

**ADDIS ABABA UNIVERSITY
SCHOOL OF GRADUATE STUDIES
DEPARTMENT OF PSYCHOLOGY**

**FAMILY AND FRIENDS' SMOKING, AND PERSONAL
COPING STYLES AS PREDICTORS OF CIGARETTE
SMOKING AMONG AAU MAIN
CAMPUS STUDENTS**

TIGIST WUHIB

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BY: TIGIST WUHIB

**A Thesis Submitted in the Partial Fulfillment of the
Requirements for the Degree of Master of Arts in
Counseling Psychology**



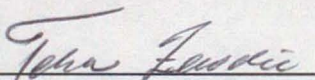
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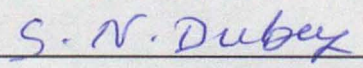
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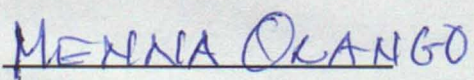
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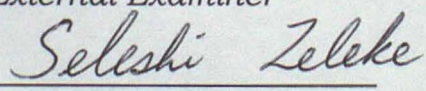
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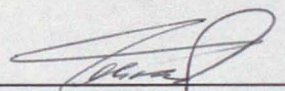
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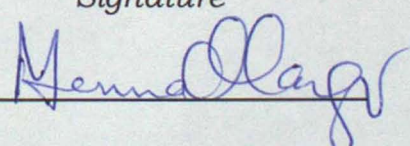

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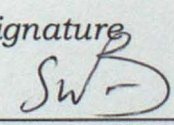

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ACRONYMS

AAU

Addis Ababa University

ACS

Adolescent Coping Scale

AIHW

Australian Institute of Health and Welfare

CDC

Centers for Disease control and Prevention

OR

Odds ratio

SPSS

Statistical Package for Social Science

WHO

World Health Organization

ABSTRACT

The purpose of this study was to investigate whether family smoking, friends' smoking, and students' coping styles have significant contribution on the prediction of cigarette smoking among university students in main campus of Addis Ababa University. A self-reported questionnaire comprising students' family and friends smoking status items, coping scale, and cigarette use inventory was administered to a random sample of 658 male students. Chi-square and binary logistic regression analyses were used for analysis. Results obtained through chi-square analysis displayed that fathers' smoking, brothers' smoking and friends' smoking associated significantly with cigarette smoking of students. However, there was no association between smokers and non-smokers related to mothers', sisters' and other family members' smoking. Coping styles (productive, non-productive and reference to others) also associated significantly with cigarette smoking of students. Logistic regression analysis revealed that fathers' smoking, brothers' smoking and friends' smoking significantly predicted cigarette smoking of students. Students who have father, brother(s) or friend(s) who smoke are more likely to practice smoking behaviors than those students with non-smoker father, brother(s) or friend(s). Similarly, coping styles (productive, non-productive and reference to others) significantly predicted cigarette smoking of students. Students with lower scores on productive coping style and/or reference to others coping style, and/or higher score on the non-productive coping style indicated more likely to smoke. The logistic regression result also revealed that friends' smoking was a dominant independent predictor of cigarette smoking of students. These results highlight the importance of considering smoking by fathers, brothers and friends, and the personal coping styles for the early detection of cigarette smoking.

CHAPTER ONE

INTRODUCTION

1.1 Background of the problem

Cigarette smoking is one of risk behaviors for health and wellbeing of the developing adolescent and young adult. Tobacco is highly addictive. Once you start smoking, it is very hard to stop, and tobacco use is associated with a number of diseases. The most significant diseases associated with smoking are lung cancer and coronary heart disease (Steinfeld, 1984; Carr, A., 1998; Steven, 2000; Otoole and Torabi, 2001; Yigzaw, 2001; Morrell, H., 2004).

Tobacco related diseases kill more than four million people in a year. WHO epidemiologists predict that unless there is a dramatic change in present trends, tobacco will be killing 8.4 million people per year by late 2020s. By that time 70% of these deaths will be occurring in the developing countries (WHO, 2002). In Africa, Cigarette smoking is estimated to kill only one out of every 84. But tobacco related diseases are expected to become biggest single killer within 20 years (Dooley, 2001).

Information on the tobacco use among adolescent and young adult people is not available for most developing countries (Kaufman and Yach, 2000). Similarly, Dooley (2001) indicated that sixty-six percent of African

Countries have no data on smoking prevalence, and the rest have little. However, Corrao et al. (2000) revealed that the estimated smoking prevalence in Africa for adults aged 15 years and older is 29% for men and 4% for women. Smoking prevalence in Africa is relatively low, with tobacco use being more common among men than women (Maassen et al., 2004). Current trends show that only time separates Africa from the rest of the world, with the Africa tobacco epidemic expected to peak in the middle of the 21st century (Chapman and Leng, 1990; Dooley, 2001).

Many recent studies have shown globally that rates of tobacco use have increased among college students (Otoole and Torabi, 2000; Kear, 2002; Morrel et al., 2004; Patterson et al., 2004). According to Otoole and Torabi (2000), although college students have appeared more resistant than other young adults, tobacco use is definitively on the rise in college campuses across all subgroups and types of colleges. Moreover, Patterson et al. (2004) explained that for the majority of adolescents, the transition to college represents progression into adulthood and the freedom to make self-initiated choices, including the decision whether to smoke. Furthermore, they indicated that many college students who have never tried smoking before may experiment with cigarettes, and students who were occasional smokers in high school are more likely to become more frequent, heavier smokers once in college. The college years

may be particularly important period in the development of long-term smoking habits.

In Ethiopia, little is known about smoking prevalence among college students, although Zein et al. (1984) and Yigzaw (2001) studied the prevalence of cigarette smoking among college students in west Ethiopia; Life time prevalence rate of cigarette smoking was reported to be 25% and 13.1% respectively. These studies indicated that the prevalence of cigarette smoking seemed to decrease among college students but the decrease may be due to several limitation, for instance, the students might not give genuine answers to the questions they were asked (Yigzaw, 2001).

