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The Relationship Between Stress, Demands and
Coping in Adolescents

BY

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THE UNIVERSITY OF CALGARY
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The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies for acceptance, a thesis entitled, "The Relationship Between Stress, Demands and Coping in Adolescents" submitted by Sandra G. Allen in partial fulfillment of the requirements for the degree of Masters of Science.

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ABSTRACT

This study was designed to investigate the relationship between stress, demands, and coping in adolescents. Two stages of research were conducted. In stage 1, 105 grade eleven volunteers generated a list of events which adolescents find particularly demanding. These events were classified into the following six categories: academics, autonomy, peer events, family, personal concerns, and romantic relationships.

The events identified in stage 1 were used to develop the "Situations Faced by Adolescents" questionnaire. The result was a questionnaire which consisted of 34 situations, each of which the student rated as to the frequency with which it was encountered, the intensity of stress experienced, the amount of demand felt, and the effectiveness to which it was dealt with. In stage 2 a sample of 285 students from Career and Life Management 20 were asked to complete the "Situations Faced by Adolescents" questionnaire. Data were also gathered from the Coping Resource Inventory for Stress (CRIS), the State-Trait Anxiety Inventory (STAI) and the Symptoms of Stress Inventory (SOSI). Several questions that requested information on demographic factors were included as well.

Product-moment correlations were computed to measure the relationship between stress, demands, and coping in adolescents. Results indicated that stress and coping were inversely related: adolescents who perceived themselves as coping effectively with the demands they faced experienced

less stress. This lends support for the transactional model of stress which suggests that the interaction between demands and perceived coping effectiveness accounts for the intensity of a person's stress reaction.

Multivariate analyses of variance demonstrated that such variables as school, class, age, grade, gender, smoking, and number of hours worked per week significantly affected the outcome variables.

Implications for educational programs and stress control are considered. Also included in the discussion are the strengths and limitations of this study. Finally, directions for future research are outlined.

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Chapter 1

Introduction

In our changing society, people are challenged by a rising number of demands and by a multiplicity of conflicting pressures. Accompanying our society's increasing complexity, has been a heightened prevalence of stress-related disorders in the population (Albrecht, 1979; ElKind, 1986; Hiebert & Eby, 1985). This rising incidence of stress has become a concern because of the empirical evidence which demonstrates the negative effects that chronic stress can have on the individual (Folkman & Lazarus, 1980; Price, 1985; Thoresen & Eagleston, 1983). In response to the society's growing demands and the evidence of maladaptive stress reactions, there has been a concomitant increase in research examining stress and stress control.

Professionals who work with adolescents have long been concerned about their clients' susceptibility to stress (Chandler, 1982). Adolescents are considered particularly vulnerable to stress because of the rapid changes in the biological, cognitive, social, and affective functioning associated with this transitional stage (Lipsitz, 1980; Petersen & Spiga, 1982; Price, 1985). For example, they experience separation from their parents, greater autonomy, pressures toward intimacy, and adult sexuality, intellectual challenges, a commitment to work, and a redefinition of oneself in relation to the existing society (Hamburg & Hamburg, 1975).

Since these developmental tasks are so salient, they are frequently considered the largest source of adolescent stress (Lipsitz, 1980; Petersen & Spiga, 1982; Tyerman & Humphrey, 1983).

It may be incorrect to assume that the developmental demands of adolescence necessarily lead to stress reactions. Current conceptualizations of stress view stress as a "multidimensional response occurring when people perceive the demands of a situation as exceeding their coping resources" (Hiebert, 1987, p. 273). Therefore, a demand will only become a stressor as a result of the person's perception that he/she can not handle the demand (Hiebert, 1987; Lazarus & Folkman, 1984; Lazarus & Launier, 1978; Magnusson, 1982). From the transactional perspective, it is crucial to recognize that demands are only potential stressors. Only those adolescents who perceive that the demands they encounter exceed their coping resources will find this time stressful.

Some literature has accumulated which utilizes the transactional model to understand stress in adults. However, very few studies have investigated the stress process in adolescents (Omizo, Omizo & Suzuki, 1988; Price, 1985). It is not sufficient to extend the findings and conclusions of stress research in adults to that of a younger age group. Adolescence is a distinct developmental phase, consisting of its own pressures, cultural constraints, and modes of behavior (D'Arcy & Siddique, 1984). As a result, demands arising for

adolescents and the ways in which adolescents cope with these demands are likely to be unique to this phase. Continued research is necessary and important to increase our understanding of stress in adolescents.

The Problem

In order for school counsellors, teachers, and parents to assist youth in coping with stress, it is important to identify adolescents' perceptions of the demands they face, the skills or resources they draw on to deal with those demands, and the adequacy of those skills and resources for dealing satisfactorily with those demands. Further, it is important to identify situations that adolescents find stressful and the methods they use to cope with their stressful reactions. Ultimately, by identifying these factors for adolescents it may be possible to develop educational programs to teach those students with deficient coping skills better ways of dealing with the demands they face or with the stress they experience in their daily lives.

Purpose

There are four main objectives in this study. The first is to identify the situations which adolescents find demanding and stressful. The second objective is to identify the coping resources utilized by adolescents to deal with these situations and with their stress. The third is to determine the adequacy of these coping resources in order to identify those areas where skill training may be necessary. And finally, the fourth

objective is to assess the strength of the relationship between stress, demands, and coping in adolescents.

Overview

The preceding objectives will be addressed in the chapters to follow. Chapter two provides a review of the literature concerned with the conceptualization of stress and adolescent stress. Chapter three focuses on the methodology and procedures used in the study and Chapter four outlines the results of this investigation. Chapter five follows with a discussion of the results and includes possible implications for educational programs and future research pertaining to adolescent stress.

Chapter 2

Literature Review

The purpose of this chapter is to integrate the literature on stress with the stress research specific to adolescence, and to identify the areas of adolescent stress research which deserve more attention. First, early conceptualizations of stress and their limitations are summarized. Next the transactional model of stress with its components and implications are discussed. After this follows a discussion of adolescent stress. This includes a review of the literature pertaining to the consequences of stress for adolescents, the demands which they encounter, and the coping resources which are available to them. Finally, implications for future research are detailed.

Conceptualization of Stress

Stress research has been described as an "area of confusion" (Mason, 1975; Pearlin & Schoder, 1978; Thoresen & Eagleston, 1983). The uncertainty in the stress field is due to the fact that stress has been studied in many different disciplines, using different phenomena, methodologies, and assumptions (Cameron & Meichenbaum, 1982). There are three main variations in the conceptualization of stress. Stress has been defined as a response, as a stimulus, and as a relational concept involving the interaction between the person and the environment. This conceptual diversity has made it difficult to arrive at a single definition of stress.

Stress As A Response

Stress has been defined as an emotional and physiological reaction to demands in the environment. The physiological stress concept has grown largely out of the work of Selye in the 1930's. Selye described stress as a nonspecific adaptive response which is elicited by a variety of noxious agents in an effort to preserve the individuals homeostatic functioning (Selye, 1974). According to this conceptualization, every activity that people engage in becomes stress inducing to some extent because everything a person does places some demand on the body (Hiebert, 1983).

There are a number of problems with defining stress as a response. The keystone of this definition is the concept of a single, nonspecific response to external demands. However, there has not been adequate evidence of a single response or set of responses that is invariably elicited when the person faces demands (Mason, 1975). A second problem arises when trying to understand how different demands could result in the same reaction. This conceptualization tends to ignore the role of cognitive mediation between the demand and the reaction (Spielberger, 1986). Lastly, by defining stress as a response, we have no systematic way of defining prospectively what will be a stressor (Lazarus & Folkman, 1984). The difficulties mentioned in defining stress as a response demonstrate the inadequacies of this definition to explain the complexity of the stress process.

Stress As A Stimulus

Some earlier studies have defined stress as a part of certain physical and sociocultural properties of the environment. Since extremely demanding situations like natural disasters and wars are often stressful for people, it has been natural to search for determinants of stress in the characteristics of the events themselves (Holroyd & Lazarus, 1982; Magnusson, 1982). Since this model considers life events to be psychosocial stressors, it measures people's stress levels by the frequency and intensity of the major events they have had to face (Holmes & Rahe, 1967).

The inadequacies of the environmental definition of stress are manifold. Holmes and Rahe (1967) have assumed that life events, are precursors of physical and mental illness. However, no effort has been made to explain the possible relationship between life stress and illness (Sarason & Sarason, 1981; Vaux & Ruggiero, 1983). Secondly, to equate environmental stress with major life events neglects the day to day experiences which may result in a strong, cumulative source of stress (Lazarus & Folkman, 1984; Sarason & Sarason, 1981). Thirdly, by assuming that stress results from environmental situations, the only alleviation of stress is for the situation to change (Hiebert, 1986). The last criticism of this approach is the assumption that life stress is the same for all persons. In fact, there are individual differences in the quality, intensity, and duration of reactions to the same environmental

event (Hiebert, 1987, 1988; Lazarus & Launier, 1978; Mason, 1975; Sarason & Sarason, 1981). It is obvious from these shortcomings that stress can not be fully understood in terms of the life events alone.

Interactive Perspective Of Stress

The earlier stress models view stress simplistically, either as an external condition creating turbulence, or as the internal turbulent response itself (Roskies & Lazarus, 1980). More current research emphasizes that the person's perception of the demand plays a mediating role in determining his/her reaction to the demand (Hiebert, 1987; Holroyd & Lazarus, 1982; Magnusson, 1982; Roskies & Lazarus, 1980). Individuals differ with respect to how they select, perceive, interpret, and use information from a situation, and how they react to it emotionally and physically (Magnusson, 1982). It follows from this, that whether a situation evokes an emotional reaction or not will depend on how that situation is perceived or interpreted (Holroyd & Lazarus, 1982; Magnusson, 1982; Spielberger, 1986).

The transactional model of stress is an integrative framework for examining the antecedents, processes, and outcomes that are relevant to the stress process. This model defines stress as a multidimensional response occurring when people perceive the demands of a situation as exceeding or taxing their coping resources (Cameron & Meichenbaum, 1982; Hiebert, 1983, 1987, 1988; Lazarus, 1986; Lazarus & Folkman,

1984; Magnusson, 1982). Cognitive mediators are a crucial component of this process since a demand will only elicit stress if the individual perceives that he/she does not have adequate resources to handle the demand (Hiebert, 1987, 1988; Holroyd & Lazarus, 1982). Therefore, the main components of the transactional model of include the demand, the person's coping skills, the person's cognitive appraisal, and the multidimensional stress response.

Demands. A situation is referred to as a demand when it requires attention or effort on behalf of the individual. When people confront a demand, they will make an attempt to cope with it. If people perceive that the demand falls within their coping ability, the demand is called a pressure. However, if there is a perceived imbalance between the demand and the person's ability to meet the demand, the demand becomes a stressor and the person experiences a stress response (Hiebert, 1983, 1987, 1988; Lazarus & Folkman, 1984; Magnusson, 1982).

Coping. Coping behaviors refer to the efforts people make to manage specific external and internal demands (Hiebert, 1987; Holroyd & Lazarus, 1982; Lazarus & Folkman, 1984; Lazarus & Launier, 1978). By defining coping as adaptational processes which require effort, it is distinguished from instinctual mechanisms that are beyond the individual's control (Compas, 1987; Lazarus & Folkman, 1984). As well, coping is not confounded with outcome, as coping includes any effort to manage the situation, regardless of how effective it is. A

person's coping repertoire will make a substantial difference in how he/she deals with life demands.

Cognitive appraisal. Cognitive appraisal involves the continuously changing set of judgements people make about the significance of events for their well-being (Lazarus & Launier, 1978). When people are faced with demanding situations, they must first assess the demand characteristics and the consequences to determine whether there is a need to make a response. If a response is considered necessary, people make an additional appraisal of their resources to meet the demands (Hiebert, 1987, 1988; Lazarus & Folkman, 1984; Sarason & Sarason, 1981). As long as people remain in the situation, they continue to appraise the nature of the demand and their available coping resources. (Hiebert, 1988; Lazarus, 1986; Roskies & Lazarus, 1980). The mediation process involving evaluation and judgement are crucial to the stress reaction (Lazarus, 1974; Magnusson, 1982; Thoresen & Eagleston, 1983).

Stress response. Stress is identified as a multidimensional response consisting of physiological, cognitive, and behavioral components which occurs when there is a perceived inequity between demands and coping ability (Hiebert, 1983, 1986, 1987, 1988; Lazarus and Folkman, 1984). The physiological component of the stress response is characterized by heightened body arousal which includes such symptoms as increased heart rate, respiration rate, muscle tension, and decreased skin temperature in the hands and feet. The cognitive component of

the stress response is characterized by thought rumination, self-denigration, and exaggeration of the nature of the demands and their consequences. The behavioral component consists of the hyperactivity of the motor system as well as other forms of hyper behavior.

