-scoring was effected by memory and yet would allow for the retention of the scoring system's method (Gurel & Ullmann, 1958). A Pearson Product Moment correlation to determine the intra-rater, or code-recode, reliability (Summerwell, Campbell, & Sarason, 1958; Lubin, 1960; Matranga, 1976; Sutton & Swensen, 1983; Thomas & Dudek, 1985; Westen, Lohr, Silk, Gold, & Kerber, 1990) of the TAT coping style scoring system yielded an acceptable result, $r=.92$. This score, according to Reitman and Atkinson (1958), is in

keeping with the .90 or above coefficients commonly found. Ten percent of the protocols were randomly selected for recoding by an untrained assistant. Reliability was assessed through the use of percent agreement (McClelland et al., 1958; Shipley & Veroff, 1958; Fiester & Siipola, 1972; Thomas & Dudek, 1985). Sixty percent of the protocols had 100% agreement, ten percent of the protocols had 66% agreement, and thirty percent of the protocols had 33.3% agreement. Discussion and recoding of the discrepancies resulted in seventy percent of the protocols with 100% agreement and thirty percent of the protocols with 66% agreement. Difficulties in coding were primarily the result of the coders unfamiliarity with the coding system. Difficulties arose in distinguishing between confrontive coping and planful problem solving as well as in over coding self control. All disagreement that was not clearly the result of error on the part of the coder was treated as true error. A second untrained assistant classified each of the stories using the un-collapsed IP and IT scales. Percent agreement between the assistant and the experimenter for the IP was .8 and for the IT .6. After discussion of discrepancies and recoding, percent agreement for the IP and IT was .9 and .8 respectively. Discrepancies in the IT and IP were the result of unfamiliarity with the coding system on the part of the assistant. Once again, all disagreement that was not clearly the result of error on the part of the coder was treated as true error.

The causes of the stressful situations from the WCQ and

the TAT were placed in random order on a series of pages. There was no identifying information with respect to the S or the assessment from which the situation came. These were given to a third untrained assistant to be rated according to the severity scale. Pearson Product Moment correlation was at an acceptable .68. Review of the rating protocol of the assistant demonstrated the presence of coder drift. Over the course of coding the 200 incidents the assistant demonstrated some inconsistency in rating similar situations. Upon correction of these difficulties the correlation was .71. Other discrepancies were discussed and agreement was reached on recoding a portion of the incidents. Following this recoding $r=.75$.

Chapter 4

RESULTS

The purpose and overarching research question for this exploratory, descriptive study is:

Can the TAT be applied to the assessment of coping styles?

This question may be answered in two ways, a) by correlating the coping styles found in the TAT protocols with coping styles reported by the Ss for specific real life events, and b) by investigating trends found in terms of situational determinants and the coping styles used in relation to these determinants for the TAT, and comparing these to finding by other researchers. However, in order to answer this question in the context of a transactional theory of coping, two preliminary questions must be addressed. These questions are:

- 1) Within each assessment what patterns are found, in terms of involved persons, issue/task, and severity, between emotional states?
- 2) Do the situations in one assessment match or parallel those in the other, in terms of involved persons, issue/task, and severity, in each of the emotional states?

With these questions answered a more meaningful interpretation of the results for the overarching question will be possible.

Preliminary questions

To answer the two preliminary questions a series of bivariate percentage distribution tables were established

based on the cross tabulation of the raw data, a process similar to that employed by Eron (1950) in his classic study designed to provide normative data for the TAT. Further analysis was performed on this tabulated data, in the form of measures of association, in order to help elucidate the patterns. The question of primary concern, regarding the usefulness of the TAT in assessing coping styles, was addressed by correlating the two assessments.

Preliminary question 1: Within each assessment what patterns are found, in terms of involved persons, issue/task, and severity, between emotional states?

The types of people involved in the 200 emotional experiences (100 for the TAT, 50 for each emotion, and 100 for the WCQ, 50 in each emotion) were classified using the IP. The data was then re-classified into one of three categories based on the degree to which the subject/main character was familiar with the persons involved. The re-classified categories are: situations that involved close or intimate relationships (intimate), situations that occurred with persons less familiar to the subject/main character (unfamiliar), and situations that did not involve other people (none) (Atkinson, 1992). Utilizing these three categories and noting the percentage of occurrence between emotional state for each category within the TAT; it is apparent that anger, as opposed to sadness, occurs more frequently when unfamiliar persons are involved (epsilon = 16%). In contrast when no others were involved the emotion of

sadness occurred more frequently (epsilon = 10%). The proportion of anger to sadness experiences was more evenly distributed when intimate relations were paramount to the situation. Table 1 presents the above.

Table 1 illustrating emotional state percentages for each person category for the TAT.

| | ANGER | SAD |
|------------|-------|------|
| Intimate | 58% | 64% |
| Unfamiliar | 26% | 10% |
| None | 16% | 26% |
| Totals: | 100% | 100% |

Using the same process of analysis on the WCQ data some differences in the distribution of scores is notable. Like the TAT distribution of anger and sadness experiences, the WCQ incidents were also relatively balanced when intimate persons were involved. However, the number of sadness and anger experiences occurring when unfamiliar or no others were involved was opposite to that found with the TAT. Specifically, a greater degree of sadness, experiences occurred when unfamiliar people were involved (epsilon = 18%) and more anger, versus sadness, experiences were associated with events in which no others were involved (epsilon = 10%). Table 2 illustrates the percentages found for the WCQ data.

Table 2 illustrating emotional state percentages for each persons category for the WCQ.

| | ANGER | SAD |
|------------|-------|------|
| Intimate | 52% | 44% |
| Unfamiliar | 34% | 52% |
| None | 14% | 4% |
| Totals: | 100% | 100% |

The types of issues/tasks involved in the 200 emotional experiences were classified using the IT. The data was then re-classified into one of three situational types. The re-classified categories are: familial and social involvement (F&S unity), instrumental and achievement tasks (instrumental), and reflective or empathic events (reflective). Using these three categories and comparing between emotional states within each assessment it is found that anger and sadness experiences are relatively evenly balanced, on both assessments, when issues of F&S unity are involved. In both assessments instrumental and achievement tasks are more likely to involve anger as opposed to sadness. However, a difference is apparent when considering reflective or empathic events. Anger and sadness experiences occur at about the same rate with the TAT, compared to the WCQ where sadness occurs to a much greater degree than anger (epsilon = 38%). Table 3 provides a summary of this data.

Table 3 summarizing emotional state percentages for each issue/task category for the WCQ and the TAT.

| | WCQ | | TAT | |
|--------------|-------|------|-------|------|
| | ANGER | SAD | ANGER | SAD |
| F&S unity | 36% | 32% | 52% | 58% |
| Instrumental | 60% | 26% | 28% | 16% |
| Reflective | 4% | 42% | 20% | 26% |
| Totals: | 100% | 100% | 100% | 100% |

The severity of each of the emotional experiences was classified according to the four point severity scale and then re-classified in one of two categories, high severity (hi) and low severity (lo). Using these categories and comparing between emotional states within each assessment it was noted that the TAT stories, regardless of emotional state, were more often classified as high severity (66% of sad stories and 54% of angry stories). In contrast the WCQ incidents were more consistently classified as low severity (84% of sad incidents and 92% of angry incidents).

Preliminary question 2: Do the situations in one assessment match or parallel those in the other, in terms of involved persons, issue/task, and severity, in each of the emotional states?

The collapsed categories of the severity scale, IT and IP within each emotion were used to compare the degree to which the categories were found in each assessment. Within the emotion of sadness for the categories of high and low severity considerable differences between the assessments

were noted. Sixty-six percent of the TAT stories were classified as high severity, 34% low severity. In contrast 16% of the WCQ incidents were judged to be of high severity and 84% low severity. Phi test, as a measure of association¹, achieved a value of .51 suggesting a strong correlation between the assessment device and the severity of the incident/story. Within the emotion of anger 54% of the TAT stories were high severity and 46% were low. For the WCQ incidents 8% were considered high severity and 92% were low severity. In this case phi was equal to .5. Table 4 summarizes the above results.

Table 4 summarizing percentages of severity between assessments within emotional states and providing a summary statistic.

| | SAD | | ANGER | |
|-------------|---------|------|---------|------|
| | TAT | WCQ | TAT | WCQ |
| Hi severity | 66% | 16% | 54% | 8% |
| Lo severity | 34% | 84% | 46% | 92% |
| Totals: | 100% | 100% | 100% | 100% |
| Association | Phi=.51 | | Phi=.50 | |

¹ The measures of association cited (Phi and Cramer's V) are based on the chi square distribution and are therefore generally considered inappropriate for use with a matched pairs design. However, given the exploratory nature of this research and the efficiency of using a single summary statistic to illustrate the findings presented in the bivariate percentage distribution tables, the use of these statistics should be considered as a means to facilitate communication.

Using the three broad categories of intimate, unfamiliar and no others from the IP, the person classifications were compared between assessments. For the emotion of sadness 64% of the TAT stories were categorized as involving intimate persons, 10% unfamiliar persons, and 26% involving no others. The WCQ incidents showed 44%, 52%, and 4% of the stories categorized as involving intimate persons, unfamiliar persons, and no others, respectively. Cramer's V, as a measure of association between the assessments and the type of persons involved, yielded a value of .49. This suggests a strong association between the assessment and the types of persons involved. Within the emotion of anger 58%, 26% and 16% of the TAT stories; and 52%, 34%, and 14% of the WCQ incidents were classified as intimate, unfamiliar, and no others, respectively, for each assessment. Cramer's V was equal to .09, which indicates there was virtually no relationship between assessment and persons involved. Table 5 presents the above results.

Table 5 presenting percentages for person classification comparisons between assessments within emotional state and a summary statistic.

| | SAD | | ANGER | |
|-------------|-------|------|-------|------|
| | TAT | WCQ | TAT | WCQ |
| Intimate | 64% | 44% | 58% | 52% |
| Unfamiliar | 10% | 52% | 26% | 34% |
| None | 26% | 4% | 16% | 14% |
| Totals: | 100% | 100% | 100% | 100% |
| Association | V=.49 | | V=.09 | |

A comparison of the issue/task classifications using the collapsed categorization scheme yielded the following: 58% of sad and 52% angry TAT stories were categorized as involving issues of family and social unity, 16% sad and 28% of angry stories involved instrumental/achievement tasks and 26% of sad and 20% of angry stories involved reflective/empathic exchanges. Whereas 32% of sad and 36% of angry WCQ incidents involved issues of family and social unity, 26% of sad and 60% of angry incidents were related to instrumental/achievement tasks, and 42% of sad and 4% of angry incidents were reflective/empathic exchanges. For the emotional states of sadness and anger V was equal to .26 and .36 respectively. Table 6 provides a summary.