A number of different determinants have been examined in an attempt to account for adolescent and young adult cigarette smoking. In particular, these include family smoking, friend's smoking, coping styles, emotional distress and self-esteem. Family and friends' smoking, and coping styles have been central to investigation of adolescent and young adulthood tobacco use in recent years (Wodarski, 1990; Parrotte, 1999; Snow and Bruce, 2003; Brook et al., 2005; Wen, C. et al., 2005).

Systematically designing prevention programmes require the determinants of cigarette smoking to be examined (Maassen et al., 2004). Therefore, the present study aims to explore the association between

family and friends' smoking, coping styles and cigarette smoking among university students.

1.1.1 Theoretical background

1.1.1 a. Concepts and Theories relating to the problem

1.1.1a (i) Factors contributing to cigarettes smoking

Many efforts have been made to provide either a theoretical basis or an integrated framework for examining influence on smoking initiation and current smoking. As a step toward an integrated approach, Petraitis and Colleagues (1995) suggested that three distinct types of influence underlie existing theories of tobacco use: social, cultural, and personal. Social influence includes the characteristics, beliefs, attitudes, and behaviors of the persons who make up the more intimate support system of adolescents and young adults, such as family and friends. Cultural influence includes the practices and norms of the broader social environment of adolescents and young adults, such as the community, neighborhood, and school. Personal influence includes an individual's biological characteristics, personality traits, affective states and behavioral skills.

As mentioned earlier, there are many factors that are responsible to cigarette smoking among adolescents and young adulthood, but the most common reason why they keep using it is that they become physically

dependent on the nicotine, which means they have become addicted (Lawton, 1962; Nowlis, H., 1969; Carr, 1998; Steven, 2000; Wagner, H., 2003).

As with any addictive substance, a user's body adapts to nicotine and eventually requires it to function normally. The person develops a tolerance to the nicotine, meaning that he or she requires increasing amounts of nicotine to reach the same level of "high" once felt with a smaller amount. Tobacco users will find that they need nicotine just to feel "right" or "normal". If users do not get regular doses of the drug, withdrawal symptoms occur. Some of the symptoms of nicotine withdrawal are anger, irritability, dry mouth, head ache, indigestion, difficulty in concentrating, depression etc. Tobacco users also develop a psychological dependence, which lasts much longer and is very difficult to break. A person who becomes psychologically dependent on a drug develops a strong craving (abnormal desire) to use the drug, even if he or she has no withdrawal symptoms or physical urge to do so (Nowlis, H., 1969; Steven, 2000; Wagner, H., 2003). In relation to this, HU, M.et al. (2006) revealed that tolerance and dependence may result from pre-existing individual differences in sensitivity to nicotine, in addition to extensiveness of smoking.

According to Steven (2000:60), physical dependence in nicotine can be broken in the first few days or weeks after quitting, but psychological dependence is often longer lasting.

1.1.1 a (ii) Social Learning Theory

Several different theories have been proposed to explain how significant others, particularly family and friends' behaviors influence adolescent and young adults' behaviors. Akers' social learning theory (Akers et al., 1979: 638 as cited in Flay et al., 1994) emphasized that "social behavior is acquired through direct conditioning and through imitation or modeling of other's behavior". A general theory of social learning (Bandura, 1977) emphasized that direct and vicarious experiences with rewards and punishments in one's environment lead to the acquisition of specific beliefs about the consequences of behaviors and circumstances. These beliefs shape an individual's behavior. Thus, the social learning theory emphasized the importance of modeling and reinforcement in the initiation, maintenance, and extinction of behaviors (Melby et al., 1993). The theory postulates that family or friends influence adolescent smoking behavior by setting an example and providing social reinforcement (Flay et al., 1994).

Bandura's social learning theory has gained broad support and - used to study the relationship between family and friends' smoking and adolescent cigarette smoking (Mcalister et al., 1984; Wodarski, 1990;

Melby et al., 1993; Flay et al., 1994). In many consideration of adolescent and young adult cigarette smoking, special importance is attached to the family and friends' smoking. An abundance of studies provide evidence for the assumption that the family and friends' smoking plays a crucial role in the initiation and maintenance of smoking.

1.1.1 a (iii) Concept and Theories of Coping

Concept of Coping

The construct of coping is very broad and encompasses a wide area of behavioral and cognitive activity. Most coping research has been influenced by the work of Lazarus and his colleagues. According to Lazarus and Folkman (1984:141), coping is "the cognitive, behavioral (and emotional) efforts to manage particular external and/or internal demands that are appraised as taxing or exceeding the resource of the person". Coping has come to represent the behavioral and cognitive efforts used by individuals to deal with the person-environment relationship (Frydenberg and Lewis, 2000). Thus, coping is a dynamic process that is dependent on both the demands of the environment and the characteristic of the individual.

Pearlin and Schooler (1978) indicated that people use social resources, psychological resources, and specific coping responses in dealing with stress. They define resources as what is available to people in developing their coping repertoires. They further define, specific coping responses as

the behaviors, cognitions, and perceptions in which people engage when dealing with their life problem.

Campas et al. (1987) distinguishes between coping resources, coping styles, and specific coping strategies. Coping resources are defined as aspects of the self (for example, problem solving skills or self-esteem) and the social environment (for example, the availability of social support) that facilitate dealing with stress. Coping styles are methods of coping consistently used by individuals across different situations or overtime within a given situation – tendencies to react in particular way in response to a specific set of circumstances. Specific coping strategies are the behavioral or cognitive actions taken during a particular stressful event.

Although the strategies enforced to cope with stressful situations vary for different situations, Carver and Scheier (1994) maintain that over time individuals develop habitual ways of dealing with stress, and that these coping styles affect the individual's response to similar situations in the future. Further, individuals tend to deal with problems by using a hierarchy of favored coping styles (Forman, S., 1993; Frydenberg and Lewis, 2000). The present study is based on the assumption that an individual's predisposition to particular coping styles will influence the coping strategies enforced when an individual is exposed to experience

problems in one's life (Carver and Scheier, 1994; McBain and Ohtsuka, 2001).

The above idea has shown that, although the strategies to cope with stress or different problems vary for different situations and over time, individuals tend to reapply a limited set of learned coping strategies.