Summary. The Key feature concerning demands, coping resources, and cognitive appraisal, is that they interact with each other. Stress will occur when the individuals' cognitive appraisal results in the perception of an imbalance between the demands of the situation, and their resources to cope with the demands. If people feel that they have sufficient coping resources to meet the demand, stress will be minimal.

Implications Of The Transactional Model

The transactional model of stress assumes a dynamic relationship between the person and the environment. This theoretical framework differs considerably from earlier theories of stress. To fully understand the more current model, it is necessary to examine its implications for recognizing stress, for intervention, and for research.

Recognizing stress. One of the main implications of this model is that no event is inherently stressful, provided the person has an adequate repertoire of coping resources to meet the demands of the situation. This does not mean that people can be without stress. Inevitably, people will encounter some situations in which their coping resources are taxed. It is crucial in these situations to recognize whether the stress

experienced is harmful. To make this discrimination, it is useful to distinguish between transitory and chronic stress (Hiebert, 1987, 1988).

Transitory stress occurs when people are confronted with a demand, but the demand subsequently decreases or the people's coping attempts are perceived to be successful. In these cases, the system is aroused for only a short period of time and thus results in little harm to the person. However, chronic stress results if the demand persists, the coping attempts continue to be inadequate, or the stress response is reelicited within a short period of time. In these cases, the stress response persists over a prolonged period of time. Chronic stress is characterized by heightened emotional arousal, persistent inappropriate cognitive activity, and habitual hyperactivation of the motor system (Hiebert, 1987, 1988). It is important to recognize when stress becomes chronic so that appropriate interventions can be used to reduce the person's stress level.

Intervention: Controlling stress. A second implication of the transactional model, is that stress control can occur at a number of levels. According to this model, stress can be controlled by either changing the situation (stressor management) or by changing the persons reactions to the situation (stress management). Stressor management aims at reducing the inequity between demands and coping resources by either reducing the demand or learning more effective ways for

dealing with the demand. Stress management focuses on reducing the physiological, cognitive, or behavioral responses that comprise the stress response (for a detailed review, see Hiebert, 1987, 1988). According to the transactional model of stress, it is important to evaluate which strategy will be most effective for the individual client.

Research approaches. In order to investigate the stress process, a number of factors must be taken into consideration. It is important to examine the conditions under which people feel threatened, the individual differences in appraisal and coping across these situations, and the effectiveness of the people's coping attempts. By assessing these factors, it is possible to obtain information about the mechanisms through which appraisal and coping mediate the relationship between the demand and the stressful experience (Folkman & Lazarus, 1986).

Stress in Adolescents

In the past decade, there has been an upsurge of interest in adolescent behavior (Berzonsky, 1983; Hamburg, 1974). Of particular concern are the changes that occur within this period and the adolescent's ability to respond to these pressures in an adaptive manner. The next section of this paper examines the consequences of stress for the adolescent, followed by a discussion of the demands that adolescents must face and the their vulnerability to these demands.

Why Is Stress In Adolescents A Concern?

Stress has been confirmed to have a number of harmful

effects on adolescents. Adolescents who are unable to relieve their high level of stress have become depressed, impulsive, aggressive, antisocial, and irritable (Chandler, 1982; Hamburg & Hamburg, 1975; Omizo, et al., 1988). There have been a number of studies which indicate that high stress levels in adolescents is related to crime and delinquency (Price, 1985; Vaux & Ruggiero, 1983) and increased drug use (Bruns & Geist, 1984; Elias, Gara & Ubriaco, 1985). D'Arcy and Siddique (1984) demonstrated in their Canadian sample of adolescents, that a large number of adolescents (almost 20%) suffered from some source of psychological distress, where anxiety was the most prevalent symptom reported. From these findings, it is evident that stress can have negative effects on the physical, emotional, social, and psychological development of the adolescent.

Demands of Adolescence

A common approach in the literature is to explain adolescent stress as a by-product of the demands that must be faced in developing into adulthood. Erikson's (1968) theory of development is most often associated with the notion that developmental challenges create stress for youth. Erikson defines adolescence as an "identity crisis" which arises from a number of changes that individuals confront in their biological, cognitive, and social functioning (Chandler, 1982; Petersen & Spiga, 1982; Thoresen & Eagleston, 1983). Therefore, adolescence is typically characterized as a

stressful struggle to achieve a comfortable place in the adult world (Weiner, 1985).

There is considerable agreement that adolescence is filled with changes, transitions, and potential demands. First, there are the challenges posed by the biological changes of puberty. The individual must cope with growth in physical appearance, a mature reproductive capacity, and hormonal changes which lead naturally to pressures toward greater intimacy and adult sexuality. Secondly, there are changes in the adolescent's cognitive capacity. With the development of formal operational thinking, adolescents can conceptualize their own thoughts and the thoughts of other people. This leads to value conflicts, egocentrism, self evaluation, and a new understanding of feelings. Thirdly, there are a number of shifts in the social environment. Adolescents experience changes in role definitions and expectations, and conflicts arise with parents over issues of dependability, conformity, and independence. Peers become a critical reference point, and popularity and acceptance become important goals. Occupational identity is another concern as adolescents must manage their educational and occupational future. Adolescence is clearly a critical period of development that involves the negotiation of a variety of interrelated demands (for reviews see Hamburg, 1974; Hamburg & Hamburg, 1975; Petersen & Spiga, 1982; Thoresen & Eagleston, 1983).

Individual Vulnerability

While it is clear that the years of adolescence are filled with a number of demands, it is also evident that not all adolescents will have the same experiences as they move through this transition (Petersen & Spiga, 1982; Price, 1985; Thoresen & Eagleston, 1983). Some investigators have attempted to identify why some adolescents seem to have a more difficult time adjusting to the developmental demands than others. Studies have focused on the adolescent's temperament or behavioral style (Coddington, 1972), the timing of the developmental demands (Petersen & Spiga, 1982), the availability of social supports (Hamburg & Hamburg, 1975; Omizo et al., 1988; Petersen & Spiga, 1982), the adolescent's psychological and biological preparedness to respond to stress (Compas, 1987; Petersen & Spiga, 1982), and specific personality attributes of the individual (Hamburg & Hamburg, 1975; Omizo et al., 1988).

Unlike the focus of these studies, the transactional model of stress suggests that individuals' vulnerability to stress is determined by the availability of their coping resources. Adolescents with a deficient coping repertoire will be particularly susceptible to stress as they will not have the range of coping options to meet the variety of demands they face (Chandler, 1982). Adolescents with a wide range of coping options will more likely be able to handle the demands they face and therefore can actually avoid being stressed. Therefore, to understand adolescent vulnerability to stress it

is important to investigate the manner in which adolescents cope with demands and the adequacy of their coping repertoires to meet the demands (Compas, 1987, Schinke, Schilling & Snow, 1987; Thoresen & Eagleston, 1983).

Summary

Adolescence is filled with a number of demands which may include some situations particular to the developmental tasks of this age and others which are representative of the daily hassles which confront young people. Research has begun to demonstrate that not all adolescents will be as vulnerable to these demands as others. According to the transactional model of stress, it is crucial to recognize the mediating influence of adolescents' coping resources on their experience of stress. The next section reviews the literature which examines stress and coping in adolescents.

Empirical Investigations of Stress and Coping in Adolescents

Numerous studies have focused on stress in adolescents. However, only a few studies have attempted to clarify the sources of stress for adolescents and their ways of coping with these stressors. To follow is a discussion of the empirical attempts to measure the demands which adolescents face and the coping resources that they utilize. As well, possibilities for future research are highlighted.

Identification of Stressors

To thoroughly examine adolescent stress, it is necessary to have a clear understanding of the stressors that youth

experience and how they attempt to cope with these demands (Compas, 1987; Elias et al., 1975; Omizo et al., 1988; Petersen & Spiga, 1982). To achieve this, it is important to develop a sensitive, reliable, and valid instrument to measure the occurrence of stressors in their day to day lives (Beall & Schmidt, 1984; Compas, Davis, Forsythe & Wagner, 1987; Price, 1985). There has been two different approaches to identifying stressors in adolescence. These two approaches and their strengths and weaknesses will be discussed.

Life Event Checklists. Most of the research on adolescent stress have adopted an environmental perspective of stress. Specifically, these studies equate adolescent stress to life events which are more likely to occur during that age period and assign to these events quantitative values of adjustment (Bruns & Geist, 1984; Coddington, 1972; Newcomb, Huba & Bentler, 1981; Tyerman & Humphrey, 1983; Vaux & Ruggiero, 1983).

There are a number of controversies over using this approach to understand the stressors encountered by adolescents. All of the life event checklists that have been developed for use with adolescents contain items which were generated by adults and were not derived from the perceptions of adolescents (for review see Compas et al., 1987). However, adult professionals and researchers may not accurately report the experiences of adolescents (Compas et al., 1987; Elias et al., 1985). Professionals are hindered by the age difference

between themselves and the adolescent, by the differences in perspectives between individuals who report on their own behavior and external observers who report that behavior, and by the limitations of the existing knowledge in the field of adolescent stress which may lead to an inadequate sampling of relevant events for adolescents (Compas et al. 1987).

As well, item weights used in these checklists are assigned by professionals rather than through the self-report of adolescents. This may not provide an accurate index of the stressfulness of the events for the adolescent (Forman, Eidson & Hagan, 1983; Yamamoto, 1979). Yamamoto (1979) found that stress as experienced by the child was quite different in magnitude from that estimated by the adult. Finally, life event checklists neglect minor events or daily stressors in the lives of children and adolescents which may contribute substantially to their stress levels (Compas et al. 1987; Miller, Wilcox & Soper, 1985). These limitations demonstrate the inadequacy of using life event checklists for the purpose of identifying stressors for adolescents.

Open-ended questionnaires. Compas and his colleagues (1987) developed the Adolescent Perceived Events Scale (APES), a measure of major and daily stressful events during adolescence. The scale items for this questionnaire were drawn from adolescents' open-ended reports of what they perceived to constitute the significant events in their lives. Beall & Schmidt (1984) also developed a Youth Adaptation Rating Scale

(YARS) by asking students to identify events in their lives that created stress and required some type of adaptation. Omizo, et al., 1988) interviewed students for the purposes of identifying stressors and symptoms of stress in elementary, intermediate, and high school students. Although Omizo et al. did not develop a scale in which stressors were listed, they did provide a conceptual scheme in which stressors can be classified. The advantage to all of these scales is the attempt to provide a clearer understanding of the events which adolescents find stressful, from the perspective of the adolescents themselves.

Identification of Coping Resources

Compas (1987) reports that the literature pertaining to adolescent coping has been represented by different definitions and methods of measurement as well as several divergent lines of research. The bulk of the literature concerning adolescent coping can be divided into three areas. The first type of research focuses on the resources external to the adolescent. This includes such studies that examine early social bonds, attachment, and social support. The second type of research focuses on the adolescent's coping style. These studies examine the adolescent's coping style across a variety of situations (e.g., type A behavior children) or the coping style exhibited in a given type of stressful situation (e.g., test taking, pregnancy, marriage). The last type of research focuses on the ways in which the adolescent actually copes in a

wide variety of stressful episodes. The first two approaches provide valuable information about external resources and coping styles. However, the last approach demonstrates the actual coping strategies that the adolescent uses and the situations in which they are most effective.

There have been very few attempts to develop an instrument to measure adolescents' coping attempts and the effectiveness of these efforts. Patterson and McCubbin (1981) have developed the Adolescent-Coping Orientation for Problem Experience (A-COPE). This 95-item self-report questionnaire lists behaviors used to manage stressful life experiences during adolescence. The adolescent's task is to rate the effectiveness of these behaviors on a five point scale. Compas, Malcarne and Fondacaro (1988) developed an open ended questionnaire to assess problem-focused coping or emotion focused coping exhibited by adolescents. Finally, the Coping Resource Inventory for Stress (CRIS) has been developed to assess the strengths and weaknesses of a person's coping resources (Curlette, Aycok, Matheny, Pugh, & Taylor, 1988). While this questionnaire was not designed specifically for use with adolescents, it has been found to be appropriate for this age group.

