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BY

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Abstract

This paper reports an investigation into adolescent coping. Past theory and research are outlined concerning views on developmental coping. Coping theory, developed by the researcher and principally based on the works of Vygotsky (1978), Lazarus (1966; 1981) and Kohlberg (Colby & Kohlberg 1987) are presented. The Reflective Adaptation test developed by the researcher and based on the presented coping theory is offered. Participants ranging from 13 to 16 years old formed the two groups. The youths from the Edmonton school system formed the control group and, Alberta Family and Social Services; Alberta Health, formed the treatment group. Data from Reflective Adaptation test was correlated with Sociomoral Reflection Objective Measures, Self-Esteem Inventory and Coping Inventory, a measure of Adaptive Behavior. Results indicated the Reflective Adaptation test is a good measure of self-esteem, moral stage development and coping. The Reflective Adaptation test was able to differentiate between effective and ineffective copers.

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CHAPTER ONE

INTRODUCTION

Preamble

The purpose of this research was to investigate adolescent coping. A psychometric test on coping was developed and is presented in this paper, principally based on the works of Vygotsky (1978; 1986) and Lazarus (1966; 1981).

A review of past theory and research is first outlined, then a developmental coping theory created by the researcher is presented. Next, Vygotsky's view of development and concept formation is outlined. Building on Vygotsky's views, the Reflective Adaptation test is presented. This created instrument incorporates the measurement of moral development, self-esteem and coping, being compared with other published instruments which are designed to measure these constructs. To extend our understanding of the differences associated with the coping of youths who are in treatment, as opposed to youths, who have coped effectively. Creating a psychometric instrument which measures these constructs in order to differentiate between, those youths in need of treatment and those youths who cope effectively on their own.

The stresses of early adolescence are well known by parents, teachers and mental health clinicians. There is a long-standing and broadly-held conviction among professionals that the way in which people cope with social demands affects their overall functioning in our society (cf. Roskies & Lazarus, 1980; Folkman & Lazarus, 1988).

Youth, like adults, are continuously challenged by the changing routines and stresses that are inherent in today's mobile and changing society. Understanding the ways in which individuals cope with these realities is important for educational and therapeutic planning. Achieving a deeper understanding of how youth cope with stressful encounters is a major task that faces the field of clinical developmental psychology. The study of stress and the complex constellation known as coping needs to be addressed in the contextual and developmental origins that give rise to the phenomenon (Folkman & Lazarus, 1988).

<u>Definitions</u> <u>of</u> <u>Coping</u>

In the past forty years studies on stress and the concept of "coping" have taken many forms. Most writers (cf. Lazarus, Averill & Opton, 1974) take the term "coping" in an intuitive or everyday common usage. The concepts tend to be very loosely defined (Goldberger & Brcnznitz, 1982), "...and any attempt to delineate the dynamics of coping confronts the significant parallel semantic, the conceptual and methodological complexities of the dynamics of stress" (Wertlieb, Weigel, & Feldstein, 1987, p. 548).

Hans Selye was the originator of the concept of stress. Selye (1983) pointed out the distinction between stress and distress: "The set of reactions of an individual exposed to unavoidable nociceptive stimulus or situations wherein the individual cannot develop adaptive coping mechanisms should be referred to as distress" (p. 292). Selye made the distinction between good and bad stress, specifying these as "eustress" and "distress".

Roskies and Lazarus (1980) considered the concept of coping as emanating from a small area within the stress paradigm, to occupy a place that is considered central within theoretical models of stress and emotion. Coping is seen as a reaction to stress and

also the shaper of the stressful experience: "Coping and stress are but two faces of the same coin and any model of stress must also be viewed as a model of coping" (p. 45).

In considering a more applicatory distinction between eustress and distress, Roskies and Lazarus (1980) suggested these terms should be labeled "effective" and "ineffective" coping. Lazarus (1980) argued that: "...stress as a concept pales in relation to coping, and how people cope with their stress, is more important to overall morale, health and social functioning, than the frequency and severity of the stress episodes themselves" (p. 38).

More recent definitions of coping refer to the individual's ability to manage continuously the constantly changing cognitive and behavioral efforts which are used to effect external and internal demands which are assessed as either taxing or exceeding that individual's present resources (cf. Lazarus & Folkman, 1984; Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986).

CHAPTER TWO

LITERATURE REVIEW

Theoretical Approaches

Psychology has been concerned with the
relationships between emotion, cognition and motivation
with respect to coping. Some researchers (Coelho,
Hamburg, & Adams, 1974) consider this rubric of coping
as part of a larger framework known as "adaption". The
description of the phenomena of coping belongs within
the strategies of adaptation, which involve the
management of not less than three variables: securing
proper information; maintaining balanced internal
conditions; and increased sense of autonomy.

Psychology has viewed stress customarily as a
disputer of skilled performance. Lazarus, Deese, and
Osler (1952), reviewed the effects of stress upon
performance and its relation to wartime behavior.
Stress (anxiety) and coping draw on contrasted
theoretical backgrounds.

Some perspectives consider ego-psychological,
behavioral-learning, cognitive-information processes
and cognitive-phenomenological concerns. The evolving
perspective-taking, within the historical study of
coping, becomes more a representation of the change in

the nature of the questions and how these questions are asked.

For example, the ego-psychological model views coping as the reduction or removal of anxiety. The function of anxiety (stress) becomes a warning to us that if we continue to think or act in a certain way, we will be in jeopardy. Thus, if the rational approaches of the ego to reduce or eliminate anxiety are ineffective, the ego resorts to irrational methods of dealing with the situation. Within this ego-psychological model these methods become ego-defense mechanisms. Coping includes such processes as denial, suppression, repression, intellectualization, as well as problem-solving mechanisms that are called upon to reduce or manage anxiety. These mechanisms allow the confronted anxiety to be changed or diverted into a different configuration.

Originally psychology viewed coping as the response to a stressful encounter. Behavioral-learning considered the conditions under which stress deteriorates, then adequate performance improves. Lazarus et al. (1952), in reviewing the research found that experiments yielded varying results. Some studies showed only decrements in performances while others showed improvement, still others produced both effects

for different individuals.

Lazarus (1981) considered that: "The traditional linear S-R could not be made to work well enough to produce usable rules whereby stress and performance were linked, especially in [the] natural setting" (p. 178). One of the solutions advanced was to consider the defectiveness of correspondence within the strict linear S-R model. This was to consider personality trait types into the schema, which also included defensive modes or motivational patterns of behavior. Consequently, the model was changed to an S-O-R model.

In comparison, clinical psychology viewed anxiety as the foremost drive source of pathological modes with respect to the inclusion of defensive operations analogous to repression, projection, reaction formations, rationalizations and regression. The theories of Dollard and Miller (1950) built upon the premise of Hull's learning theory and Freudian theory, gave rise to views on the role of secondary drives and acquired needs. This predominant behavioral model, with its emphasis on drive reduction and relational meaning around which behavior and past memories are organized, could not accommodate the relational meaningful activity to the actual reality (cf. Klein, 1958).

The shift in psychological perspective concerning coping was moved from the tension-reduction concept and attending drive, toward cognition as central to human adaptive processes (Roskies & Lazarus, 1980; Lazarus, 1981). The static model was no longer viewed as the answer to the questions asked. Stress could not simply be viewed as an interaction between particular properties of the stimulus and certain properties of the organism. The shift in perspective was the consideration of sources of stress that bring forth coping. In the past, researchers emphasized endogenous factors at the expense of exogenous concerns (Roskies & Lazarus, 1980). The static S-O-R model could not adequately account for the dynamic interplay between the person and the environment.

The nature of the viewed relationship between the environment and the individual, indicates the nature of the process that is present. Leading investigators to focus on certain types of interactions. Concerning drive theory position, the need-tension relationship was considered significant. From a behavioral prospect, the association between abilities and tasks performed is essential and, from the cognitive position, the affinity between existing cognitive structures and informational input is notable. These mentioned

positions do not differ only in the content of the process indicated, but to the extent that they are considered truly dialectic (cf. Pervin & Lewis, 1978).

The critical difference between the trait and process oriented models concerning the dynamics of coping, is the gravity given to psychological or intraindividual factors and, environmental contexts. This is seen in the light of trait approaches viewing coping as primarily the property of the individual, whereas, process-orientated approaches concern both psychological and environmental factors (Roskies & Lazarus, 1980).

Within the trait approach, coping was inferred from the possessed traits, without reference to the contextual situation wherein the individuals find themselves. Lazarus and Launier (1978), overcame these shortcomings of the traditional approaches by suggesting a transactional model of coping. The word "transaction" is not exclusively the way in which the environment affects the individual, moreover, the way in which the individual affects the environment. The conceptualization of the process as transactional and not merely interactional, gives rise to a new way of viewing coping encounters. Lazarus (1981) expressed it well: "... a transaction, brought about by the

interaction of person and environment variables, is a
new entity that expresses some special relationship
between the interacting variables to which we give a
new name" (p. 184).

Lazarus's Transactional Model of Coping

Lazarus (1966; 1981) considered motivation and
emotions as being shaped by cognitive processes and
accordingly are products of this activity. The way in
which individuals' "construe" the ongoing relationship
between themselves and the environment therefore
affects outcome, emotion and coping. Lazarus's coping
classification scheme consists of appraisal, function
and modes.

Appraisal. Lazarus put forward the idea of
"cognitive appraisal" as the initial way in which
individuals construe their environment. This
transactional model emphasizes cognitive appraisal and
coping as process-oriented and critical mediators of
the stressful interaction between environment and the
individual. The model was considered bi-directional
with the individual and the environment influencing
each other in dynamic fashion. Cognitive appraisal is a
process through which the individual can evaluate
whether an encounter with the environment is congruous

with his/her well being, whether it is taxing or exceeding their immediate resources (Lazarus et al. 1974; Coelho et al. 1974; Roskies et al. 1980; Folkman et al. 1988). Cognitive appraisal is further delineated by Lazarus as consisting of primary and secondary appraisal. In primary appraisal, the individual is evaluating whether or not the situation has anything at stake in the encounter with the environment. This appraisal process consists of three categories namely: irrelevant; benign positive; and harmful.

In secondary appraisal the individual evaluates whether anything can be done to overcome or prevent harm, or possibly improve the consequence as presented in the primary appraisal. Coping resources, which include social, physical, psychological, and material assets of the individual and environment, are evaluated within this secondary appraisal process. Primary appraisal involves asking the question concerning what is happening, whereas, secondary appraisal is concerned with what can be done about the situation. These appraisal process are not mutually exclusive from each other, but interdependent and transactional. "In a dynamic, time-oriented cognitive system such as I am describing, secondary appraisal and primary appraisal processes are interdependent and even seem to be fused.

Their only difference consists of the contents to which they are addressed" (Lazarus, 1981, p. 195).

Past theoretical models have treated emotion as having a uni-directional causal pattern in that emotions influence coping by motivation and hindrance. Folkman and Lazarus (1988) on the other hand, have argued that emotions are the consummation of the appraisal process. Its quality and intensity are generated within the appraisal process. "The appraisal process generates emotion. The appraisal and its attendant emotions influence coping processes, which in turn change the person-environment relationship" (p. 467).

In the appraisal process emotion is considered a mediator and not a moderator within the appraisal process. Moderators are antecedent conditions such as gender, socio-economic status and personality, which could affect outcome. Mediators arise within the appraisal process, affecting and transforming the appraisal process as it happens within a person-environment encounter (Folkman & Lazarus, 1988). These cognitive processes, the fusion of motivational concerns and cognition, are viewed as mediators (Lazarus & Launier, 1978). Motives and modes of thought, are considered important in how the individual

views adaptational encounters. By expanding this
concept of appraisal to embody information of one's own
reactions and the reactions from the environment, could
lead to the reappraisal of the situation.

The appraisal processes are partly a function of
the actual situation and the coping efforts the person
uses to deal adaptively, being evaluated continually
through feedback loops within this appraisal process.
This process correspondingly includes such influences
as the individual's own belief systems, cognitive
styles and other dispositional factors that have been
brought to bear on the situation from the past (Coelho
et al. 1974).

Function. Coping has two major functions within
the Lazarus transactional model, these are:
1) problem-solving (instrumental) and; 2) emotion-
regulatory functions (palliation). The effects of
problem-solving are intended to alter the stressful
person-environment relationship. Emotion-regulatory
function, on the other hand, does not change this
person-environment relationship. The concern here is
with the ability to manage the somatic and subjective
components of the emotions within the person-
environment relationship. The effect here is change in
attention or meaning. Palliative functions would

embrace such actions as relaxation techniques, avoidance, drug taking and similar responses that are aimed at moderating the intensity and duration of the emotional responses (Lazarus & Launier, 1978; Roskies & Lazarus, 1980; Lazarus, 1981).

Modes. The transactional model of coping consists of four separate modes of action that serve the above functions. These modes are oriented toward self/environment. Each mode is concerned with the past and present in terms of harm/loss, and future with regard to threat or challenge. More specifically, the four modes of action are: information seeking, direct action, inhibition of action, and intrapsychic processes (Lazarus & Launier, 1978; Lazarus, 1981; Wertlieb et al. 1987).

"Information seeking" refers to any behavior the individual utilizes in seeking more knowledge about the stressful encounter. Information seeking provides the information necessary to make a more informed decision regarding the state of coping, or the need to reappraise the perceived damage or threat. This mode can serve both the instrumental concerns that furnish the basis for action and, palliation concerns that consider management or regulation of emotional intensity.

"Direct action" refers to anything the individual does to handle the situation directly. These coping actions can be aimed at the self and/or the environment, altering the relationship potentially for a better fit. These actions become unlimited and include anger, disgust, revenge, suicide, jogging, or other comparable actions that are direct.

"Inhibition of action" refers to the coping mode as it expresses inaction. Effective coping does not always demand action, rather the holding back of a sudden impulse/action can lead to more good than harm.

The intrapsychic modes according to Lazarus (1981), concern: "...all cognitive processes designed to regulate emotions, in effect, the things a person says to him/herself, as it were, are included in intrapsychic modes, making this too a highly varied category" (p. 201). This category essentially contains self-deceptive mechanisms or defenses such as denial, reaction formation, projection, isolation from threat, or alternative mechanisms that assist the individual emotionally to regulate their states of distress. Intrapsychic modes may be employed for both problem-solving as well as palliative ends.

The resulting outcome of all the above mentioned
coping modes undergo a reappraisal process with respect
to emotion, changing its quality and intensity and
promoting a new altered person-environment fit.

Summary

Lazarus's approach to coping is termed cognitive-
phenomenological in nature. Lazarus considers in his
views, that the way in which the questions asked and
the dialectical process expressed among the different
motives and modes of thought affected, influence the
cognitive appraisal in all adaptational functions.
Lazarus advanced the view, that by de-emphasizing the
structure of the trait orientation vis-a-vis the
emphasis on the process between the person and the
environment, a more holistic view is accepted. Lazarus
argues for flux as much as stability for both aspects
considered.

" A good indicator of the natural end of a coping
episode is the ability of the person to turn his or her
attention to other things." (cf. Horowitz, 1976;
Roskies & Lazarus, 1980, p. 52). Good coping diminishes
the effect of stress yet allows the individual to
continue with a positive self-esteem, with confidence
and meaning (Frankel, 1963).

RESEARCH REVIEW

Research on Adult Coping

Pitter and Houston (1980) investigated the
response to stress, cognitive coping strategies and the
Type A behavior patterns. The study examined 84 college
males' responses to cognitively coping with stress.
Type A individuals were more likely to develop heart
disease, suffer another attack and show more extensive
hardening of the arteries. Type A patterns are
characterized by extremes of competitive striving, time
urgency and aggressiveness. The Type B pattern evidence
indicates a relative absence of these characteristics.
Results indicated that Type A subjects employed more
suppression in response to both threat to self-esteem
and threat of shock and employed more denial in
response to threat to self-esteem than did Type B
subjects. The resultant coping strategies of Type A
subjects are comparable to the category of intrapsychic
appraisal process as proposed by Lazarus (1966; 1981).
The use of denial and suppression diminishes the
ability to appraise and coping effectively.

A study investigating the locus of control and
coping processes in relation to specific stressful
episodes was reported by 171 female student nurses.