Dimensions of coping

One important dimension of coping is the distinction between problem-focused coping strategies, defined as attempting to control or alter the sources of the stress, and emotion-focused coping strategies, defined as efforts to regulate emotional states that are associated with or result from stressful events (Folkman and Lazarus, 1984). The former is utilized more when the problem is perceived as changeable and the latter is utilized more when the problem is perceived as less changeable (Frydenberg and Rowley, 1998). Lazarus (2000) emphasized that although problem-and-emotion-focused coping are conceptually distinguishable, they should not be considered independent and usually occur together.

Other researchers have categorized coping in terms of adaptive outcome. For example, Frydenberg and Lewis (1991, 1993, and 2000) examined the coping responses of thousands of Australian adolescents and proposed three coping categories: Productive coping, non productive

coping, and reference to others coping. This broad grouping can be divided into combinations of strategies.

1. Productive Coping :-represents a style of coping characterized by working at a problem while remaining optimistic, fix, relaxed, and socially connected; and it comprises the following strategies: seeking social support, focus on solving the problem, physical recreation, seek relaxing diversion, improve relationships, work hard and achieve and focus on the problem.

2. Non-Productive coping:- primarily reflect a combination of what may be termed non productive avoidance strategies-which one empirically associated with an inability to cope, and it include the following coping strategies: Worry, wishful thinking, Not cope ignore the problem, tension reduction, keep to self, self blame and invest in close friends.

3. Reference to others:- it can be characterized by turning to other for support whether they are peers, professional, or deities, which includes, seek social support, seek spiritual support, and seek professional help and social action.

According to Frydenberg and Rowley (1998), two of the coping styles (productive coping and reference to others coping) concur with Folkman

and Lazarus' (1984) conception of problem-and emotion-focused coping. The coping style "productive coping" seems to reflect Folkman and Lazarus' definition of problem-focused coping. Similarly the coping style labeled "reference to others" reflects emotion-focused coping. The third coping style, labeled "Non-productive coping", includes avoidance strategies and a general failure to cope.

Although Frydenberg and Lewis (2000) point out that coping processes are not intrinsically good or bad and should be considered within the context in which they occur, they argue that, in general, coping strategies can be considered productive or non productive. Direct attempting to manage the problem (productive coping), with or without reference to others, represents a functional style of coping while the use of non-productive strategies that have an emotional focus represents a dysfunctional type of coping.

Coping styles appears to play a key role regarding the tobacco use behaviors of adolescents and young adults (Petraitis et al., 1995; Parrotte, 1999; Snow and Bruce, 2003).

Although coping can be measured in many different ways and by using different measures, some of which look at problem and emotion focused coping, while others look at positive and negative coping. (Carver, Scheier, and Weintraib,1989). The Frydenberg and Lewis adolescent

coping scale (ACS) is purported to be the only scale that successfully measures the coping dimensions, 'Independently dealing with problem', 'Non productive' and 'reference to others'. Ebata and Moos (1994) as cited in Frydenberg and Lewis (2000) point out that the utility is not only employing composite style but also retaining the narrow -band coping distinctions.

In recent years, many investigators have used the Adolescent coping scale for coping research. For example, Snow and Bruce, 2003 (to assess coping styles of adolescent), and Frydenberg and Rowley, 1998 (to assess coping responses of young adulthood). Therefore, in the present study conceptualization of coping constructs was based on the three broad-band grouping of Adolescent coping scale (ACS) drawn from the work of Frydenberg and Lewis (1993), made up of the strategies, for measuring the coping styles of students.

1.1.1 b Related Research Evidences to the Problem

1.1.1b (i) Family and Friends' Smoking as Predictors of

Cigarette Smoking

Numerous recent studies have demonstrated that adolescents whose friends and/or family use cigarette are more likely to use cigarette and to use them more frequently than adolescents whose friends and/or family are non-users (Halayya, 1983; Wodarski, 1990; Zhang et al., 2000;

Sargen et al., 2001; Yigzaw, 2001; Snow and Bruce, 2003; Brook et al., 2005; Wen, C. et al., 2005).

Steinfeld (1984) pointed out that all tobacco use-smoking, chewing and sniffing is learned behavior, began as a result of direct and indirect social pressure. Similarly, Krohn et al. (1985) revealed that parents and friends can increase the probability of adolescent and young adult substance use including cigarette smoking by providing models which can be imitated.

According to Wodarski (1990), parents and friends are the primary socializing agents in the onset and emergence of adolescent and young adults' attitudes and behavior regarding drug use. Moreover Zhang et al.(2000) pointed out that having family members who smoke not only provides adolescents easier access to cigarettes but their physical, psychological effects or use and positive smoking attitude norms directly influence the adolescent as well.

As indicated above, a likelihood of student using a cigarette has a strong relationship to the smoking of family and friends. The association between parental smoking, sibling smoking, friends' smoking, and individuals' (students') smoking behaviors is described below.

Parental Smoking

Research regarding the influence of parents on adolescent and young adulthood substance use has not generated as strong not consistent findings as the studies of peer influence. However, parents can increase the probability of adolescent and young adulthood substance use (including cigarettes) by providing models which can be imitated (Krohn, M. et al., 1985; Zhang, 2000; Wen, C. et al., 2005; Brook et al., 2005).

Investigators HU, Davis and Kendel (2006) concluded that parental smoking (by one or both parents) was highly significant correlate of current smoking for whites but parent smoking was not significant for African Americans for smoking behaviors. This indicates that parental smoking is culture specific.

Sibling Smoking

Needle et al. (1986) indicated that sibling, especially older siblings can be considered as an important source of influence on adolescents' substance use. Siblings have been characterized as a special category of peer influence and they can act as role models by reinforcing certain behavioral patterns. Moreover Daly et al. (1993) revealed that adolescents whose older siblings smoke are more likely to adopt the behavior than those whose siblings do not smoke. This indicates that sibling smoking behavior is strongly related to adolescent's smoking behavior.

On the other hand, Meijer et al. (1997) reported that smoking among older siblings had little or no influence on smoking among their younger sisters and brothers.

A study conducted by Yigzaw (2001) on the prevalence and risk factors of cigarette smoking for college students in Ethiopia show that the presence of family members who smoke predisposes students to smoke. He noted that this is a real factor since adolescents can start to exercise what the elders are doing.