Table 6 providing a summation of a between assessment within emotional state comparison of issue/task classification using percentages and a summary statistic.

| | SAD | | ANGER | |
|--------------------------|---------|------|---------|------|
| | TAT | WCQ | TAT | WCQ |
| Family & social unity | 58% | 32% | 52% | 36% |
| Instrumental/achievement | 16% | 26% | 28% | 60% |
| Reflective/empathic | 26% | 42% | 20% | 4% |
| Totals: | 100% | 100% | 100% | 100% |
| Association | $V=.26$ | | $V=.36$ | |

All of the above comparisons, with the exception of the persons comparison between assessments in the emotional state of anger ($V=.09$), demonstrate strong to moderate associations

between the assessments and the distribution of the stories/incidents in the observed categories.

The associations being noted, a determination was made as to whether a large enough subset of the stories and reported incidents overlapped sufficiently in one or more of the eighteen possible combinations of these variables (severity, issue/task, involved persons) to allow for an investigation of the coping styles with these variables "controlled". This determination was based on the bivariate frequency distribution. It was apparent that none of the 18 combinations had a sufficient number of both stories and incidents to allow for any meaningful comparisons. Partialing out severity to reduce the possible combinations to 9 still resulted in insufficient overlap. The TAT stories and WCQ incidents tend to cluster under different rubrics. For the emotional state of sadness 44% of the TAT stories fall under a single combination. Three other combinations under which TAT stories tended to cluster accounted for an additional twenty-eight percent of the stories. In contrast, for the emotional state of Sadness 72% of the WCQ incidents are accounted for by five of the combinations, with the largest combination accounting for 18% of the incidents.

For the emotional state of anger similar trends were noted. Sixty-six percent of the TAT stories fell under five combinations, the largest accounting for 28% of the stories. Seventy-eight percent of the WCQ incidents are found in four combinations. The largest accounted for 32% of the stories. This data is presented in table 7. To more concisely

illustrate the extent to which the stories from each assessment fall under different combinations Cramer's V was calculated. For the emotional state of sadness V equalled .77, for anger .66. With severity partialled out the association was still strong for both emotional states (sadness $V=.69$, anger $V=.53$).

It is interesting to note the degree of overlap in the combined categories between emotional states, within each assessment. For the TAT in both emotional states the combination accounting for the largest percentage of stories is the same, Intimate/F&S unity/Hi. With further overlap in None/Reflective/Hi, and Intimate/F&S unity/Lo. Similarly, for the WCQ overlap exists between three of the four anger combinations representing a large percentage of incidents and three of the five sad combinations representing a large percentage of incidents. The only combinations that overlapped between assessments is Intimate/F&S unity/Lo for both emotional states; and Intimate/Instrumental/Lo, and Unfamiliar/F&S Unity/Lo in the emotional state of anger. However, the number of stories/incidents is not sufficiently high in both cells to allow for a meaningful interpretation/comparison of coping styles.

Table 7 illustrating the combinations making up the largest percentage of stories/incidents.

| | TAT | | WCQ | |
|----------------------------|-----|-------|-----|-------|
| | SAD | ANGER | SAD | ANGER |
| Intimate/F&S unity/Hi | 44% | 28% | - | - |
| Intimate/F&S unity/Lo | 10% | 14% | 10% | 12% |
| Unfamiliar/Instrumental/Lo | - | - | 16% | 16% |
| Intimate/Instrumental/Lo | - | 10% | 16% | 32% |
| Unfamiliar/F&S unity/Lo | - | 8% | - | 18% |
| Intimate/Reflective/Lo | - | - | 12% | - |
| Unfamiliar/Reflective/Lo | - | - | 18% | - |
| None/Reflective/Hi | 10% | 6% | - | - |
| None/Reflective/Lo | 8% | - | - | - |
| Totals: | 72% | 66% | 72% | 78% |

Having answered the preliminary questions the overarching research question remains:

Can the TAT be applied to the assessment of coping styles?

This question is addressed through a correlation of the data between assessments and by investigating trends in the TAT data relative to coping styles used in relation to situational determinants.

Coping scores for each S, on each assessment, were determined by taking the mean score across cards/reported-incidents for each coping style. There was limited variability in the raw scores of the TAT thus reducing the ability to achieve accurate correlations (Kolstoe, 1973); therefore the data was collapsed. Collapsing was done across subjects within each coping style, for each emotional state, for both assessments. This provided a group score on each coping style, for each emotional state, for each assessment. Pearson Product Moment Correlations were performed (Rodgers,

1973; Matranga, 1976; Sutton & Swenson, 1983; Carrol, 1987; Ehrenreich, 1990;). Results suggest low correlations between the two assessments for each emotional state. The correlation coefficient in the emotional state of anger between the eight coping styles in each assessment was .13. The correlation coefficient in the emotional state of sadness between the eight coping styles in each assessment was -.02.

Correlations are low; therefore, it is necessary to further investigate trends in the TAT data, in order to better understand its ability (or inability) to accurately reflect coping styles.

Specifically, investigating in terms of the degree to which particular coping styles are used in relation to each of the three above mentioned situational determinants (persons, issue/task, and severity). As implied above, each of the TAT stories, within each emotional state, was classified under one of the two categories of the severity rating, and under one of the three categories in each of the IP and IT classification schemes. A further analysis of the stories within each of the categories to which they had been assigned provided the number of times each coping style appeared in each of the categories in each emotional state. A percentage was calculated based on the number of times a coping style appeared in each category over the number of stories in that category, for each emotional state.

Coping style patterns, in relation to persons involved, can be described within each emotional state by comparing across categories (intimate, unfamiliar, none), and in terms

of the most or least commonly used coping styles within each category. It is also informative to compare the commonly used coping styles between emotional states. Likewise, patterns occurring with respect to issue/tasks and level of severity can be analyzed using the same format.

Differences in various coping styles between the person categories in the emotional state of anger reveal, a) Confrontive coping is used to greater degree when other people are involved, then when no others are involved (intimates > unfamiliar > no others); b) Planful Problem Solving is used most often when no others are involved; c) Self Control was used least when no others were involved; d) social support was utilized only when others were present and was applied only moderately and; e) Emotion focused forms of coping are used more commonly when alone, compared to when others are present.

In the emotional state of sadness, differences in coping styles arising from the types of persons involved include a) the use of Planful Problem Solving more in situations with unfamiliar persons; b) Self Control is used exclusively in situations involving intimates; c) the use of Seeking Social Support to a greater extent with intimate and unfamiliar than when no others are involved (intimate > unfamiliar > no others); d) Emotion Focused forms of coping were used consistently in all person categories and most when no others were involved.

Coping styles used within each person classification is also notable. In the emotional state of

anger, when intimate relations are involved, the main characters tend to use confrontive coping to a much larger extent than other coping styles. The least commonly used coping styles are Positive Reappraisal and Distancing. Confrontive coping is also used most commonly in situations involving less familiar persons. Three of the Emotion focused forms of coping (Accepting Responsibility, Escape/Avoidance, and Distancing) and Planful Problem Solving are most common when no others are involved.

In terms of sadness experiences within the intimate persons category, Seeking Social Support was used most. The use of other coping styles is fairly evenly distributed. With no others participating the Emotion focused (Accepting Responsibility, Escape/Avoidance, Positive Reappraisal, and Distancing) and Seeking Social Support are used almost exclusively.

A between emotional state comparison of categories demonstrates that Confrontive coping is used to a greater extent in anger provoking situations as compared to sadness provoking situations regardless of persons involved. Conversely, Seeking Social Support, and Emotion Focused coping styles are used more often in sadness situations.

Differences in coping styles between issue/task categories in the emotional state of anger include a) Confrontive coping is used more in social unity situations compared to the other categories; b) Self Control being used least in reflective/empathetic situations; c) Planful Problem Solving is used more in reflective/empathetic situations; d)

Accepting Responsibility is used more in instrumental/achievement tasks; e) Emotion focused coping is used primarily in situations of a reflective/empathic nature and; f) Social Support was used primarily in issues of unity.

For the emotion of sadness Planful Problem Solving is used most in instrumental/achievement circumstances. Self Control is most common in F&S Unity. Accepting Responsibility is used most commonly in instrumental tasks. Social Support was used consistently in all issue/task categories, more in reflective/empathic episodes.

Within each of the categories, for anger, Confrontive coping is used to a much larger extent than any of the other coping styles and; Planful Problem Solving and Emotion focused forms of coping are generally used highly in reflective states. For sadness states, Seeking Social Support was used most commonly in Unity issues. Accepting Responsibility was more frequently used in instrumental tasks; and emotion focused coping was used consistently in all situations, more so in reflective/empathetic situations.

Between emotional state comparisons suggest that Confrontive coping is used consistently more often in anger provoking situations regardless of the issue/task at hand. Conversely, Seeking Social Support, and Emotion Focused coping are used to a larger extent across issue/tasks in sadness situations as compared to anger situations.

Degree of severity also appears to influence which coping styles are used in a given situation. Examples from the stories involving the emotional state of anger include a)

Self Control and Planful Problem Solving are used to a greater extent in situations involving low severity; b) Emotion focused coping styles are used more in situations of high severity; c) Confrontive coping is used slightly less in high severity situations compared to low severity; d) Social Support is used about equally in both levels of severity.

In sadness provoking situations Confrontive coping, Self Control, Seeking Social Support, and Planful Problem Solving are used more in high severity cases, compared to low severity.

Comparing across emotional states it is apparent that Confrontive coping is more prevalent regardless of severity in anger situations, as compared to sad situation. Whereas Seeking Social Support, and emotion focused forms of coping occur more often in sadness provoking situations regardless of severity.

In this section, the two preliminary questions and the primary question of interest were analyzed statistically. The two preliminary questions sought to demonstrate the situational patterns that emerged from the two assessments. The overarching research question, regarding the ability of the TAT to assess coping styles, was addressed through correlating the findings of the two assessments and through the investigation of trends found in the TAT data.