Parkes (1984) examined the role of appraisal in relation to control, using the "Ways of Coping Questionnaire" as developed by Lazarus (1966; Lazarus & Launier, 1978; Coyne, Aldwin, & Lazarus, 1981). Parkes found that patterns of coping reported by internals was potentially more adaptive in relation to types of appraisal than those of externals. It can be seen that one's view of where the locus of control becomes situated usually affects the way the individual appraises the situation.

When the internals were able to accomplish a clear-cut evaluation of the situation, they tend to be specific in appraising the origin of specific demands and use limited but appropriate coping strategies for positive outcomes. When the internals are faced with an ambiguous appraisal that is not clear-cut in relation to the necessary action to change the situation and, just accepting things as they are, the internals tend to use better general coping patterns than the externals.

The complex relationships involving control, were examined in the context of Lazarus's cognitive theory. It was found that personal control and adaptational outcomes are more complex than once assumed (Folkman, 1984). Folkman suggested two general points need to be

emphasized in viewing the research on the concept of control; namely: generalized beliefs about control and; situational appraisals of control. The perception of control, whether generalized or situational, should be examined in relation to a specific stressful event in order to evaluate personal meaning or significance, in relation to what is at stake for the individual and the costs involved. The question should be explored to indicate what the control is over and evaluate the actual fit between the appraised ability to control and the actual characteristics of the situation.

Folkman pointed out the importance of recognizing that personal control can have multiple functions within any stressful meeting. The individuals placement of personal control, which involves their generalized beliefs and situational appraisals of the placement of tha' control, alters the way in which the encounter is viewed. Whether or not the encounter is viewed as threatening or challenging depends on how this placement is assessed and therefore ultimately influences the way in which they cope. Observance of this issue from a larger perspective, control can be viewed also as a cognitive mediator within the appraisal transaction.

Holahan and Moos (1987) examined the personal and contextual determinants of coping strategies. The personal and contextual patterns of active and avoidance coping strategies were examined on a community sample of over 400 individuals entering psychiatric treatment for bipolar depression.

Results indicated that socio-demographic factors of education, income, personality disposition in relation to self-confidence, easy going temperament, and contextual factors of negative events, and family support, play a role. Each was seen as incrementally contributing to predicting active and avoidance coping. Active coping was associated with more personal and contextual resources than avoidance coping.

Coping was found to relate more closely with ongoing current circumstances than past, more remote, stable background factors. This is congruent with Folkman and Lazarus's view that when an individual views a situation as threatening and perceives a lack of resources, then the chances for an adaptable outcome are lessened.

A study conducted by Dunkel-Schetter, Folkman and Lazarus (1987) investigated the psychological correlates that are involved in the type of social support received on 150 middle age community residents.

Subjects were interviewed monthly for six months to investigate stressful coping episodes which transpired in the previous month. Factors hypothesized to be associated with social support were: personal dispositions, appraisal patterns and coping strategies employed. Support variables also included informational support, aid and emotional support.

Results indicated that coping is the strongest correlate of social support received and different factors are associated with each of the different types of support received. For example, person factors accounted for most of the variance in emotional support; appraisal characteristics were most strongly associated with assistance or aid and; coping was strongly linked with informational support. Of the personal factors considered, attitude toward help, self-esteem, religiosity and values were strongly correlated with emotional support. Dunkel-Schetter et al. (1987) suggested: "Coping strategies adopted by people in times of stress may not only communicate that support is needed and the types that are appropriate, but they also make it easy or difficult in subtle ways for others to provide support" (p. 78). An alternate conclusion offered within this study suggested that coping affects social support received and, in effect,

social support influences the way in which the individual copes.

Folkman, Lazarus, Dunkel-Schetter, Delongis and Gruen (1986) investigated the dynamics of stressful encounters. The study used an intraindividual analysis of the interrelations between appraisal, coping and eight forms of problem and emotionally focused coping, on a resident community. Results indicated that variability in coping is at least partially a function of the individual's judgements about what is a stake (primarily appraisal) and how they view the options for coping (secondary appraisal).

Rim (1988), investigated the use of humour and its relation to coping styles. Rim found that humor effect on appraisal of a situation was different for men and women. Most humor scales used correlated negatively with age for men and positively for women. Rim argues that humorous responses to stress encounters indicate that the individual possesses feelings that portray a sense of mastery, self-esteem and confidence within that encounter. Rim infers that using humor as a response, presupposes a broadening of one's perspective on a given situation.

Coping as a mediator of emotion was proposed by Folkman and Lazarus (1988) in regard to four types of emotion: disgust-anger; pleasure and happiness; confidence; and, to a lesser extent, worry and fear. Age differences were found between young and old people, in the effects of coping on emotion in a recent stressful encounter. Positive reappraisal was associated with decreased distress and increased pleasure, happiness and confidence in the younger people and more worry and fear in older people. Confrontive coping was associated with more stress in the younger group, but no pattern was evident in the older group. Seeking cf social support was more evident in the older group in bringing about positive emotions whereas, in the young group, no such association was found.

These results are questioned due to methodological concerns; however the possibility inferred was that developmental changes affect one's view of self-efficacy. Older people are more temperate in their interpersonal confrontations. The outcome being a less negative effect on emotions than in the younger group, depending on the context.

Research on Youth Coping

Usinr Lazarus's theoretical transactional model of
coping, a study measuring children's cop..ig was done by
Wertlieb et al. (1987). Using the transactional model
as the main premise of the study, along with a semi-
structured interview, which was adapted from Lazarus
and Folkman (1984), an assessment was done on 176
children ranging from seven to ten years old, with
respect to their coping styles.

Results indicated that emotional management and
intrapsychic coping were more evident among the older
group. The boys' responses indicate a relatively more
individualistic way of coping as compared with the
girls', who gave more emphasis to the environmental
context. The researchers suggest that the results
acquired from the semi-interview format essentially
illustrate what is termed as "meta-coping": "...what
individuals represent and express about their coping
(which may be a dimension of coping in and of itself)"
(Wertlieb et al. p. 550). The researchers suggested
that increased age and the possibility of increased
cognitive and intellectual capacities that go along
with maturation, allow children to become more aware of
their coping behavior. Older childrens enhanced use of
emotional and intrapsychic modes of action are

premeditated as an indicator of advanced mediational control and the developmental processes.

A study conducted by Mondell and Tyler (1981), investigated 215 childrens results on the "Child Psychosocial Competence and Its Measurement". The Psychosocial Competence Incomplete Stories Test, is an objective and quantitatively scored procedure for seven to twelve year olds. The characteristics of optimistic trust, self-efficacy and active coping styles were investigated on the children. Results indicated that more competent and better adjusted children scored higher in the above mentioned areas. The study indicated that for marginally adjusted children, more passive coping tendencies were used. Correspondingly, more competent children were signified by effective self-efficacy, which bestowed a sense of personal control and a sense of responsibility for their lives and actions. The study suggested that these areas of competence, which are usually studied in adolescents and adults, are considered valid constructs for children.

The "Coping Inventory" developed by Shirley Zeitlin (1980), an observation instrument based on Murphy's longitudinal study of children's coping behavior, assesses 48 different types of coping.

Zeitlin's study validated the premise that children who effectively cope are more efficient in their learning.

A multivariate risk model was used in a study of 306 children between the ages of six and fifteen years old, and whose parents were identified as mentally ill. Stiffman, Jung and Feldman (1986) investigated the relationship between coping skills, environmental assets and deficits. They suggested that invulnerability to risk was determined by a net balance between environmental positive and negative factors and an association between those net environmental factors and the subject's coping skills.

Shapiro and Tittle (1986) investigated the coping adjustments of poor Mexican mothers with disabled and non-disabled children. Findings confirmed the hypothesis that mothers of non-disabled subjects stressed problem solving coping whereas mothers of disabled subjects emphasized emotionally-focused coping.

Thirty-two children aged six to eleven were interviewed concerning their responses to stressful situations by Franko, Powers, Zuroff and Moskowitz (1985) in the areas of emotional affect. Results indicated that subjects possessed expectancies for coping with both sadness and anger. Coping strategies

used by subjects were fundamentally behavioral, verbal and self-oriented. The common strategy used by subjects, was one of distraction from the activity. Children employed different strategies with parents than with peers. Girls reported more sadness induced events than boys, especially in relation to their mothers.

Parent-Child interactions in abusive and non-abusive families were examined by Herrenkohl, Herrenkohl, Toedter and Yanushefski (1984), in 439 parent-child dyads, involved in three tasks in which verbal and nonverbal behavior was observed and coded. Factor analysis suggested that income was a significant antecedent, with parental behavior being more child-centered and supportive at the upper income level and, more parent-centered and child-renounced at the lower income level. The Parent-child interactions appear to provide a medium in which the deficient coping skills of the parents were reinforced and transmitted to the children. These deficient skills appear to be transmitted to children by modeling of inadequate coping strategies, insufficient procurement of an encouraging and supportive environment and, a mutual locking of the dyad into a circle of negative reinforcement.

Lazarus's model of coping was utilized by Zimrin (1986) to investigate the dynamics by which children use their personal and situational characteristics to survive and avoid future psychological and developmental damage. Twenty-eight children who were three and one half to five years old at the beginning of the study, were followed up fourteen years later and compared with a control group. Results indicated that the variables that distinguished between the two groups were self-esteem, cognitive abilities, fatalism, self-destructiveness, hope and fantasy, behavioral patterns and external support.

Summary

Synopsis of the research considering the dynamics of coping point to fundamental aspects of "perspective taking" on the part of the individuals concerned. Themes that become visible point to consequences of personal control and adaptational ability. How individuals cognitively mediate the problems presented and their view of self-efficacy are encompassed. Mastery of diverse encounters with the phenomena allow for confidence building and creation of active positive behavioral patterns. Utilization of current available resources and the ability to seek positive support

systems are important and effectual in influencing outcomes.

The research indicates that self-efficacy over personal control and responsibility, are valid constructs for adolescences and adults. The subjects view of where the locus of control resides, along with generalized beliefs and situational appraisal, effects the ability to actively cope. Personal factors such as attitude towards help, self-esteem, religiosity, and values are considered important. Humour as a response to the coping situation presupposes a broadening and loosening of perspective on any given situation. Emotion also performs an important role in mediational activity, by impeding or prompting the appraisal process and coping outcome.

CHAPTER THREE

THEORETICAL AND DEVELOPMENTAL ORIENTATION

Introduction

In this chapter, the coping theory created by the researcher is presented. Vygotsky's developmental view is then explicated. Developmental views concerning mediation, "tool" and "sign", the distinctions between Vygotsky and Piaget, the zone of proximal development, spontaneous and scientific conceptualization and concept formation are offered. These developmental views perform like templates over the entire coping sequence, being representative of the dialogical nature of learning and development. These views lay the foundation for mediational action and therefore provide the child the with the capacit to cope with their world. Lastly, the Reflective Adaptation test is presented.

Coping Theory

The following three ways of coping are presented to understand the emerging developmental sequence that gives rise to more effective functional operation of coping. These views are primarily based on the works of Vygotsky (1958, 1978, 1986), Piaget (1969, 1977, 1973), Kohlberg (Colby & Kohlberg 1987), Lazarus (1966, 1981),

and Folkman (1984). Such views of development and
conscious thought are involved in the changes children
make.

Vygotsky (1978) suggested that individual
consciousness is built from the outside through social
relations with others, giving rise to reflective inner
speech that helps to differentiate and make sense of
the issues considered. Vygotsky (1986) believed that
the mechanism of social behavior and consciousness are
the same: " ...we are aware of ourselves, for we are
aware of others, and in the same way as we know others;
and this is as it is because in relation to ourselves
we are in the same [position] as others are to us" (p.
xxiv).

The following clusters of coping are progressive
in form and yet lead to points where transformation to
higher levels of function become at once novel and
spontaneous. The first level of coping is simple in
form, the second is more complex and the third seeks
the comprehension of the principles involved, leading
to the loosening of contexts.

Coping I: Possession / Release. Coping I is
constructive in form in the sense that the child
attends to properties and their release. The primary

form is almost undirected exploratory action in which
the immediate environment becomes important. Egocentric
small-talk predominates and becomes concerned with
immediate needs, great and small issues. The child is
involved in primary play and begins the developmental
tasks of sorting out only immediate needs which, appear
to be thrust upon him/her. Background/foreground are
diffused and unclear. The developmental process of
sorting out area, distance, space, and weight, begin to
be acted upon.

Coping I is considered constructive in form. As
the child expresses a view, anger/frustration is
managed. The reflective action helps form the basis of
the child's immediate context of constructive thinking,
allowing a deflection of emotions expressed. This
method of reflection portrays simplicity and not
maturity. The timing of reflection is close to the
actual event and as the child expresses a simple
reflection of the event, he/she moves to isolation to
avoid the tensions created.

Here the children project with denial in tow. For
example, "Those kids did not get out of my way, they
tried to hit me and as they did, I moved away to be
alone. I'll be all right." The child's thinking is
basically egocentric in nature and therefore does not

consider the interests or needs of others. Projective
properties are the norm and recognition of denial
becomes the simple avoidance of discomfort. Meaning has
an immediate taste and not reflected upon, with no
sense of consciousness or consequence. Kohlberg's
sociomoral perspective would consider this level of
coping as representative of a preconventional morality
(Colby & Kohlberg, 1987).

Coping II: Attention to Properties. Here is where
properties and their consequences are important. The
child in Coping II is concerned with a dynamic
constructive process. The relation of properties to
other properties in their undifferentiated wholes give
rise to the beginnings of relationships, events and
things. Egocentric speech has essentially turned
inward establishing a basis for reflective thought.
Now this is a different form than Coping I.

A sense of self emerges and other individuals
socially, become realized within this process of
reflective thought. Instead of the children playing
beside each other, they begin to play with each other,
each having a stake in the game. Here a figurative-
relational context emerges similar to a gestalt, with
continual movement back and forth is created. With each

movement the relational context undergoes, development changes, allowing new forms of being to emerge functionally. The flow of inner thought expands, fulfills a function and solves the problems presented.

The children reflect a part of themselves in action and through the process learn from others their limitations and imperfections. Projection is still present and recognition of self within the process begins to be realized. The children act assertively in order to help themselves improve this reflective action. This action in turn constructs within the children the ability to compose alone, providing a basis for further reflective actions, which allows for the giving of details, and the ability to reconsider over time, upon these reflections.

Here, when the children act assertively in relation to others, they reflect a part of themselves they may not like. Anger is managed within this interactive state, allowing for the emergence of empathy. The stationary context of Coping I moves with Coping II, allowing inclusive reflective second order thinking to appear. Both persons soften, and mutual relationships begin to be realized. For example: "I know that I am not perfect, but neither are they ....
we get along better now. They do not hit me and I do

not flee. We try to work things out." The context is
outwardly more open and reflective, allowing for novel
ways of dealing with immediate feelings, leading to
resolution of the problems as presented, the outcome of
which profits both parties. In knowing others outwardly
in relationships, the child inwardly learns to function
more effectively. Vygotsky (1986) viewed the process of
artistic or intellectual creation as antipodal to the
process of internalization. In creative activity, inner
context-dependent senses gradually unfold their
meanings as symbols-for-others.

In Coping II, the level of properties of attention
are expressed and sociomoral development gets created.
This is similar to Kohlberg's Conventional level, stage
three (Colby & Kohlberg, 1987). The beginnings of
shared feelings and expectations begin to take primacy
over individual interests and concerns.

Coping III: Thematic Sequential. The third process
of coping is more complex and within this complexity
empathy fully emerges and is established towards others
and themselves. The youth constructs in a way that
surprises him/her, moving in directions unknown until
now. They like themselves reflected in Coping II,
recognizing the imperfections and limitations of

themselves in action and leap beyond the immediate

context to new ways of functioning. Prior to the event

occurring, the youth reflects deeply before acting,

recognizing and accepting past failings/ weaknesses and

through them generates new actions of reflective

thought on the spot. This pondering of the responding

self, reflects strength within the action. Personal

identity congeals and the concern here becomes the

seeking of friends and the needs of others.

Vygotsky (1986) has distinguished two basic forms

of experience, which give rise to two different but

interrelated groups of concepts, namely "scientific"

and "spontaneous". Vygotsky considers that scientific

concepts originate in structured learning situations

like school and are imposed from the outside.

The youths' spontaneous conceptualization emerge from

within as they reflect on everyday experiences.

Vygotsky argues that scientific concepts are not

assimilated in ready-made form. Scientific concepts

undergo developmental changes that coincide with the

youth's ability to comprehend the concepts.