Friends' Smoking

In many studies, One of the strongest risk factors for smoking is exposure to friends who smoke (Kandel et al., 1987; Castro, F. et al., 1987; Melby, j. et al., 1993; Flay, B. et al., 1994; Meijer et al., 1997; Zhang, L. et al., 2000; Piko, B. et al., 2005; Wen, C. et al., 2005; Hu, M. et al., 2006). Paavola and Colleagues (1996) conducted a longitudinal study of predictors of smoking in a sample of young adults from Finland. This group administered surveys to participants when they were in the seventh grade, the ninth grade, and 4 more times over the next 15 years. Results from this study indicated that, over time, having friends who smoke were one of the most important predictors of smoking.

One possible explanation for the greatest influence of friends' smoking on adolescent or young adult's cigarette smoking is that they may be

considered a misfit if they do not do what others of their age group do or they may be rejected by their friends and classmates if they do not conform (Halayya, 1983).

In relation to this Steinfeld, J.(1984) and Zhang, L. et al. (2000) underscored some possible reason for the greatest influence of friends' smoking on young adults' cigarette smoking behavior. Young people may smoke because they want to belong to a particular group (Steinfeld, 1984). Others may lack the skills to refuse a cigarette offered by friends or someone they would like to be their friends (Zheng, L. et al., 2000).

Many studies revealed that from "significant other", having smoker friend(s) has been considered as the most important factor influencing smoking of adolescents and young adults (Meijer et al., 1997; Wen, C. et al., 2005; Hu, M. et al., 2006). One possible explanation comes from Kandel et al. (1987), who argue that the strength of influence from parents and friends depends on the quality of their social bond with adolescents. Given the adolescence is period of increasing bonds with peers, and possibly of weakening bonds with parents, smoking among friends is expected to exert more influence on an adolescents' own smoking. Besides, they noted that, if this so, increasing peer influence is more likely to produce a direct path between friends' and adolescents' smoking than between parental and adolescents' smoking.

On the other hand, Wen, c. et al. (2005) concluded that parental influence, as a whole including parental smoking, was more important than peer influence in the Asian Students. They suggested that parental and friends influence is culture specific.

Although studies which directly explored the association between friends' smoking and cigarette smoking among college and university students of Ethiopia not available, one study conducted among high schools student reported that the smoking habit was statistically associated with having friends who smoked (Zein and Massresha, 1979).

1.1.1 b(ii) Coping Styles as Predictors of Cigarette Smoking

Coping style is also frequently mentioned as a reason for beginning to smoke (Lawton, 1962; Halayya, 1983; Fleming et al., 1984; Steinfeld, 1984; Morlatt and Judith, 1985; Wills, 1986; Castro et al., 1987; Charlton, et al., 1989; Wills and Vaughen, 1989; Petraitis, et al., 1995; Naquin and Gilbert, 1996; Parrotte, 1999; Yigzaw, 2001; Snow and Bruce, 2003; Niaz et al., 2005).

Fleming, Baum and Singe (1984) said that coping behaviors may be conceptualized as actions taken to modulate the level of stress experienced. Thus, habitual drug use, including cigarette smoking, can be conceptualized as a coping behavior, an action taken to modulate the level of tension occurring when one confronts a treating situation.

Moreover, Morlatt and Judith (1985) indicated that a person may utilize a variety of coping behaviors including drug use and cigarette smoking in order to "feel better" either during or after a stressful episode. These findings suggest that smoking aids as a mechanism for coping with stress.

In relation to this, McCubbin et al. (1985) conducted their research on the association between coping strategies and adult health risk behaviors, and they found that family problem solving, spiritual support and activity coping were negatively correlated with adolescent health risk behavior and that of cigarette smoking. Furthermore, they explain that family life is likely to shape the course of adolescent adaptation and particularly their adoption of health risk behaviors. This indicated that the adolescents' and young adults' effort to work out difficult issue with family members and to reduce tension in the home environment by talking to one's parents, talking to a sibling about feelings, and going along with parents' requests appeared to work against the adolescents' adoption and maintenance of health risk behaviors.

Furthermore; McCubbin et al. in the same research claim that ventilation coping (risk promoting coping strategies, e.g. blaming others) were correlated positively to cigarette smoking. Besides they noted that adolescents' efforts to express frustrations and tensions through getting

angry, blaming others, complaining to friends, and complaining to family members was associated with their greater use of cigarette.

Moreover Wills, T. (1986) conducted study to collect information about the association between stress, coping and substance use in urban school samples. Coping was examined based on behavior and intention methods. Results showed that, social support and relaxation were inversely related to substance use whereas peer support, distraction coping, and aggressive coping were positively related to substance use. These and the above ideas imply that coping styles seem to be a strong predictor variable for cigarette smoking.

Wills and Vaughan (1989) examined the association between current smoking and earlier tendencies to seek adult or parental help with problem. Results showed that, among adolescents who had previously relied on peers to help with problem were far more likely than adolescents who do not relied on peers to help with problem, whereas parental and other adult support were inversely related to substance use. But it is unclear whether this effect related primarily to coping styles or to peer or family attachment.

In recent years, Frydenberg and Lewis (1991, 2000) have argued that the ways in which adolescents cope with stress should not necessarily be examined using only adult – centric models which deal with problem

versus emotion – focused approaches to stress. These workers have proposed that adolescents' coping can be viewed as productive (strategies which are helpful in adjusting to or dealing with a situation) or non productive (those which may be ineffective, or actually exacerbate a situation). Employing Frydenberg and Lewis (1993) Adolescent coping scale (ACS), Snow and Bruce (Snow and Bruce, 2003), in their analysis of coping strategies used by cigarette smokers, found that both non productive coping strategies and relying on others coping strategies were able to differentiate between current, experimental and non-smokers, where as productive coping strategies could not. They found that current smoker utilized more non-productive coping strategies than either non smokers or experimental smokers.

On the other hand, Byrne and Mazanov (2001) revealed that the nexus between coping style and cigarette smoking does not fully account for variance in adolescent and young adult smoking behavior.

1.1.2 Practical Consideration

In order to design effective tobacco prevention and interventions programs, it is essential to understand the predictors of cigarette smoking.