Chapter 5

DISCUSSION

The present research is a exploratory, descriptive study to determine whether TAT stories are effective for the assessment of coping styles. The first section of the discussion reviews the implications associated with the preparation of the data for analysis, the two preliminary questions, and the overarching research question that have been analyzed statistically. Further, an attempt will be made to examine the findings in each of these areas, in relation to the psychological literature.

The data preparation involved presentation of the total number of cards used in each emotional state, and those most commonly chosen; an analysis to determine whether the length of a story's protocol influenced the number of coping styles coded; and the assessment of the various scoring systems' reliability.

The two preliminary questions were:

1) Within each assessment what patterns are found, in terms of involved persons, issue/task, and severity, between emotional states?

2) Do the situations in one assessment match or parallel those in the other, in terms of involved persons, issue/task, and severity, in each of the emotional states?

The overarching research question was:

Can the TAT be applied to the assessment of coping styles?

The second section of the discussion will address the

limitations of the study, implications for future research, and applications for clinical practice.

Preparation of the data for analysis

The first concern addressed in this section involves the number of cards chosen in each emotional state and those selected most often. As mentioned previously "each individual picture has its own stimulus properties which evoke themes, identification, feelings, etc. which are peculiar to it and which differ from those elicited by other pictures." (Eron, 1950, p. 25). In this study the subjects were asked to select the cards they wished to tell stories about. This process according to White and Schreiber (1950), Kalter (1970), and Bentley (cited in Hartman, 1970), facilitates the emergence of thematic material. In addition, because the emotional state of the story is predetermined by the experimenter it is imperative that each subject use stimuli that can elicit that emotion. Zubin et al. (1965), Murstein (1963), and Veroff (1961) indicate that a subject must recognize the stimulus as relevant to the content area in question, in this case sadness or anger, in order to elicit an appropriate response. As O'Gorman and Stair (1977) state " 'stimulus pull' interacts with personality type and cannot be considered constant over individuals..." (p. 594). However, this does not preclude the fact that each picture stimulus has a unique stimulus value (stimulus pull) (Murstein, 1963) and that normative responses exist (Eron, 1950).

The variety of cards chosen in this study appears to

affirm the importance of individual differences in the perception of the stimulus. In the emotional state of sadness, twenty-one different cards were chosen as stimuli, in the emotional state of anger, twenty. However, it is also apparent that stimulus pull of the TAT cards is a factor in the selection of cards. It appears as though the cards that were more consistently used across subjects were also the ones that are noted in the literature as having the strongest stimulus pull for that emotional tone, or have more consistently elicited themes that could be related to the emotion in question. For instance, over two-thirds of the subjects chose cards 3GF and 3BM for the emotional state of sadness condition, and about half the subjects used cards 4, 5, 9GF and 15 for the anger condition. The use of 3BM in the emotional state of sadness tends to fit with Eron's (1950) rating of the male cards for emotional tone. In his research 52% of respondents told stories that were classified as very sad, and 44% told stories classified as moderately sad. In another study Eron (1953) rated the female cards for emotional tone using 40 female college students. In this case 100% of the subjects related stories that were classified as moderate to very sad when using card 3GF.

A rating of the TAT cards for the elicitation of anger is less common in the literature. However by noting some of the more common themes presented in Eron's (1950, 1953) studies, for each of the cards more commonly chosen for the state of anger, it is possible to understand why particular stimuli may have been used more often to represent this

emotional state (Kaplan, 1967). In both of Eron's (1950, 1953) studies, common themes relevant to the emotion of anger included, for card 4: pressure from parent, competition, departure from partner, aggression to peer, and jealousy of partner; for card 5: parental pressure; for 9GF: jealousy, pressure from peer, and sibling rivalry; and finally for card 15: intra-aggression, aggression toward peer, and behaviour disorder. Each of these themes could easily be used as a springboard into discussing anger provoking circumstances. Further, Thomas and Dudgeon (1985) and Fester and Siipola (1972) suggest that anger is a common projection made with card 4; and Fester and Siipola (1972) and Murstein (1965) indicate that 9GF is noted for its elicitation of hostile material.

The above observations regarding the use of the TAT cards suggest that the stimulus pull of a card can and does influence how a card is perceived (Murstein, 1963). Observations also seem to indicate that an individual's personality type can affect what cards are perceived as relevant to a particular emotional set (Hartman, 1970), since some cards chosen by some subjects were not generally considered (nomothetically) to be relevant (or cued) to the emotion in question. This appears to support the belief that a subject-stimulus interaction can take place (Veroff, 1961; O'Gorman & Stair, 1977), thereby affecting how the stimulus is perceived.

The second issue associated with the preparation of the data for analysis involves the impact of story length on the

number of coping styles presented.

As previously indicated some researchers, such as McClelland (1958) who investigated need for achievement, need for affiliation, and need for power, suggest the length of a story may affect scoring. McClelland argues that a longer story allows more opportunity for scoring the designated categories. Although the categories in this research are considerably different from those studied by McClelland, it is prudent to assess the impact of story length on scoring. In so doing, it was established, based on the data from this limited sample, that there is no statistically significant difference in the number of coping styles present between the group of stories with the fewest words and the group of stories with the greatest number of words. Therefore, controlling for story length in this study was deemed unnecessary.

This discrepancy between McClelland's proposition and the current data may be explained by the nature of the protocols. The stories consisted of a preamble, leading to and including the event that caused the negative emotional state, and a postamble related to the outcome of the story. Between these two sections was a description of efforts to cope with the negative event. The length of the story was generally influenced by the amount of detail associated with the preamble and the description of outcome, as opposed to being the result of listing a vast (or limited) number of coping attempts. In other words the differences in story length are primarily due to the amount of detail and degree

to which a subject elaborated on various parts of the story; and not the result of more attempts at coping by the main character. Given the large number of studies (Ehrenreich, 1990; Sutton & Swensen, 1983; Rodgers, 1973; Thomas & Dudek, 1985; Kaplan, 1967) that have not reported controlling for story length this phenomena (ie. story length not effecting the number of categories coded) is probably not unusual.

The last area to be addressed relative to preparation for analysis is the reliability of the scoring systems employed.

The scoring system devised for the scoring of the coping styles in the TAT protocols was assessed by way of an intra-rater reliability and percent agreement. The intra-rater reliability was well within an acceptable level. As stated previously the score is in keeping with coefficients commonly found for TAT scoring systems (Reitman & Atkinson, 1958). A percent agreement was calculated for ten percent of the protocols scored by an assistant. After discussion and evaluation of the scoring, percent agreement was 100% for seventy percent of the protocols and sixty-six percent for the other 30%. This level of agreement is typical according to Stein (1978) and Murstein (1963).

The IT and IP were checked by having ten percent of the stories coded by an untrained assistant. The level of agreement between the assistant and the E was consistent with that reported by the developer of the coding scheme (Atkinson, 1992). Areas of assistant-experimenter discrepancy were also consistent. For the IP difficulty arose with

respect to coding persons involved versus no persons involved when stories focusing on personal thoughts were triggered by interpersonal experiences. The other area of recurring disagreement occurred when issues of family and social unity could not be readily distinguished from empathic responses between family members.

The severity rating scale was assessed through having an untrained assistant code all two hundred incidents. After adjusting the scores to account for coder drift and to adjust for coding error, the reliability was at an acceptable level (Kaplan & Saccuzzo, 1982) of .75. However, as Murstein (1963) indicates, differences in the scorer's ability - as was the case in this study with the developer of the scoring system (expert) utilizing essentially untrained scorers for the reliability check - can result in poorer inter-rater reliability.

Preliminary question 1: Within each assessment what patterns are found, in terms of involved persons, issue/task, and severity, between emotional states?

Within the involved persons categories it was noted that, for the TAT, anger as opposed to sadness occurs more frequently in situations involving persons less familiar to the main character; sadness experiences were more common when no others were involved, and intimate relations were associated about equally with both sad and anger experiences. This is consistent with Atkinson's (1992) findings in which one aspect of his study involved investigating the types of

situations more commonly associated with sadness and anger experiences in an undergraduate sample.

The nature of the Issue/task on emotional experiences was also investigated. In the TAT issues of family and social unity and reflective/empathic situations were associated about equally with anger and sadness experiences, however sadness occurred to a slightly larger extent in both of these categories. In contrast instrumental/achievement tasks were more strongly associated with anger experiences. This general pattern is also in keeping with the work of Atkinson (1992), however in terms of issues of family and social unity and reflective/empathic experiences, the trend toward sadness was less marked in the present study.

A possible explanation for the larger number of unity and reflective experiences in the anger state, involves the stimulus pull of the TAT cards. It has been consistently shown empirically (Eron, 1950, 1953) and through clinical experience (Bellack, 1975; Rapaport et al., 1968) that TAT themes tend to most often involve issues of unity (parental, sibling, peer) either in the form of direct interaction (conflict or otherwise) or through reflection. Of the cards chosen by subjects, six, accounting for 44% of the stories, are often associated with family interactions (Bellack, 1975; Rapaport et al., 1968). Further, with respect to the larger number of reflective/empathic themes found in the anger stories it was noted that five cards, which were used for 16% of the stories, picture lone individuals who are often described as contemplative or daydreaming (Bellack, 1975;

Murray, 1943).

Rather anomalous findings were noted in the WCQ data, specifically, intimate persons and no others were more commonly involved in anger situations, and less familiar persons were more often involved in sadness provoking situations. These findings are diametrically opposed to those found in Atkinson's (1992) research. Upon consideration of the patterns that emerged in relation to the issue/task categories, instrumental/achievement situations were associated with anger states, reflective/empathic situations were connected with sadness states, and F&S unity had a fairly even distribution between both states. These findings are generally in keeping with other research (Atkinson, 1992) and the TAT data. However, taken as a whole, results from the IP, and IT on both the TAT and the WCQ seem to suggest that the TAT more accurately reflects typical patterns when considering these two negative emotional states (although given the sample size it would be inappropriate to make any generalizations beyond the current sample).

More severely toned stories in the TAT are not surprising given the normative studies (Eron, 1950, 1953) demonstrating the strongly negative tone of most TAT responses. Further, the less severe incidents reported by subjects for the WCQ may be the product of the sample and the environment that they are exposed to (Hamilton & Fagot, 1988). These issues are addressed in more detail in the next section (Preliminary question 2).