The youth's level of comprehension becomes

connected with the development of spontaneous concepts.

To the extent that spontaneous concepts emerge upward

toward greater differentiation and abstractness, allows

the development of scientific concepts to work
downward psychologically, toward greater concreteness
and therefore understanding. Themes begin to take form,
working upward and outward in sequential bursts of
functional novelty and downward with regard to
reorganized concrete learning.

This contrasts with Coping II's concern with
properties and their relationships. In Coping III the
movement is dynamic, complexity becomes fluid and
beyond the immediate contextual issues. The youths
reflective actions provide the basis for contextual
movement and constructions prior to initiation of
any actions. The youths then review their consequences
again. Humour becomes recognized through this process
and lead the youths possibly to further resolutions of
the problems presented. As humour erupts, the loosening
of context is further understood, allowing the youths
to accept their imperfections, releasing youths from
immediate concerns and, therefore allow for movement
towards new meanings and other ways of reflective
thought on the actions taken. Humour can be considered
the language of hope and the balm of spontaneous
creativity. For example, the youth may reflect: "That's
me, I'm the goof but, what the heck, I'm all right and
so are you." With the smile and lingering laughter the

youth has advanced beyond the immediate.

In Coping III, the level of sociomoral development is similar to Kohlberg's Conventional level, stage four and the Post Conventional or Principled level reflected in Kohlberg's stage five (Colby & Kohlberg, 1987).

Differences Between Coping II and III. The differences between Coping II and III are simple but powerful. Humanistic qualities emerge in Coping III creating a more enhanced perspective toward others and themselves. With Coping II this does not happen. Creation of a broader perspective towards others, allows for a deeper understanding and, a sense of belonging. Understanding the needs, concerns and interests of others and, belonging in the sense of community, becomes present. In Coping III, humour is recognizes and acts upon itself, allowing a freedom of context to occur. Themes created through dialogue begin to be recognized leading to greater understanding of the principles involved. Similarly, Coping II is concerned with tendencies of properties and Coping III is concerned with the outside meaning of the principle and the context wherein the event occurred.

Summary of Coping I, II, and III. Coping I is
considered contextually stationary, the youth retains
an egocentric view, does not relate two points of view
well, and is primarily concerned with his/her own
needs, whereas in Coping II, the moving of context
begins. Coping II allows for recognition of personal
strengths and weaknesses and their partial resolution
in the constructive process. This allows the youth to
begin to move beyond the immediate situational context.
In Coping III, the youth moves fully out of contextual
dependence, accepts the imperfections of self and
reflectively coordinates all the forces of action and
meaning that become subsequential. The youths actions
become a sense of consequence.

VYGOTSKY'S DEVELOPMENTAL VIEW

Philosophical Orientation

This section enunciates some major tenets
of Vygotsky's (1958, 1978, 1986) view of human
development. More specifically his rejection of
development as a purely linear process and his
propensity to incorporate the conceptualization of the
process as evolutionary in nature and revolutionary
with respect to the changes people make. This
conceptual process basically establishes itself with
respect to now people deal with the prosocial milieu in
which they find themselves. The prosocial milieu
is the most significant aspects of the environment,
which are influencing the youths' on a day to day
basis. The prosocial milieu is essentially such
important aspects as immediate familial effects,
significant friends, or more importantly, those
influences from the external environment which help
direct the youths' ability to sustain their coping
resources, enhancing conceptual development.

Vygotsky is a Russian writer whose works have
recently been translated to the English language. The
original works of "Language and Thought" (Myshlenie
irech) and "Mind in Society", extoll his views
concerning the development of higher psychological

processes and their internalization.

A contemporary of Thorndike, Piaget and Koffka, Vygotsky viewed development in away that was different from others. Development is not merely a gradual accumulation of unitary changes working in isolation, but rather "...a complex dialectical process, characterized by periodicity, unevenness in the development of different functions, metamorphosis or qualitative transformation of one form into another, intertwining of external and internal factors, and adaptive processes" (Vygotsky, 1978, p. 121).

Vygotsky adopted enthusiastically the philosophy of Hegel, more specifically the Hegelian formula of thesis, antithesis and synthesis. Vygotsky's writings suggest that, for him, psychology was a method for uncovering the higher mental forms of human consciousness and emotional life. Vygotsky considered consciousness and culture a more direct subject of inquiry.

Mediation: Tool and Sign

Vygotsky (1978) concretized the principle that individual consciousness is built from the outside through social relationships with others. Mechanisms of social behavior and consciousness are the same. For Vygotsky higher mental functions are viewed as products

of mediated cognitive activity and the role of mediator
is enhanced by the use of psychological tools and the
product of interpersonal communication.

These principles suggest constructively, the
creation of higher mental functioning, lies outside of
the individual, in the social and cultural environment
in which people find themselves. Vygotsky's (1978)
charting of developmental changes within a youths' life
explicitly infers they are active, vigorous actors
within the changes made at each stage of development.
For them, the most crucial moment of mastery, begins in
infancy with the creation of auxiliary or artificial
stimuli.

Elementary forms of behavior are proposed to have
direct reaction to the object or task set out before
the children, being expressed in the simple S - R
combination. The structural form of the sign operations
which are essentially received from their relationship
with the external prosocial milieu, becomes an
intermediate link that changes the relationship and
allows the formation of second order stimulus. This
second order stimulus (reflective), being drawn in by
the creative impetus of the assimilated sign operation,
allows to arise within the individual the process by
which direct impulse actions can be inhibited. This

allows the individual to be actively employed in the establishment of the link. The second order stimulus (reflective) which appears to have no relation to the immediate situation, are introduced as a means to allow active adaptation. The second order stimulus is considered diverse, containing some of the signs of the culture in which children find themselves. Also the use of language by those who are influencing the child and, the ingenuity the child uses in utilizing signs, psychological tools and reflectivity, travels to the mediated situation (Vygotsky, 1978, p. 123).

Vygotsky (1986) noted that psychological tools include gestures, language, sign systems, mnemonic techniques and decision making (p. xxv). Psychological tools consider artificial formations, which become internally oriented and involved in transforming the natural human abilities and skills into higher mental functions. Vygotsky (1978) pointed out that the reflective stimulus is not just an addition to the S-R model, nor solely an additional link in this chain but rather, due to its reversibility, allows the transformation of the psychological operations into different qualitative forms: "[This]...permits humans, by the aid of extrinsic stimuli, to control their behavior from the outside. The use of signs leads

humans to a specific structure[s] of behavior that
breaks away from biological development and creates new
forms of culturally-based psychological process"
(p. 40).

Vygotsky (1978) noted that the use of
psychological tools, and sign, are subsumed under the
heading of mediated activity, yet this mediation
is more that just tool and sign. The relation of these
two concepts under the command of mediated activities
are at once essential to the adaptive process of
children, yet become divergent in their direction of
influence. The essential difference is the way the
reflective activity orients human adaptive functioning.

Tools function to serve as a way to influence the
object of activity and therefore are oriented
externally, primarily directed to having an effect that
will change the nature of the external relationship.
The individual's external directed activity is aimed at
mastering or effecting this change. The use and
invention of a sign by reflective second order thinking
on the other hand, is a means to solve a given
psychological problem of internal activity in that the
aim becomes mastery or change in affect (Vygotsky,
1978, p. 55).

Vygotsky (1986) claimed that "intrapersonal processes are just transformed interpersonal relationships: Each function in the child's cultural development appears twice: first, on the social level, and later, on the individual level; first between people (interpsychologically), and then inside the child (intrapsychological)" (p. xxvi). These transformational processes conceptualize the effective psychological link between the individual and the environment. The operation that becomes initially represented as an external activity undergoes developmental reconstructive changes and begins to occur internally. This sign activity, with its historical and cultural transformation, is noted by Vygotsky as encouraging the development of intelligence, direction of attention and the use of memory (Vygotsky, 1978, p. 56). The interpersonal process is transformed into an intrapersonal affect. This intrapsychological process is denoted by two appearances of the phenomena as previously mentioned. The first appearance of the process is manifested between individuals, from the external signs, which are generalized from the environmental influences. The second appearance of the process is manifested within the individuals, as internal signing with its attendant

psychological tools and reconstructive thought, indicating the process of internalization. This transformational sequence is considered the resultant of a long procession of developmental events, prior to their internalization. An illustrative example of sign operation for Vygotsky (1986), is akin to the root development of speech and thought. The reciprocal relation between thought and speech creates an interfunctional relationship: "A child's development knows preintellectual speech as well as nonverbal thought; only with the establishment of interfunctional systemic unity does thought become verbal, and speech become intellectual" (p. xxxiii).

The developmental changes imposed on cultural forms of behavior, as these external signs undergo internalization, involve reflective reconstruction of the psychological mediated activity. The socially formed and culturally transmitted signs that are furnished by society, permit the children to essentially map out their adaptive process. The meeting of external signs, reflective thought and the creation of psychological tools provide for the construction, and reconstruction of their mediated activity.

Vygotsky considered the most important aspect of
this resultant developmental activity to be the
increasing ability of the children to control and
direct their behavior. Attention towards the
development and creation of new psychological forms and
functions, by way of the already internalized external
signs and tools, becomes important (Vygotsky, 1978,
p.126).

Distinction: Piaget and Vygotsky

The division between Vygotsky and Piaget with
regard to egocentric speech and its developmental
direction is here noted. Piaget's concept of
egocentrism is a major focus of his entire theoretical
outlook. According to Piaget the bond that unites the
characteristic of the child's logic is the egocentrism
of the child's thinking. To this core trait he relates
all other traits which Piaget discovered in his
research. The ability to be syncretic in their
thinking, more specifically, the children's
intellectual realism and the ability to understand
logical relationships are important. Piaget (1977)
deems that egocentrism stands midway between autism and
logic proper of the child, chronologically,
functionally and structurally. Piaget, in discussing

the different functions of language during the conversations of children with each other, concluded that the children can not distinguish between fabulation and truth before the age of seven (Piaget, 1977, p. 91). Piaget (1969) presumes that the social instinct is manifested late in the development of the child: "The social instinct is late in developing. The first critical stage occurs at the age of seven or eight, and it is precisely at this age that we can place the first period of reflection and logical unification..." (p.209).

This period of reflection and unification is primarily manifested at the time the child's egocentric speech appears, to begin to die out. According to Piaget (1977), egocentric speech does not provide communication and is considered a by-product of the child's activity. It plays no essential role in the child's development and disappears as the child's conceptual thinking matures. Now this contrasts with Vygotsky's assessment of egocentric speech and direction of development. Vygotsky (1986) considered the primary function of speech of the children is communicative and already social. Vygotsky claims egocentric speech leads to inner reflectivity which serves logical thinking and the formation of concepts.

Piaget further contemplates that though egocentric speech diminishes to zero, the loss does not preclude children remaining egocentric in their thoughts. Egocentric thought does not resemble egocentric speech. The social need to share our thoughts with others develops late. The shock of our thoughts coming in contact with others gives rise to the need to verify internal thinking. For Piaget the proof of the argument in terms of verification of thought, is found in the final shock of these thoughts coming in contact with others. Vygotsky on the other hand views this verification of internal thinking as the long resultant of many years of socialization. Piaget (1977) also agrees with Janet: "Reflection is the act by which we unify our various tendencies and beliefs, in the same way as conversation and social intercourse unify the opinions of individuals..." (p. 92).

Vygotsky (1986) inferred that Piaget is incorrect in his assumption that egocentric speech simply dies out, that there is only a quantitative drop, not a qualitative one in respect to the inner structure (p. 228). Vygotsky insisted, on repeating some of Piaget's experiments, in which the earliest speech of the child is social and in which egocentric speech leads to inner reflectively of the child's logic. For

Vygotsky then, egocentric speech presumes to be a transitory position between social communicative speech and inner speech.

Piaget (1977) agreed with Claparede with regard to the laws of awareness. Children become aware of their consciousness when confronted with a difficulty obstacle that interrupts the normal stream of thought: " ... the more we make use of a relation the less conscious we are of it. Or again: We only become conscious in proportion to our disadaptation" (p. 96).

Vygotsky (1986) pointed out that Piaget is aware of the child's tendency to transfer former social behavioral patterns into inner processes: "... [Piaget] describes in another context how arguments between children give rise to the beginnings of logical reflection" (p. 35). Vygotsky's (1986) findings indicate that egocentric talk is highly complex and can be shown in how children draw pictures, or deal with, other activities. The shift on the focus of an activity or drawing, is developmentally from the end of the activity, or labeling of a drawing, to the middle and then the beginning. As the children create a picture by drawing or involve themselves in an on going activity, they move their focus of egocentric talk from the end of the situation, to the middle and, then the

beginning: " ...egocentric speech... it soon becomes an instrument of thought in the proper sense -in seeking and planning the solution of a problem" (p.31).

Vygotsky (1986) pointed to the fact that as children encounter a problem there is a significant increase in egocentric speech interrupted by periods of silent reflection: " Our observation that at the age when this is taking place children facing difficult situations resort now to egocentric speech, now to silent reflection, indicates that the two can be functionally equivalent" (p. 32).

Summary of Development

Vygotsky's developmental view of children indicates that consciousness becomes essentially built from the social milieu in which children find themselves. The process is evolutionary in nature and revolutionary with respect to the building of the internal higher mental processes. Egocentric speech becomes inner speech which gives rise to the ability of the children to adapt reflectively and, influence their social world.

Egocentric speech does not die out but rather plays an important role in the cognitive development of how children adaptively organizes their response to

the problems and obstacles presented. The children
are involved with the meaning of the signs and tools,
through out this reflective process.

Essentially, the ability of children to cope with
the social milieu in which they find themselves, is
manifested in their inherent ability to adapt
reflectively. The signs provided by that milieu and the
unique propensity that the children bring to the
situation, may allow them to be functionally more
progressive.

CONCEPT DEVELOPMENT AND COPING

Zone of Proximal Development

Children learn from adults and from each other throughout their development. Learning and development are interrelated from a very early age. Formal instruction fundamentally aggregates a new dimension to children's lives and should correspond with their attained developmental level. Vygotsky's approach is termed the "zone of proximal development".

The first level of the zone of proximal development is the actual developmental level of the child's mental functioning. This actual level or attained level of development is es.ablished owing to the resultant sequence of the already consummated developmental cycle. Primarily, psychological assessments determine this attained level of achievement by giving the child a battery of tests with ever increasing levels of difficulty on a variety of tasks. These attained levels are used to judge the child's present mental development as expressed in the ability to solve the tasks at hand, in conjunction with the child's represented chronological age. The actual developmental level of the child is then judged to be those tasks or problems that a child can perform or

answer independently, without assistance.

The second level, or top end, of the zone of proximal development, is those tasks or problems that the child can perform with the assistance of others. Vygotsky (1978) considered what children can do with the assistance of others to be more indicative of their potential mental development than what the child is capable of doing independently: "It is the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers" (p. 86).

The distance between these developmental levels is illustrative of what Kohlberg found in a study of stage progression, in moral development. Subjects tend to jump one or two stages higher in their internalization of higher stage thinking when presented with stages above their own (Coby & Kohlberg, 1987). It is indicative of those functions which children possess and yet are not fully matured enough to stand on their own. Vygotsky (1978) referred to these functions as: "...the "buds" or "flowers" of development rather than the "fruits" of development" (p. 86).

Childrens' modeling of the actions of significant others, in their exchange with difficulties, is indicative of their potential developmental. True autonomy of this process is only attained when the child is able to complete the action and do so independently. To act independently and progressively, is indicative of true internalization of the resultant developmental sequence.

Spontaneous and Scientific Conceptualization

A division also exists between Vygotsky and Piaget concerning spontaneous development of concept formation and its developmental direction. Piaget considered that there is a sharp division between children's ideas of reality, which are developed through their own mental efforts, and those that are influenced by the adult world. He terms the first as spontaneous in form and the second as nonspontaneous.

According to Piaget (1973) "...it is precisely this spontaneous development which forms the obvious and necessary condition for the school development" (p. 3). For him spontaneous concepts reflect the quality of the child's thinking. Piaget views nonspontaneous concepts as merely reflecting assimilation of adult thought by the child, therefore,

not telling us anything about how this process affects the development of the child's internal thinking.