Future Research

In examining the literature pertaining to stress in adolescence, one is able to see the possibilities for future research. First, it is necessary to replicate the studies

which identify the stressors in adolescence in order to test the generalizability of their findings. The stressors identified must be derived from the self reports of adolescents and must include daily hassles and major events. Secondly, it is necessary to construct a scale using the stressors identified which adolescents can use to indicate the frequency with which they confront each stressor, how stressful they found that stressor, and how effectively they are able to cope with that stressor. It is only through these means that researchers can fully understand the demands that adolescents face, the ways in which they cope with these demands, and the relationship between stress, demands, and coping (Compas, 1987; Elias et al., 1975; Omizo et al., 1988, Peterson & Spiga, 1982).

Summary

Research on demands, coping and stress in adolescents is beginning to emerge as an important vehicle for examining chronic stress in adolescents. Investigators realize the importance of developing reliable and valid indices of stress and coping for the adolescent. As well, it is necessary to understand the relationship between demands, coping, and stress in adolescents in order to help students to reduce the experience of stress in their daily lives.

Research Questions

The following research questions guided the current investigation.

1. What events do adolescents find stressful in their lives?
2. What coping strategies do adolescents utilize in these response to the stressors identified.
3. How effective are these coping strategies?
4. What is the empirical relationship between stress, demands and coping in adolescents?
5. What factors mediate this relationship?

Chapter 3

Methodology

Design of the study

This exploratory study was divided into two stages, both incorporating a survey design. In stage 1, high school students were asked to identify situations which they perceived as demanding and pleasurable. Stage 2 was a large scale follow up investigation which examined the empirical relationship between the demands identified in stage 1 and other such variables as stress and coping effectiveness.

Stage 1

The purpose of the first stage of the study was to generate a list of situations which adolescents perceived as demanding and a list of situations perceived as pleasurable.

Sample

The participants were 105 grade eleven volunteers from 4 public senior high school classes in a large Western Canadian city. Each teacher consented to the group participation of his/her class in the study (see Appendix A for consent form).

Survey Instrument

The students were asked to fill out an "Inventory of Student Stress", an open ended questionnaire which was divided into four sections (see Appendix B). Section one asked students to list up to 10 situations which occurred in the past two months that they perceived as being demanding. Ten blank spaces were provided for listing these situations. Subjects

were then asked to rank order these situations from 1=most demanding, to 10=least demanding.

In the second section, the students were asked to describe the incident that they had indicated in section 1 as being the most demanding. Specifically, they were asked to describe the incident briefly, and indicate how they dealt with the situation, what feelings they experienced in the situation, and how they dealt with those feelings. For the third section, the students were asked to indicate up to 10 situations that they had encountered in the past two months which they perceived as pleasurable. In the final section the students were asked to describe the incident indicated in section 3 as the most pleasurable.

Procedure

The student volunteers completed the stage 1 questionnaire in the first 15 minutes of their regularly scheduled class period. Students who chose not to participate were asked to hold on to their questionnaires until the end of the 15 minutes and then to hand in their blank questionnaires along with the completed questionnaires. For reasons of confidentiality, students were asked not to write their name on the questionnaire and not to use names in describing any of the situations.

Stage 2

The purpose of stage 2 was to examine the empirical relationship between stress, demands, and coping with an adolescent sample. Furthermore, demographic information was obtained in stage 2 to determine the mediation effects of certain variables on this relationship.

Sample

The sample for stage 2 consisted of 285 senior high students from Career and Life Management 20 (CALM 20), a compulsory course for all students in the public school system. The goal of the Career and Life Management Program is to provide for students the opportunity to develop and practice skills which may help them to manage the stressors of growing up and living within a rapidly changing society (Alberta Education, 1987). It can be seen from this description that this study fit nicely into the CALM 20 curriculum.

The sample was drawn from 7 of the 14 senior high schools in a Western Canadian city. From these 7 schools, 12 different CALM 20 classes elected to participate. The age of the participants ranged from 14 to 20, although the majority of the students were 16 years old and in grade 11. The sample consisted of 170 female and 111 male students. The ethnic composition of the sample was as follows: 86% white, 10% Asian, 2% African, and 1% Spanish.

Close to 50% of the students were holding a job while attending school. The average number of hours worked per week

was 10 although there were a few students who reported working as many as 40 hours. In addition, the students reported investing an average of 7 hours per week in studying and homework, and 10 hours per week in other extracurricular activities. The majority of students (67%) in the sample did not smoke, but of those who did, most had between 7 and 19 cigarettes per day. Seventy five percent of the students reported drinking alcoholic beverages, with 42% indicating that they were drinking at least once per week.

Measures

Situations Faced by Adolescents. The "Situations Faced by Adolescents" questionnaire was developed using the following procedure. Since the demands and pleasures identified in stage 1 overlapped considerably with each other, only the list of demands generated in stage 1 were used to develop this second questionnaire. The demands were ranked according to how demanding they were rated, and how frequently they were reported. The situations selected to develop the "Situations Faced by Adolescents" questionnaire were the 34 situations most frequently reported as the most demanding by the students in stage 1 (see Appendix C).

In response to each situation, the adolescent was to indicate on a scale from 0 to 5, the frequency with which the situation was typically encountered, the level of stress experienced, the level of demand experienced, and the effectiveness with which the situation was handled. In

addition to completing the four scales for each situation, the students were asked to provide demographic information.

The format of this questionnaire was used in a previous investigation which examined principle stress (Hiebert & Basserman, 1986). It was shown to be an effective method to assess the relationship between frequency, demands, stress, and coping effectiveness.

State-Trait Anxiety Inventory (STAI) (Spielberger, 1983). The STAI is a 40 item self report scale based on Spielberger's theoretical conceptualization of two separate types of anxiety: A-State and A-Trait. A-State is described as a transitory emotional response that may vary in intensity and fluctuate over time in reaction to different circumstances. A-Trait is described as a relatively permanent personality disposition of anxiety proneness that tends to remain stable across situations. The STAI A-State scale requires respondents to indicate the intensity of their feelings of anxiety at a particular moment. The STAI A-Trait scale requires respondents to describe how they generally feel in terms of specific symptoms of anxiety.

Studies examining the properties of the STAI A-State and A-Trait scales (Spielberger, 1983) demonstrate that both scales have a high degree of internal consistency. The internal consistency of the T-anxiety scale, as indexed by coefficient alpha, ranges from .89 to .91, while the S-anxiety scale has coefficients from .86 to .95. Test-retest reliability was used

to assess the stability of the STAI scales. For the T-anxiety scale, coefficients ranged from .65 to .86 while the range for the S-anxiety scale was .16 to .62. This low level of stability for the S-anxiety scale reflects the transient nature of this construct (Spielberger, 1983).

The validity of the STAI was a paramount concern in developing the instrument (Spielberger, Gorsuch, & Lushene, 1970). Each S-Anxiety item was selected on the basis of demonstrated construct validity by selecting items which yielded higher mean scores in a stressful situation and lower mean scores in a relaxed situation as compared with a neutral situation. The evidence for the validity of the S-Anxiety scales is promising, as the mean scores for the S-Anxiety scales are highest in stressful conditions and lowest in relaxation conditions (Brook, 1976; Metzger, 1976; Spielberger et al., 1970).

Each T-Anxiety item was selected on the basis of its concurrent validity, as measured by significant correlations with the Taylor (1953) Manifest Anxiety Scale and the IPAT Anxiety Scale (Cattell & Scheier, 1961). As well, the A-trait scale has been found to be unidimensional by rotation and appears to be sensitive to a cognitive dimension of ego involvement or fear of failure (Kendall, Finch, Auerbach, Hooke, & Mikulka, 1976).

The STAI is well suited for high school students. Specifically, the STAI has been used to assess the

effectiveness of cognitive-behavioral interventions with highly anxious adolescents (Wehr & Kaufman, 1987) and with test anxious students (Leal, Baxter, Martin, & Marx, 1981). As well, it has been used with adolescents to assess chronic posttraumatic stress (Saigh, 1985), anxiety experienced from a psychological evaluation (Brook, 1976), and the effects of relaxation training (Hiebert & Eby, 1985). In addition, the STAI has been used with adolescents to validate the state-trait distinction in anxiety research (Gaudry, Vagg, & Spielberger, 1975; Naylor, 1978).

Symptoms of Stress Inventory (SOSI) (Lackie & Thompson, 1979). The SOSI was designed to quantify self perception of behavioral, cognitive, and physiological components of the stress response. The subjects are asked to rate on a 5-point scale, the frequency with which they have experienced 94 stress related symptoms during the past two weeks. A total SOSI score and ten subscale scores are calculated: Peripheral, Cardiopulmonary, Neural, Gastrointestinal, Muscle Tension, Habitual Patterns, Depression, Anxiety, Anger, and Cognitive Disorganization.

The validity of the SOSI has been shown by its high face validity and its positive correlation (.82) with the SCL-90, an external criteria of psychological stress. The internal consistency for the total SOSI is .97 (Cronbach' alpha). The consistency of individual subscales, as indexed by coefficient alpha ranged from .62 to .91. The total SOSI test-retest

correlation is .83, while the subscale scores range from .47 to .86. (Leckie & Thompson, 1987).

The SOSI has been routinely implemented at the University of Washington School of Nursing's Management of Stress Response Clinic since 1977. As well, the SOSI has been used to assess the stress response contagion between spouses (Bowers & Nakagawa Kogan, 1984), and the efficacy of self-management training with nurses (Nakagawa Kogan & Betrus, 1984). Of particular relevance to this study, the SOSI has been useful in assessing the stress response with children and adolescents (Eagleton, et al., 1986; Hiebert & Eby, 1985).

Coping Resources Inventory for Stress. (CRIS) (Curllette et al., 1988). The CRIS contains 280 items designed to assess a person's coping resources and to identify habits and conditions which interfere with a healthy lifestyle. The CRIS has been used widely in workshops on stress management. The CRIS can be used to identify and strengthen coping deficits, and as an impetus for discussions about healthy lifestyle management.

The CRIS provides a global score called the Coping Resource Effectiveness score (CRE). As well, it provides 12 Primary scales (self-disclosure, self-directedness, confidence, acceptance, social support, financial freedom, physical health, physical fitness, stress monitoring, tension control, structuring, and problem solving), 3 Composite scales (cognitive restructuring, functional beliefs, and social ease), 16 Wellness Inhibiting Items, and 5 Validity scales.

The internal consistency of the CRIS coping scales range from .84 to .97. The test-retest reliability correlations for the Coping Resource Effectiveness score range from .75 to .95. In general, the CRIS scores are stable over time when stress coping interventions are not present. As reported in the CRIS manual, respondents tend to answer the Wellness Inhibiting Items consistently. The validity of the CRIS is shown by its ability to discriminate between functional groups and disfunctional groups. (Curllette et al., 1988).

Procedure

From the CALM 20 classes who elected to participate in the study, teacher consent and student/parental consent (see Appendix D for consent forms) were obtained from the students prior to their participation. The four questionnaires were administered to the students during two of their scheduled CALM 20 classes. The Coping Resource Inventory for Stress was administered in one testing session and the other three questionnaires were administered in an additional testing session. The order of the administration of these questionnaires was counterbalanced across the various classrooms.

Because of the nature of the questionnaires used in the study, there was a possibility that some students may be experiencing elevated stress levels as indicated by their questionnaire scores. Students were informed prior to their participation in the study that if their questionnaire scores

deviated significantly from the group means, they would be approached discreetly and confidentially by their teachers. The teachers were asked to refer these students to the school counsellors who could teach them how to deal more effectively with stress. Once these students were identified, all information was transferred to identification number, and raw questionnaires were destroyed.

Following the data analysis, feedback on the results of the study was given to students who participated in either stage one or stage two of this investigation.

Chapter 4

Results

Data Analysis

The data collected from stage 1 was tabulated by classifying the stressors into categories. Frequency counts and percentages were used to report the frequency of the events within each category and the extent to which the events were considered demanding. Similar techniques were employed to tabulate the data generated from the "Situations Faced by Adolescents" questionnaire in stage 2. Next, Pearson product moment correlations were used to examine the relationship between the demand, stress, and the effectiveness of coping with a situation. Finally, multivariate analyses were conducted using several demographic dimensions as independent variables.

Common Stressors for Adolescents

Subjects in stage 1 generated 676 responses to the request for situations which they perceived as demanding. These responses were classified into the following six categories. The events within each category are presented in the order of the number of times mentioned.

1. Academics. Homework, getting grades wanted, attending classes, doing well on an exam or paper, school workload, studying, taking exams, having the marks or courses to graduate.

2. Autonomy. Concerns about the future, having money,

getting a job, making car payments, learning to drive.

3. Peer Events. Belonging to a club or organization, having enough time for friends, feeling pressured by friends, making new friends, having a fight with a friend, getting along with peers, experiencing a change in relationship with one's peers, helping friends with problems.

4. Family. Problems or arguments with family members, communicating with parents, pressures or expectations of parents, change in health of family members, rules or restrictions made by parents.