One of the group most affected by cigarette smoking is college students (Kear, M., 2002; Morrell, H., 2004; Patterson et al., 2004). Adolescence

and young adulthood are critical periods for the development of social, cognitive, and academic skills (Wodarski, 1990). Thus, the intervention efforts must be focused in this vulnerable population.

Several large scale smoking prevention/cessation programs have adopted a general social learning perspective as conceptual framework for guiding their interventions (McCubbin et al., 1985; Wodarski, 1990; Brook et al., 2005). This study also could help in identifying some of the psychosocial predictors of smoking among college students.

Health educators and public health specialists, interested in early intervention and prevention oriented programs have sought to identify family, community and psychological variables which promote and/or reduce the adolescent's development initiation and maintenance of health risk behaviors, including cigarette smoking (McCubbin et al., 1985). The investigation reported in this presentation attempts to advance these lines of scientific inquiry by examining the association between family and friends' smoking, coping styles and cigarette smoking. Thus, the result of this study may help lead to the development of more effective smoking prevention programs targeted to the college student population.

In line to this Steinfeld (1984) explains that because smoking is a learned behavior, the most successful programs combine favorable home, school, work and recreational environments with positive programs of physical

and psychological alternatives to smoking as well as knowledge of both the short and long term health, economic and social adverse consequence of smoking. Therefore, findings from this study could help psychologists, Counselors, health workers, and other professionals involved in service delivery to devise the appropriate intervention in minimizing the prevalence of smoking habits.

The result of the study will have also practical importance in giving insight for further research in this area.

1.1.3 General statement of the problem

Cigarette smoking among college students is a critical public health problem (Patterson et al., 2004; Von et al., 2005). Health behaviors formed during young adulthood may have a sustaining impact on health across latter life. Entering college can be an exciting, yet stressful event for many adolescents and young adults as they face trying to adapt to changes in academic work loads, support networks, and their new environment. Coupled with these changes and new-found responsibilities, they have greater freedom and control over their life styles than ever before. However, researchers have shown globally that many college students are engaged in various risky health behaviors (Morrell, H. et al., 2004; Von et al., 2005).

Ethiopian college and university students facing various Socio- economic and cultural difficulties in order to escape from social tension and personal stress, some resort to use of tobacco (Yigzaw, 2001). Hence it is essential to study the etiology of cigarette smoking in the country.

In Ethiopia, information on the predictors of cigarette smoking has received little research attention. The present study, therefore, was undertaken to provide information on the predictors of cigarette smoking among university students by forwarding the following basic questions.

- Do family smoking such as fathers' smoking, mothers' smoking, brothers' smoking, sisters' smoking or other family members' smoking has significant contribution in predicting cigarette smoking of students?
- Does friends' smoking has a dominant significant contribution in predicting cigarette smoking of students?
- Do coping styles, namely productive coping, unproductive coping or reference to others coping has significant contribution in predicting cigarette smoking of students? If so, which of them makes the greater independent contribution?

1.2 Purposes of the study

The main purposes of this study were:

- To examine whether family smoking, namely; fathers', mothers', brothers', sisters' or other family members' smoking has significant contribution on the prediction of cigarette smoking.
- To examine whether friends' smoking has a dominant significant contribution on the prediction of cigarette smoking.
- To examine whether students' coping styles such as productive coping, non productive coping or coping by reference to others has significant contribution on the prediction of cigarette smoking and to identify the strongest predictable variable from these coping dimensions.

1.3 Operational definitions of terms used

Family Smoking: - the presence of smoking behavior among fathers, mothers, brothers, sisters or other family members of students.

Friends' Smoking: -the presence of smoking behavior among friends of students i.e. whether friends being a cigarette smokers.

Coping Styles: - the method to overcome that characterize individuals reaction to a wide variety of concerns or problems either across different situations or overtime within a given situations.

Smoker: - individuals who smoke cigarette daily, weekly or less than weekly.

Non-Smoker:- individuals who had never tried smoking cigarette.

1.4 Delimitations of the study

Though the susceptibility of cigarette smoking is influenced by several determinants, this study was confined to study family and friends' smoking, and students' coping styles as predictors of cigarette smoking. For comprehensive information and result it was more effective if the study had been conducted in some other colleges and universities. But, because of financial and time constraints the study was conducted only in AAU main campus.

CHAPTER TWO

METHOD

2.1 Design of the Study

A quantitative descriptive survey research method has been used to explore whether family and friends' smoking, and students' coping styles could possibly predict cigarette smoking of students.

For this study, the selected independent (or predictor) variables are:-

- Family smoking (fathers' smoking, mothers' smoking, brothers' smoking, sisters' smoking and other family members' smoking)
- Friends' smoking,
and
- Students' coping styles (productive, non-productive and reference to others).

The dependent variable is the status of cigarette smoking.

2.2 Study Area (Site)

The study was conducted in the main campus of Addis Ababa University (AAU), in Addis Ababa. The site was chosen because Addis Ababa is the researcher's place of residence and that it would be convenient for her to make a follow up studies on the issues.

The study was also limited to these young students of the university with assumption that they have a higher possibility in engagement of cigarette smoking as they have greater freedom and control over their life styles than ever before.

2.3 Population and Sampling

Population

The target population included under this study was Addis Ababa University (AAU) main campus male students, particularly final (3rd, 4th or 5th) year under graduate regular students in 2005/6 academic year from different disciplinary areas. The total size of the population is 1645. These groups of population were selected purposely based on the assumption that risk of smoking is increasing with increment in the years of study, and female smokers are relatively very few in numbers. In line with this, Zein et al. (1984) and Yigzaw (2001) who conducted a research in Ethiopian college students concluded that the risk of smoking increases with increasing year of study, and males are at higher risk of smoking compared to female students.

Zein on the same study reported that between one-quarter and one-third of the final year students in Gonder College were smokers. This indicates that cigarette smoking is widely prevalent among the final year students.

With regard to gender difference in smoking status, Yigzaw (2001) reported that only 0.03% of the girls was ever smokers. Furthermore, he suggested that the lower prevalence among girls is due to cultural influence. Therefore, due to the above indicated reasons the researcher included only male final year students in the study population.