One of the major tenets of Piaget's theory is that progressive socialization of the thinking of the child becomes the very essence of the child's mental development. Yet if Piaget holds his opinion concerning the nature of nonspontaneous conceptualization, it would appear that school learning is unrelated to the inner developmental processes. According to Vygotsky (1986), Piaget's notions "... look as if the inner development of the child's thought had no relation to socialization, while socialization had no relevance for the development of the child's concepts" (p. 155). Vygotsky considered this a fragile aspect of Piaget's tenet, both theoretically and practically.

Vygotsky distinguished these two basic forms of experience, which give rise to two interrelated concepts, namely: scientific and spontaneous. Vygotsky considered that scientific concepts originated from a structured learning situation, like school, which imposes on the children logically defined concep's. Spontaneous concepts, on the other hand emerge from within the children's own reflections upon their environmental experiences.

Vygotsky (1 ?6) argued the following point:
"...scientific concepts, far from being assimilated in
a ready-made form, actually undergo substantial
development, which essentially depends on the existing
level of a child's general ability to comprehend
concepts" (p. xxxiv). Connected with spontaneous
concept formation in the child's logic, spontaneous
concepts work their way upward towards more
abstractness, which clear a pathway for scientific
concepts to develop downward. This process provides
more concreteness and understanding, creating a
foundational base for spontaneous emergence.

Vygotsky's zone of proximal development is
embedded within this process. Being the place where the
child's disorganized spontaneous concepts come into
meeting with the systematic logic of the adult world.
Due to this meeting, the two developmental
conceptualizations compensate. The weaknesses of the
created spontaneous concepts is strengthened by the
concrete scientific learned concepts. The depth of this
zone of development varies and resonates the capability
of the children to expropriate adult logical
structures. The final product of this interaction,
being internalized, becomes an integral part of the
childrens' own reasoning.

Concept Formation

Cognitive-developmental transitions increase the youths' capacity to construct, differentiate, and contrast emerging conceptual formations. When newly constructed or differentiated structures become incorporated from socialization as purported by Vygotsky (1978), their emergence can be expected to have a transformative effect on social relations. Essentially, the ability to cope with the world as presented, finds its roots in the social nature of human cognitive construction. The process of internalization of external social experiences by the youth, through the utilization of "tool and sign" (Vygotsky, 1986), enable the emergence of new cognitive structures. Such structures are based on social experiences and therefore can be expected to transform the ability to perform in the domain of social relations (Bullock, 1983).

The following phases and stages of concept formation are based primarily on the "Concept Formation Test" (Vygotsky, 19_3), and other works concerning the development of higher psychological processes (Vygotsky, 1978, 1986). Heaping, complexing, and concept are the three basic phases.

Heap. Heaping consists of disparate objects that become grouped together without basis. The child's first step towards concept formation, the putting together of several objects into "unorganized congeries" (Vygotsky, 1986), is normally solved by 'ult. by forming a new concept. This diffusion is linked by chance in the child's perception and becomes an undirected extension of meaning. The formation of the syncretic heap is accomplished by trial and error methods within developmental mediation. When the connection is proven wrong or does not work, another replacement of the object is selected at random. The next step of the heaping process involves spatial posit..oning. Syncretic images or groups become formed as the result of a single element's contiguity in space, or in time. The third step of the heaping process is the simple assembly of the heaps. The child usually goes through a two-step-process of trying to assign meaning. This is not an elaboration, but a simple assembly since the elements within mediation do not portray any intrinsic bonds between each other.

In comparing this primary level of concept formation to coping theory as presented in this paper, the child is expressing simple reflection. The meaning of the situation is immediate and not reflected upon to

any depth. Projection is simple and is concerned with
the avoidance of discomfort for the child. In "Coping I
Possession / Release", coping is practical in the sense
that the child is attending to properties of
environment as presented, having no concern with
outcome or consequence. The primary form is almost
undirected exploratory action in which the immediate
environment is important. This is similar to Kohlbergs'
preconventional level (Coby & Kohlberg, 1987).
The child's social perspective remains egocentric and
does not concern the interests or concerns of others.
The child may not even recognize that their perspective
differs from others; not noting that the two points of
view do not relate.

Complex. The second phase of concept formation
comprises innumerable variations of meditative activity
termed "thinking in complexes". Individual objects
are united in the child's mind, not only by the
subjective impressions received, but also by the
existence of actual bonds between the objects
considered. When children advance to this level of
reasoning, they have partly overcome their egocentrism.
The children begin to recog the connections between
things. In complexes, the bonds between components are

concrete and factual as opposed to abstract and logical. These bonds are the product of direct experience, the grouping of objects within the perceptual field, essentially connected by what appears as immediate fact. This formation does not contain the logical unity that is present in more advanced conceptual mediation. Any factually present connection may lead the children to include a given element into a complex, giving rise to "complexes of complexes" in any number of associations. This is the main difference between complexes and concepts "While a concept groups objects according to one attribute, the bonds relating the elements of a complex to the whole and to one another may be as diverse as the contacts and relations of the elements are in reality" (Vygotsky, 1986, p. 113). Complexes are formed according to rules, rules that differ significantly from the rules of advanced concept formation.

Vygotsky (1986) observed five types of complexes that succeed one another during this stage of mediational development. The first type of complexing is "associative". Any bond that the child notices between things need not be a common trait, but are grouped together according to similarity, a contrast, or due to its spatial proximity in space.

Complexes of the second type, "collections" within
mediational development, become based on the grouping
of objects together in relation to one common trait
that differs and yet complements the mediational
process by means of a contrast. The child does not
group randomly but choses how things go together by one
attribute that was taken to be the basis of the group.
Association by contrast rather than by similarity in
advancing this formation, allows the youth to compile a
collection of complex thinking. This form of conceptual
mediation is slightly more elaborate than the
associative type but is often a combination of the
earlier form; producing a collection based on mixed
principles of logic. The child's original principle for
compilation of the collection is not strictly followed,
allowing the emergence of mixed collections that may be
based on different traits noticed by the child.
"...Heaps [are] based on vague subjective bonds
mistaken for actual bonds between objects: the
associative complex, on similarities or other
perceptual compelling ties between things; the
collection complex, on relations between objects
observed in practical experience" (Vygotsky, 1986, p.
115).

"Chain complexes" form the next type of conceptual formation. Considered dynamic and consecutively linked into a single chain, with meaning conveyed from one link unto the other. Chain formations represent the factual nature of complex formulation. The structural center of the formation may not be present in this type of thinking and therefore lacks logical unity. The end of the chain may not have anything in common with its beginning, the intermediate elements bond one link to the next. Creating a fusion of the general to the particular of the complex and its elements, each link within the chain may change, the type and nature, of the bonds between them.

Chain complexes allow the child to view the essential difference between genuine concept formation and complexing. In complexing there are no hierarchical organizational relations between traits and all attributes are considered functionally equivalent. The difference concerns the relations between the parts to the whole and one part to another.

The next stage of concept formation, "diffused complexing", becomes marked by the conspicuous fluidity of every attribute that unites single elements. Complexing of this type can have endless possibilities. Creativity is exhibited within this stage of concept

formation. The child's capacity to display novelty and spontaneity can be found here, even though diffused complexes are built upon concrete principles. Young people portray modes of thought that essentially move them outside immediate self-references. This movement provides the children with new ways of combining associations and generalizations, assisting them to avoid the immediate contextual constrictions presented.

The last type of complexing is termed the "pseudoconcept" and is considered the "shadow" of conceptual thinking. This form of complexing essentially bridges the gap between the complexing stage and genuine concept formation. Generalizations formed here resemble proper conceptual mediation, however the concealed inner structure of the concept is absent. The child begins to think the same things in different ways, by means of different mental operations.

In comparing the levels of concept formation to coping theory as presented in this paper, young people express, within this stage of complex thinking, the beginning of recognition of self. Projection is no longer the simple avoidance of discomfort as expressed in heaping. Projection becomes much more complex, involving many inaccurate assessments of the actual

relationships between individuals. Figurative-
relational contexts of interactive associations can
give emergence to the beginning of mutual expectations,
relationships, and interpersonal conformity. This
evolving perspective-taking of the children, concern
their relationship with others. The awareness of shared
feelings, agreements, and interpersonal expectations
allow for a more extensive ability to generalize. This
is comparable to Kohlbergs' conventional level, stage
three (Coby & Kohlberg, 1987). Humour becomes more
pervasive allowing the children to accept themselves
and others more readily. The ability to put oneself in
anothers shoes, utilizes the principle of the golden
rule.

Complex thinking allows for the unification of
scattered impressions in the child's mind, by
organizing discrete elements of experience into groups.
This grouping creates the basis for later
generalizations.

Concept. To construct or formulate a concept it
is necessary to abstract, to single out elements and
then view the abstracted element apart from the
totality of any concrete experience. Utilizing this
process, the childrens potential to transcend

contextual restrictions in which they are embedded,
is enhanced. Genuine concept formation is shown through
the ability to unite and separate accurately. The
children's ability to master abstractions, along with
advanced mediation processes, enables the formulate of
new genuine concepts. In concept formation it is
equally important to unite and to separate, then to
synthesis anew: "A concept emerges only when the
abstracted traits are synthesized anew and the
resulting abstract synthesis becomes the main
instrument of thought" (Vygotsky, 1986, p. 139). The
process of genuine concept formation, concerns itself
with the constant alternating direction of reasoning:
from the particular to the general, and the general to
the particular.

In coping theory, concept formation is considered
thematic sequential mediation. In Coping III the
movement is dynamic, both the children and the
environment are important. The complexing of Coping III
becomes fluid in the sense that the children moves
beyond the immediate contextual issues. The children by
thematically abstracting or singling out elements,
allows the children to move away from the totality of
any contextual concrete experience. The children
accept the limitations of themselves, and construct

a new approach, prior to any action. The children then
contemplate the consequences once again, displaying the
process of genuine concept formation. The concerns of
others and societal points of view, are recognized
within this process as important. This provides for a
further loosening of context to occur. Humanistic
qualities begin to come forth, a sense of conscience is
formulated, creating a broader perspective taking
toward others and themselves.

The children's level of comprehension is connected
with the development of spontaneous concepts. To the
extent that spontaneous concepts emerge upward towards
greater differentiation and abstractness, allows the
development of scientific concepts to work downward
toward greater concreteness and therefore
understanding. Vygotsky inferred that scientific
concepts are "signs" which are freed from context.
Contextual free so that the "signs" may enter into new
contexts and operations of mediation.

In reviewing the structure of genuine concept
formation through out the above phases, with its
downward and upward causality, the question of text and
context relates directly. The movement from one level
to the other in any of the above conceptual processes,
can function as either text or context. The text of one

level may provide a context for understanding the next (Fein, 1984).

Themes of reflective thought begin to take form in this constructed conceptual mediational process, increasing the ability to formulate advance concepts. Humorous responses to encounters with the social milieu, indicates the children possess feelings that characterize a sense of mastery, increased self-esteem, and confidence. The use of humour as a response, would presuppose a broadening of one's perspective taking on any given situation.

An individual's relation in the social system is defined with respect to ones positioning within the system. Perspective-taking at this level, becomes concerned with a rational awareness of values and rights; from both a moral and contractual stance. Essentially, this level of sociomoral development is similar to Kohlberg's Conventional level, stage four and, the Post Conventional or Principled level as reflected in Kohlberg's stage five (Colby & Kohlberg, 1987). The ability to become aware of others' values, the embodiment of the Golden Rule, the ability to differentiate societal points of view and other interpersonal motives, are present and manifested within these Kohlberg stages.

Reflective Adaptation Test. Vygotsky (1978)
purports that when newly constructed or differentiated
mediational structures are incorporated from
socialization, their emergence can be expected to have
a transformative effect on social relations. The
youth's ability to effectively cope with the world as
presented, finds its roots in the social nature of
human cognitive construction. The process of
internalization of external social experiences by the
youth, through the utilization of "tool and sign"
(Vygotsky, 1986), enable the emergence of new cognitive
structures. Such structures are based on social
experiences and therefore can be expected to transform
the ability to perform in the domain of social
relations (Bullock, 1983).

The Reflective Adaptation test embodies three
levels of coping as characterized in coping theory.
Each level in coping theory is theoretically connected
with Vygotsky's (1958) view of concept development. For
example, Coping I possession/release is representative
of the concept development level, "heap"; Coping II
attention to properties is related to "complexing" and;
Coping III is connected to "genuine concept formation".
The three levels in coping theory are correspondingly
representative of those sociomoral perspectives

purported by Kohlberg in his moral development model
(Coby & Kohlberg, 1987). For Coping I, Kohlberg's
sociomoral stages one and two, which reflect a
preconventional morality is denoted. For Coping II, the
conventional moral stage three is indicated and
Coping III is representative of stage four, post
conventional or principled level. The progressive
levels of moral development and the developmental
levels of concept formation act like templates over
coping theory as presented earlier in this paper.

The Reflective Adaptation test consists of one
hundred and twenty questions which are designed to
measure the themes apparent at each level of the
constructed coping theory. Constructs deemed to
thematically represent the essential aspects of coping,
as viewed in the research, are incorporated and varied
across the three levels of coping within the test. Each
question was designed to appropriate the measurement of
these constructs at each conceptually different level
of coping. These constructs include ones' view of
relationships (isolation - bonded), power
(powerlessness - power), state (rigid -flexible),
economy (nonproductive -productive), body and humour.
The constructs are bipolar in form except for body and
humour.

The construct "relationship" is concerned with the intensity, attachment and value the individual contributes as meaningful with respect to their personal relationships with others. A person who moves to isolation is viewed as an ineffective coper as isolation limits their ability to actively seek resources and social support for effective coping. An individual who is bonded is seen as an effective coper who has learned to interact competently with others and is able to utilize resources and support systems to cope more effectively.

The construct "power", is concerned with the individual's view of their own empowerment in relation to their ability to cope effectively with tasks that present themselves. Power which include a sense of competence or mastery is closely aligned with an empowered self-concept or what Bandura (1977) considers self-efficiacy. The ability to struggle continually with a task at hand, with a sense of self confidence and meaning in the face of difficulty.

The construct "state" is concerned with flexible verses rigid behavior. Flexible copers have the capacity to respond differently in diverse, changing situations. Flexible copers have the capacity to shift their plans and reformulate new plans already

held. Flexible copers have the capacity to shift
reflective attention in a constructive way and be able
to distinguish reflective shifts that are distracting,
uncontrollable, compulsive or impulsive in action.
Rigid copers reproduce action strategies which are
redundant, regardless of the poor results that are
attained.

The construct "economy" is also bipolar, ranging
from nonproductive to productive behaviors.
Nonproductive copers are socially irresponsible, do not
attain the desired results of their actions and have a
diminished self-concept. Nonproductive copers tend to
leave projects unfinished and do not pursue activities
to their completion. Productive copers are socially
responsible, have divergent means to attain and
enhanced self-esteem, to produce the desired results in
their efforts. Productive copers respond to social
demands which are presented, having the ability to
influence what is transpiring around them and in the
process are able to balance these personal and
environmental demands.

The construct "body" is concerned with the
individual's view of their physical energies and
health. The effective coper displays little or no body
complaints, feels rested after a good nights rest and

manifests sufficient energy to complete daily tasks.

The construct "humour" points towards the ability of the youth to posses feelings that portray a sense of mastery, self confidence and influence positive appraisal outcome towards a situation. Humour as a response supposes an youths ability to broaden their perspective on any given situation and infers the skills necessary to lessen strained encounters.

The Reflective Adaptation test representing a grade three language difficulty level (See Appendix 10) and asks the youth to rate their responses according to a four point Likert scale on each of these constructs on the test. Test technical development is discussed further in the methods section.

Summary

Coping theory and the Reflective Adaptation test presented are primarily based on the works of Vygotsky 1958, 1978, 1986), Piaget (1969, 1977, 1973), Kohlberg (Colby & Kohlberg 1987), Lazarus (1966, 1981), and Folkman (1984). Such views of development and conscious thought are involved in the changes children make to cope more effect   . Vygotsky's views concerning mediational activit , the zone of proximal development, spontaneous and scientific conceptualization, along

with concept formation, is important in the

comprehension of how young people cope. The Reflective

Adaptation test is designed to measure thematically the

constructs: relationship, power, state, economy, body

and power. These constructs represent themes evident at

each level of coping theory, indicating the capacity to

effectively or ineffectively cope. Creating a

psychometric instrument which measures these constructs

in order to differentiate between, those youths in need

of treatment and those youths who cope effectively on

their own.

Hypotheses:

(1) The researcher's constructed instrument will differentiate between the "effective" and "ineffective" coping subjects in the study.