5. Personal Concerns. Concerns about health/appearance, getting to appointments/school on time, getting enough sleep, having enough time for everything.

6. Romantic Relationships. Having enough time for boyfriend/girlfriend, arguing with boyfriend/girlfriend, breaking up a relationship.

The frequency that each event was reported and the degree (from 1-10) to which each event was perceived as demanding were tabulated. The first column in Table 1 shows the percentage of all of the responses generated that were from each category. The second column indicates the percentage of all the responses which were ranked as the most demanding that were elicited from each category. Thirty-three percent of the responses generated related to academic situations, 21% to concerns about autonomy, and 17% to peer events.

The largest percentage of events reported as most

demanding originated from the academic category (53%) and the autonomy category (20%). In sum, academic and autonomy concerns were reported most frequently and were ranked as the most demanding of the situations that the students had to face. In contrast, situations concerning romantic relationships were not as frequently reported, nor were they considered as demanding as other situations.

Table 1

Percent Scores for Demand Categories

Category	Demand Source	Most Intense Demands
(Percent Total Responses)		
Academics	33%	53%
Autonomy	21%	20%
Peer Events	17%	9%
Family Events	15%	10%
Personal Concerns	8%	3%
Romantic Relationships	6%	5%

The responses to the "Situations Faced by Adolescents" questionnaire in stage 2 can be seen in Appendix E. The percentage of students who circled each number (0 to 5) for each event can be seen for all 4 scales. The data indicate that each of the 34 demands generated were perceived as stressful by some students and not at all stressful by other

students (see Appendix E). However, there were some events which were more consistently reported as highly stressful.

Table 2

Percentage of Students Perceiving Situations as
Most Stressful

Situation	Percent
1. Getting bad marks	59
2. Taking exams	56
3. Pressures by parents	51
4. Doing well on an exam/paper	51
5. Getting the grades I want	49
6. Getting marks/courses to graduate	47
7. Breaking up with boy/girlfriend	46
8. Concerns with future	44
9. Arguments with family members	44
10. Fight with/ problems with a friend	41

The number of students who perceived each situation as most stressful as indicated by a "4 or 5" on the questionnaire, was tabulated. Table 2 displays the situations which were reported by the largest percent of the students as most stressful. Five of these 10 situations were those relating to academic concerns. The second type of situation commonly perceived as most stressful pertained to

resolution of conflict with significant others (parents, friends, boy/girlfriend).

Those situations in which students perceived their coping abilities to be least effective, as indicated by a "0 or 1" on the questionnaire, can be seen in Table 3.

Table 3

Percentage of Students Feeling Least
Effective in Coping with Situations

Situation	Percent
1. Getting bad marks *	27
2. Change in health of family member	27
3. Getting enough sleep	26
4. Arguments with family members *	25
5. Having time for friends/ social life	25
6. Arguments with boy/girlfriend	24
7. Fights or problems with a friend *	24
8. Feeling pressured by friends	23
9. Breaking up with boy/girlfriend *	21
10. Trying to communicate with parents	19

*(also perceived as most stressful)

It is interesting to note that "getting bad marks", "arguments with family members", "fights with or problems with a friend", and "breaking up with boy/girlfriend" were

perceived by a large percentage of the students as both extremely stressful, and as events in which they were least effective in their coping attempts.

Coping Effectiveness

The results from the Coping Resource Inventory for Stress (CRIS) (Curlette et al. 1988) identified the coping strengths and weakness of the students in the sample. The global "Coping Resource Effectiveness Score" (CRE) was 56.58. This score is 10% lower than the CRE score reported in the CRIS manual. This normative score was based primarily on 814 military personnel, graduate students, teachers and managers. Subsequently, the 15 subscales also have scores than those found in the normative sample. This suggests that the adolescents in this sample have fewer coping resources than the norming group for the CRIS.

Of the 15 subscales, students scored highest on "Physical Health", the extent of overall health and wellness, "Social Support", the availability of family members and friends for support, and "Self Directedness", the degree to which one respects his/her own judgement as a guide to behavior (see Table 4). It should be recognized that among the primary and composite scales, the scales which are easiest to score high on are Social Support and Physical Health (Curlette et al., 1988). The students showed the lowest coping abilities on "Tension Control", the ability to lower ones own arousal, and "Cognitive Restructuring", the ability to change one's

thinking to reduce stress.

Table 4

Scale Means and Standard Deviations for CRIS Scores

Scale	Total	Gender		p

		Males	Females	

CRE score	56.6(15.8)	57.7(12.6)	56.2(17.6)	.48
Self-Disclosure	55.3(30.4)	47.1(28.7)	61.2(30.4)	<.01
Self-Directedness	58.3(22.5)	62.1(19.8)	55.5(24.0)	.03
Confidence	52.9(26.9)	60.2(23.8)	48.5(27.7)	<.01
Acceptance	50.9(21.3)	49.7(19.2)	51.6(22.4)	.50
Social Support	62.3(26.8)	61.0(25.3)	63.6(27.9)	.46
Financial Freedom	55.8(28.1)	48.5(26.5)	61.1(27.8)	<.01
Physical Health	71.2(22.4)	75.6(19.0)	68.7(23.8)	.02
Physical Fitness	51.3(31.5)	62.4(26.6)	44.4(32.4)	<.01
Stress Monitoring	52.1(27.4)	54.6(23.9)	50.9(29.5)	.31
Tension Control	45.2(24.1)	45.7(23.2)	45.1(24.8)	.86
Structuring	52.3(24.6)	54.3(21.4)	51.5(26.5)	.38
Problem Solving	54.0(24.3)	56.0(21.0)	53.2(26.3)	.37
Cognitive Restructuring	48.4(23.5)	50.2(22.3)	47.7(24.2)	.42
Functional Beliefs	52.5(21.4)	53.7(19.0)	51.4(22.9)	.41
Social Ease	58.3(25.7)	55.8(23.9)	60.1(27.1)	.20

Note. Standard Deviations are in parentheses.

Table 4 shows that significant sex differences were present with five subscales. Females scored significantly higher than did males on Self-Disclosure $E(1,243)=13.25$, $p<.01$ and Financial Freedom $E(1,243)=12.53$, $p<.01$. Males scored significantly higher than did females on measures of Physical Fitness $E(1,243)=20.90$, $p<0.01$, Confidence $E(1,243)=11.68$, $p<0.01$, and Physical Health $E(1,243)=5.87$, $p=.02$.

Levels of Stress

The means and standard deviations of S-Anxiety and T-anxiety are reported in Table 5. The mean S-anxiety scores and T-anxiety scores did not differ significantly between gender. These STAI scores are quite comparable to the scores for the high school normative sample reported in the STAI manual (Spielberger, 1983). Consistent with the normative results for adolescents reported in the STAI manual, the adolescents in this sample appeared to score slightly higher on the anxiety scores than the adults in the normative sample.

The means and standard deviations of the SOSI and its subscales are also reported in Table 5. The total SOSI score (115.8) is higher than the total SOSI score (98.9) obtained from participants in a stress management program which were reported in the SOSI manual (Leckie & Thompson, 1979). Most of the subscales were also higher than those reported in the manual. However, the adolescents in this sample scored slightly lower on such subscales as muscle tension, habitual patterns, and cognitive-disorganization.

Table 5

Scale Means and Standard Deviations for SOSI subscales and
SOSI, STAI-S and STAI-T scores

Scale	Total	Gender		p
		Males	Females	
Peripheral Manifestations	8.0 (5.0)	6.6 (4.7)	8.9 (5.0)	<.01
Cardiopulmonary Symptoms	17.8 (10.6)	16.3 (9.6)	18.7 (11.2)	.07
Neurological Symptoms	4.5 (3.8)	3.5 (3.2)	5.0 (4.0)	<.01
Gastrointestinal Symptoms	8.9 (6.3)	7.7 (5.3)	9.6 (6.7)	.02
Muscle Tension	12.3 (7.8)	10.3 (7.0)	13.6 (8.2)	<.01
Habitual Patterns	19.4 (10.8)	18.8 (9.7)	19.7 (11.4)	.53
Depression	11.6 (7.6)	9.3 (6.7)	13.1 (7.8)	<.01
Anxiety/Fear	11.9 (8.6)	8.9 (6.8)	13.8 (9.0)	<.01
Emotional Irritability	13.5 (8.4)	12.7 (8.8)	14.0 (8.1)	.21
Cognitive Disorganization	9.6 (5.9)	8.0 (5.7)	10.6 (5.8)	<.01
SOSI Total	115.8 (62.9)	99.5 (54.1)	125.7 (66.0)	<.01
STAI-S	41.1 (12.5)	40.2 (11.8)	41.7 (13.0)	.35
STAI-T	43.9 (9.0)	44.0 (8.5)	43.9 (9.3)	.91

Females reported higher symptoms of stress than did the males in the adolescent sample, $E(1,118) = 5.41$, $p = .02$.

Table 5 shows that significant sex differences are present between all but 3 of the SOSI subscales. This result is also consistent with the normative results reported in the SOSI manual.

Table 6

Average Scores for SOSI Subscales

Subscale	Total	Gender	
		Males	Females
Peripheral Manifestations	1.15	0.95	1.27
Cardiopulmonary Symptoms	1.18	1.08	1.25
Neurological Symptoms	0.89	0.70	1.00
Gastrointestinal Symptoms	0.99	0.87	1.07
Muscle Tension	1.36	1.15	1.51
Habitual Patterns	1.29	1.25	1.31
Depression	1.46	1.16	1.64
Anxiety/Fear	1.08	0.81	1.25
Emotional Irritability	1.69	1.59	1.75
Cognitive Disorganization	1.37	1.14	1.51

In order to compare subscale scores directly with one another and provide a clearer representation of the item

scaling options (0 to 4), mean subscale scores were calculated. Scores in Table 6 are computed by dividing the summed subscale scores from Table 5 by the number of items in each subscale. Of the 10 subscale scores, the 5 highest subscales for both males and females were emotional irritability, depression, cognitive disorganization, muscle tension, and habitual patterns.

Relationship Between Stress, Demands, and Coping

Pearson correlations were calculated between scores generated from the Symptoms of Stress Inventory (SOSI), the State-Trait Anxiety Inventory (STAI), the Coping Resource Inventory for Stress (CRIS) and the four scales on the "Situations Faced by Adolescents" questionnaire. As can be seen from Table 7, significant positive correlations were found between scores on the SOSI, the STAI-S, and the STAI-T, $p < .01$. Each of these three indices of stress were negatively correlated with the CRE score, $p < .01$. These correlations suggest that students who are highest on levels of stress report less adequate coping resources.

The results from the frequency, stress, demands, and coping effectiveness scales on the "Situations faced by adolescents" questionnaire displayed a pattern similar to results with the standard measures. The correlations obtained suggest that students who encounter more frequent demands report more intense stress reactions ($r = .48$, $p < .01$) and show greater levels of State anxiety ($r = .17$, $p < .01$),

Trait anxiety ($r=.11$, $p=.05$), and Symptoms of Stress ($r=.24$, $p<.01$). As well, students who report more intense stress reactions to specific situations reported more Symptoms of Stress ($r=.53$, $p<.01$), greater State anxiety ($r=.45$, $p<.01$) and greater Trait anxiety ($r=.52$, $p<.01$).

Table 7

Pearson Correlations Between Scale Totals

Subscale	2	3	4	5	6	7	8
1. SOSI	.63 ($<.01$)	.72 ($<.01$)	-.62 ($<.01$)	.23 ($<.01$)	-.15 ($=.02$)	.25 ($<.01$)	.53 ($<.01$)
2. STAI-S	---	.75 ($<.01$)	-.63 ($<.01$)	.22 ($<.01$)	-.21 ($<.01$)	.17 ($<.01$)	.45 ($<.01$)
3. STAI-T		---	-.73 ($<.01$)	.19 ($<.01$)	.26 ($<.01$)	.11 ($=.05$)	.52 ($<.01$)
4. CRE			---	.14 ($=.02$)	.36 ($<.01$)	.00 ($=.48$)	-.36 ($<.01$)
5. DEMANDS				---	.17 ($<.01$)	.56 ($<.01$)	.56 ($<.01$)
6. COPING					---	.23 ($<.01$)	.15 ($=.02$)
7. FREQUENCY						---	.48 ($<.01$)
8. STRESS							---

Note. Standard deviations are in parenthesis.