Preliminary question 2: Do the situations in one assessment match or parallel those in the other, in terms of involved persons, issue/task, and severity, in each of the emotional states?

A comparative analysis designed to determine the degree to which the TAT stories and the WCQ incidents overlapped in terms of the three classification categories (involved persons, issue/tasks, and severity) indicated that in general the assessments did not parallel each other to any large extent. The severity ratings for the incidents reported for the WCQ, in both emotional states, were almost exclusively rated as low severity. In contrast approximately two-thirds of the TAT stories in the emotional state of sadness, and a little over half the anger stories were classified as highly severe.

Given the nature of the sample (i.e. university students) and the fact they were reporting on everyday life events over a period of ten weeks during university classes, it is not surprising the vast majority of reported incidents were of low severity (Hamilton and Fagot, 1988).

The more severe nature of the TAT stories is also of little surprise. According to Eron (1950) "... themes of violence, hostility, death, restriction, guilt, and frustration are common to subjects of all types in response to the TAT..." (p. 13). Further, Murstein (1958a) indicated that emotional tone of a story is related to the pleasantness-unpleasantness of the cards, "Those cards pleasant in appearance yielded pleasantly toned stories" (p. 197). Given

that each subject selected the cards they believed best represented a negative emotional state, it is probably safe to assume these cards were considered unpleasant in appearance, hence more strongly negative stories were elicited.

With respect to the involved persons and issue/tasks categories the TAT and WCQ data differed fairly dramatically, with the exception of the persons involved in the emotional state of anger - which proved to be very similar in both the TAT and WCQ.

In relation to the TAT a combined effect of the stimulus properties of the cards (as discussed in preliminary question 1) and projection based on past experience is the probable cause of the issues/tasks and persons involved patterns found. The influence of experience is indirectly supported by Atkinson's (1992) research that demonstrated such patterns are also found in the everyday life events of education students at the University of Calgary. However, despite this, the classifications associated with the WCQ are somewhat of an enigma. The most parsimonious explanation seems to be, that, in the case of the WCQ the subjects reported on events that occurred over a relatively short period of time, perhaps leading to unrepresentative reports in this limited sample. In contrast, when Ss were provided an opportunity to "create" the situational determinants based on the TAT stimuli, they "acted out" typical scenarios (Allport, 1965).

Overarching Question: Can the TAT be applied to the assessment of coping styles?

Correlations between the two assessments were relatively low. Although it is interesting to note that the correlation between assessments in the emotional state of anger was somewhat stronger relative to that yielded in the emotional state of sadness. The poor correlations may be attributable to the fact that, for the most part, the situations in the TAT stories, compared to the WCQ incidents, were dramatically different. The exception to this occurred in comparing the assessments in the emotional state of anger. In the anger state the persons involved were very similar between assessments ($V=.09$). In addition, when observing the overlap between assessments in terms of the combination of three factors (severity, IP, and IT), for anger, there was a greater degree of similarity than in the sadness state; (It must be emphasized that these similarities were limited and were notable only in relation to the sadness condition; overall, the reported situations were quite different - refer to table 7, page 92). This may have resulted in the anger correlation being somewhat better than the sad correlation. According to Lazarus and Folkman (1984) one's method of coping is effected by the situation. Their theory indicates that as situations differ so will an individual's coping style. This is also corroborated by Dolan and White's (1988) research that addressed the issue of consistency in the use of coping styles and by Holahan and Moos (1987). These studies found that consistency in the use of coping styles

was influenced by similarity of context in reported situations.

Knowing that coping styles differ based on the situation, and because of the vast differences in situations between the assessments, the correlations may not be accurately reflecting the TAT's ability to assess coping styles. It may be more worth-while to investigate the trends found in the TAT and compare those findings to that of other researchers.

Evidence thus far seems to indirectly support Lazarus and Folkman's (1984) contention that coping is a transactional process. Nevertheless there does appear to be some consistency in the type of coping used by individuals when in similar situations, which corresponds to the findings of Dolan and White (1988). Below, each of the coping styles will be discussed relative to the trends that have emerged in the TAT data and compared to the finding and postulations made in various psychological experiments and theories.

Confrontive

The most pervasive finding for this coping style is that confrontive coping (which includes such strategies as directly expressing anger to those who caused the problem and, standing your ground and fighting for what is wanted) is used to a much larger extent in the anger, versus sadness, situations regardless as to the situational variations (i.e. persons, issues/tasks, severity). Although sadness was not addressed, Folkman and Lazarus (1988b) noted a positive association between the emotions of anger/disgust and the use

of confrontive coping. Atkinson (1992) also indicated that confrontive coping was used to a greater extent in anger situations than sadness situations. This may be explainable in terms of theories associated with the evolutionary development of emotional responses. According to Frijda (1987) particular emotional states are designed to prepare an individual for certain types of actions. For instance, anger is associated with the tendency to insult, threaten, and attack. In short, the emotion of anger is conducive to the use of confrontive behaviours (coping) because of the concomitant increase in readiness to respond aggressively.

Examining the nature of confrontive coping's use in relation to the various categorizations made, it appears as though it is used more often in anger situations involving other people, particularly intimate relations, and when issues of family and social unity are involved. Dolan and White (1988) noted the same pattern stating, "Confrontive coping was higher in family/friends context than in the work/school and health/finance contexts" (p. 404). This may arise from the implicit knowledge that family/friends are less likely to retaliate with undue violence/volatility as compared with unfamiliar individuals whose reactions are less predictable and may take a more threatening form. A second possible explanation revolves around the issue of social desirability; "... the act of being angered often results in the angered person becoming socially unattractive..." (McGuire & Troisi, 1990, p. 46).

Interestingly confrontive coping is used slightly less

in high severity anger situations compared to low severity situations. This may be the result of subjects needing to deal with the severity of their emotional reaction (disposition toward physical retaliation and/or inappropriate verbal behaviour) before attempting more direct action. As McGuire and Troisi (1990) state "... the angered person, because of the constricted focus of attention, may overlook possible alternative beneficial options..." (p. 46). By attenuating the negative feelings, "The chances then for resolving both the situation and one's anger about it are increased" (Harburg, Gleiberman, Russell, & Cooper, 1991, p. 161).

Planful Problem Solving

In the emotional state of anger, Planful Problem Solving (e.g. doubling efforts to make things work, coming up with some different options) was most prevalent when no others were present, in reflective/empathic situations and in low severity conditions. In such situations, where no others are present or when people are having reflective/empathic experiences, other forms of coping typically used, such as confrontive coping, are not as applicable, given that there are no others present (or appropriate) to confront. As a result subjects turn to other forms of coping in order to deal with the situation. Planful problem solving may be one of the more appropriate choices since "... people [when experiencing disgust/anger] can begin to feel better when they turn to the problem that is causing distress." (Folkman & Lazarus, 1988b, p. 473). Hamilton and Fagot (1988) who

investigated the coping styles of male and female undergraduates noted the use of more problem solving coping in low severity negative circumstances (the majority of which implied anger provoking situations, though the elicited emotion was not specified).

In sadness provoking situations this type of coping was used most in situations involving unfamiliar persons, instrumental/achievement tasks, and high severity. Dolan and White (1988) noted a similar pattern in which the use of Planful Problem solving was more prevalent in work/school episodes compared to when subjects were at home with family and friends. This may stem from the nature of the Instrumental/achievement situations which may be subject to change by more directed and purposeful effort. In relation to the presence of unfamiliar persons, "It is likely that less intimate social contacts are more often involved in the instrumental or achievement tasks of daily life" (Atkinson, 1992, p. 155). The use of more active coping styles in situations of high severity was also observed by Jung and Khalsa (1989) in their research on daily hassles and depression. Perhaps greater severity requires individuals to address the situation more directly in order to alleviate the difficulties associated with it, since cognitive attempts to cope with the event (emotion focused coping) may be difficult to sustain as a result of unexpected environmental cues (Folkman & Lazarus, 1988b).

Self Control

In situations involving the emotion of anger, self control (e.g. Tried to keep feeling from interfering with other things, Tried not to act too hastily) was used least in situations involving no others and in reflective/empathic episodes. This may be due to the lesser need to control ones actions/reactions when others are not present (Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986). Also by not being concerned with self-control, one can focus on alleviating the negative feelings by concentrating on the use of planful problem solving or emotion focused strategies. It is interesting to note that most of the situations where self control was used were classified as low severity. This may be due to a subjects reluctance to invoke the greater negativity often associated with confrontive coping (Folkman & Lazarus, 1988b) - or at least be more selective in how this approach is manifested - over incidents that were, perhaps, viewed as less important.

In contrast, sadness situations that utilized self control were generally considered highly severe. In the emotional state of sadness, self control was used exclusively in situations involving intimates, and most often in social unity situations. Many of the situations involved the loss of a loved one through death or forced separation. According to Atkinson (1992) the use of self-controlling behaviour with more intense sadness experiences "... may reflect subjects' need to control their actions when dealing with the desperation which often accompanies feelings of severe loss

or loneliness..." (p. 159). Thus allowing them to function with some degree of effectiveness in dealing with the tasks associated with the incident and with the activities of everyday life.

Social Support

Social support (including talking to someone to find out more about the situation and talking to someone about how one is feeling) was used to a much larger degree in all sadness situations as compared to anger. It was especially prominent when others were involved and in high severity cases, though it was still strongly present in low severity situations. This is in keeping with the conceptualizations of social support as a moderator of the adverse effects of stress on depression (Jung and Khalsa, 1989). It also coincides with recent theories that suggest sadness facilitates the formation of social bonds and interpersonal understanding (Cassel, cited in Frijda, 1987).

In terms of its greater use in high severity situations, Jung and Khalsa (1989) noted higher severity incidents were associated with greater depression, while perceived family support was associated with lower depression. Hence, it is reasonable to expect social support to be sought to a greater extent in more severe circumstances.

Its presence in anger situations was more limited in scope, it was used equally in both high and low severity circumstances but found only in situations involving others, and mostly when issues of f&s unity were present. Hamilton and Fagot (1988) noted that interpersonal conflict would

elicit self-soothing coping styles such as asking advice from friends.