(2) Positive self-esteem data will positively correlated with "effective coping".

(3) Data from the researcher's constructed instrument will correlate with data from the published coping instrument.

(4) Moral development data will correlate with the "effective" and "ineffective" coping groups in the study.

CHAPTER FOUR

METHOD

Introduction

This chapter presents a step-by-step procedural analysis of the data. On the experimentally constructed test "Reflective Adaptation", two types of item analysis were conducted, then a factorial analysis was implemented to investigate its structure.

The following will be reported on each test administered. First, using a One-Way Mancova significance of group differences covaried by age was investigated; Second, a One-Way Ancova to investigate significance on the difference of each group covaried by age; third, the prediction of group membership using a Discriminant function analysis comparing the strength of the known relationships. Fourth, an overall Discriminant function analysis was done on all tests, and fifth a Multiple regression analysis was applied to provide a predictive index from the criterions. Finally, Pearson Product correlations between all tests for degree of relationship was completed.

Participants

Test Group. Participants in this study consisted of
two groups of children, between the ages of 13 and 16
years old. Twenty-four subjects were selected
essentially from a middle class school, reflecting a
"normal" or "effective" coping population. Another
forty-one subjects were selected from government
treatment institutions and designated as "ineffective"
copers. The "effective and ineffective" youths were
tested. Confidentiality of participants was maintained.
Names of government wards and the other subjects were
not included with the data. A coded numbering system
was initiated to keep track of gathered data on all
youths and their test scores.

Agencies. The Edmonton School Board participated
by permitting testing to be done at one of their local
schools (See Appendix 2). Alberta Family and Social
Services, Regional Headquarters granted approval for
testing to be conducted at Yellowhead Youth Centre,
Edmonton (See Appendix 6). Alberta Health, Mental
Health Services, granted approval for testing to be
conducted at Case House, located on the Yellowhead
Youth Centre site and Child and Adolescent Services Day
Program (See Appendix 8).

Procedures

Control group. The necessary consent forms were signed by the school, the participants and the youths' guardians/parents. The control group which consisted of twenty-four youths, were tested in two testing sessions of approximately one and one half hour in length. Each testing session included two psychometric tests given in the order provided below.

Treatment group. Approval was required from the institutional worksites, the Regional Director's Committee; Edmonton Region and, on a voluntary basis from the youths, prior to implementation of this project. Children with Permanent and Temporary Guardianship Orders required further approval from the District Offices Social Workers, to ensure that treatment was not disrupted. In the case of Custody Agreements, both Social Worker and parental consents was required. In the case of Private Agreements, both the Unit Director and parental consents were obtained (See Appendix 8). Governmental approvals and worksite restrictions (See Appendix 5), required that the youths' be tested in small groups, consisting of not more than eight at a time. Sixteen testing sessions, approximately one and one half hour in length, were conducted with the treatment group.

The four tests were administered successively as presented below, in a controlled environment at each group testing session.

Test materials

1. Reflective Adaptation, a constructed coping inventory, which was created by the researcher to reflect the content and developmental levels displayed in the Coping schema, was administered.

2. Stanley Coopersmiths, Self-Esteem Inventory, was used as a sampling of the self-esteem and effective functioning sequence (Coopersmith, 1984).

3. Shirley Zeitlin's published Coping Inventory, a Measure of Adaptive Behavior, was administered to each participant as a measure of the past established research (Zeitlin, 1985).

4. A short form of Kohlberg's Measurement of Moral Judgement Interview, Sociomoral Reflection Objective Measure (SROM) also was administered to assess the moral judgeme.t stage levels (Gibbs, 1984).

Statistical Treatment

Procedural analysis of the data are outlined as follows:

1. Structure of Constructed Test. Two types of item analysis were done on the experimentally constructed test, "Reflective Adaptation"; then a factorial analysis was done to investigate the test's structure.

2. Significance of Group Differences (All tests). Utilizing a One-Way Mancova design, a multivariate analysis of variance covaried by age was performed to investigate differences between the two groups. Essentially the task is to investigate if there is a difference in the two groups on each test, to determine if there is a difference on each test score.

3. Significance of Group Differences (Individual tests). Using a One-Way Ancova univariate design covaried by age, the nature of each test was investigated for differences between the two groups.

4. Prediction of Group Membership (individual tests). After the above analyses was completed, the researcher discriminated among the groups statistically. Prediction of group membership was undertaken using a Discriminant function analysis comparing the strength of the known relationships of

the effective/ineffective coping youths.

5. Prediction of Group Membership (All tests).
Prediction of group membership was undertaken using a
Discriminant function analysis by comparing the
strength of the all the tests combined relationships,
to statistically predict the distinction between
effective/ineffective coping youths.

6. Multiple Regression Analysis (All tests). Group
differences on all attributes of the tests combined was
undertaken to determine which instrument or combination
of instruments is the best predictor.

7. Degree of Relationships (All tests). Pearson
Product correlations were established between all
tests, which included Reflective Adaptation to
Sociomoral Reflection Objective Measures, Reflective
Adaptation to Self-Esteem, and Reflective Adaptation to
Coping Adaptation. Correlations of the total group was
undertaken to investigate how the measures interrelate
among themselves and to each other.

Test Development

Item writing. Reflective Adaptation consists of
three levels of coping as described in coping theory.
Items were written to reflect the content and themes
which are evident at each level of the coping theory.

Approximately eighty items were created for each of the three levels. Sixty items were selected for each level and then reviewed by at least three independent judges, to determine the appropriateness of the items. Forty items were finally selected to reflect the content at each level of coping theory. Items which were deemed as accurately representing the different levels were selected and grouped into blocks of five. Each sequential block of five questions throughout the test reflected a different level of coping. The blocks were tumbled in unmatched order to render that no two blocks aligned to represent the same level. Groups of items were then clustered to represent major thematic content. Themes at each of the levels of coping were mainly bipolar in form.

a) Relationship: isolation - bonded

b) Power: powerlessness - power

c) State: rigid - flexible

d) Economy: nonproductive - productive

e) Body

f) Humor

Item analysis. The Reflective Adaptation Test
items underwent two different types of item analysis.
First, an inter-item correlation was completed. Each
item in each level of coping was correlated with each
level's total scale score. The items that did not
correlate at $p < .05$ were dropped from the level. On
Coping I, four items were dropped and 33 remained; on
Coping II, three items were dropped and 33 remained;
and on Coping III, one item was dropped and 39 were
retained.

The second type of item analysis was
discriminative in nature. The top 25% of scores, id
the bottom 25% of scores were T - tested on ea⌐   ⌐l
score with each item. The rationale for this i.   the
item can not discriminate between the top scores anu
the bottom scores, then the item has minimum
discriminating ability. On the second item analysis
which was more discriminating, the level of Coping I
dropped two further items, the level of Coping II
dropped five items and the level Coping III dropped
three more items. These two item analyses together both
at $p < .05$, indicated that Coping I had 30
discriminating items, Coping II had 32 and Coping III
had 36. Out of a total of 120 items, 19 were dropped
due to low power.

Factor Analysis of test. Three levels of coping
were conceptually proposed in coping theory and are
displayed by the three factors found in the analyses.
Individual test question items were clustered on the
instrument. This clustering aided in measuring the
content of the coping levels, and displayed 6 themes
across the three levels of coping theory which is
inherent in the constructed test. Within the three
levels of coping, 6 themes are displayed, containing 15
attributes (See Table 1) across the coping levels
(factors). Interpretation of the findings of table one
concerning the Reflective Adaptation test can be found
in chapter five results and chapter six discussion.

TABLE 1

*Reflective Adaptation: Factor Loadings on Principle
Component with Varimax Rotation*

Attributes		Factor 1	Factor 2	Factor 3
Isolation	1	.81908	.04094	-.26962
Power	1	.85761	.02201	-.24339
Rigid	1	.90054	-.15368	-.11283
Nonproduct	1	.84848	-.25785	-.05373
Body	1	.50546	-.37905	.18359
Bond	2	.12411	.25174	.76825
Product	2	-.18648	.68944	.38978
Flex	2	-.22480	.64597	.54025
Power	2	.23400	.77272	-.06338
Flex	3	-.26081	.62607	.55136
Humor	3	-.18437	.41737	.69432
Bond	3	-.12506	.07375	.84980
Power	3	-.27966	.67599	.40160
Body	3	-.17796	.06861	.47296
Product	3	-.34900	.67497	.37197

n = 60

Reliability of Reflective Adaptation. The internal
consistency reliability analysis of the three levels of
Coping are as follows: (a) Coping I, Possession /
Release, on 33 items, it was found that the Cronbach
Alpha = .9189; (b) Coping II, Attention to Properties,
on 32 items, was found that the Cronbach Alpha = .8743;
and on (c) Coping III, Thematic Sequential, on 36 items
found at the Cronbach Alpha = .9142; the overall
reliability on the total 101 items was found to come
out at the Cronbach Alpha = .8703.

CHAPTER FIVE

RESULTS

Introduction

This chapter deals with the outcomes of the statistical analyses performed on the data. Statistical treatment of the data will follow the procedure as outlined in chapter four.

Group Characteristics

The researcher ultimately was not in control of the age characteristics of the sample (See Appendix 5). Namely, within the second sampling sequence client selection and testing, the age of the youths tended to be slightly older. While this is not necessarily a problem psychometrically given the different means, the decision was made to perform the most conservative analysis using age as a covariate. The control groups mean was slightly younger ($\bar{x}$ = 13.82, s.d. = .85), as opposed to the treatment group ($\bar{x}$ = 15.16, s.d. = 1.3). Therefore, Multivariate Test of Significance (Moncova) covaried by age was employed.

Significance of Group Differences (All tests)

Multivariate Test of Significance (Moncova) covaried with age was employed and an overall significance found at $F(1,57)$ = 4.51, p < .01) (See Table 2).

Significance of Group Differences (Individual test)

Reflective Adaptation. The Univariate F-Tests with
(1,57) degrees of freedom are as follows (See Table 2).
The means of the control and treatment groups require
the following explanation. The means are technically
reversed due to the numbering amounts on the test.
The test "Reflective Adaptation" indicated that for:
(a) a score of one (very like me), (b) a score of two
(somewhat like me), (c) a score of three (somewhat
unlike me) and (d) a score of fc   very unlike me)
needs to be considered. All other tests are as
indicated. The Univariate F-Tests indicated that for
Coping I $F(1,57)$ = 13.66, p < .01) the two groups
differed significantly on Reflective Adaptation, with
the treatment group ($\overline{X}$ =2.44), scoring higher than
control ($\overline{X}$ = 3.03). Coping II was significant with the
treatment group, ($\overline{X}$ = 2.22), scored lower than control
($\overline{X}$ = 1.93). Coping III was also significant with the
treatment group ($\overline{X}$ = 2.3) scoring lower than the
control ($\overline{X}$ = 1.93).

Self-Esteem. For Self-Esteem on all subtests the
groups differed significantly. On General Self the
control group scored higher ($\overline{X}$ = 20.5) than the
treatment group ($\overline{X}$ = 13.84). Similarly, the control
group scored greater ($\overline{X}$ = 7.14) than the treatment

group ($\bar{x}$ = 5.08) on Social Self. On the subtest, Home, the control group scored higher ($\bar{x}$ = 6.45) than the treatment group ($\bar{x}$ = 4.05). On the subtest, School, the control group scored higher ($\bar{x}$ = 5.81) than the treatment group ($\bar{x}$ = 4.05). The Self-Esteem subtest, Total, was found to be significant for the groups. The control group scored higher in a positive direction ($\bar{x}$ = 79.82), than the treatment group ($\bar{x}$ = 54.05)(See Table 4).

Coping Adaptation Inventory. For the Coping Adaptation Inventory, on all subtests, the groups differed significantly. The control group scored higher on the subtest, Production of Self ($\bar{x}$ = 45.68), than the treatment group ($\bar{x}$ = 36.63)(See Table 3). The control group scored higher on the subtest, Production Environment ($\bar{x}$ = 23.04), than the treatment group ($\bar{x}$ = 41.42). The subtest, Active Self, control group scored higher ($\bar{x}$ = 23.04) than the treatment group ($\bar{x}$ = 18.63). On Active Environment, the control group scored more positively ($\bar{x}$ = 25.04) than the treatment group ($\bar{x}$ = 19.68). Similarly on the subtest, Flexible Self, the control group scored higher ($\bar{x}$ = 23.18) than the treatment group ($\bar{x}$ = 19.73). On Flexible Environment, the control group scored higher ($\bar{x}$ = 25.27) than the treatment group ($\bar{x}$ = 20.42). The

overall Self Score, was also significant with the
control group scoring higher ($\bar{X}$ = 3.73) than the
treatment group ($\bar{X}$ = 3.11). The overall Environment
Score, was significant with the control group scored
higher ($\bar{X}$ = 4.17) than the treatment group ($\bar{X}$ = 3.34).
Finally the main Coping Adaptation index, was
significant with the control group scored higher ($\bar{X}$ =
3.98) than the treatment group ($\bar{X}$ = 3.25)(See Table 4).

Sociomoral Reflection Objective Measures. An
Analysis of Covariance (ANCOVA) stage by group with age
as the covariate was performed. There were no
significance differences found (See Table 5). However,
the significance was close at hand. Given that the
analysis was done using the most conservative measure
and that a difference of 1.34 years between the
different means of the ages is not necessarily a
problem psychometrically the following is reported. The
control group scored higher ($\bar{X}$ = 3.64) than the
treatment group ($\bar{X}$ = 3.33).

A second analysis was performed on the data using
Analysis of Variance (ANOVA) not controlling for age
and was found to be significant (See Table 6). The data
revealed that for the control group the scores were
higher ($\bar{X}$ = 3.62) than the treatment group ($\bar{X}$ = 3.31)
for stage placement.

TABLE 2

Title: *Multivariate Tests of Significance (Moncova) covaried by age for Reflective Adaptation and Self-Esteem.*

Multivariate Tests of Significance (Moncova)

Wilkslamda	Exact. F	Significant of F
	4.51	< .01

Univariate F-Tests with (1,57) D.F.

Variable Group		$\bar{x}$	S.D.	M.S	F	Sign. of F
Coping I	Control	3.03	.42	.29	13.66	< .01
	Treatment	2.44	.59			
Coping II	Control	1.93	.30	.14	12.20	< .01
	Treatment	2.22	.43			
Coping III	Control	1.93	.31	.17	11.32	< .01
	Treatment	2.30	.46			
General Self	Control	20.50	4.3	16.89	29.35	< .01
	Treatment	13.84	3.9			
Social Self	Control	7.14	1.1	3.16	16.31	< .01
	Treatment	5.08	2.1			
Home	Control	6.45	1.7	4.78	14.12	< .01
	Treatment	4.05	2.4			
School	Control	5.81	1.8	3.34	11.51	< .01
	Treatment	4.05	1.8			

TABLE 3

Title: Multivariate Tests of Significance (Moncova)
covaried by age for Coping Adaptation
Inventory

Multivariate Tests of Significance (Moncova)

Wilkslamda	Exact. F	Significant of F
	4.51	< .01

Univariate F-Tests with (1,57) D.F.

Variable	Group	$\bar{x}$	S.D.	M.S	F	Sign. of F
Production Self	Control	45.68	7.4	45.46	28.53	< .01
	Treatment	36.63	6.5			
Production Environment	Control	49.68	5.9	50.13	19.65	< .01
	Treatment	41.42	7.7			
Active Self	Control	23.04	2.9	15.46	17.71	< .01
	Treatment	18.63	4.4			
Active Environment	Control	25.04	3.2	13.98	26.77	< .01
	Treatment	19.68	4.0			
Flexible Self	Control	23.18	3.3	13.43	10.75	< .01
	Treatment	19.73	3.8			
Flexible Environment	Control	25.27	2.6	11.29	30.94	< .01
	Treatment	20.42	3.8			
Self Score	Control	3.73	.58	.33	15.33	< .01
	Treatment	3.11	.58			
Environment Score	Control	4.17	.42	.29	31.26	< .01
	Treatment	3.34	.59			

TABLE 4

Title: Multivariate Tests of Significance (Moncova)
        covaried by age for Self-Esteem Total and
        Coping Inventory Total.

Multivariate Tests of Significance (Moncova)

Wilkslamda	Exact. F	Significant of F
	10.18	< .01

Univariate F-Tests with (1,57) D.F.