Students who reported more intense stress reactions to

specific situations also exhibited less adequate coping resources as indicated by the CRE ($r = -.36$, $p < .01$), but had more confidence in their self-reported coping ability ($r = .15$, $p < .02$). The self-reported effectiveness score was also negatively correlated with the three standard measures of stress, $p < .01$. These data generally indicate an inverse relationship between the intensity of the students' stress reactions and the perceived effectiveness of their coping resources. This identical pattern was found for both males and females when the correlations were calculated separately for each gender.

Descriptive Analyses

Multivariate analyses of variance (MANOVAs) were conducted using several demographic variables and social characteristics as independent measures. The total scores on the SOSI, STAI, CRE and the four scales from the "Situations Faced by Adolescents" questionnaire were used as dependent variables.

Demographic differences. The demographic characteristics which resulted in significant findings using the MANOVA procedure were school, class, sex, age, grade, and GPA.

A significant omnibus F was found using school as the independent variable, $F(8,111) = 1.67$, $p < .01$ (see Table 8). Univariate analyses indicated that this effect can be attributed primarily to differences in the coping effectiveness scores $F(8,113) = 3.82$, $p < .01$. Post hoc tests using Scheffe (.05) indicated that students in school 1

Means and Standard Deviations for Scales as a Function of School

		School							
Scale									Total
		1	2	3	4	5	6	7	
	N	(34)	(11)	(12)	(11)	(40)	(8)	(4)	
SOSI									
M		130.6	125.9	107.5	132.5	104.8	132.1	110.3	118.8
SD		60.5	46.9	42.4	67.2	71.9	71.3	63.0	63.2
STAI-S									
M		40.1	44.8	35.1	37.9	39.5	40.4	40.5	39.7
SD		13.2	10.2	10.4	15.5	13.9	12.6	10.7	13.0
STAI-T									
M		44.9	45.9	40.2	45.2	42.4	43.1	45.8	43.6
SD		8.8	8.3	5.8	9.9	9.2	11.1	7.9	8.9
Demand									
M		94.4	94.5	110.4	110.9	99.8	104.1	113.5	100.6
SD		27.1	28.0	24.6	23.1	25.8	24.8	24.6	26.1
Coping									
M		94.4	106.2	115.6	122.3	115.2	109.6	100.8	108.8
SD		24.8	21.5	20.7	24.0	21.8	24.3	30.6	24.8
Frequency									
M		86.0	86.5	96.0	93.5	91.3	93.8	84.3	90.0
SD		11.7	15.2	10.1	22.3	18.8	8.6	11.0	15.7
Stress									
M		86.3	92.1	106.8	99.0	84.0	114.1	82.8	91.0
SD		30.8	27.0	24.9	36.9	28.1	23.1	30.2	30.0
CRE									
M		53.3	55.4	64.3	51.5	62.3	48.8	48.3	57.0
SD		16.5	9.7	13.9	16.4	19.5	18.4	6.9	17.2

Table 9

Means and Standard Deviations for
Scales as a Function of Class

		Class											
Scale		1	2	3	4	5	6	7	8	9	10	11	12
	N	(11)	(6)	(8)	(9)	(11)	(12)	(11)	(11)	(9)	(29)	(8)	(4)
SOSI													
M		130.5	136.7	122.9	133.4	125.9	107.5	132.5	92.9	138.2	96.4	132.1	110.3
SD		72.2	58.7	56.9	60.6	46.9	42.4	67.2	58.0	115.2	50.7	71.3	63.0
STAI-S													
M		39.7	41.2	35.6	43.7	44.8	35.1	37.9	36.0	44.1	39.4	40.4	40.5
SD		11.9	8.0	15.2	16.3	10.2	10.4	15.5	10.9	19.6	12.3	12.6	10.7
STAI-T													
M		42.8	44.7	46.3	46.6	45.9	40.2	45.2	42.1	46.2	40.8	43.1	45.0
SD		9.3	7.8	7.2	10.9	8.3	5.8	9.9	9.7	11.0	7.4	11.1	7.9
Demand													
M		96.3	102.2	79.5	100.1	94.5	110.4	110.9	84.9	111.8	102.7	104.1	113.5
SD		27.2	22.9	33.0	21.8	28.0	24.6	23.1	27.1	16.8	25.5	24.0	24.6
Coping													
M		98.5	92.2	110.5	76.6	106.2	116.6	122.3	130.4	107.4	112.4	109.6	100.0
SD		21.1	19.4	27.8	20.7	21.4	20.7	24.0	18.8	23.4	19.7	24.3	30.6
Frequency													
M		82.4	85.2	86.0	91.1	86.4	96.0	93.5	80.7	96.3	94.8	93.8	84.3
SD		11.3	10.4	11.4	13.1	15.2	10.1	22.3	22.8	21.1	13.6	8.6	11.0
Stress													
M		86.7	89.5	86.5	83.6	92.1	106.8	98.0	84.5	89.7	81.2	114.1	82.0
SD		34.1	29.2	36.0	28.1	27.0	24.9	36.9	31.3	30.2	26.3	23.1	30.2
CRE													
M		53.2	58.0	56.4	47.7	55.4	64.3	51.5	65.6	46.6	67.6	48.0	49.3
SD		16.6	18.5	14.6	17.8	9.7	13.9	16.4	18.3	22.7	15.4	18.4	8.08

A significant omnibus F was found using gender as the independent variable, $E(8,111) = 2.40$, $p < .01$ (see Table 10). Univariate analyses indicated that females had higher scores than males on the SOSI, $E(1,118) = 5.41$, $p = 0.02$, encountered demands more frequently, $E(1,118) = 4.21$, $p = .04$, and perceived the demands to be more demanding, $E(1,118) = 4.27$, $p = .04$ than did the males. Females also reported greater ability to cope with the demands they faced, $E(1,118) = 4.42$, $p = .04$ than did the males, although no significant gender differences were found on the CRE scores.

A significant omnibus F was found using age as the independent variable, $E(8,111) = 1.97$, $p < .01$ (see Table 10). Univariate analyses showed that differences in age affected scores on the SOSI, $E(3,115) = 4.09$, $p < .01$, CRE, $E(3,115) = 2.87$, $p = .04$, and the coping effectiveness scale, $E(3,115) = 9.03$, $p < .01$. Post hoc analyses using Scheffe ($p < .05$) indicated that 14 and 15 year old students scored higher on the CRE scores than the adolescents 18 years or older. As well, the students 16 years of age and younger perceived their coping abilities to be better than the adolescents 17 years of age. Post hoc tests revealed that no two age groups of adolescents scored significantly different on the SOSI score.

Scale	Gender		Age				Total
	M	F	14&15	16	17	18-20	
	N (36)	(34)	(51)	(26)	(29)	(13)	
SOSI							
M	98.7	127.5	97.2	138.3	126.2	147.2	118.7
SD	68.5	42.9	54.4	73.4	56.1	69.7	63.4
STAI-S							
M	37.1	40.8	37.8	41.5	39.5	42.6	39.5
SD	11.0	13.6	12.0	13.0	13.0	16.2	12.9
STAI-T							
M	43.3	43.8	41.7	45.1	44.2	47.3	43.7
SD	6.9	9.6	8.0	9.2	9.4	9.5	8.9
Demand							
M	93.2	103.8	103.4	99.9	98.7	93.8	100.4
SD	28.0	24.7	23.5	34.2	24.4	22.4	26.1
Coping							
M	101.6	111.8	115.6	117.1	92.1	103.5	108.9
SD	27.5	23.0	20.5	21.7	26.8	24.7	24.9
Frequency							
M	85.5	91.9	92.4	90.0	85.8	89.5	90.0
SD	17.2	14.7	14.5	19.8	11.7	19.2	15.8
Stress							
M	84.8	93.7	90.0	93.2	88.3	94.8	90.8
SD	26.4	31.2	28.4	34.7	31.1	26.8	30.1
CRE							
M	59.1	56.1	62.1	54.2	54.0	49.8	57.0
SD	11.5	19.2	17.3	17.1	13.1	22.1	17.3

Table 11

Means and Standard Deviations for
Scales as a Function of Grade and GPA

Scale	Grade			GPA				Total
	10	11	12	85-100	75-84	65-74	35-64	
	N	(23)	(57)	(39)	(15)	(30)	(40)	

SOSI								
M	103.9	116.2	131.2	100.3	96.0	126.5	138.7	118.6
SD	71.5	62.4	59.2	59.1	54.9	59.7	70.9	63.4
STAI-S								
M	36.8	39.0	42.0	34.4	37.2	41.8	41.1	39.5
SD	13.5	12.1	13.7	7.9	11.8	13.1	15.2	13.0
STAI-T								
M	41.2	43.5	45.4	39.7	41.0	46.2	44.5	43.5
SD	8.7	8.7	9.1	6.7	7.9	9.3	9.1	8.9
Demand								
M	99.2	104.0	95.9	101.1	101.9	96.8	101.5	100.0
SD	27.2	27.7	22.8	28.6	24.1	27.0	25.8	26.0
Coping								
M	115.7	116.1	94.3	119.5	120.5	98.1	105.6	108.6
SD	23.4	20.6	25.6	23.4	16.1	23.4	27.6	24.7
Frequency								
M	87.1	92.8	87.4	95.9	87.5	86.8	93.1	89.9
SD	17.4	15.5	14.8	12.6	17.7	11.9	18.4	15.8
Stress								
M	85.9	94.8	88.0	85.7	89.6	88.5	96.0	90.5
SD	30.7	31.1	28.1	28.5	26.8	33.9	29.7	30.2
CRE								
M	61.2	57.8	53.3	71.0	62.7	52.3	51.2	57.1
SD	18.9	16.9	16.7	17.4	14.1	17.3	15.9	17.5

A significant omnibus F was also found using grade as the independent variable, $E(8,110) = 1.83$, $p = .03$ (see Table 11).

Univariate tests indicated that significant differences were present across grade levels with the perceived effectiveness scores $F(2,116) = 11.73, p < .01$. Post hoc analyses using Scheffe ($p < .10$) indicated that the students in grades 10 and 11 reported feeling more effective at handling specific situations than did students in grade 12.

A significant omnibus F was found using GPA as an independent variable, $F(4,117) = 2.15, p < .01$ (see Table 11). Univariate analyses indicated significant effects with the following dependent measures: SOSI, $F(3,113) = 3.12, p = .03$, STAI-T, $F(3,113) = 3.23, p = .03$, coping effectiveness, $F(3,113) = 6.69, p < .01$, and CRE, $F(3,113) = 7.52, p < .01$. Post hoc analyses using Scheffe ($p < .01$) indicated that the STAI-T scores for students with marks ranging from 65-74% were higher than those with marks greater than 85%. As well, the students with highest marks had significantly higher CRE scores than the other 3 groups of students. Post hoc analyses using Scheffe ($p < .05$) indicated that students with marks ranging from 65-74% perceived their coping to be less effective than students with higher marks. This indicates that students with greater GPA scores reported less anxiety and greater coping resources.

Social characteristic differences. Several follow-up MANOVA also were conducted using various social/personal characteristics as dependent measures. Those which produced significant results are reported below.

A significant omnibus F was found using smoking versus

nonsmoking as an independent variable, $F(8,111) = 3.48, p < .01$ (see Table 12). Univariate analyses suggested that smokers obtained higher scores than nonsmokers on the SOSI, $F(1,117) = 20.43, p < .01$, the STAI-S, $F(1,117) = 5.25, p = .02$ and the STAI-T, $F(1,117) = 7.99, p < .01$. Smokers also had lower CRE scores than the nonsmokers, $F(1,117) = 12.25, p < .01$. These results indicate that the smokers reported greater amounts of stress and anxiety. As well, smokers demonstrated a deficit in their perceived coping resources as compared to nonsmokers.

The number of hours a student worked per week also resulted in a significant omnibus $F, F(8,111) = 1.87, p < .01$ (see Table 12). Univariate tests indicated that the number of hours students worked per week significantly affected the students' stress scores, $F(3,107) = 3.36, p < .02$, and the effectiveness scores, $F(3,107) = 6.50, p < .01$. Post hoc analyses using Scheffe ($p < .05$) indicated that those students who worked more than 20 hours per week obtained effectiveness scale scores which were significantly less than those students who worked under 10 hours per week. No two groups of students were significantly different on the stress score using the Scheffe procedure.