Accepting Responsibility

Accepting responsibility (e.g. Criticizing or lecturing myself, Realizing I brought the problem on myself) was found to be used most often in sad situations involving instrumental tasks. It was also used to a large extent in anger situations involving instrumental tasks. Other researchers (Dolan & White, 1988) have noted greater use of this type of coping in school/work situations as compared to at home with family and friends. Focusing on the self in such circumstances may lead to a future increase in more active (problem solving) coping, leading to successful completion of the task in question; Atkinson (1992) states "... accepting responsibility may result in healthy introspection and increased social responsibility." (p. 39)

Emotion Focused

Due to their theoretical relationship (Lazarus & Folkman, 1984) and the degree to which they clustered in this research, distancing (e.g. Made light of the situation, Continued as if nothing had happened), positive reappraisal (e.g. Changed and grew as a result of the experience, Rediscovered what is important), and escape/avoidance (e.g. Tried to alleviate feeling through substance abuse, Hoped a miracle would happen) will be considered together under the rubric of emotion focused coping.

Emotion focused forms of coping were used more often in saddening situations, though they were still present in

angering situations. This is corroborated by Atkinson (1992).

In anger provoking situations these types of coping were used to a lesser degree in all circumstances except those where no others were involved and in reflective/empathic situations. As mentioned earlier these types of situations may limit the degree to which other coping styles - confrontive coping - may be used. As a result different forms of coping (emotion focused or planful problem solving) must be utilized in order to deal with the situation/emotion.

In terms of sadness, emotion focused forms of coping were used fairly consistently across all situations, except where no others were involved and in reflective/empathic states. In the latter two circumstances the use of emotion focused coping increased relative to the other coping styles. The greater use of emotion focused coping styles in saddening circumstances, according to Atkinson (1992), is not surprising given the greater self-focus that accompanies these experiences. This increased self-focus may result in a greater need to alleviate the negative symptoms that accompany saddening situations. Further, the increased use of these coping styles in situations involving reflective/empathic states, and when no others are present, may be the result of the concomitant drop in the use of other coping styles, such as social support, because of the isolation (thus the lack of supportive resources) associated with those situational determinants.

This speculation, regarding the increase of emotion focused coping as a result of a lack of other resources (in

this case social support) is supported indirectly by Holahan and Moos (1987) who noted that increased family support (social support) was associated with less reliance on emotion focused styles of coping, and that there was a strong relationship between lack of family support and emotion focused styles of coping in community and patient samples.

In sum, considering the trends that emerged in the TAT data in terms of coping styles used in relation to the assessed situational determinants, and the degree to which they coincided with patterns found in other research that had utilized instruments validated for the assessment of coping styles (e.g. WCQ), it seems that the TAT may in fact be capable of assessing these constructs. However, given that comparison with behavioral data was inconclusive it is inappropriate to make any positive statements regarding the TAT's applicability in this area. At this stage the most that can be concluded is that there is some indication that the TAT may be useful in this realm and that further research should be performed in order to better understand its potential.

Limitations of the study

There was a number of limiting factors associated with the present research. These factors are the limited sample size, the process of sample selection, the scoring system devised for assessing coping styles from the TAT protocols, and the amount of training provided to raters.

The two primary limitations involve sample size and selection. With such a limited number of subjects it is difficult to assess the accuracy (potential replicability) of the results. Further, the limited sample restricted the depth of analysis being done on the data. Had a larger sample been available, analysis of sex differences, order effects, and coping styles within overlapping situational categories in the two assessments, may have been possible. Selection procedures were also fraught with drawbacks resulting in a highly biased sample. Granted, it is impossible to draw a truly random sample, but the more closely the sample approximates randomness the more powerful the results (except in those cases where a particular "type" of subject is specifically sought). In this case the sample is not only limited to undergraduate students at the University of Calgary seeking entrance to the Education program and drawn from a particular class, but the subjects were further limited to volunteers who had participated in another research project. Due to the bias of this sample, the results are restricted to providing possible direction for future research.

A third limitation, the scoring system for determining the coping styles of the subjects based on the TAT responses, could use further refinement. The scoring system proved to be acceptable in terms of its reliability, however details such as which coping style was used to a greater degree (in those stories that were scored as containing more than one coping style) were lost. A scoring system designed to provide

weighted scores based on the degree to which each coping style is used would facilitate comparison with instruments such as the WCQ.

In addition the amount of training provided to raters was very limited. In fact there was no formal training provided. Although reliability was still acceptable, a formal training period would most certainly have increased it. Feld and Smith (1958) recommend 12 hours of training in six sessions, spread over three weeks, in order to assure sufficient expertise in scoring protocols for need for achievement.

Finally, because direct comparison between TAT and WCQ data was not appropriate, the question arises as to whether the TAT results were compensational or representational of a subject's method of coping.

Implications for future research

The present study provides a basis from which future research endeavours may be launched. Foremost on the research agenda is an attempt at replicating the above work with a larger sample. Further studies should attempt to extend the research in terms of sample, situations, emotion, and TAT stimulus. In addition, research on a number of methodological issues would be of interest.

As stated above, the primary limitations to the present research is the sample size and selection procedures, thus any further research should address these issues in order to validate the current findings. It would also prove both

useful and informative to extend the study in terms of the population being used (e.g. University students from other departments, adults in various occupation groups and different developmental levels, etc.).

Given that the "everyday" lives of many samples available for study do not contain the regular occurrence of tragedy, it would probably be useful to conduct a study of similar design, using another set of TAT cards. For example, the use of McClelland's (McClelland, Atkinson, Clark & Lowell, 1958) TAT cards, designed to assess motivation, would likely provide stories that involve more typical stressors, since these cards depict common workplace and interpersonal interactions without the same negatively charged stimulus. This would allow for a greater degree of overlap in the types of situations reported in the TAT stories and the behavioral data. Agreement in the type of stressful situations reported could be further enhanced by limiting McClelland's TAT cards to those depicting workplace interactions and by having subjects report on the stressors experienced at work. This line of research could prove particularly useful since issues of work stress are becoming more recognized as a source of health problems (Coyne & Lazarus, 1980; Nowack, 1989) and employee productivity (Moos, 1987). Other lines of research using selected cards (controlled for stimulus pull) and the designation of specific types of events to be used in reporting behavioral data, could provide a veritable plethora of useful information ranging from coping with daily hassles to situations involving extreme stress. The most exciting

aspect of this research is the potential of the experimenter to tailor the TAT cards and instructions to match virtually any "real life" situation or reaction. If the usefulness of the TAT is further confirmed by future research, its use could prove extremely beneficial in terms of helping to settle controversial issues currently present in the literature. For instance, a number of researchers, including Pearlin and Schooler (1978) and Rim (1990), have found sex differences in coping styles, while others (S. Folkman, personal communication, July 13, 1992; McDonald & Korabik, 1991; Rosario, Shinn, Mørch, & Huckabee, 1988) have claimed that sex differences are a product of the situational differences that women and men find themselves in, and not the result of actual differences in preferred/used coping styles. The use of the TAT could allow for tight control over the situational determinants, thus helping to elucidate the true nature of coping differences associated with sex.

An investigation into the types of situational determinants elicited by the TAT stimulus, using a system similar to that employed in this study, would allow for more accurate selection of cards when involved in the above mentioned types of research.

Three methodological issues that are worthy of further investigation include a) research designed to develop a coping style scoring system for the TAT that provides weighted scores based on the degree to which each coping style is used; b) a study to more precisely assess the effect of protocol length on the number of coping styles that are

coded; and c) researching the instructions recited to the subjects to determine if alterations would facilitate story production.

Finally, in a recent research study (Bhagat, Allie, & Ford, 1991) the authors suggest a relationship between personality factors and preferred coping styles. It would be fascinating to validate the TAT as a single measure to assess both personality characteristics and coping styles concurrently. If such an approach proved useful it could help to simplify further investigations of this nature.

Applications for clinical practice

At this early stage in the research, applications for clinical practice are limited and can be stated in only the most tentative of terms. However, with this understanding some areas in which the TAT may prove useful can be suggested.

Just as being able to specifically tailor the situational determinants of a TAT story may prove useful in research, it can prove equally useful in terms of clinical practice. In some cases where an individual's difficulty is found, or is thought to arise from or be exacerbated by, specific types of incidents, using the TAT to simulate those situations would give the clinician an opportunity to observe how the subject copes with the events, without having to expose the individual to the actual distressing events. This would prove especially useful when the event(s) in question occur at unpredictable times and a quick assessment is deemed

necessary; and when the event may cause undue distress to the subject, thus raising ethical and moral issues. An additional advantage to this method, as opposed to asking the subject to recall or report on specific events in the past, is the potential of the subject to depersonalize the TAT story, as just that, "a story"; thus reducing feelings of being threatened and as a result providing more information. Further, this method may be able to tap feelings, through projection, associated with these events that might otherwise remain hidden. Thereby, providing more meaningful and useful information.

The TAT (particularly McClelland's cards) would prove useful in personnel assessment. As stated earlier stress and coping have become important considerations in the business community as a result of the ever increasing research that demonstrates a link between them and such things as burnout, productivity, and absenteeism. By using the TAT to assess coping styles utilized by employees (or potential employees), in various settings, it may be possible to introduce preventative programs designed to educate and train staff in more effective ways of dealing with stress.

Given the flexible nature of the TAT, variations on the theme of tailoring cards and situational determinants is virtually endless. The potential for use in clinical settings is far-reaching. The procedure is a fairly straight forward process that, once one is familiar with the administration and scoring, would not be excessively cumbersome. In fact with recent advances in computer graphics and interactive

programming, having the pictures and instructions on computer would most likely prove an efficient and effective method of administration, with the amount of time a clinician would need to spend with a client to administer the assessment being negligible.

Chapter 6

CONCLUSION

In attempting to determine whether the TAT can be used to assess coping styles of individuals, a number of interesting findings emerged. First, and foremost, the above study suggests that TAT protocols can be reliably analyzed in terms of coping. Moreover, the resultant data reflects typical trends found in other research on coping styles that utilized measures designed and validated for such assessments (such as the WCQ). However, strong statements regarding the effectiveness of the TAT in assessing coping styles can not be made due to the limited sample and the inability to correlate the TAT findings with behavioral/self-report data.

Though it was not the explicit purpose of this study, the lack of strong correlations between the two assessments lends some indirect support for Lazarus' transactional theory of coping. This indirect support arises since, according to Lazarus and Folkman (1984), as situations differ so will a person's coping styles. Given this, and the fact the situational determinants of the reported incidents (WCQ) were vastly different from the determinants found in the TAT stories, strong correlations would not be expected.