Variable Group	$\bar{x}$	S.D.	M.S	F	Sign. of F
Self-Esteem Total					
Control	79.82	13.74	202.26	38.05	< .01
Treatment	4.05	14.37			
Coping Inventory Total					
Control	3.98	.43	.24	29.71	< .01
Treatment	3.25	.53			

TABLE 5

Title: Analysis of Covariance (ANCOVA) stage by group
with age for Sociomoral Reflection Objective
Measures.

Univariate F-Tests with (1,30) D.F.

Variable	Group	$\overline{x}$	S.D.	M.S	F	Sign. of F
Stage	Control	3.64	.33	0.45	3.78	.062
	Treatment	3.33	.34			

p < .05

TABLE 6

Title: Analysis of Variance (ANOVA) stage by group
without age for Sociomoral Reflection Objective
Measures.

Univariate F-Tests with (1,30) D.F.

Variable	Group	$\overline{x}$	S.D.	M.S	F	Sign. of F
Stage	Control	3.62	.33	0.76	6.64	.015
	Treatment	3.31	.34			

p < .05

Prediction of Group Membership (individual tests)

Discriminant function analysis was conducted on each test administered, essentially predicting group membership from the variables. If the groups differ significantly on the set of variables, the set of variables will reliably discriminate among the groups.

Reflective Adaptation. The Discriminant function analysis indicated that for the control group, 75.0% were accurately classified by the test. Similarly, for the treatment group, 82.9% were accurately placed. The overall percentage of "grouped cases" correctly classified was 80.0% (See Table 7).

Self-Esteem. The Discriminant function analysis indicated that for the control group 80.0% were accurately classified by the test. For the treatment group 85.3% were accurately placed. The overall percentage of "grouped cases" correctly classified was 83.33% (See Table 8).

Coping Adaptation Inventory. The Discriminant function analysis indicated that for the control group, 75.0% were accurately classified by the test. For the treatment group, 86.8% were accurately placed. The overall percentage of "grouped cases" correctly classified was 82.26% (See Table 9).

Sociomoral Reflection Objective Measures. The
Discriminant function analysis indicated that for the
control group, 66.7% were accurately classified by the
test. For the treatment group, 61.7% were accurately
placed. The overall percentage of "grouped cases"
correctly classified was 65.63% (See Table 10).

Prediction of Group Membership (All tests)

Using a Discriminant function analysis comparing
the strengths of all tests combined to predict group
membership, the following was found. For the control
group, 85.7% were accurately classified by the all
tests combined. For the treatment group 93.8% were
accurately placed. The overall percentage of "grouped
cases" correctly classified was 90.00% (See Table 11).

The number of youths in the above analysis were
limited (n = 30) therefore the analysis was redone
dropping the Sociomoral Reflection Objective Measures
Test. The Discriminant function analysis was done on
Reflective Adaptation, Self-Esteem and Coping
Adaptation Inventory. The number in this group was
greater (n = 61) and indicated, for the control group,
86.4% were accurately classified. For the treatment
group, 86.8% were accurately placed. The overall
percentage of "grouped cases" correctly classified was
86.67% (See Table 12). The exclusion of the Sociomoral

Reflection Objective Measures Test, which increased the
number of youths, decreased the statistical placement
of cases slightly indicating that test length on
Discriminant function analysis has some minor effect
purely by including extra item scores into the total
analyses.

TABLE 7

Title: Discriminant Function Analysis
       for Reflective Adaptation.

| Actual Group | No. of Cases | Predicted Group Membership | |
		Control	Treatment
Control Group	24	18 75.0%	6 25.0%
Treatment Group	41	7 17.1%	34 82.9%

Percent of "Grouped" Cases Correctly Classified: 80.00%

TABLE 8

Title: Discriminant Function Analysis
       for Self-Esteem Inventory

| Actual Group | No. of Cases | Predicted Group Membership | |
		Control	Treatment
Control Group	20	16 80.0%	4 20.0%
Treatment Group	34	5 14.7%	29 85.3%

Percent of "Grouped" Cases Correctly Classified: 83.33%

TABLE 9

Title: Discriminant Function Analysis for Coping
Adaptation Inventory.

Actual Group	No. of Cases	Predicted Group Membership	
		Control	Treatment
Control Group	24	18 75.0%	6 25.0%
Treatment Group	38	5 13.2%	33 86.8%

Percent of "Grouped" Cases Correctly Classified: 82.26%

TABLE 10

Title: Discriminant Function Analysis
for Sociomoral Reflection Objective Measures.

Actual Group	No. of Cases	Predicted Group Membership	
		Control	Treatment
Control Group	15	10 66.7%	5 33.3%
Treatment Group	17	6 35.3%	11 64.7%

Percent of "Grouped" Cases Correctly Classified: 65.63%

TABLE 11

Title: Discriminant Function Analysis
        for All Tests Combined
_____
Actual Group   No. of   Predicted Group Member
                Cases   Control   Treatment
_____

Control Group   14   12   2
                              85.7%   14.3%

Treatment Group 16   1   15
                               6.3%   93.8%
_____
Percent of "Grouped" Cases Correctly Classified: 90.00%

TABLE 12

Title: Discriminant Function Analysis for Combination
        of Reflective Adaptation, Self-Esteem and
        Coping Adaptation Inventory
_____
Actual Group   No. of   Predicted Group Member
                Cases   Control   Treatment
_____

Control Group   22   19   3
                              86.4%   13.6%

Treatment Group 38   5   33
                              13.2%   86.8%
_____
Percent of "Grouped" Cases Correctly Classified: 86.67%

Multiple Regression Analysis (All tests)

Creating a linear combination of independent variables (all tests) optimally predicting the dependent variable (group), was performed to find out the contribution of each test. Multiple Regression Analysis was performed step-wise (See Table 13) and indicated that Reflective Adaptation Coping I contributed the most to the equation, ($\underline{M.r.}$ = .47) being the best predictor of groups. Coping II was aggregated second at ($\underline{M.r.}$ = .56) and Coping III third at ($\underline{M.r.}$ = .57). Coping Adaptation Inventory was the next indicator at ($\underline{M.r.}$ = .65). Self-Esteem was placed last at ($\underline{M.r.}$ = .72).

The regression analysis was run allowing the data to enter the equation freely (Table 14) and indicated that the test Self-Esteem contributed the most to the equation, ($\underline{M.r.}$ = .66) indicating that it was the best predictor of groups. Coping Adaptation Inventory was aggregated second, ($\underline{M.r.}$ = .71) and Reflective Adaptation levels; Coping I ($\underline{M.r.}$ = .71), Coping II ($\underline{M.r.}$ = .71), and Coping III ($\underline{M.r.}$ = .72).

TABLE 13

Title: Multiple Regression Analysis (Step-wise)
for Reflective Adaptation, Self-Esteem
Inventory and Coping Adaptation Inventory.

Variable	Beta	Multiple R
Coping I	.10	.479
Coping II	-.16	.568
Coping III	.14	.576
Coping Adaptation Inventory	-.35	.65
Self-Esteem	-.55	.72

n = 65

TABLE 14

Title: Multiple Regression Analysis
for Reflective Adaptation, Self-Esteem
Inventory and Coping Adaptation Inventory.

Variable	Beta	Multiple R
Self-Esteem	-.014	.666
Coping Adaptation Inventory	-.28	.716
Coping I	.08	.717
Coping II	-.19	.718
Coping III	.15	.722

n = 65

Degree of Relationships (All tests)

Pearson Product correlations were established between Reflective Adaptation and the other tests and all were found to be statistically significant.

Self-Esteem. The correlations between Self-Esteem and Reflective Adaptation, on all subtests, was found statistically significant. For Reflective Adaptation level, Coping I to Self-Esteem on General Self, Social Self, Home, School and Total scores, the correlations ranged from .41 to .76, indicating a medium high to high correlation. Similarly, for Reflective Adaptation level, Coping II to Self-Esteem subtests, the correlations ranged from -.17 to -.37, (negative correlations due to scaling on test) indicating a low to medium correlation. For Reflective Adaptation level, Coping III to Self-Esteem subtests, the correlations ranged from -.23 to -.45, indicating a low to medium correlation (See Table 15).

Coping Adaptation Inventory. The correlations between Coping Adaptation Inventory and Reflective Adaptation, on all subtests, was found statistically significant. Reflective Adaptation level, Coping I to Coping Adaption Inventory, the correlations ranged from .32 to .45, indicating a medium correlation. For Reflective Adaptation level, Coping II to Coping

Adaptation Inventory, the correlations ranged from -.49 to -.55, indicating a medium to medium high correlation. Similarly, for Reflective Adaptation level, Coping III to Coping Adaptation Inventory, the correlations ranged from -.42 to -.47, indicating a medium correlation (See Table 16).

Sociomoral Reflection Objective Measures. The correlations between Sociomoral Reflection Objective Measures and Reflective Adaptation was found to be statistically significant. Reflective Adaptation Level Coping I to Sociomoral Reflection Objective Measures on the subtests Scrom and Stage the correlations were .20 and .16 respectively, indicating a low correlation. For Reflective Adaptation Level Coping II to Sociomoral Reflection Objective Measures on the subtests Scrom and Stage the correlations were -.52 and -.53 respectively, indicating a medium high correlation. Finally, on Reflective Adaptation Level Coping III to Sociomoral Reflection Objective Measures on the subtests Scrom and Stage the correlations were -.46 and -.47 respectively, indicating a medium correlation (See Table 17).

TABLE 15

Title: Pearson Correlation Coefficients for
         Reflective Adaptation and Self-Esteem.

Variable	Gen.	Soc.	Home	School	Total
Coping I	.739	.417	.631	.447	.761
Coping II	-.367	-.295	-.172	-.279	-.372
Coping III	-.441	-.378	-.287	-.237	-.45

n = 62 p < .05 for r = .211

TABLE 16

Title: Pearson Correlation Coefficients for
         Reflective Adaptation and Coping
         Adaptation Inventory.

Variable	Coping I	Coping II	Coping III
Self Score	.458	-.495	-.452
Environmental Score	.327	-.528	-.426
Adaptive Behavior Index	.426	-.551	-.476

n = 61 p < .05 for r = .213

TABLE 17

Title: Pearson Correlation Coefficients for
Reflective Adaptation and Sociomoral
Reflection Objective Measures.

Variable	Coping I	Coping II	Coping III
Scrom	.201	-.526	-.469
Stage	.161	-.533	-.478

n = 30 p < .05 for r = .306

CHAPTER SIX

DISCUSSION

Introduction

This chapter provides the integration of the
findings of this study. Each hypothesis will be stated
and then addressed in relation to the findings and its
reference to the theory as presented.

Integration of Results

Reflective Adaptation.

(1) The researcher's constructed instrument will
differentiate between the "effective" and "ineffective"
coping subjects in the study.

This hypothesis was confirmed. Factor Analysis of
the Reflective Adaptation test, indicated three factors
each associated with each level of coping, as proposed
in theory. The factor loading on the attributes of the
test indicated, that for Coping I the loadings were
high and reliable. For Coping II and Coping III, the
loadings were partially mixed, relatively high and
reliable. More specifically for Coping II, the
attribute Bond loaded more heavily on Coping III than
Coping II. This indicates as proposed in theory, that
Bonding is more a property of high coping ability. For
Product, the loadings were primarily on Coping II with
partial loading on Coping III. These items on the test

therefore, should be either moved to Coping III or rephrased to more accurately portray a proper distribution across these two levels. For Flexibility, the loadings were approximately equally mixed. However in theory, Flexibility should be more an attribute of Coping III than Coping II. These questions should be moved or rephrased to more accurately account for this attribute. For Power, the loadings were primarily on Coping II instead of Coping III. This indicates for this attribute the items should be moved to Coping III or rephrased to more accurately portrayed this attribute across these levels. While this attribute is still a property of Coping II, it should be more a property of Coping III.

For Coping III, the remaining attributes not mentioned previously include Humour and Body. Humour portrayed some mild cross loading with the loading primarily on Coping III as proposed in the theory. Humour as an attribute is more a quality of Coping III than Coping II; however, humour is still a property of Coping II as indicated in theory. The attribute Body accurately loaded on Coping III.

Statistically, Coping I and Coping III were inversely related and high. The inverse relationship indicates that the structure of the test came out as

proposed in theory. Those subjects who scored high on Coping I did score low on Coping III, similarly the subjects that scored high on Coping III did score low on Coping I indicating an inverse relationship between the groups. The correlation was high, the control group scored consistently higher than the treatment group on Coping III and the treatment group consistently scored high on Coping I. The discriminant function indicated an overall accurate placement between the control group and treatment group, with an overall percentage of correctly grouped cases as being 80%, with "effective copers" being correctly classified at 75.0% and "ineffective copers" at 82.9%. The multiple regression analysis (step-wise) indicated Reflective Adaptation test contributions were significant in differentiating between the "effective" and "ineffective" coping youths in the study.

Self-Esteem.

(2) Positive "self-esteem" data will positively correlated with "effective coping".

This hypothesis was confirmed. On all subtests of Self-Esteem, group differences were significant. The control group scored consistently higher than the treatment. Predication of overall group membership of cases correctly classified was indicated at 83.3%, with

80% of cases indicated as "effective copers". Increased
Self-Esteem is positively related to "effective"
coping. The child's concept of self can be viewed as
one indicator of functional coping.

Multiple regression analysis indicated that the
Self-Esteem test contributed to the ability to predict
accurately the differentiation between "effective" and
"ineffective coping". The Self-Esteem test loaded
heavily on the Reflective Adaptation test at the
Coping I level. This indicates that Coping I and Self-
Esteem are the best predictor of differences between
the two groups. A step-wise method was used in multiple
regression analysis to indicate the effect of the
prediction without allowing these interdependent
loadings. The results of the regression indicated that
Reflective Adaptation levels Coping I, Coping II and
Coping III were good predictors of the classification
of the groups, with Coping I being the best predictor.

The degree of relationship between Reflective
Adaptation and Self-Esteem loaded highly on Coping I,
indicating that Reflective Adaptation at this level is
a high to medium high indicator of Self-Esteem. On
Coping II and Coping III the relation between Self-
Esteem was from low to medium. This indicates that the
test Reflective Adaptation requires some items be

progressively added to Coping II and Coping III to more
accurately reflect Self-Esteem across these levels.

Coping Adaptation Inventory.

(3) Data from the researchers' constructed instrument
will correlate with data from the published coping
instrument.

This hypothesis was confirmed. The Coping
Adaptation Inventory was also statistically significant
and demonstrated differences between the two groups
on each of its subtests. Further, the Coping Adaptation
Inventories predication of overall group membership of
cases correctly classified was indicated at 82.26%,
with 75% of cases indicated as "effective copers" and
86.8% as "ineffective copers" in each of the groups.

The degree of relationship between the Reflective
Adaptation test and Coping Adaptation Inventories
portrayed a medium loading on Coping I. On Coping II
with the Coping Adaptation Inventory, the relationship
ranged from medium to medium high. For Coping III, the
relationship was medium in magnitude. Indicating the
Reflective Adaptation test has a sound correlation with
coping as measured by Coping Adaptation Inventory.

Sociomoral Reflection Objective Measures.

(4) Moral development data will correlate with the

"effective" and "ineffective" coping groups in

the study.

This hypothesis was confirmed.

As previously mentioned two different analysis

were conducted on the data. Analysis of covariance

(ANCOVA) controlling for age was not significant but

is reported. A difference of 1.34 years in age is not

necessarily a problem in psychometric testing, however

the most conservative estimate was used in all

analyses. A second analyses, analysis of variance

(ANOVA) was employed not controlling for age and was

found to be significant. The results revealed that for

the control group the scores were slightly higher than

for the treatment group. As purported in coping theory,

the stage average, stage three, of Kolberg's moral

development scale centered on Coping II. The means of

the two groups were 3.62 (stage score) for the control

group and 3.31 (stage score) for treatment group.

Coping theory as developed in this study in relation

with moral development theory was upheld and agreed

with Colby and Kolberg (1987) classification of age

groups and sociomoral perspective. The distribution of

stages for this age group was in accordance with

Kolberg's moral development theory. However, due to the limited range of ages which were tested on Reflective Adaptation, the upper and lower ceilings of the test were not tapped. Test limits need to be investigated with a larger sample, with age ranges that would contribute to the testing of the upper and lower ceilings on the Reflective Adaptation test.