Sample Selection

The procedures of selection were as follows:-

In order to ensure sufficient representative students from different disciplinary areas, first the total population was stratified in to twenty strata based on the students' study area (departments). Then, from each stratum 40% of students were selected i.e. to constitute the sample the principle of proportional allocation was used in relation to the class size of each department. To select the required sample members from each stratum (department), simple random sampling technique was employed.

Participants

A total of 658 students were selected to constitute the sample by using the above indicated procedures. But 15 students failed to complete the task because of their absence during the completion of the questionnaire and 15 participants were excluded because of incomplete or inconsistent completion of the questionnaire. Further, 16 participants were excluded from the analysis after being classified as former smokers. This left a

total of 612 students in the final analysis. Participants in the final analysis were classified as either smoker (current smoker) or non-smoker, according to their responses on a self-report cigarette usage item. The age of students ranging from 19 to 30 years, with majority (87%) falling within the range of 20 to 24 years and their mean was 21.8 (SD= 2.4).

Table 1: Target population and distribution of samples

COLLEGE /FACULTY department	Target population		Sample distribution	
		Total		Total
SOCIAL SCIENCES: Geography, History, Philosophy, PSIR, SOSA	76,70,60,97, 109	412	30,28,24,39 ,43	164
EDUCATION: Business Educ., Educ. Planning and Mgt., Ethiopian Lang., Foreign Lang., Geo., History, Physical Educ. and Sport, Psychology	200,67,46,84, 76,98,114,77	762	80,27,18,34 ,30,39,46, 31	305
LAW	97	97	39	39
LANGUAGE STUDIES: Ethiopian Lang. and Literature, Foreign Lang. and Literature, Linguistics, Theatre Arts	75,132,50,37	294	30,53,20,15	118
INFORMATICS : Computer Science, information science	59,21	80	24,8	32
Total		1645		658

2.4 Tools of data collection and their justification

The following three forms of questionnaire were used for gathering data.

The Students' Family and Friends Smoking Status Items

Students' family and friends smoking status was assessed by a series of six items, asking whether their family members and friend/s/ smoke or not.

Coping Scale

This questionnaire (scale) was developed to measure participants' coping behaviors in order to define a participant's coping style. The questionnaire was composed of 33 structured items measured on a 4-point Likert scale ranging from doesn't apply to me to applies to me always, and one open response item which asked participants to write down anything that they do to cope, other than those mentioned in the structured items.

From a total of 34 items, 19(18 structured and one open response) of them were adopted from the general short form of the adolescent coping scale (Frydenberg and Lewis, 1993) and the other items added on the adopted items were developed by the investigator.

The general short form of adolescent coping scale (ACS) is a self-report scale which consists 18 structured items and one open response item (for this study all of the 19 items were adopted). Adolescent coping scale was chosen because:-

- The wording of the items in the original scale are not ambiguous and do not seem to be culture bound.
- It retained the narrow-band coping distinctions.
- Each of the sub-scales has shown the acceptable reliability.
- Originally the scale is developed for adolescents but, it is also used to assess young adults coping behaviors (Frydenberg and Rowley, 1998).

The questionnaire has three sub-scales that were used to measure the three coping dimensions. These are productive coping scale, non-productive coping scale and reference to other coping scale. In general 34 items were made ready for pilot test.

Cigarette Use Inventory

This part of questionnaire sought information pertaining to self-reported cigarette usage. The items were developed based on information on the New smoking status measure (AIHW, 1997) and Question Inventory on Tobacco (CDC, 2002). This self report measure was used to classify smoking status in to three categories such as non-smokers, former smokers and current smokers (daily, weekly or less than weekly).

The research on self-reports of smoking indicated that they are highly accurate for virtually all assessment and intervention studies (Frederiksen et al., 1979; Miller and Kriven, 2000).

The following figure summarizes the classification of cigarette smoking status.

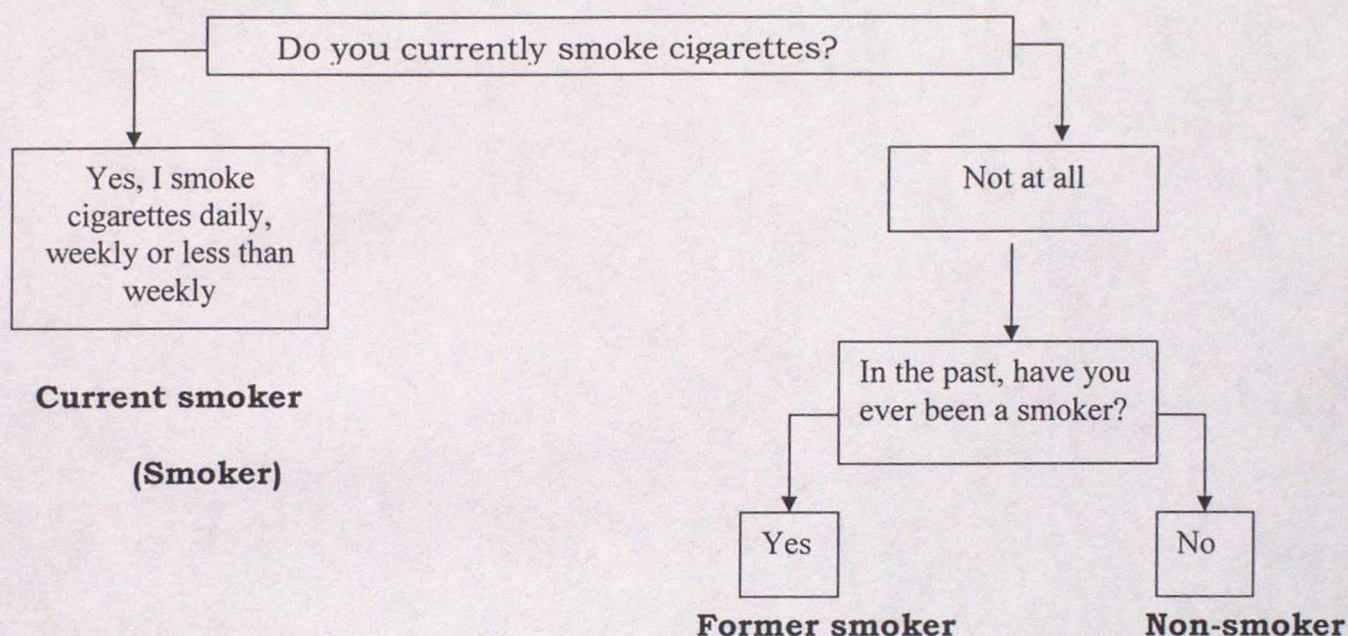


Fig. 1: Classification of cigarette smoking status

The questionnaire was translated from English into Amharic language by two senior graduate students from department of foreign language and literature for the purpose of clarity and to enable students respond to each question with minimum constraints. In order to make sure that the questionnaire retained its meaning after translation, the questionnaire

was translated back into English by two senior graduate students from department of Ethiopian language and literature and checked against the original English version. All discrepancies were corrected.