Finally issues concerning the stimulus properties of the TAT were noted. In keeping with other research in this area (Eron, 1950; Murstein, 1963) the present research suggests the stimulus pull of the TAT cards will influence how the cards are perceived by subjects. It was shown that cards that were strongly cued toward a particular emotional response

were often chosen by subjects to be utilized in stories that were to contain that same emotion. In addition, the subject-stimulus interaction also seemed to influence how cards were interpreted (Veroff, 1961; O'Gorman & Stair, 1977; Feshbach, 1961). This was notable in that subjects chose cards they perceived as relevant to a particular emotion, but had not been previously indicated as being relevant according to normative studies.

The most significant aspect of this research is in tentatively demonstrating the flexibility of the TAT for use in coping research. The potential benefits of utilizing this technique in research and clinical practice revolve around the experimenters/clinicians ability to control variables associated with situations of interest and concern.

In short, if Allport's (1965) statement concerning the use of projective techniques with "normal" populations is true (i.e. an individual will tell you the same thing if you ask him/her directly, as when you use indirect methods), then there (projectives) use could prove to be invaluable in terms of assessing aspects of a person that are strongly influenced by the person-environment relationship, such as coping.

REFERENCES

- Allport, G. W. (1965). The trend in motivational theory. In B. I. Murstein (Ed), Handbook of Projective Techniques. New York: Basic Books. 35-48.
- Atkinson, J. W. (Ed.) (1958). Motives in Fantasy, Action, and Society. Toronto: D. Van Nostrand Company, Inc.
- Atkinson, J. W. (1958b). Appendix III: Pictures used to elicit stories, and other considerations. In J. W. Atkinson (Ed.), Motives in Fantasy, Action, and Society. Toronto: D. Van Nostrand Company, Inc. 831-837.
- Atkinson, M. J. (1992). Coping behavior within two negative emotional states. Unpublished doctoral dissertation. University of Calgary, Calgary.
- Barends, A., Westen, D., Leigh, J., Silbert, D., & Byers, S. (1990). Assessing affect-tone of relationship paradigms from TAT and interview data. Psychological Assessment: A Journal of Consulting and Clinical Psychology, 2(3), 329-332.
- Baty, M. A., & Dregér, R. M. (1955). A comparison of three methods to record TAT protocols. Journal of Clinical Psychology, 31, 348.
- Bellak, L. (1975). The Thematic Apperception Test, The Children's Apperception Test and The Senior Apperception Test in Clinical Use (3rd ed.). New York: Grune & Stratton. 1-172.
- Bhagat, R. S., Allie, S. M., & Ford, D. L. (1991) Organizational stress, personal life stress and symptoms of life strains: an inquiry into the moderating role of styles of coping. A Handbook on Job Stress [Special Issue]. Journal of Social Behavior and Personality, 6(7), 163-184.
- Billings, A. G., & Moos, R. H. (1981) The role of coping responses and social resources in attenuating the stress of life events. Journal of Behavioral Medicine, 4(2), 139-157.
- Calogeras, R.C., (1958) Some relationships between fantasy and self-report behavior. Genetic Psychology Monograph, 58, 273-325.
- Carroll, L. (1987). A study of narcissism, affiliation, intimacy, and power motives among students in business administration. Psychological Reports, 61, 355-358.
- Child, I. L., Frank, K. F., & Storm, T. (1956). Self-ratings and TAT: their relations to each other and to childhood background. Journal of Personality, 25, 97-114.

- Coyne, J. C., & Lazarus, R. (1980). Cognitive style, stress perception, and coping. In I. L. Kutash, L. B. Schlesinger, and Associates (Eds.). Handbook on Stress and Anxiety (pp. 144-158). Washington: Jossey-Bass Publishers.
- Cramer, P. (1991). Anger and the use of defense mechanisms in college students. Journal of Personality, 59(1), 39-55.
- Cronbach, L. J. (1960). Essentials of Psychological Testing (2nd. ed.). New York: Harper & Brothers.
- Davids, A., & Rosenblatt, D. (1958). Use of TAT in assessment of the personality syndrome of alienation. Journal of Projective Techniques, 22, 145-152.
- Dilworth IV, T. (1958). A comparison of the Edwards PPS variables with some aspects of the TAT. Journal of Consulting Psychology, 22(6), 486.
- Dolan, C. A., & White, J. W. (1988). Issues of consistency and effectiveness in coping with daily stressors. Journal of Research in Personality, 22, 395-407.
- Drumheller, jr., P. M., Eicke, F. J., & Scherer, R. F. (1991). Cognitive appraisal and coping of students varying in stress level during three stages of a college examination. Journal of Social Behavior and Personality, 6(2), 237-254.
- Ehrenreich, J. H. (1990). Comparison of self-report and projective measures of dependency. Psychological Reports, 66, 845-846.
- Eron, L. D. (1950). A normative study of the thematic apperception test. Psychological Monographs, 64 (whole No. 315), 1-48.
- Eron, L. D. (1953). Responses of women to the thematic apperception test. Journal of Consulting Psychology, 17(4), 269-288.
- Eron, L. D., Terry, D., & Callahan, R. (1950) The use of rating scales for emotional tone of TAT stories. Journal of Consulting Psychology, 14, 473-478.
- Feld, S., & Smith, C. P. (1958). An evaluation of the objectivity of the method of content analysis. In J. W. Atkinson (Ed.), Motives in Fantasy, Action, and Society. Toronto: D. Van Nostrand Company, Inc. 234-241.
- Feshbach, S. (1958). The drive-reducing function of fantasy behavior. In J.W. Atkinson (Ed.), Motives in Fantasy, Action, and Society. Toronto: D. Van Nostrand Company, Inc. 160-175.

- Feshbach, S. (1961). The influence of drive arousal and conflict upon fantasy behavior. In J. Kagan and G. S. Lesser (Eds.) Contemporary Issues in Thematic Apperception Methods. Springfield, Ill.: Charles C Thomas, 119-140.
- Fiestter, S., & Siipola, E. (1972). Effects of time pressure on the management of aggression in TAT stories. Journal of Personality Assessment, 36, 230-240
- Fiske, D. W. (1965). Variability of responses and the stability of scores and interpretations of projective protocols. In B. I. Murstein (Ed), Handbook of Projective Techniques. New York: Basic Books. 69-76.
- Folkman, S., & Lazarus, R. S. (1980). An analysis of coping in a middle-aged community sample. Journal of Health and Social Behavior, 21(sept.), 219-239.
- Folkman, S., & Lazarus, R. S. (1985). If it changes it must be a process: A study of emotion and coping during three stages of a college examination. Journal of Personality and Social Psychology, 48, 150-170.
- Folkman, S., & Lazarus, R. S. (1988a). Manual for the Ways of Coping Questionnaire. Palo Alto, CA: Consulting Psychologists Press.
- Folkman, S., & Lazarus, R. S. (1988b). Coping as a mediator of emotion. Journal of Personality and Social Psychology, 54(3), 466-475.
- Folkman, S., & Lazarus, R. S., Dunkel-Schetter, C., DeLongis, A., & Gruen, R. (1986). Dynamics of a stressful encounter: Cognitive appraisal, coping, and encounter outcomes. Journal of Personality and Social Psychology, 50, 571-579.
- Frank, L. K. (1965). Projective methods for the study of personality. In B. I. Murstein (Ed). Handbook of Projective Techniques. New York: Basic Books. 1-22.
- Frijda, N. H. (1987). The Emotions: Studies in Emotion and Social Interaction. New York: Cambridge University Press.
- Garfield, S. L., Blek, L., & Melker, F. (1952). The influence of method of administration and sex differences on selected aspects of TAT stories. Journal of Consulting Psychology, 16, 140-146.
- Goldenson, R. M. (Ed.) (1984). Longman Dictionary of Psychology and Psychiatry. New York: Longman.

- Greenbaum, M., Qualtere, T., Carruth, B., & Cruickshank, W. (1953). Evaluation of a modification of the thematic apperception test for use with physically handicapped children. Journal of Clinical Psychology, 9, 40-44.
- Gurel, L., & Ullmann, L. P. (1958). Quantitative differences in response to TAT cards: The relationship between transcendence score and number of emotional words. Journal of Projective Techniques, 22, 399-504.
- Hamilton, S., & Fagot, B. I. (1988). Chronic stress and coping styles: a comparison of male and female undergraduates. Journal of Personality and Social Psychology, 55(5), 819-823.
- Harburg, E., Gleiberman, L., Russell, M., & Cooper, M. L. (1991). Anger-coping styles and blood pressure in black and white males: Buffalo, New York. Psychosomatic Medicine, 53(2), 153-171.
- Harrison, R. (1965). Thematic apperceptive methods. In B. B. Wolman (Ed.), Handbook of Clinical Psychology. Toronto: McGraw-Hill Book Company. 562-620.
- Harrison, R. H. (1986). The grouping of affect terms according to the situations that elicit them: A test of a cognitive theory of emotion. Journal of Research in Personality, 20, 252-266.
- Hartman, A. A. (1970). A basic TAT set. Journal of Projective Techniques and Personality Assessment, 34, 391-396.
- Heilbrun, A. B. (1977). The influence of defensive styles upon the predictive validity of the thematic apperception test. Journal of Personality Assessment, 41(4), 486-491.
- Henry, W. E., & Farley, J. (1959). A study in validation of the Thematic Apperception Test. Journal of Projective Techniques, 23, 383-390.
- Holahan, C. J. & Moos, R. H. (1987). Determinants of coping. Journal of Personality and Social Psychology, 52(5), 946-955.
- Holmes, T. H., & Rahe, R. H. (1967). The Social Readjustment Rating Scale. Journal of Psychosomatic Research, 11, 213-218.
- Holt, R. R. (1958) Formal aspects of the TAT-A neglected resource. Journal of Projective Techniques, 22, 163-172.
- Hooker, K., Blumenthal, J. A., & Siegler, I. (1987). Relationships between motivation and hostility among type A and type B middle-aged men. Journal of Research in Personality, 21, 103-113.