The discriminant function analysis indicated that for the control group, 66.7% were accurately classified. The number of valid tests was only 32, as not all youths completed the whole test and those tests completed did not conform to the required validity rules (exclusion rules) on the test. For the treatment group, 64.7% were correctly classified. The overall percentage of correctly classified cases came out at 65.63%.

Multiple regression analysis indicated that the Sociomoral Reflection Objective Measures test did not contribute to the predicting of the groups.

The degree of relationship between the Reflective Adaptation and Sociomoral Reflection Objective Measures tests registered a low loading on Coping I. On Coping II with the Sociomoral Reflection Objective Measures on the subtests Scrom and Stage, the magnitude was statistically medium high. For Coping III, the

correlation was medium in magnitude. It is proposed
that due to the limited age group taking the test, the
upper and lower limits of the test were not approached.

Prediction of Group Membership (All tests)

The discriminant function analysis indicated that
for all tests combined and overall percentage of
correctly classified cases came out at 90.00%. For the
control group, 85.7% and for the treatment group, 93.8%
were correctly classified. A further analysis was
preformed without including Sociomoral Reflection
Objective Measures, therefore increasing the numbers of
subjects from 30 to 60 youths. The results indicated
the overall percentage of correctly classified cases at
86.67%. For the control group 86.4%, and for the
treatment group, 86.8% were correctly classified. The
exclusion of the Sociomoral Reflection Objective
Measures did not alter the data significantly
indicating that the inclusion of this test, due to the
number and length of the test itself, added only a
slight increase in predictive power.

Summary

The constructed instrument Reflective Adaptation was able to differentiate between the "effective" and "ineffective coping" youths in the study. Self-Esteem is related in a positive direction with "effective coping" and the constructed instrument Reflective Adaptation has incorporated the ability to measure this attribute. The constructed instrument Reflective Adaptation relates adequately with the published tests of coping and moral development, delineating "ineffective" and "effective copers". It is inferred from the data that the constructed instrument Reflective Adaptation can be administered as a clinical tool, in differentiating between those youths who require care and those which are adequate copers on several measures.

The integration of Vygotskys' (1978) theory of concept development, Colby and Kolberg's (1987) view of concept development within moral developmental advancement, and the presented coping theory are related and confirmed. Commencing with Lazarus's view of the appraisal process and expanding this view to include the process of conceptual development as proposed by Vygotsky, in terms of the ability to construct the "signs" and produce the "tools" necessary

to form genuine concept formation, is important.
Essentially, Lazarus's view of appraisal requires
expansion to include the developmental levels of
youths ability to make sense of the world as presented.
Lazarus's view of appraisal is adequate but does not
measure this important multileveled tenet. Further, the
state of bonding with others (relationship), the
feeling of efficacy (power), the state of the thinking
processes (flexibility), the productiveness (economy),
body and more importantly humour, play an important
role in the ability of youths to develop beyond
themselves.

Recommendations for further research

Limitations of this study center on the test
Sociomoral Reflection Objective Measures in relation to
Reflective Adaptation. The upper and lower ceilings of
the test were not approached. A larger sampling of
approximately two hundred, is suggested with variations
in both directions of age. Age should also be matched
more closely at each subsequent level of coping theory.
Social economic status was not included in the data and
this important demographic information should be
included in any subsequent design. Social economic data
were not available to the researcher from government
documents. Further, given the construction of the test,

it may be important to administer this test to the
parents of the youths. Comparing the data between the
outcome of the parents questionnaire with the youths,
may shed light on the views of significant others and
could reveal other patterns of behavior that may
impinge on the conceptual development of the youths in
question. This would add power to one's ability to
generalize beyond the test situation itself.

Recommendations for practice

The test Reflective Adaptation, was developed
primarily to be used as a inductive diagnostic tool, in
the screening of youths for treatment. The test
essentially can be used as an indicator of youths
coping ability, level of self-esteem and moral
development, within a short 30 minute time frame.
This diagnostic tool can be used to enhance the
subjective interview as performed by intake workers, in
relation to the placement of youths into treatment. The
Reflective Adaptation test can be administered by
Psychologists, District Office Social Workers, Child
Care Counsellors, Primary Therapists and others, who
are committed to the continuing care of young people.

REFERENCES

Bandura, A. (1977). Self-efficiacy: Toward a unifying theory of behavioral change. Psychological Review, 84, 191-215.

Bullock, D. (1983). Seeking relations between cognitive and social-interactive transitions. In K. W. Fisher (Ed.), Levels and transitions in children's development. New directions for child development, No. 21. San Franciso: Jossey-Bass.

Coelho, G. V., Hamburg, D. A., & Adams, J. E. (1974). Coping and Adaptation, New York: Basic Books.

Colby, A., & Kolberg, L. (1987). The measurement of moral judgement, Theoretical foundation and research validation. Cambridge University Press.

Coopersmith, S. (1984). Self-Esteem Inventory, Consulting Psychologists Press Inc. California.

Coyne, J. C., Aldwin, C., & Lazarus, R. S. (1981). Depression and coping in stressful episodes. Journal of Abnormal Psychology. 90, 439-447.

Dollard, J. & Miller, N. E. (1950). Personality and psychotherapy: An analysis in terms of learning, thinking and culture. New York: McGraw-Hill.

Dunkel-Schetter, C., Folkman, S., & Lazarus, R. S.
(1987). Correlates of social support receipt.
Journal of Personality and Social Psychology, 53(1),
71-80.

Elliott, G. R. & Eisdorfer, C. (1982). Stress and human
health. Analysis and implications for research.
New York: Springer Publishing.

Ellis, A., & Grieger, R. (1977). Handbook of rational
emotive therapy. New York: Springer Publishing.

Fein, G. (1984). New wine in old bottles. New Direction
for Child Development, 25, 71-84.

Folkman, S. (1984). Personal control and stress and
coping processes:- A theoretical analysis. Journal
of Personality and Social Psychology, 46(4), 839-
852.

Folkman, S. & Lazarus, R. S. (1985). If it changes it
must be a process: Study of emotion and coping
during three stages of a college examination.
Journal of Personality and Social Psychology, 48(1),
150-170.

Folkman, S. & Lazarus, R. S. (1988). 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. J. (1986). Dynamics of a
   stressful encounter: Cognitive appraisal, coping and
   encounter outcomes. Journal of Personality and
   Social Psychology, 50(5), 992-1003.

Franko, D., Powers, T. A., Zuroff, D. C. & Moskowitz,
   D. S. (1985). Children and affect: Strategies for
   self-regulation and sex differences in sadness.
   American Journal of Orthopsychiatry. 55(2). 210-219.

Frankel, V. (1963). Man's search for meaning. New York.

Gibbs, J. (1984). Sociomoral Reflection Objective
   Measure. Ohio State University.

Goldberger, L. & Breznitz, S. (1982). Handbook of
   stress: Theoretical and clinical aspects. New York:
   Free Press.

Herrenkohl, E. C., Herrenkohl, R. C., Toedter, L. &
   Yanushefski, A. M. (1984). Parent-Child interactions
   in abusive and nonabusive families. Journal of The
   American Academy of Child Psychiatry. 23(6). 641-
   648.

Holahan, C. J., & Moss, R. H. (1987). Personal and
   contextual determinants of coping strategies.
   Journal of Personality and Social Psychology,
   52(5), 946-955.

Horowitz, M. J. (1976). Stress response syndromes.

New York: Aronson.

Klien, G. S. (1958). Assessment of Human Motives. New

York: Holt, Rinehart & Winston.

Laux, L. (1986). A self-presentational view of coping

with stress. In Appley, M. H., & Trumbull, R. (Ed.)

Dynamics of stress: Physiological, psychological and

social perspectives. New York: Plenum Press.

Lazarus, R. S. (1966). Psychological stress and the

coping process. New York: McGraw-Hill.

Lazarus, R. S. (1981). The stress and coping paradigm.

In Eisdorfer, C., Cohen, D., Kleinnan, A. & Maxim,

P. (Ed.), Models for clinical psychopathology.

New York: Spectrum.

Lazarus, R. S., Averill, J. R. & Opton, E. M. (1974).

The psychology of coping: Issues of research and

assessment. In G. V. Coehlo, D. A. Hamburg & J. E.

Adams (Ed.) Coping and adaptation (pp. 249-315). New

York: Basic Books.

Lazarus, R. S., Deese J., & Osler S. F. (1952). The

effects of psychological stress upon performance.

Psychological Bulletin. 49(4), 293-317.

Lazarus, R. S. & Launier, R. (1978). Stress related transactions between person and environment. In L. A. Pervin, & M. Lewis, (Ed.), Perspectives in interactional psychology. New York: Plenum Press.

Meichenbaum, D. & Jaremko, M.E. (1983). Stress Reduction and Prevention. New York: Plenum Press.

Monat, A. & Lazarus, R. S. (1985). Stress and coping: Ananthology. New York: Columbia University Press.

Mondell, S. & Tyler, F. B. (1981). Child psychosocial competence and its measurement. Journal of Pediatric Psychology, 6(2), 145-153.

Moriarty, A. E. & Toussieng, P. W. (1976). Adolescent coping. New York: Grune & Stratton.

Parkes, L.R. (1984). Locus of control, cognitive appraisal and coping in stressful episodes. Journal of Personality and Social Psychology, 46(3), 655-668.

Pervin, L. A. & Lewis, M. (1978). Perspectives in Interactional Psychology. New York: Plenum Press.

Piaget, J. (1973). The child and reality: Problems of genetic psychology. Penguin Books.

Piaget, J. (1977). The essential piaget. New York: Basic Books.

Piaget, J. (1969). Judgment and reasoning in the child. London: Routledge and Kegan Paul.

Pittner, M. S. & Houston, B. K. (1980). Response to
Stress, cognitive coping strategies, and the type a
behavior pattern. Journal of Personality and Social
Psychology, 39(1), 147-157.

Rim, Y. (1988). Sense of humour and coping styles.
Personality Individual Differences, 9(3), 559-564.

Roskies, E. & Lazarus, R. S. (1980). Coping theory and
the teaching of coping skills. In P. O. Davidson, &
S. M. Davidson (Ed.), Behavioral medicine: Changing
healthy life styles. New York: Brunner/Mazel.

Seyle, H. (1983). Selye's Guide to Stress Research.
Vol. 2 New York: Scientific and Academic Editions.

Shapiro, J. & Tittle, K. (1986). Psychosocial
adjustment of poor mexican mothers of disabled and
nondisabled children. American Journal of
Orthopsychiatry. 56(2), 289-302.

Stiffman, A. R., Jung, K. G. & Feldman, R. A. (1986). A
Multivariate Risk Model For Childhood Behavior
Problems. American Journal of Orthopsychiatry.
56(2), 204-211.

Tul'viste (Tartu), P. (1986). Discussion of the works
of L. S. Vygotsky in U.S.A.. Voprosy Filosofii.
No. 6, Pravda Publishers.

Vygotsky, L. (1986). Thought and Language. London: The
M.I.T. Press.

Vygotsky, L. (1978). <u>Mind in society: The development</u>
    <u>of higher psychological processes</u>. Cambridge:
    Harvard University Press.

Vygotsky, L. (1958). <u>Concept formation test</u>. Chicago
    Il.: Stoelting Co.

Wertlieb, D., Weigel, C. & Feldstein, M. (1987).
    Measuring children's coping. <u>American Journal of</u>
    <u>Orthopsychiatry</u>. <u>57(4),</u> 548-560.

Zeitlin, S. (1985). <u>Coping Inventory: a measure of</u>
    <u>adaptive behavior.</u> Scholastic Testing Service, Inc.
    Illinois.

Zeitlin, S. (1980). Assessing coping behavior. <u>American</u>
    <u>Journal of Orthopsychiatry</u>, <u>50(1),</u> 139-144.

Zimrin, H. (1986). <u>A profile of survival. Child Abuse</u>
    <u>and Neglect</u>. <u>10(3),</u> 339-349.

APPENDIX

Documents in order by date.

1. Letter of Approval - Research and Ethics Committee
   Department of
   Educational Psychology
   University of Alberta.

2. Letter of Approval - Edmonton Public Schools

3. Letter of Intent from University to Yellowhead Youth
   Centre, Alberta Family and Social Services.

4. Letter of Intent from Yellowhead Youth Centre to
   Regional Office Edmonton, Alberta Family and Social
   Services.

5. Governmental Conditions For Conducting Research at
   Yellowhead Youth Centre, Alberta Family and Social
   Services, Office of the Regional Director, Edmonton
   Region.

6. Letter of Approval - Regional Director, Alberta
   Family and Social Services, Edmonton Region;
   to Committee Chairman, University of Alberta.

7. Yellowhead Youth Centre Memorandum on testing.

8. Letter of Approval - Alberta Health, Mental Health
   Services, Edmonton Region.

9. Test - Reflective Adaptation.

10. Grammatical Summary For Reflective Adaptation.

11. Grammatical Summary For Social Reflection
    Questionnaire.

12. Grammatical Summary Readability Score Formulas.

24 January , 1990

From: Department of Educational Psychology
        Research and Ethics Committee

The Research and Ethics Committee of the Department of Educational Psychology has reviewed the attached proposal and finds it acceptable with respect to ethical matters.
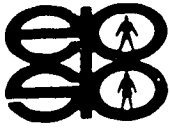
Applicant: Dr. Paul Koziey on behalf of Nathan Cowper-Smith (graduate student).

Title: A Study of Coping.

Participating Agencies:
Alberta Family and Social Services at Yellowhead Youth Center

_____   _31 Jan 90_____
Chairman or Designate, Research   Date
and Ethics Committee

EDMONTON PUBLIC SCHOOLS

March 5, 1990   (File #057)

Mr. W. A. Kiffiak
School Liaison Officer
Division of Field Services
University of Alberta
Edmonton, Alberta
T6G 2G5

Dear Mr. Kiffiak:

Re: Research Request: A Study of Coping: Reflective Adaptation: Nathan Cowper-Smith
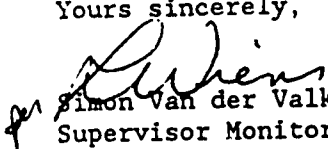
The above research request has been approved on a permissive basis following examination by our department. The approval is subject to the following conditions.

1.   Teachers and student participation in the study to be voluntary;

2.   Students are free to withdraw at any time;

3.   Parental permission will be sought for students to participate in the study;

4.   The results of the study will be provided to the teacher; and

5.   Anonymity of the students and the confidentiality of information obtained is assured.

Nathan Cowper-Smith should now contact Bruce Vaughan, Principal, Parkview Elementary and Junior High School to obtain approval and to make the necessary arrangements for conducting the study.

I wish you success with the project and look forward to receiving a copy of the results.

Yours sincerely,

Simon Van der Valk
Supervisor Monitoring
and Student Information

LW/ea

cc: Bruce Vaughan, Principal, Parkview Elementary and Junior High School
      Nathan Cowper-Smith

CENTRE FOR EDUCATION
One Kingsway
Edmonton, Alberta T5H 4G9
Tel: (403) 429-8000   Fax: (403) 429-8318

University of Alberta
Edmonton

Department of Education Psychology
Faculty of Education

Canada T6G 2G5
June 14, 1990

6-102 Education North. Telephone (403) 492-5245
Fax (403) 492-1318

Dr. Mohamed Sadiq
Clinical Director
Yellowhead Youth Centre
12320 - 124 Street
Edmonton, AB
T5L 0N3

Dear Dr. Sadiq:

This letter is being written at the request of one of our Master's
students, Nathan Cowper-Smith. Some time ago Nathan submitted to you
a proposal for some work he is doing for his Master's Degree. We
changed advisors on him because of the leave from the University of
one of our professors and since that time with his new thesis
supervisor Nathan has made some improvements to the original document
including some changes.

While we recognize that it was not Nathan's fault that this document
has been delayed in getting to you, our Department would nevertheless
appreciate any dispatch that you can give in looking at his research
proposal. It is my understanding that his thesis supervisor feels
this proposal will make an excellent study.

Thank you for your cooperation in this regard.