Scale	Smoking		Job Hours				Total
	Yes	No	0	2-10	11-20	21-40	
	N (42)	(77)	(62)	(11)	(20)	(18)	
SOSI							
M	152.1	101.2	110.6	130.1	128.4	121.6	117.5
SD	70.2	51.5	61.9	63.84	72.4	61.4	63.6
STAI-S							
M	43.4	37.9	37.5	44.4	44.5	38.8	39.7
SD	15.0	11.2	11.4	14.0	14.8	15.1	13.1
STAI-T							
M	46.6	42.0	42.8	45.5	44.7	42.9	43.4
SD	9.6	8.0	8.3	8.9	9.6	11.2	9.0
Demand							
M	100.3	101.5	100.0	112.8	102.2	92.7	100.5
SD	25.9	25.7	24.3	25.3	31.2	26.2	26.3
Coping							
M	104.6	110.6	112.8	119.3	108.3	87.9	108.4
SD	26.2	23.8	23.6	15.2	26.6	26.5	25.5
Frequency							
M	89.0	90.8	89.5	95.2	95.3	82.6	90.0
SD	19.0	14.5	16.2	17.6	15.3	11.9	15.9
Stress							
M	94.4	88.8	87.6	113.0	92.3	78.1	89.4
SD	31.4	29.3	29.4	22.3	30.1	32.6	30.4
CRE							
M	49.8	61.0	61.0	51.9	51.3	54.4	57.3
SD	18.6	15.3	17.2	15.6	17.0	17.7	17.4

A second MANOVA was performed using the number of hours worked per week as the independent variable, and age as the dependent variable. This test resulted in a significant omnibus F , $E(3,239) = 16.08$, $p < .01$. Post hoc test using Scheffe ($p < .05$) indicated that students who worked more than 20 hours per week were older than students who worked less than 10 hours per week. As well students who worked between 10 and 20 hours per week were older than students who did not work at all.

A number of other independent variables were tested for significant effects using the MANOVA procedure. These were as follows: caffeine intake, alcohol use, the number of hours per week spent studying and the number of hours per week devoted to extracurricular activities. No statistically reliable differences were found using any of these factors as independent variables.

Summary

The students in this study perceived a wide range of situations as demanding. Academic concerns were perceived most often as stressful by a large percentage of the adolescents. The demands which adolescents felt least effective handling, were frequently considered stressful as well. The Coping Resource Inventory indicated that these students lacked coping skills in the areas of Tension Control and Cognitive Restructuring. In addition, females had coping deficits in areas of Physical Fitness and Confidence, while males were lower in Self Disclosure and Financial Freedom.

Pearson product moment correlations indicated an inverse relationship between the perceived stressfulness of the situations and the students' perceived ability to cope with those situations.

Some demographic dimensions affected the frequency, stress, coping, and demand scales, as well as the SOSI, STAI-S, STAI-T and CRE scores. Specifically, it was found that females reported greater symptoms of stress and perceived situations as more demanding than did males. As well, older students perceived their coping to be less effective than did the younger students. Students with lower scholastic marks reported greater levels of anxiety and perceived their coping to be less effective than did students with higher marks. Students who smoked reported more symptoms of stress, obtained higher levels of anxiety and reported deficient coping resources. Finally, students who worked more than 20 hours per week perceived their coping effectiveness to be less than students who worked under 10 hours per week.

Chapter 5

Discussion

This study adds several relevant findings to the current literature on stress in adolescence. With regard to identifying situations which adolescents find demanding, a broad sample of stressors were generated by the students in stage 1 and were classified into the following areas: academics, autonomy, peer events, family events, personal concerns, and romantic relationships. It is interesting that the students in stage one generated a similar list for events perceived as pleasurable and events perceived as demanding. That is, the same situation could be perceived as stressful for some students and pleasurable for others. This finding provides support for the claim derived from the interactional conceptualization of stress, that stress is not a part of the situation, therefore no situation can be considered inherently stressful (Hiebert, 1983, 1986, 1987).

It is noteworthy that academic concerns were reported most frequently and were perceived by a majority of the students as more stressful than any of the other categories of stressors. Second to this, a large percentage of students perceived events involving the resolution of conflict as very stressful. It is important to note that of the events reported as most stressful, many were also situations in which students perceived their coping attempts to be ineffective. The specificity of events

which adolescents perceive as stressful and which they feel least effective in handling contributes to the development of intervention strategies which are best suited to assist this age group.

The results from the Coping Resource Inventory of Stress (CRIS) indicated that the students in this sample perceived their coping resources to be less than that of the normative sample of adults reported in the CRIS manual. As well, students reported a higher incidence of symptoms of stress (SOSI) and greater anxiety (STAI-S, STAI-T) than normative samples of adults. This is consistent with a study which found that adolescents reported consistently higher symptomatology on the General Health Questionnaire than did an adult sample (D'Arcy, 1982). While a strict comparison between adults and adolescents is neither intended nor possible from the data in this study, it is interesting to note the pattern of these results. It appears that younger people report greater stress levels and fewer available coping resources than adults. Whether the adolescents' heightened stress is due to inadequate coping resources, misappraisal of their environment and/or their coping repertoire, or some other intervening factor, is as yet unclear.

Returning to the CRIS results, students seem to be deficient in coping skills necessary for stress management. Specifically, the students scored lowest in areas of tension control, cognitive restructuring, and stress monitoring. In contrast,

the students' coping strengths were found in areas of physical health, social support, self-directedness, and social ease. These findings help to identify the coping deficits which may contribute to adolescents' vulnerability to stress. As well, they highlight areas which may be in need of skill training intervention.

No significant gender difference was found with the overall CRE score. This result is consistent with a study done by Compas, et al. (1988) who found that gender differences did not exist in the generation or use of coping strategies. Nevertheless, gender differences were found in the current study when the separate CRIS coping scales were compared. For example, the females' coping abilities were higher than the males' in areas of self-disclosure and financial freedom. The males' coping abilities were higher than the females' in areas of confidence, self-directedness, and physical fitness. This finding has some interesting implications which will be addressed in a later section discussing gender differences.

The SOSI scores indicated that students reported more symptoms of stress in areas of emotional irritability, depression, cognitive disorganization, and muscle tension. The preeminence of anger and depression in the adolescent sample may indicate the manner in which adolescents typically respond to the stressors that they face. Again, congruent with other findings, the females reported feeling more symptoms of stress

than did the males in this sample.

Meaningful negative correlations were found between the three standard indices of stress (STAI-S, STAI-T, and SOSI) and the standard measure of coping (CRIS). These correlations suggest that students who indicated high levels of stress report less adequate coping resources. The totals on the frequency, stress, demand, and coping effectiveness scales also suggest this pattern of results, although the trends are not as clear. The results from this study support the claim that the intensity of a person's stress reaction depends upon the interaction between the demands and perceived coping effectiveness. Students who perceive themselves as possessing adequate coping resources are generally lower in their overall stress levels.

A contribution of this study can be seen in its attempt to explore a number of variables that may influence the associations between the dependent measures. Two of the variables which produced significant effects were school and class. Results indicated that students from certain schools and classes perceived their coping effectiveness to be better than that perceived by other students in the sample. However, information was not collected which contributes to the understanding of why such differences exist. Since systematic differences between schools does exist, there may be justification in future studies for examining course programming, socio-economic status, family history or other

factors which may help to explain this significant finding.

As with previous findings, gender was a demographic dimension which produced significant effects. Females had higher scores than males on the SOSI, encountered demands more frequently, and perceived situations to be more demanding than did the males. These results are congruent with earlier studies who have found substantial gender differences in females' reports of factors relating to stress (Bruns & Geist, 1984; Burke & Weir, 1978; D'Arcy & Siddique, 1984; Folkman & Lazarus, 1980). As mentioned previously, females also differ in their coping strengths and deficits as compared to males.

To address the issue of gender differences, it is important to examine differences between gender with regard to stress levels, sources of stress, and coping resources. This would help to determine which patterns of coping behaviors work or fail for which demands and for which gender. Strengths in certain coping resources may not ensure that the adolescent will be able to cope with all the demands he/she will have to face. For example, perhaps the pattern of coping strengths exhibited by the males in this sample more adequately addresses the demands which male adolescents face. As a result, males then would experience less stress than the females in the sample. Nevertheless, it appears that both males and females would benefit from interventions aimed at increasing their repertoire of coping skills.

The age differences parallel to a large degree the differences in students' grade levels. These two factors indicate that the younger students perceive their ability to cope with situations and their actual coping resources to be better than do the older students. Folkman and Lazarus (1980) caution against concluding that age differences exist because of different coping repertoires. They suggest that it is more likely the case that changes in coping effectiveness over age is due more to changes in sources of stress. This conclusion is consistent with the results of this study, since the older adolescents report the additional stressor of working a greater number of hours per week than do the younger students. There is no doubt that the older adolescents also face additional strains of transition into the adult world. Therefore, it is possible that their coping repertoires are no longer as effective in handling the multiplicity of demands which they face. Future research examining age differences could help to clarify which intervention would be most appropriate for which age group.

There was a significant inverse relationship between T-anxiety scores and scholastic marks. This is consistent with results found in a separate adolescent sample (D'Arcy & Siddique, 1984). As well, students with higher marks also perceived their coping to be more effective than did students with lower marks. This indicates that students with greater GPA scores report less anxiety and greater coping resources. This

may suggest that students who are lower in GPA are in particular need of additional coping skills intervention.

The findings relating to smoking are in accord with results found by Bruns & Geist (1984). It appears that students who smoke are more likely to report more symptoms of stress, obtain higher scores on the STAI, and report deficient coping resources. Bruns and Geist found that the use of tobacco was related to elevated levels of drug abuse. As well, those who exhibit these maladaptive health behaviors experience high levels of life stress. While the positive association between smoking, higher stress levels and reduced coping effectiveness exists, it is difficult to make any causal statement. It is possible that this association may be explained by some third variable to which both life stress and smoking are related. Nevertheless, these results indicate that teaching alternative methods of coping with demands may help to reduce the stress levels of adolescents who smoke.

Summary. To recapitulate the results of this specific study, it appears that adolescents in this sample should address academic concerns and conflict resolution to discover ways in which they can reduce these demands, increase their coping ability to handle these situations and change their cognitive appraisal of these situations. As well, this sample may be well served by learning such stress management techniques as stress monitoring and relaxation procedures. Results also indicate

that particular attention should be given to students who are female, who are older, who smoke and who maintain a job as well as attending school. These four groups of students appear to be in special need of coping skills intervention.

Implications

Three implications are formed based on the results of this investigation: (a) adolescents do face stressors and experience a substantial amount of stress (b) adolescents will experience stress when the demands they face tax or exceed their coping resources (c) adolescents are well served by a rich repertoire of coping and stress management skills. These results contribute to the justification for establishing student counselling services and programs which address the issues of stress and stress control in adolescents. Specific implications for program development and counselling interventions to help adolescents deal with stress, are also evident.

Program development. In reference to program development, topics to be discussed with adolescents could be selected from the categories of situations which adolescents find demanding. As well, the CRIS can be used to identify coping strengths and deficits, and to indicate which areas are in need of skill training intervention. Once mastered, coping skills may provide adolescents with durable and generalizable methods for avoiding psychological, academic, and social problems.

Counselling interventions with adolescents. Successful intervention depends upon understanding the conditions under which a person experiences stress and whether the problem is located primarily in the appraisal process, the coping process or both (Folkman & Lazarus, 1986). By assessing the adolescent's coping resources, cognitive appraisal and stress levels, it is possible to intervene at three levels (Hiebert & Basserman, 1986). First, the adolescent can work to reduce the demands. Secondly, the individual can work to increase his/her repertoire of coping skills. These first two approaches would increase the likelihood that the demand would fall within the adolescent's coping repertoire. As a result, the adolescent could actually avoid being stressed. However, if neither of these first two approaches are possible, the individual can learn methods to control his/her stress reaction.

Many treatment programs for adolescent stress jump to the third intervention, focusing strictly on stress management. However, before proceeding with stress management procedures, it is important to ensure that the demand can not somehow be reduced or that the student has adequate coping skills (Hiebert, 1988; Hiebert & Basserman, 1986). By identifying the appropriate level at which to intervene, it is possible to reduce the demands which the adolescent must deal with, increase their competence in coping with the demands, and/or allow them to deal more effectively with their stress reactions.

Strengths And Limitations Of This Study

The large, noninstitutional sample of adolescents used in this study allows for greater external validity of the results of this investigation. As well, the fact that the findings in this study are based on adolescents' spontaneous reports lends additional strength to the claim that the findings reflect the experiences of adolescents. This helps to identify the stressors and coping resources common to this age group.

Most previous research examining stress in adolescence has focused on major life events. Lazarus and his colleagues (Lazarus, 1974, 1986; Lazarus & Folkman, 1984; Lazarus & Launier, 1978) have published a number of articles suggesting that daily events may be more important than life events in predicting stress levels, coping attempts, and adaptational outcomes. This study did attempt to identify daily situations which adolescents find stressful. As well, it has attempted to understand the interaction between these daily events, the students' coping attempts, and their stress reactions.