- Jacobs, B. Jr. (1958). A method for investigating the cue characteristics of pictures. In J. W. Atkinson (Ed.), Motives in Fantasy, Action, and Society. Toronto: D. Van Nostrand Company, Inc. 617-629.
- Jung, J., & Khalsa, H. K. (1989). The relationship of daily hassles, social support, and coping to depression in black and white students. Journal of General Psychology, 116(4), 407-417.
- Kagan, J. & Mussen, P. H. (1956). Dependency themes on the TAT and group conformity. Journal of Consulting Psychology, 20(1), 29-32.
- Kalter, N. (1970). Self-selection of TAT cards: A technique for assessing test-resistant children. Journal of Projective Techniques and Personality Assessment, 34(4), 324-327.
- Kaplan, M. F. (1967). The effect of cue relevance, ambiguity, and self reported hostility on TAT responses. Journal of Projective Techniques and Personality Assessment, 31(6), 45-50.
- Kaplan, R. M., & Saccuzzo, D. P. (1982). Psychological Testing: Principles, Applications, and Issues. Monterey, CA: Brooks/Coles.
- Karon, B. P. (1968) Problems of validities. In A. I. Rabin (Ed.) Projective Techniques in Personality Assessment: A Modern Introduction. New York: Springer Publishing Company, Inc. 85-114.
- Kenny, D. T., & Bijou, S. W. (1953). Ambiguity of pictures and extent of personality factors in fantasy responses. Journal of Consulting Psychology, 17(4), 283-288.
- Kolstoe, R. H. (1973). Introduction to Statistics for the Behavioral Sciences. Homewood, Illinois: Dorsey.
- Korchin, S. J., Mitchell, H. E., & Meltzoff, J. A. (1950). A critical evaluation of the Thompson Thematic Apperception Test. Journal of Projective Techniques, 14, 445-452.
- Korner, A. F. (1965). Theoretical considerations concerning the scope and limitations of projective techniques. In B. I. Murstein (Ed). Handbook of Projective Techniques. New York: Basic Books. 23-34.
- Lapointe, Roger, E. (1974). The use of psychological tests by Ontario psychologists. The Ontario Psychologist 6(2), 75-82.
- Lazarus, R. S. (1966). Psychological Stress and the Coping Process. Toronto: McGraw-Hill Book Company.

- Lazarus, R. S., & Folkman, S. (1984). Stress, Appraisal and Coping. New York: Springer Publishing Company.
- Lazarus, R. S., & Launier (1978). Stress Related Transactions Between Person and Environment. In L. A. Pervin & M. Lewis (Eds.), Perspectives in Interactional Psychology (pp. 287-327). New York: Plenum Press.
- Lindgren, H. C., Moritsch, B., Thulin, E. K., & Mich, G., (1986). Validity studies of three measures of achievement motivation. Psychological Reports, 59, 123-136.
- Lindzey, G. (1952). Thematic apperception test: Interpretive assumptions and related empirical evidence. Psychological Bulletin, 49(1), 1-25.
- Little, K. B. (1965). Problems in the validation of projective techniques. In B. I. Murstein (Ed), Handbook of Projective Techniques. New York: Basic Books. 77-82.
- Lubin, B. (1960). Some effects of set and stimulus properties on TAT stories. Journal of Projective Techniques, 24, 11-16.
- Lubin, B., Larsen, R. M., & Matarazzo, J. D. (1984). Patterns of psychological test usage in the United States: 1935-1982. American Psychologist, 39, 451-454.
- Lundy, A. (1985). The reliability of the thematic apperception test. Journal of Personality Assessment, 49(2), 141-145.
- Lundy, A. (1988). Instructional set and thematic apperception test validity. Journal of Personality Assessment, 52(2), 309-320.
- Magnusson, D. (1959). A Study of Ratings Based on TAT. Stockholm, Sweden: Grafikon, AB.
- Matranga, J. T. (1976). The relationship between behavioral indices of aggression and hostile content on the TAT. Journal of Personality Assessment, 40(2), 130-134.
- McClelland, D. C. (1958). The use of measures of human motivation in the study of society. In J. W. Atkinson (Ed.), Motives in Fantasy, Action, and Society. Toronto: D. Van Nostrand Company, Inc. 518-552.
- McClelland, D. C., Atkinson, J. W., Clark, R. A., & Lowell, E. L. (1958). A scoring manual for the achievement motive. In J. W. Atkinson (Ed.), Motives in Fantasy, Action, and Society. Toronto: D. Van Nostrand Company, Inc. 179-204.

- McClelland, D. C., Clark, R. A., Roby, T. B., & Atkinson, J. W. (1958) The effect of the need for achievement on thematic apperception. In J. W. Atkinson (Ed.), Motives in Fantasy, Action, and Society. Toronto: D. Van Nostrand Company, Inc. 64-82.
- McCrae, R. R. (1984). Situational determinants of coping responses: Loss, threat and challenge. Journal of Personality and Social Psychology, 46(4), 929-938.
- McDonald, L. M., & Korabik, K. (1991). Sources of stress and ways of coping among male and female managers. Handbook of Job Stress [Special Issue]. Journal of Social Behavior and Personality, 6(7), 185-198.
- McGuire, M. T., & Troisi, A. (1990) Anger: an evolutionary view. In R. Plutchik & H. Kellerman (Eds.) Emotion: Theory, Research, and Experience (Vol. 5). Emotion, Psychopathology, and Psychotherapy (pp.43-57). Toronto: Academic Press, Inc.
- Moos, R. H. (1987) Person-environment congruence in work, school, and health care settings. Journal of Vocational Behavior, 31(3), 231-247.
- Morgan, C. D., & Murray, H. A., (1935). A method for investigating fantasies: the Thematic Apperception Test. Archives of Neurological Psychiatry, 34, 289-306.
- Morgan, C. D., & Murray, H. A., (1938). Thematic Apperception Test. In H. A. Murray (1938). Explorations in Personality. New York: Oxford University Press. 530-545.
- Moulton, R. W. (1958). Notes for a Projective Measure of Fear of Failure. In J. W. Atkinson (Ed.), Motives in Fantasy, Action, and Society. Toronto: D. Van Nostrand Company, Inc. 563-571.
- Murray, H. A. (1938). Explorations in Personality. New York: Oxford University Press. 530-545.
- Murray, H. A., (1943). Thematic Apperception Test Manual. Cambridge: Harvard University Press.
- Murray, H. A. (1951). Uses of the thematic apperception test. American Journal of Psychiatry, 107, 577-581.
- Murstein, B. I. (1958a). Nonprojective determinants of perception on TAT. Journal of Consulting Psychology, 22(3), 195-198.
- Murstein, B. I. (1961). The role of the stimulus in the manifestation of fantasy. In J. Kagan & G. S. Lesser (Eds.). Contemporary Issues in Thematic Apperceptive Methods. Springfield, Illinois: Charles C. Thomas. 229-273.

- Murstein, B. I. (1963). Theory and Research in Projective Techniques (emphasizing the TAT). New York: John Wiley & Sons Inc.
- Murstein, B. I. (1965). The stimulus. In B. I. Murstein (Ed). Handbook of Projective Techniques. New York: Basic Books. 509-546.
- Nietzsche, F. (1966). Beyond Good and Evil: Prelude to a Philosophy of the Future. (W. Kaufmann, Trans.). New York: Vintage Books. (Original work published 1886)
- Nowack, K. M. (1989). Coping style, cognitive hardiness, and health status. Journal of Behavioral Medicine, 12(2), 145-158.
- O' Gorman, J. G., & Stair, L. H. (1977). Projection of hostility in the TAT as a function of defensive style. Journal of Personality Assessment, 41(6), 591-594.
- Pearlin, L. I., & Schooler, C. (1978). The structure of coping. Journal of Health and Social Behavior, 19, 2-21.
- Piotrowski, C., & Keller, J. W. (1989). Psychological testing in outpatient mental health facilities: A national study. Professional Psychology: Research and Practice, 20(6), 423-425.
- Piotrowski, Z. A. (1950). A new evaluation of the thematic apperception test. The Psychoanalytic Review, 37(2), 101-127.
- Polyson, J., Norris, D., & Ott, E. (1985). The recent decline in TAT research. Professional Psychology: Research and Practice, 16(1), 26-28.
- Rabin, A. I. (1968a). Projective methods: an historical introduction. In A. I. Rabin (Ed.) Projective Techniques in Personality Assessment: A Modern Introduction. New York: Springer Publishing Company, Inc. 3-17.
- Rabin, A. I. (1968b). Adapting and devising projective methods for special purposes. In A. I. Rabin (Ed.) Projective Techniques in Personality Assessment: A Modern Introduction. New York: Springer Publishing Company, Inc. 611-626.
- Rapaport, D., Gill, M. M., & Schafer, R. (1968). R. R. Holt (Ed). Diagnostic Psychological Testing. New York, New York: International Universities Press, Inc. 464-515.
- Reitman, W. R., & Atkinson, J. W. (1958). Some methodological problems in the use of thematic apperceptive measure of human motives. In J. W. Atkinson (Ed.), Motives in Fantasy, Action, and Society. Toronto: D. Van Nostrand Company, Inc., 664-683.

- Riess, B. F., Schwartz, E. K., & Cottingham, A. (1950). An experimental critique of assumptions underlying the negro version of the TAT. Journal of Abnormal and Social Psychology, 45, 700-709.
- Rim, Y. (1990). Styles of attribution and of coping. Personality and Individual Differences, 11(9), 973-976.
- Rodgers, C. W. (1973). Relationship of projective to direct expression of selected needs for nonpsychotic Ss. Perceptual and Motor Skills, 36, 571-578.
- Rosario, M., Shinn, M., Mørch, H., & Huckabee, C. B. (1988). Gender differences in coping and social supports. Testing socialization and role constraint theories. Journal of Community Psychology, 16, 55-69.
- Rosenwald, G. C. (1968). The thematic apperception test (TAT). In A. I. Rabin (Ed.) Projective Techniques in Personality Assessment: A Modern Introduction. New York: Springer Publishing Company, Inc. 172-221.
- Rosenzweig, S. (1951). Idiodynamics in personality theory with special reference to projective methods. Psychological Review, 58, 213-223.
- Rosenzweig, S., & Fleming, E. (1949). Apperceptive norms for the Thematic Apperception Test. II. An empiricle investigation. Journal of Personality, 17, 483-503.
- Sarason, B. R., & Sarason, I. R. (1958). The effect of type of administration and sex of subject on emotional tone and outcome ratings of TAT stories. Journal of Projective Techniques, 22, 333-337.
- Schwartz, E. K., Riess, B. F., & Cottingham, A. (1951). Further critical evaluations of the negro version of the TAT. Journal of Projective Techniques, 15, 394-400.
- Semeonoff, B. (1976). Projective Techniques. Toronto: John Wiley & Sons. 102-128.
- Shipley, T. E., & Veroff, J. (1958). A projective measure of need for affiliation. In J. W. Atkinson (Ed.), Motives in Fantasy, Action, and Society. Toronto: D. Van Nostrand Company, Inc., 83-94.
- Stang, D. J., Campus, N., & Wallach, C. (1975). Exposure duration as a confounding methodological factor in projective testing. Journal of Personality Assessment, 39(6), 583-586.
- Stein, M. I. (1978). Thematic apperception test and related methods. In B. B. Wolman (Ed.), Clinical Diagnosis of Mental Disorders. New York: Plenum Press. 179-235.