Sincerely,

John G. Paterson, Ed.D.
Associate Chairman and
Coordinator of Graduate Programs

JGP/hd

cc: Dr. P. Koziey
    Mr. Dennis Bell
    Regional Director
    Alberta Social Services

A L B E R T A

FAMILY AND SOCIAL SERVICES

MEMORANDUM

OUR FILE REFERENCE:

FROM: Mohammed Sadiq
Director, Clinical Services
Yellowhead Youth Centre

YOUR FILE REFERENCE:

TO: Rene Morrissette
Regional Office

DATE: July 5, 90

TELEPHONE: 454-0411/219
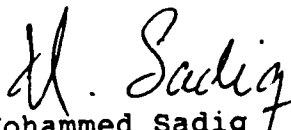
SUBJECT: RESEARCH PROPOSAL - NATHAN COWPER-SMITH

Further to our telephone conversation of this afternoon, enclosed please find a copy of Nathan's Research Proposal related to his Master's Thesis. He is requesting to use some of our residents in his research which will involve administering some tests to approximately 20-30 of them. As I explained to you, the Department had supported his Master's degree in Educational Psychology. He has to complete the data collection by the end of summer.

You need to set up a research committee to review the proposal and make recommendations to Denis Bell. If Denis approves it, it goes to the Children's Guardian/Advocate for approval and consent. Then, he would have to obtain the consents of the parents/social workers and the residents.

I will coordinate and arrange to supervise the administration of tests. As I mentioned to you, Celeste had asked Joni Morrison Ohara to set up and chair the previous committee about a year and a half ago.

Thank you for your assistance in this matter. If you need any further information, please let me know.

Mohammed Sadiq

c.c. Ernie Rachmistruk
Nathan Cowper-Smith

CONDITIONS: For Conducting Research

1. The researcher must meet with the adolescents to explain the purpose of the research, the tasks and time commitment required of the participants and the voluntary nature of the project. The adolescents are to be informed by the researcher that the results of the tests will be provided to the Yellowhead Youth Centre (Y.Y.C.) clinical team and placed on their files. A psychologist appointed by Y.Y.C. will attend these sessions.

2. In addition to written consent from the adolescents and their guardians, a letter must also be sent to each adolescent's social worker explaining the project and providing a number where the researcher can be contacted if the social worker has any questions. The letter must state that the social worker can refuse to allow an adolescent to participate if he/she believes that participation in the research project would be detrimental to the child at this time. Written consent of the social worker is not required, unless the social worker is in a position of guardianship, however the worker must be given until a certain date to contact the researcher with concerns/inquiries.

3. The minimum reading-comprehension levels of the instruments must be determined. The reading-comprehension levels of the adolescents must also be determined. The sample of adolescents must then be selected to ensure all participants are fully able to comprehend the four tests administered.

4. The instruments must be administered to groups of no more than eight adolescents at a time. A maximum of two instruments per session can be administered. The researcher must conduct and be present for each of the entire sessions in order to respond to questions from the participants. A Y.Y.C. psychologist and/or a program supervisor IV from Y.Y.C. must also be present during the administration of the tests.

5. Y.Y.C. psychological staff will assist in coordinating the process (not in the administration of the instruments). The research must be conducted at a location and times deemed appropriate and convenient to the adolescents and Y.Y.C. staff. The administration of the tests must not interfere with regular programming at Y.Y.C. (eg. school).

6. The adolescents involved in the project must be residents of Y.Y.C. at the time the testing occurs. Any consent given will not apply to adolescents who may be discharged to a community setting before the test sessions occur.

Prepared By: Joni Morrison O'Hara & Susan D. Parker

JMO:SDP/mek

Alberta

FAMILY AND SOCIAL SERVICES

#101, 11748 Kingsway Avenue, Edmonton, Alberta, Canada T5G 0X5   403/427-0003

In Replying Please Quote:

September 7, 1990

Dr. Paul Koziey
Department of Educational Psychology
Faculty of Education
6 - 102 Educational North
University of Alberta
EDMONTON, Alberta
T5G 2G5
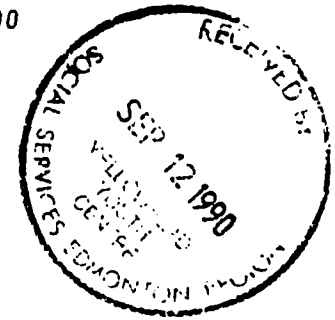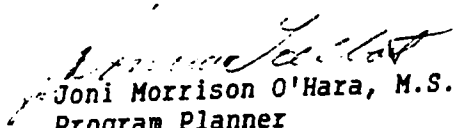
Dear Dr. Koziey:

Re: Research Proposal - A Study of Adolescent Coping
     Nathan Cowper Smith

Nathan has been given permission by Denis Bell, Edmonton Regional Director to conduct the above noted research at the Yellowhead Youth Centre. A number of conditions for conducting the research have been identified and are attached for your information.

Yours truly,

Joni Morrison O'Hara, M.S.W.
Program Planner
Child Welfare Services

JMO/lcb

attachment

cc: Nathan Cowper Smith

Alberta   M E M O R A N D U M

FAMILY AND SOCIAL SERVICES

FROM   Mohammed Sadiq   OUR FILE REFERENCE
            Director, Clinical Services
            Yellowhead Youth Centre   YOUR FILE REFERENCE

TO   Program Supervisors   DATE   Sept. 12, 90
       Setting Psychologists
       Ernie Homeniuk   TELEPHONE   455-4313 Ext. 219

SUBJECT   RESEARCH PROJECT

Please be advised that Nathan Cowper Smith is in the process of
conducting a research at YYC as a part of his Master's Thesis.
His research proposal has been approved by the Regional Director
under the conditions attached herewith.

Nathan will be utilizing our residents to administer a number
of tests to measure their self-esteem and coping mechanisms.
He will be working in the school area to contact the residents
to explain to them the purpose of his research and to seek their
consent to participate in it. He will also seek consents from
the social workers and parents as required. The tests will be
administered in the school area as well.

Ross Monson will be coordinating the project from our end, and
Ernie Homeniuk will coordinate it from the school's perspective.

If you have any questions, please do not hesitate to contact me.

M. Sadiq
Mohammed Sadiq

c.c.   Ernie Rachmistruk

Alberta

HEALTH
Mental Health Services
Edmonton Region

C.A.S.E. — Child and Adolescent Services, Edmonton
6715 - 86 Avenue, Edmonton, Alberta, Canada T6B 0J9   403/427-4623
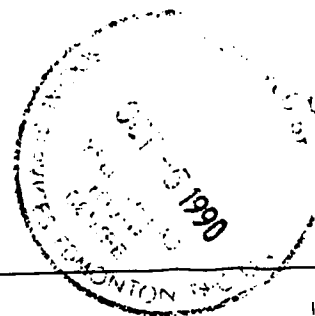
In Replying Please Quote:

September 14, 1990

Mr. N. Cowper-Smith
Child Care Counsellor
Sundance House
Yellowhead Youth Centre
12320 - 124 Street
Edmonton, Alberta
T5L 0N4

Dear Mr. Cowper-Smith:

RE: A STUDY OF ADOLESCENT COPING

    I have examined the information given to me regarding your study and will authorize involvement of clients both in CASE House and the Day Programme if required.

    I am pleased that you will make the results of these tests available to the clinical staff as well as the school.

Yours sincerely,

Maurice Blackman, M.B.,FRCPC

signed in Dr. Blackman
absence to avoid delay

REFLECTIVE ADAPTATION

INSTRUCTIONS:-

The following pages contain some general questions. Please mark the letter that best describes you on the answer sheet provided. There are no right or wrong answers. Do not spend too much time on any one question.

The following scale is a guide:-

```
    VERY          SOMEWHAT      SOMEWHAT       VERY
  LIKE ME         LIKE ME       UNLIKE ME    UNLIKE ME
<---A-------------B-------------C------------D---->
```

A:- VERY Like Me
   - This question is very like me and would be
     true of me All of the time.

B:- SOMEWHAT Like Me
   -This question is SOMEWHAT like me and would
     be true Most of the time.

C:-SOMEWHAT Unlike Me
   -This question is SOMEWHAT unlike me and
     would be only true Some of the time.

D:- VERY Unlike Me
   -This question is very unlike me and
     would Not be true of me.

Please answer all the following questions.

| VERY | SOMEWHAT | SOMEWHAT | VERY |
| LIKE ME | LIKE ME | UNLIKE ME | UNLIKE ME |

`<---A-----------B-------------C------------D---->`

1/ When things go wrong for me, I like to be alone.

2/ I don't feel o.k. around my friends.

3/ People make too many decisions for me.

4/ I keep my thoughts to myself.

5/ I get the short end of the stick in dealing with others.

6/ When I make mistakes I usually talk to my friends about it.

7/ Before I do things I like to know if it's right or wrong.

8/ When I don't get along with someone I smile but feel upset.

9/ I think before I do things in my life.

10/ When I have trouble with people I try and talk to them.

11/ When things get really tough I can smile and get beyond it.

12/ I find that if I laugh about things, it helps.

13/ I always share my feelings with my friends.

14/ I know that I can count on my friends.

15/ When I don't get along we talk and can laugh about it later.

16/ When I watch television it is usually with someone else.

17/ I like making new friends.

18/ I'm more happy when I'm around my friends.

19/ I sometimes do things that I later regret.

20/ I enjoy a lot of friends around me most of the time.

| VERY | SOMEWHAT | SOMEWHAT | VERY |
| LIKE ME | LIKE ME | UNLIKE ME | UNLIKE ME |

```
<---A-----------B------------C------------D---->
```

21/ I enjoy getting advice from people who know more than me.

22/ I always think ahead and plan things carefully in my life.

23/ I enjoy the laughter of others.

24/ I'm usually very flexible in my life.

25/ When a joke is played on me I can go along and laugh.

26/ I find life hard to live most of the time.

27/ When I'm at school I usually play away from the rest.

28/ I get in trouble at school quite a bit.

29/ I feel I have nothing to be proud of in my life.

30/ I start many different things but usually don't finish them.

31/ Sometimes I do things and don't really think about them.

32/ When I have problems with others, I try and see their side.

33/ I enjoy my own company and also the company of others.

34/ I spend time thinking about who I am.

35/ When I'm upset with others I tell them why.

36/ I feel tired most of the time.

37/ We should look after ourselves, before others.

38/ I'm not shy with new people.

39/ When things go wrong, it's others who make it that way.

40/ I do not feel close to anyone right now.

| VERY | SOMEWHAT | SOMEWHAT | VERY |
| LIKE ME | LIKE ME | UNLIKE ME | UNLIKE ME |

<---A------------B-------------C------------D---->

41/ When I have trouble with people we usually work it out.

42/ I feel good about myself.

43/ My friends and I share a lot of closeness.

44/ I love a good joke, even if it's on me.

45/ Things go quite smoothly in my life most of the time.

46/ I like to talk to others about the things that bother me.

47/ When I get upset over a problem in my life I look to others.

48/ When someone does something upsetting I let them know.

49/ In disagreements with my friends I usually see my part in it.

50/ When unpleasant things happen to me, I spend time thinking about how I can make it better.

51/ My friends do not make me happy.

52/ I do not like it at home right now.

53/ I do not like school and find learning painful.

54/ People find a lot of faults in things I do.

55/ I act the way people want me to and not the way I feel.

56/ When I have problems I know where to go for help.

57/ I like to do things for others.

58/ Most of my time is spent in the company of people I like.

59/ I have faith that my future will be bright.

60/ I know that I can count on my friends.

	VERY LIKE ME	SOMEWHAT LIKE ME	SOMEWHAT UNLIKE ME	VERY UNLIKE ME
	<---A----------B-----------C-----------D--->			

61/ When I'm with people I remember the things that were fun.

62/ I can laugh at myself when things go really wrong in my life.

63/ I feel full and rested most of the time.

64/ I do not get bored.

65/ I have learned that everything dies and I accept this well.

66/ I have many quarrels with my friends.

67/ I find it hard to control my anger.

68/ I get into trouble at home.

69/ I don't understand why people get upset with me.

70/ I feel sometimes that I lack the skill, to try new things.

71/ I usually stand my ground and fight for what is right.

72/ I try and find out why things are right and wrong.

73/ When I get into trouble I talk to my friends about it.

74/ When I do something wrong I try and understand why.

75/ If I fail at something I know where to go for help.

76/ When things have to be done I get them done.

77/ I like trying new things that are really hard to do.

78/ I think that if you laugh at hardships, it helps.

79/ My friends treat me very well.

80/ When others annoy me I take time and explain it to them.

VERY LIKE ME	SOMEWHAT LIKE ME	SOMEWHAT UNLIKE ME	VERY UNLIKE ME

`<---A-----------B------------C------------D---->`

81/ I get upset when things do not go on the same around me.

82/ I do not like learning new things.

83/ I have difficulty sleeping at night.

84/ When I get into trouble with people I avoid them.

85/ I lose my temper quite a bit.

86/ When I say no to someone I can usually explain why.

87/ If I get into trouble, the next day things seem clearer to me.

88/ My friends and I share some closeness.

89/ When my plans with my friends changes suddenly, I go along.

90/ It's important to get along with others, even if I have to put my own needs and wants aside for awhile.

91/ I do not think about death.

92/ I would rather do things for myself than for others.

93/ I do not like the way I live my life.

94/ My friends drag me into trouble quite a bit.

95/ I like to take chances and risks in my life.

96/ I spend time thinking about my weaknesses and how to become stronger.

97/ I do not mind if people know my weak spots.

98/ When I do something new I learn things about myself that help me live better.

99/ Everything in life dies, I have learned to accept this.

100/ I feel I have the skills to explain my side of things.

	VERY LIKE ME	SOMEWHAT LIKE ME	SOMEWHAT UNLIKE ME	VERY UNLIKE ME

```
<---A------------B------------C------------D---->
```

101/ I can always see the bright side of troubles in my life.

102/ When things go wrong I just dust myself off and go on.

103/ When I work on something new I feel really good about it.

104/ I have faith that I will be able to handle new things.

105/ When I start something new in my life I usually finish it.

106/ I feel like I'm part of the group.

107/ When I talk to someone who has made me angry, it calms me.

108/ When things go really wrong, I can still see better times.

109/ Noise does not bother me very much.

110/ I finish most of the things I start to do.

111/ When I get into trouble I do not tell anyone.

112/ I make new friends but usually keep my distance.

113/ I watch a lot of television by myself.

114/ When I go home I spend my time away from others.

115/ I have been in trouble with the police.

116/ I have great faith in my abilities.

117/ I have the skill to deal with changing and difficult times

118/ I surprise myself, with new ways of doing things.

119/ I surprise myself, with my ability to learn and understanc

120/ I have a bright and interesting future.

GRAMMATICAL SUMMARY FOR REFLECTIVE ADAPTATION

Readability Statistics

Flesch Reading Ease: 94

Gunning's Fog Index: 6

Flesch-Kincaid Grade Level: 3

Paragraph Statistics

Number of paragraphs: 130

Average length: 1.0 sentences

Sentence Statistics

Number of sentences: 135

Average length: 9.5 words

End with '?':   0

End with '!':   0

Passive voice: 2

Short (< 12 words):   117

Long (> 28 words):   0

Word Statistics

Number of words: 1284

Prepositions: 149

Average length: 3.77 letters

Syllables per word: 1.22

GRAMMATICAL SUMMARY FOR SOCIAL REFLECTION QUESTIONNAIRE

Readability Statistics

Flesch Reading Ease: 82

Gunning's Fog Index: 8

Flesch-Kincaid Grade Level: 5

Paragraph Statistics

Number of paragraphs: 127

Average length: 1.3 sentences

Sentence Statistics

Number of sentences: 176

Average length: 13.7 words

End with '?':   39

End with '!':   0

Passive voice: 6

Short (< 12 words):   71

Long (> 28 words):   16

Word Statistics

Number of words: 2419

Prepositions: 227

Average length: 4.23 letters

Syllables per word: 1.31

Grammatical Summary Readability Score Formulas

Flesch Reading Ease

1.015 x (average sentence length)

+ .846 x (number of syllables per 100 words)

206.835 - Total = Flesh Reading Ease Score

Score	Reading Difficulty	Approximate Grade Level
90-100	Very Easy	4th Grade
80-90	Easy	5th Grade
70-80	Fairly Easy	6th Grade
60-70	Standard	7th - 8th Grade
50-60	Fairly Difficult	Some High School
30-50	Difficult	High School/College
0-30	Very Difficult	College Level and up

Gunning's Fog Index

(average number of words per sentence)

+ (number of words of 3 syllables or more)

Total x   4 = Fog Index

Flesch-Kincaid Grade Level

(0.39) x (average number of words per sentence)

+ (11.8) x (average number of syllables per word)

Total - 15.59 = Grade Level