The questionnaire was distributed for comments to two instructors in psychology department. Based on their feedback some modification was undertaken.

Procedure of pilot test for coping scale

The pilot test scale (coping scale) was administered to forty male students, randomly selected from 4th year Law department students, in the class room. These were not included in the study sample.

The data from five of these students have been omitted from the pilot test analysis because of inconsistent or incomplete data.

Analysis of items of the pilot study

Item analysis is carried out by calculating the item-total correlation for each sub-scale. Based on the results of the item analysis, 5 items with relatively low item-total correlation that could reduce the reliability of the sub-scales (2 from non-productive coping scale and also from reference to others coping scale, and 1 from productive coping scale) were removed. From the total of 28 structured items that were ready for the

main study, 1 item was used to gather information for both productive and reference to others coping dimensions (see appendix -C).

To measure the internal consistency of the selected items for each coping scale, Cronbach alpha was computed. The productive coping scale, Non productive coping scale, and reference to other coping scale have Cronbach alpha of 0.84, 0.81, and 0.83, respectively.

Generally, as indicated above, the analysis of pilot test shows high reliability of the instrument.

The reliability of the scale was again calculated based on 50 participants selected randomly from the main study. It was found to be 0.85, 0.83, and 0.87 for productive coping scale, Non productive coping scale, and reference to other coping scale, respectively.

2.5 Procedure of data collection

The anonymous self-administered questionnaire comprising students' family and friends smoking status items, coping scale, and cigarette use inventory was distributed in the classroom for the selected students with the help of assistants. The researcher as well as data collector described the purpose and process of the survey to the students, and gave standardized instructions for completing the questionnaire. Students were informed that the information collected would be kept confidential

and participation was totally voluntary. The questionnaires were collected under the supervision of the data collectors. Both instructors and students were cooperative during the data collection.

2.6 Method of data analysis

The data collected have been analyzed using appropriate methods. Before proceeding to the actual statistical analysis, assumptions associated with the use of each of the analysis were checked.

First, median-split procedure was applied to dichotomize (as high-and-low) each of coping scale (i.e. productive scale, Non productive scale and reference to others scale) scores by assigning scores on each coping scale. In order to examine the association of smokers and non-smokers relative to the independent (predictor) variables univariately, Chi-square analysis was employed. To examine multivariately the relative contribution of fathers' smoking, brothers' smoking, friends' smoking and students' coping styles in predicting the dependent variable, binary logistic regression has been employed. This technique was employed following the suggestion by (Tabachnick and Fidell, 1996). According to the authors binary logistic regression is employed when the dependent variable is a dichotomy and the independent variables are of any type. It can be used to predict a dependent variable on the basis of independent variables and also used to rank the relative importance of independent

variables. Since, in this study the dependent variable (i.e. status of students' cigarette smoking) was dichotomized and a simultaneous assessment of effect is desired, the use of binary logistic regression procedure was appropriate.

Finally, all differences were tested for statistical significance at 0.05 level.

Regarding the process of statistical analysis, statistical package for social science (SPSS) version 12.0 was used.

CHAPTER THREE

RESULTS OF THE STUDY

This section presents the results of statistical analysis carried out to answer the basic questions raised in the present study. First, associations among independent and dependent variables are presented. Then, finding from logistic regression analysis designed to assess the relative contribution of independent variables on predicting dependent variable are presented.

3.1 Results of Chi-square analysis

Chi- square analysis was used to examine the association of smokers and non-smokers relative to predictor variables univariately.

Table 2: Result of Chi-square analysis n (%)

Variables	Cigarette smoking status		Chi-square value (x ²)
	Non-smoker	Smoker	
Father's smoking			
No	464(96.1)	94(72.9)	20.55**
Yes	19 (3.9)	35(27.1)	
Total	483(100)	129(100)	
Mother's smoking			
No	483(100)	129(100)	a
Yes	-	-	
Total	483(100)	129(100)	

Brother's smoking			
No	443(91.7)	105(81.4)	3.95*
Yes	40 (8.3)	24(18.6)	
Total	483 (100)	129 (100)	
Sister's smoking			
No	482(99.8)	128(99.2)	0.16
Yes	1 (0.2)	1 (0.8)	
Total	483 (100)	129 (100)	
Other family members' smoking			
No	433(89.6)	105(81.4)	2.71
Yes	50(10.4)	24(18.6)	
Total	483 (100)	129 (100)	
Friends' smoking			
No	359(74.3)	21(16.3)	67.88**
Yes	124(25.7)	108(83.7)	
Total	483 (100)	129 (100)	
Productive coping style			
Low	111(23)	97(75.2)	54..5**
High	372 (77)	32(24.8)	
Total	483(100)	129 (100)	
Non-Productive coping style			
Low	312(64.6)	22(17.1)	46.69**
High	171(35.4)	107(82.9)	
Total	483 (100)	129 (100)	
Reference to others coping style			
Low	102(21.1)	100(77.5)	63.63**
High	381(78.9)	29(22.5)	
Total	483 (100)	129 (100)	

*P<0.05, ** P<0.01

a. No statistics are computed because all mothers are reported to be non-smokers

As can be observed from the Chi-square analysis result (Table 2), two of the family smoking variable (fathers' smoking, Brothers' smoking) and friends' smoking revealed the significant association with cigarette smoking.