A limitation of this study concerns the range of stressful situations which are examined. Students were asked to generate responses to be included in this investigation. It is likely that there are additional situations which students find demanding, but were not identified by using this technique. This analysis is therefore not an exhaustive treatment of stressful events which adolescents face. Nevertheless, the

events included in this study do represent situations which are most salient in the memories of the adolescents, and the events identified did allow an empirical relationship between demands, stress, and coping to be established.

The "Situations Faced by Adolescents" questionnaire may have some limitations. Students did appear to have some difficulty making the distinctions between the four scales and had problems understanding the concept of "coping effectiveness". It may have been beneficial to construct the measure so that students respond to each scale sequentially, rather than responding to two scales together on the same page. This may reduce the carry-over effects from one scale to another. Nevertheless, the fact that the scale totals from this questionnaire were significantly correlated with the standardized measures adds to the questionnaire's validity and to the usefulness of its format.

Since this study is retrospective, it is considered exploratory in nature and the results demonstrate associative relationships. While prospective studies would be useful in the future, this investigation can form the basis for interpretations, future studies, and additional hypothesis to be tested.

Future Research

It would be useful for future investigations to address the interaction between specific events and coping attempts in an effort to understand more completely what constitutes effective coping in which situations. In this way, interventions can address more specifically which coping skills are necessary to deal with which particular events. In the same way, it would be of interest to examine the factors that may be common to effective coping across a variety of stressful conditions.

Further research is clearly needed to develop a more complete explanation of sex differences in stress levels and coping resources as they relate to adolescents. As well, longitudinal studies would help to clarify the ways in which coping resources develop with age. Finally to understand more completely why systematic differences exist across schools, future investigations should include background information which would allow some explanation for the class and school differences.

Summary

This study demonstrates the importance of looking not only at demands associated with the overall developmental process of adolescence, but also at the unique demands which the adolescent must face on a daily basis. The students in this study reported varying degrees of anxiety, symptoms of stress, and perceived coping resources. It was found that those students with higher

levels of anxiety and symptom reporting, also tended to perceive their coping effectiveness to be low. In addition, it was shown that such variables as smoking, scholastic achievement, age, and gender are important correlates of adolescent stress.

These findings lend support to the interactional model of stress which suggests that teaching adolescents to cope more effectively with the demands they face will result in a concomitant decrease in their experience of stress. The adoption of the interactional model is a useful step toward understanding the relationship between the demand-coping-stress relationship for adolescents. As well, this approach provides a framework for further research and intervention with adolescents in the areas of stress, coping, and stress management.

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APPENDIXES

APPENDIX A

Teacher Consent Form - Stage 1



THE
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81
FACULTY OF EDUCATION
Department of Educational Psychology

Telephone (403) 220-5651

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Department of Educational Psychology
Dr. B. Hiebert - 220 7770 Sandra Allen - 282 0854

To be completed by the teacher:

Adolescence can be a particularly demanding time, as it is a period of transition in which young people grow physically, emotionally, and intellectually. Some adolescents seem to be able to cope with these demands quite satisfactorily and move through this period with relatively little trauma. For others, their coping repertoires seem rather meager and adolescence for them is a stressful and turbulent time.

This research project seeks to identify situations which adolescents perceive to be demanding or pleasant and to investigate the ways in which adolescents cope with these situations. To assist in the completion of this project, students will be asked to respond to a self-report questionnaire which requires approximately fifteen minutes of class time. All the information obtained will be strictly confidential. Questionnaire results will be coded with an identification number and entered into a computer file for analysis. After the accuracy of data entry has been confirmed, the raw questionnaires will be destroyed. All results will be reported as group scores and will not be traceable to individual students.

Students or teachers may withdraw their consent and stop their participation in this project at any time. This means that if they decide, for any reason, that they do not want to continue, they can stop without any problem. All test results will be used exclusively for the immediate purpose of this research project and for no other purpose.

Feedback of the results of this study will be available to both teachers and students upon completion of the project. If you have any questions or concerns about this project, please contact either of us at the above numbers.

If you agree to your class's participate in this study would you please read and sign this consent form.

I have read the summary description of this project and I understand the nature and extent of the students' participation. I am also aware of the voluntary nature of this study. In view of these considerations, I agree () do not agree () to allow my class to participate in this study.

Name (print) _____
Signature _____
Date _____

APPENDIX B**Inventory of Student Stress**



Inventory of Student Stress

Dear student:

We are completing a research project which seeks to identify situations which adolescents perceive to be demanding or pleasant and to investigate the ways in which adolescents cope with these situations. To assist in the completion of this project, you are asked to respond to a self-report questionnaire which requires approximately fifteen minutes of class time.

All the information obtained from the questionnaire will be strictly confidential. Questionnaire results will be coded with an identification number and entered into a computer file for analysis. After the accuracy of data entry has been confirmed, the raw questionnaires will be destroyed. All results will be reported as group scores and will not be traceable to individual students. All test results will be used solely for the purposes of this project.

You may withdraw your consent and stop your participation in this project at any time. This means that if you decide, for any reason, that you do not want to continue, you can stop without any problem. Upon completion of the project, a final report of the results of the study will be available to all who request it.

Thankyou for your time and effort.

Inventory of Student Stress

In the blank spaces below, please list up to ten situations which have occurred to you since school has started and which stand out in your mind as being demanding. Secondly, please rank order these situations according to the degree to which they were demanding (1 being the most demanding, 10 being the least).

Inventory of Student Stress

In the blank spaces below, please list up to ten situations which have occurred to you since school has started and which stand out in your mind as being pleasureable. Secondly, please rank order these situations according to the degree to which they were pleasureable (1 being the most pleasing, 10 being the least).

Please answer the following questions using the situation which has occurred to you since school has started which you considered to be the most demanding.

1. Describe the incident briefly.
2. How did you deal with the situation?
3. What feelings did you experience in that situation?
4. How did you deal with those feelings?

APPENDIX C**Situations Faced by Adolescents Questionnaire**

Please use this page as a tear out sheet to assist you in completing this questionnaire.

The following questionnaire contains a list of various situations that are potential stressors for adolescents. Please read each statement carefully and respond to each statement on the scales mentioned below.

FREQUENCY SCALE - Please indicate how often a particular event takes place.

- 0 - once or twice per year, or less
- 1 - three to eight times per year
- 2 - monthly
- 3 - weekly
- 4 - daily
- 5 - several times per day

DEMAND SCALE - Please indicate how demanding you find each situation. This scale is meant to indicate equal amounts of demand between "0" and "5" where:

- 0 - represents no demand at all
- 5 - represents the situations that you find the most demanding

NOTE: The increments between "0" and "5" are intended to be equal.

STRESS SCALE - Please indicate how stressful you find each situation. This scale is meant to indicate equal amounts of stress between "0" and "5" where:

- 0 - represents no stress at all
- 5 - represents the situations that create the highest level of stress for you

NOTE: the increments between "0" and "5" are intended to be equal.

EFFECTIVENESS SCALE - Please indicate how effectively you cope with each activity. This scale is meant to indicate equal amounts of effectiveness between "0" and "5" where:

- 0 - represents not at all effective
- 5 - represents totally effective

NOTE: the increments between "0" and "5" are intended to be equal.

PLEASE TEAR OFF THIS SHEET AND USE IT TO HELP YOU TO COMPLETE THE REST OF THIS QUESTIONNAIRE

Name _____
 School _____

DO NOT WRITE in this space
 ID# _____

No. ACTIVITY	FREQUENCY	STRESS
1. Studying	0 1 2 3 4 5	0 1 2 3 4 5
2. Problems/argument with family member(s)	0 1 2 3 4 5	0 1 2 3 4 5
3. Belonging to a club organization, team	0 1 2 3 4 5	0 1 2 3 4 5
4. Having time for everything	0 1 2 3 4 5	0 1 2 3 4 5
5. Attending classes	0 1 2 3 4 5	0 1 2 3 4 5
6. Making new friends	0 1 2 3 4 5	0 1 2 3 4 5
7. Learning to drive/ getting a license	0 1 2 3 4 5	0 1 2 3 4 5
8. Rules/restrictions made by parents	0 1 2 3 4 5	0 1 2 3 4 5
9. Concerns about the future	0 1 2 3 4 5	0 1 2 3 4 5
10. Getting enough sleep	0 1 2 3 4 5	0 1 2 3 4 5
11. Getting the grades I want	0 1 2 3 4 5	0 1 2 3 4 5
12. Getting along with my peers/friends	0 1 2 3 4 5	0 1 2 3 4 5
13. Breaking up with my girlfriend/boyfriend	0 1 2 3 4 5	0 1 2 3 4 5
14. Taking exams	0 1 2 3 4 5	0 1 2 3 4 5
15. Change in relationship with friends	0 1 2 3 4 5	0 1 2 3 4 5
16. Having time for boyfriend/girlfriend	0 1 2 3 4 5	0 1 2 3 4 5
17. Helping friend deal with his/her problems	0 1 2 3 4 5	0 1 2 3 4 5
18. Getting bad marks	0 1 2 3 4 5	0 1 2 3 4 5

Name _____
 School _____

DO NOT WRITE in this space
 ID# _____

No. ACTIVITY	FREQUENCY	STRESS
19. Making/having money	0 1 2 3 4 5	0 1 2 3 4 5
20. Getting a job	0 1 2 3 4 5	0 1 2 3 4 5
21. Pressures or expectations by parents	0 1 2 3 4 5	0 1 2 3 4 5
22. Homework	0 1 2 3 4 5	0 1 2 3 4 5
23. Getting to school/work/ appointments on time	0 1 2 3 4 5	0 1 2 3 4 5
24. Fight with or problems with a friend	0 1 2 3 4 5	0 1 2 3 4 5
25. Concerns about appearance/health	0 1 2 3 4 5	0 1 2 3 4 5
26. Doing well on an exam and/or paper	0 1 2 3 4 5	0 1 2 3 4 5
27. Making car payments/ maintaining a car	0 1 2 3 4 5	0 1 2 3 4 5
28. Dealing with school workload	0 1 2 3 4 5	0 1 2 3 4 5
29. Trying to communicate/ and relate to parents	0 1 2 3 4 5	0 1 2 3 4 5
30. Getting the marks/courses to graduate	0 1 2 3 4 5	0 1 2 3 4 5
31. Change in health of a family member/relative	0 1 2 3 4 5	0 1 2 3 4 5
32. Arguments or problems with boyfriend or girlfriend	0 1 2 3 4 5	0 1 2 3 4 5
33. Feeling pressured by friends	0 1 2 3 4 5	0 1 2 3 4 5
34. Having time for friends/ social life	0 1 2 3 4 5	0 1 2 3 4 5

Name _____
 School _____

DO NOT WRITE in this space
 ID# _____

No. ACTIVITY	DEMAND	EFFECTIVENESS
1. Studying	0 1 2 3 4 5	0 1 2 3 4 5
2. Problems/argument with family member(s)	0 1 2 3 4 5	0 1 2 3 4 5
3. Belonging to a club organization, team	0 1 2 3 4 5	0 1 2 3 4 5
4. Having time for everything	0 1 2 3 4 5	0 1 2 3 4 5
5. Attending classes	0 1 2 3 4 5	0 1 2 3 4 5
6. Making new friends	0 1 2 3 4 5	0 1 2 3 4 5
7. Learning to drive/ getting a license	0 1 2 3 4 5	0 1 2 3 4 5
8. Rules/restrictions made by parents	0 1 2 3 4 5	0 1 2 3 4 5
9. Concerns about the future	0 1 2 3 4 5	0 1 2 3 4 5
10. Getting enough sleep	0 1 2 3 4 5	0 1 2 3 4 5
11. Getting the grades I want	0 1 2 3 4 5	0 1 2 3 4 5
12. Getting along with my peers/friends	0 1 2 3 4 5	0 1 2 3 4 5
13. Breaking up with my girlfriend/boyfriend	0 1 2 3 4 5	0 1 2 3 4 5
14. Taking exams	0 1 2 3 4 5	0 1 2 3 4 5
15. Change in relationship with friends	0 1 2 3 4 5	0 1 2 3 4 5
16. Having time for boyfriend/girlfriend	0 1 2 3 4 5	0 1 2 3 4 5
17. Helping friend deal with his/her problems	0 1 2 3 4 5	0 1 2 3 4 5
18. Getting bad marks	0 1 2 3 4 5	0 1 2 3 4 5

Name _____
 School _____

DO NOT WRITE in this space
 ID# _____

No. ACTIVITY	DEMAND	EFFECTIVENESS
19. Making/having money	0 1 2 3 4 5	0 1 2 3 4 5
20. Getting a job	0 1 2 3 4 5	0 1 2 3 4 5
21. Pressures or expectations by parents	0 1 2 3 4 5	0 1 2 3 4 5
22. Homework	0 1 2 3 4 5	0 1 2 3 4 5
23. Getting to school/work/ appointments on time	0 1 2 3 4 5	0 1 2 3 4 5
24. Fight with or problems with a friend	0 1 2 3 4 5	0 1 2 3 4 5
25. Concerns about appearance/health	0 1 2 3 4 5	0 1 2 3 4 5
26. Doing well on an exam and/or paper	0 1 2 3 4 5	0 1 2 3 4 5
27. Making car payments/ maintaining a car	0 1 2 3 4 5	0 1 2 3 4 5
28. Dealing with school workload	0 1 2 3 4 5	0 1 2 3 4 5
29. Trying to communicate/ and relate to parents	0 1 2 3 4 5	0 1 2 3 4 5
30. Getting the marks/courses to graduate	0 1 2 3 4 5	0 1 2 3 4 5
31. Change in health of a family member/relative	0 1 2 3 4 5	0 1 2 3 4 5
32. Arguments or problems with boyfriend or girlfriend	0 1 2 3 4 5	0 1 2 3 4 5
33. Feeling pressured by friends	0 1 2 3 4 5	0 1 2 3 4 5
34. Having time for friends/ social life	0 1 2 3 4 5	0 1 2 3 4 5

APPENDIX D

Consent Forms - Stage 2



Dr. B. Hiebert - 220 7770 Sandra Allen - 282 0854

To be completed by the teacher:

This research project seeks to investigate the ways in which adolescents cope with the demands they face and how their coping adequacy affects their stress levels. To help researchers understand more about stress and coping in adolescents, students will be asked to respond to several self-report questionnaires which will take one class period to complete.