- Stewart, A. J., Sokol, M., Healy, J. M., & Chester, N. L. (1986). Longitudinal studies of psychological consequences of life changes in children and adults. Journal of Personality and Social Psychology, 50(1), 143-151.
- Sumerwell, H. C., Campbell, M. M., & Sarason, I. G. (1958). The effects of differential motivating instructions on the emotional tone and outcome of TAT stories. Journal of Consulting Psychology, 22(5), 385-388.
- Sutton, P. M., & Swensen, C. H., (1983). The reliability and concurrent validity of alternative methods for assessing ego development. Journal of Personality Assessment, 47(5), 468-475.
- Symonds, P. M., (1949). Adolescent Fantasy. New York: Columbia University Press.
- Tachibana, Y., Ohgishi, M., & Monden, K. (1984). Experimental study of aggression and catharsis in Japanese. Perceptual and Motor Skills, 58, 207-212.
- Teevan, R. C., Smith, B. D., & Greenfield, N. (1982). Effect of response mode on projective measures of need achievement and hostile press. Perceptual and Motor Skills, 54, 321-322.
- Tennen, H., & Herzberger, S. (1985). Ways of coping scale. In D. J. Keyser & R. C. Sweetland (Eds.), Test Critiques (vol. 3, pp. 686-697). Kansas City, Kansas: Test Corporation of America.
- Terry, D. (1952). The use of a rating scale of level of response in TAT stories. Journal of Abnormal and Social Psychology, 47, 507-511.
- Thomas, A. D., & Dudek, S. Z. (1985). Interpersonal affect in thematic apperception test responses: A scoring system. Journal of Personality Assessment, 49(1), 30-36.
- Thorndike, R. L., & Hagen, E. (1955). Measurement and Evaluation in Psychology and Education. New York: John Wiley & Sons.
- Tomkins, S. S. (1961). Discussion of Dr. Murstein's paper. In J. Kagan & G. S. Lesser (Eds.) Contemporary Issues in Thematic Apperception Methods. Springfield, Ill.: Charles C Thomas, 119-140.
- Turner, G. C., & Coleman, J. C. (1962). Examiner influence on thematic apperception test responses. Journal of Projective Techniques, 26, 478-486.

- Vane, J. R., & Guarnaccia, V. J. (1989). Personality theory and personality assessment measures: How helpful to the clinician?. Journal of Clinical Psychology, 45(1), 5-19.
- Veroff, J. (1961). Thematic apperception in a nationwide sample survey. In J. Kagan & G. S. Lesser (Eds.) Contemporary Issues in Thematic Apperception Methods. Springfield, Ill.: Charles C Thomas, 83-111.
- Veroff, J., Wilcox, S., & Atkinson, J. W. (1953). The achievement motive in high school and college age women. Journal of Abnormal and Social Psychology, 48, 108-119.
- Wagner, E.E., McCormick, M.K., & Alexander, R.A. (1984) A method for coping with overall productivity when making between-group category comparisons. Journal of Personality Assessment, 48(1), 85-86.
- Weisskopf, E. A., & Dunlevy, G. P., Jr. (1952). Bodily similarity between subject and central figure in the TAT as an influence on projection. Journal of Abnormal and Social Psychology, 47, 441-445.
- Weisskopf-Joelson, E., & Money, L., Jr. (1953). Facial similarity between subject and central figure in the TAT as an influence on projection. Journal of Abnormal and Social Psychology, 48, 341-344.
- Weisskopf-Joelson, E., & Wexner, L. B. (1970). Projection as a function of situational and figural similarity. Journal of Projective Techniques and Personality Assessment, 34, 397-400.
- Weisskopf-Joelson, E., Zimmerman, J., & McDaniel, M. (1970). Similarity between subject and stimulus as an influence on projection. Journal of Projective Techniques and Personality Assessment, 34(4), 328-331.
- Westen, D., Lohr, N., Silk, K. R., Gold, L., & Kerber, K. (1990). Object relations and social cognition in borderlines, major depressives, and normals: A thematic apperception test analysis. Psychological Assessment: A Journal of Consulting and Clinical Psychology, 2(4), 355-364.
- White, M. A., & Schreiber, H. (1950). A note on T.A.T. administration. Journal of Clinical Psychology, 6, 417.
- Wotruba, T. R., & Price, K. F. (1975). Relationships among four measures of achievement motivation. Educational and Psychological Measurement, 35, 911-914.
- Wyatt, F. (1958). A principle for the interpretation of fantasy. Journal of Projective Techniques, 22, 229-245.

Zimring, F. M., & Balcombe, J. K. (1974). Cognitive operations in two measures of handling emotionally relevant material. Psychotherapy: Theory, Research and Practice, 11(2), 226-228.

Zubin, J., Eron, L. D., & Schumer, F. (1965). An Experimental Approach to Projective Techniques. New York: John Wiley & Sons, Inc. 1-49, 394-604.

APPENDICES

Appendix A**First set of instructions:**

Last semester you participated in research on emotion. This is a continuation of that research that involves creativity and emotion in story telling.

To begin what I would like you to do is flip through this stack of picture cards and choose five cards that make you feel that the main emotion involved is sadness (In other word choose five cards that you think you could tell good stories where sadness is the predominant emotion). Once you have chosen five sad cards go through the stack a second time and choose five cards where you feel the main emotion is anger (cards you think you can use to tell a good angry story).

Take as long as you need to choose the cards. If you find more then five cards for each emotion simply choose the best five.

If you do not have any questions you can begin.
(Upon completion) Good!

Second set of instructions:

Now what I will do is give you each card, one at a time, you can take whatever time you need to look at the card and then whenever you are ready you can start your sad/angry story. When you tell the story you can make it as elaborated as you like, try and take four or five minutes for each. Tell what has lead up to the feeling and events shown in the picture, describe what is happening at the moment, what the characters are feeling and thinking; and give the outcome.

Try and feel the emotion as you tell the story. Put yourself in a sad/angry state of mind. Take a minute before starting and try and get in touch with the feelings of the character, or some other way you think might be helpful for getting in touch with that emotion.

Do you understand?

Appendix B**Example of an angry story:**

Yeah, this guy, he is angry too, really angry. Cause he just had a fight with his mate, his partner. And it was early morning, it was after a night of going out and either they drank too much or whatever, and they had a fight and so... they live together. And actually she is sleeping on the bed right here and he got up. It is still pretty early in the morning. It is about 4:00, the traffic lights are still on and it is dark inside. He is looking outside, looking out, looking at the city, the lights, at the people, and he is really... he is choked about the relationship he is in right now. Yeah, he wants something better or maybe he wishes tonight never happened, but I think he is most angry about that. It looks like he is heavy into contemplation there. I think that he wishes that, I don't think he wishes that he could change the events that happened this particular evening, but I think he is angry about the fact that I think he wants out wants out of that relationship and he is angry that he has stuck around so long. Tonight was kind of the last straw. So he is angry more at himself than he is with her. It is his own fault. But he felt he was just under pressure too. And not so much was it expected of him, but I think maybe it was really his first really close relationship so he failed to notice the negative points instead of doing something for himself, he was content he thought he was content to just please her. And so now he is sort of looking back and thinking that I wish I had done something sooner so

I wasn't in the same position I am in now. Though he doesn't regret what he has done because he has learned from this situation. So he will definitely be a better person because of it, but this wasn't like a first fight that these two have had. It is not like they fight everyday, but there has been one every weekend particularly lately, it is causing him to think a lot.

E: What's the outcome going to be?

He will be fine, so will she. She I think... he will be single for a while both of them. And they will probably be single for a while and it will take them a long time to get into another relationship even though they know eventually they will be. They're not in a hopeless situation but.. I think they will both be OK, and he will too because he is a thinker.

Example of a sad story:

This girl is a scholar. This is her parents place. She is off at university this summer. She has come home to visit and she is sad because she sees her dad working so hard and her mom as well working really hard. And she wishes she could change that for them because they are not really..., these two people, I mean like they are happy, but they are not that happy. They could be happier and she is..., knows she is going, like, to make something of herself because she has been given the means to go out and invest something in herself in the line of formal education. So she just wishes that the same could be for her mother and father. And she is sad because she knows right now she can't do anything to help

them. She just wishes they didn't have to work so hard. Now because of school she is away at school and it is her parents who have sent her there and at the same time she is thinking "Look at everything my parent have done for me and I can't do anything for them." You know, she doesn't, I don't think she has got it that your parents will do that for you just because. They are not expecting, they are not giving it to you in order that they get paid back someday. You know, it is just something she should understand. They don't have any expectation from her. And she never had any from them, they just gave her, like, the best that they could for her. And it has worked out and now she is sort of feeling, well she is off, you know, in the city and going to school and her mom and dad are still struggling in the countryside. She is sad about that. But I mean, she will get over it though. Like, she will see that was what her parents were meant to do. To be there content. Like they are content but she is just having a hard time dealing with all that now. Like, everything will work out fine for them, these people aren't hungry or, you know... just poor you could say. They could afford to send their daughter to school, off to school. So she will realize it is just what needed to be done. This is the life - lifestyle her parents have chosen. Or maybe not even chosen, but it is what they were going to do, they didn't have much choice you could say. And she will come to understand that. I think right now she may feel that it is her fault that her parents are in this situation. She is off, or not helping, while her parents are struggling and she is

away at school and it is her fault that they are struggling but it is not. She will learn that so she is just sad with that right now. Things will work out for everyone.