All the information obtained will be strictly confidential. There is a possibility that some students may indicate on the questionnaires that they are experiencing high levels of stress. These students will be asked to meet with the researchers or teachers individually and it will be recommended that they be referred to the school counsellor or to other school referral agencies. This will be done discretely and in confidence with the individual student. Students will be informed of this possibility prior to their participation in the research.

After this, questionnaire results will be coded with an identification number and entered into a computer file for analysis. When the accuracy of data entry has been confirmed, the raw questionnaires will be destroyed. All results will be reported as group scores and will not be traceable to individual students.

Students or teachers may withdraw their consent and stop their participation in this project at any time. This means that if they decide, for any reason, that they do not want to continue, they can stop without any problem. All test results will be used exclusively for the immediate purpose of this research project and for no other purpose.

Feedback of the results of this study will be available to both teachers and students upon completion of the project. If you have any questions or concerns about this project, please contact either of us at the above numbers.

If you agree to your class's participate in this study would you please read and sign this consent form.

I have read the summary description of this project and I understand the nature and extent of the students' participation. I am also aware of the voluntary nature of this study. In view of these considerations, I agree () do not agree () to allow my class to participate in this study.

Name (print) _____
Signature _____
Date _____



2500 University Drive N.W., Calgary, Alberta, Canada T2N 1N4

Dr. B. Hiebert - 220 7770

Telephone (403) 220-5651

Sandra Allen - 262 0854

To be completed by the student:

Adolescence is a period of transition in which young people grow physically, emotionally and intellectually. Some adolescents seem to be able to cope with these demands quite satisfactorily and move through this period with relatively little trauma. For others, their coping repertoires seem rather meager and adolescence for them is a stressful and turbulent time.

This research project attempts to discover more about stress and coping in youth by examining the way in which adolescents respond to questionnaires about demands they face, the ways they cope with these demands and the stress they experience. To help researchers understand more about stress and coping in young people, you are asked to participate by responding to several self-report questionnaires.

All the information obtained from the questionnaires will be strictly confidential. There is a possibility that some students may indicate on the questionnaires that they feel more stress than most other students. If this is found, these students will be asked to meet with the researchers on an individual basis to discuss the alternatives that are available to help them deal with stress. This will be done discretely and in confidence with the individual student. After this, the questionnaire results will be coded with an identification number and entered into a computer file for analysis. When the accuracy of the data entry has been confirmed, the raw questionnaires will be destroyed. All results will be reported as group scores and will not be traceable to any individual student. All test results will be used solely for the purposes of this project.

You may withdraw your consent and stop your participation in this program at any time. This means that if you decide, for any reason, that you do not want to continue you can stop without any problem at all. Upon completion of the project, a final report on the results of the study will be available to all who request it.

If you are willing to participate in this study would you please read and sign this consent form.

I have read the summary description of this project and I understand the nature and extent of my participation. I am aware of the voluntary nature of my participation and understand that I may withdraw at any time. In view of these considerations, I agree () do not agree () to participate in this study.

Name (print) _____
Signature _____
Date _____
Parents Signature _____

APPENDIX E

Percent of Students Selecting

Each Response Option on the

Situations Faced by Adolescents Questionnaire

Situations Faced by Adolescents

98

No. ACTIVITY	FREQUENCY					STRESS					DEMAND					EFFECTIVENESS												
	0	1	2	3	4	5	0	1	2	3	4	5	0	1	2	3	4	5	0	1	2	3	4	5				
1. Studying		5	6	11	38	36	5		8	13	27	29	17	6		4	10	12	32	27	15		5	8	17	31	30	10
		(3.02)						(2.52)						(3.14)						(3.03)								
2. Problems/argument with family member(s)		4	12	24	36	20	5		5	10	17	23	23	21		13	16	21	27	15	9		13	12	19	22	21	14
		(2.68)						(3.12)						(2.42)						(2.62)								
3. Belonging to a club organization, team		36	10	7	27	15	4		46	20	15	12	5	2		32	12	12	19	15	10		25	5	10	18	19	23
		(1.86)						(1.18)						(2.03)						(2.71)								
4. Having time for everything		4	7	22	32	23	12		17	15	15	25	18	10		6	7	14	18	20	27		9	7	16	31	21	16
		(3.00)						(2.42)						(3.36)						(2.96)								
5. Attending classes		1	2	4	5	24	64		16	14	20	25	14	9		9	8	10	23	43		6	4	9	15	25	41	
		(4.43)						(2.42)						(3.57)						(3.69)								
6. Making new friends		7	16	31	29	13	5		29	20	20	14	12	6		16	10	21	25	19	10		9	7	14	26	26	19
		(2.40)						(1.76)						(2.52)						(3.12)								
7. Learning to drive/getting a license		55	9	9	12	9	7		35	15	10	17	10	12		30	10	10	16	14	20		26	8	9	14	18	27
		(1.30)						(1.89)						(2.33)						(2.70)								
8. Rules/restrictions made by parents		14	15	24	20	19	8		18	16	16	19	17	14		12	10	19	25	19	15		4	7	17	26	20	22
		(2.38)						(2.42)						(2.76)						(3.04)								
9. Concerns about the future		2	5	26	23	28	16		6	15	12	24	22	22		5	8	10	22	29	26		5	9	14	26	27	19
		(3.16)						(3.07)						(3.41)						(3.19)								
10. Getting enough sleep		4	5	16	30	38	7		17	13	14	18	21	17		8	6	7	20	26	34		12	14	17	22	20	16
		(3.14)						(2.63)						(3.50)						(2.72)								
11. Getting the grades I want		9	12	24	27	21	7		6	8	12	25	26	23		4	2	8	19	31	36		4	6	16	35	26	14
		(2.60)						(3.27)						(3.78)						(3.15)								
12. Getting along with my peers/friends		2	2	6	12	44	39		29	21	14	22	9	6		12	9	15	19	28	18		5	4	10	19	33	29
		(4.00)						(1.79)						(2.95)						(3.60)								
13. Breaking up with my girlfriend/boyfriend		53	23	14	5	3	3		23	8	11	12	19	27		37	16	13	12	7	16		26	9	12	17	15	23
		(1.915)						(2.79)						(1.83)						(2.53)								
14. Taking exams		6	14	27	40	10	3		4	7	10	23	27	29		7	5	8	25	27	28		4	7	14	30	27	17
		(2.41)						(3.50)						(3.43)						(3.20)								
15. Change in relationship with friends		27	31	25	11	5	4		12	16	16	23	21	12		17	13	24	26	14	6		11	5	18	32	22	12
		(1.36)						(2.61)						(2.27)						(2.86)								
16. Having time for boyfriend/girlfriend		20	6	10	24	28	12		32	16	19	13	13	8		24	7	11	20	17	21		19	5	8	23	25	20
		(2.72)						(1.81)						(2.63)						(2.91)								
17. Helping friend deal with his/her problems		5	8	18	36	23	9		15	15	28	20	12	9		8	8	21	28	24	10		4	5	13	26	34	18
		(2.90)						(2.26)						(2.84)						(3.37)								

Note. Mean response options are enclosed in parenthesis.

Situations Faced by Adolescents

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No. ACTIVITY	FREQUENCY					STRESS					DEMAND					EFFECTIVENESS								
	0	1	2	3	4	5	0	1	2	3	4	5	0	1	2	3	4	5	0	1	2	3	4	5
18. Getting bad marks	10	18	33	26	8	5	6	5	8	21	29	50	27	13	16	19	15	11	15	14	20	23	14	17
	(2.22)						(3.54)						(2.44)						(2.40)					
19. Making/Having money	4	5	20	41	26	4	16	18	16	28	12	10	4	6	11	17	30	32	5	8	11	27	28	23
	(2.93)						(2.34)						(3.52)						(3.33)					
20. Getting a job	6	1	17	10	8	4	28	16	14	18	14	11	25	10	14	18	15	10	14	8	9	20	22	22
	(0.80)						(2.06)						(2.40)						(2.87)					
21. Pressures/expectations by parents	7	7	19	29	27	11	9	11	12	17	26	25	11	7	15	23	23	22	8	9	18	25	22	18
	(0.80)						(3.14)						(3.07)						(2.97)					
22. Homework	4	4	6	20	56	11	8	11	17	26	24	14	4	7	12	20	29	28	6	7	11	33	28	18
	(2.95)						(2.88)						(3.46)						(3.16)					
23. Getting to school/work appointments on time	5	2	8	13	43	29	20	16	16	24	12	12	10	8	9	20	24	30	6	7	10	19	22	36
	(3.73)						(2.27)						(3.30)						(3.52)					
24. Fight with/ problems with a friend	18	24	33	17	7	1	11	12	13	23	19	22	18	15	17	20	18	11	15	9	18	26	20	13
	(1.75)						(2.91)						(2.38)						(2.66)					
25. Concerns about appearance/health	6	6	10	13	44	22	10	8	20	24	17	21	9	6	11	22	27	26	9	8	12	25	28	18
	(3.46)						(2.92)						(3.29)						(3.09)					
26. Doing well on an exam and/or paper	4	6	23	43	21	3	11	7	14	17	27	24	5	5	7	22	28	33	4	2	17	32	29	15
	(2.82)						(3.14)						(3.62)						(3.26)					
27. Making car payments/maintaining a car	68	6	15	6	4	1	65	5	9	9	8	5	61	4	7	9	9	10	46	5	7	11	11	20
	(0.76)						(1.04)						(1.24)						(1.94)					
28. Dealing with school workload	6	5	11	24	42	12	8	7	14	25	27	19	4	3	13	28	24	27	6	8	16	31	31	9
	(3.28)						(3.12)						(3.45)						(3.00)					
29. Trying to communicate and relate to parents	9	6	10	18	40	17	21	16	15	18	12	18	11	9	13	24	23	19	10	9	13	22	20	24
	(3.23)						(2.40)						(2.97)						(3.06)					
30. Getting the marks/courses to graduate	11	7	17	20	33	13	11	9	12	21	20	27	7	5	11	17	22	38	3	5	11	22	32	27
	(2.46)						(3.13)						(3.58)						(3.56)					
31. Change in health of a family member/relative	34	29	20	9	8	1	17	11	16	20	19	17	19	16	17	23	15	10	15	12	12	27	18	17
	(1.36)						(2.64)						(2.29)						(2.73)					
32. Arguments or problems with boy/girlfriend	31	18	26	17	7	2	25	8	11	18	15	23	35	12	17	15	13	9	24	8	16	19	16	18
	(1.56)						(2.59)						(1.85)						(2.46)					
33. Feeling pressured by friends	21	14	32	20	11	2	23	12	12	23	17	12	24	16	18	20	15	7	13	10	15	24	21	18
	(1.95)						(2.33)						(2.07)						(2.84)					
34. Having time for friends/social life	6	2	11	34	34	14	21	14	25	17	12	11	9	7	10	22	30	23	14	11	33	75	66	55
	(3.30)						(2.20)						(3.25)						(3.51)					

Note. Mean response options are enclosed in parenthesis.