Fathers' smoking was significant ($\chi^2 = 20.55$, $P < 0.01$), 27.1% of smokers reported having fathers who smoked, compared with 3.9 % non-smokers. Brothers' smoking also had a significant association ($\chi^2 = 3.95$, $P < 0.05$), 18.6% of smokers reported having brothers who smoke, compared with 8.3% non-smokers. Friends' smoking was also significantly associated with cigarette smoking ($\chi^2 = 67.88$, $p < 0.01$), 83.7% of smokers reported having friends who smoked, compared with 25.7% non-smokers. These results indicated that smokers were far more likely than non-smokers to be surrounded by father, brother(s) and/or friends who smoke. However, there was no association between smokers and non-smokers relative to mothers', sisters' and other family members' smoking.

Regarding coping styles, the finding (displayed in Table 2) also indicated that cigarette smoking was significantly associated with all of the coping styles (productive, non-productive and reference to others). Cigarette smoking was significantly associated with productive coping style ($\chi^2 = 54.5$, $p < 0.01$), 75.2% of smokers reported having low productive coping style scores, compared with 23% of non-smokers. Reference to others

coping styles also had a significant association ($\chi^2 = 63.63$, $p < 0.01$), 77.5% of smokers reported having low reference to others coping style scores, compared with 21.1% of non-smokers. Non-productive coping style was also significantly associated with cigarette smoking ($\chi^2 = 46.69$, $p < 0.01$), 82.9% of smokers reported having high non-productive coping style score, compared with 35.4% non-smokers. The results revealed that students with lower scores on productive coping style and/or reference to others coping style are more likely to smoke cigarette than those with higher scores on productive coping style and/or reference to others coping style. Similarly, students with higher scores on the non-productive coping style are more likely to smoke cigarette than those with lower scores on the non-productive coping style.

3.2 Results of binary logistic regression analysis

After examining the association between the dependent variable and predictor variables, it would appear that the consideration of predictor variables might be important when attempting to construct a model designed to successfully predict cigarette smoking behavior. Therefore, in order to examine multivariately the relative contribution of predictor variables as they relate to cigarette smoking, binary logistic regression has been performed.

As shown in the previous section, mothers' smoking, sisters' smoking and other family members' smoking are rejected from the model due to the absence of association between these variables and cigarette smoking. The following analysis was, therefore, based on the remaining predictor variables (fathers' smoking, brothers' smoking, friends' smoking and all three other coping styles) for best fitting logit model of cigarette smoking.

Table 3: Result of logistic regression analysis (n=612)

	B	Exp(B)	95%CI
Father's smoking	1.34	3.80**	1.71-8.41
Brother's smoking	0.99	2.70*	1.10-6.62
Friends' smoking	2.14	8.48**	4.55-15.77
Productive coping style	-1.36	3.89**	0.13-0.50
Non-productive coping style	2.00	7.40**	3.95-13.89
Reference to others coping style	-1.41	4.09**	0.13-0.47

*P<0.05, ** p<0.01

B= logit (effect) coefficients

Exp (B) = odds ratio

The result of logistic regression analysis in Table 3 indicated that fathers' smoking (OR=3.80, P<0.01), brothers' smoking (OR=2.7, P<0.05) and

friends' smoking (OR= 8.48, $p<0.01$) as independent predictors of cigarette smoking. This indicates that, students who smoke tend to have fathers, brothers or friends who also smoke.

The result also revealed that having friend/s/ who smoke was a dominant independent predictor of students' smoking, which increases the odds by 8.48.

Of the coping styles, it was found that productive coping style (OR= 3.89, $p<0.01$), non-productive coping style (OR=7.4, $p<0.01$), and reference to others coping style (OR=4.09, $p<0.01$) were independent predictors of cigarette smoking. The result also revealed that students who have higher scores on productive and/or reference to others coping style, and/or lower scores non-productive coping style are less likely to smoke.

The evidence in Table 3 further shows that among the coping styles variables, non-productive coping style was the strongest predictable variable for cigarette smoking of students. The likelihood of a respondent being a cigarette smoker was 7.4 times greater if he had high scores on non-productive coping style than he had low scores.

CHAPTER FOUR

DISCUSSION

The purpose of the present study was to investigate whether family smoking, friends' smoking, and students' coping styles have significant contribution on the prediction of cigarette smoking.

The discussion part of this study was based on the research questions indicated in chapter one and the findings presented in the preceding chapter. It also provides possible explanations for the results.

4.1 Family and Friends' Smoking as Predictors of Cigarette Smoking

4.1.1 Family Smoking as Predictor of Cigarette Smoking

In order to examine whether family has significant contribution on the prediction of cigarette smoking, the first step was to examine each variable in family smoking.

The result of chi-square analysis indicated that cigarette smoking was associated with fathers' or brothers' smoking, while mothers', sisters' and other family members' smoking was not.

Further analysis through logistic regression revealed a significant independent effect of fathers' and brothers' smoking. This indicated that

a likelihood of students using a cigarette has a strong relationship to the smoking of fathers and/or brothers.

The finding is consistent with the results of other studies by Halayya (1983), Kandel et al. (1987), Wodarski (1990), Snow and Bruce (2003) and Brook et al. (2005) who found that adolescent's and young adult's smoking is correlated with smoking status of their parents and siblings. It is also consistent with the results of Kandel et al. (1987) who reported that parents' view on the use of cigarette play a large part in the development of the child's view towards its use. Furthermore, they indicated that if the parent accepts and encourages smoking, and/or if an older sibling encourage this, the child is more likely to develop a habit of cigarette smoking.

The result of association between parental smoking, sibling smoking and cigarette smoking of students is discussed in the following section.

Parental smoking as predictor of cigarette smoking

The overall patterns of findings displayed in the tables indicated that fathers' smoking was significantly associated with cigarette smoking of adolescents and young adults. This indicates that fathers who smoke are more likely to have smoker children than those who do not smoke.

In relation to this Lawton (1962) maintains that the probability of students beginning to smoke bore a very high relationship to the

smoking behaviors of parents. Furthermore, he suggested that parents (one or both parents) who smoke can't usually in good conscience forbid smoking to their children. In this situation, it must be easier for children to start the habit than in an atmosphere of prohibition. Similarly, Krohn et al. (1985) revealed that parents can increase the probability of adolescent and young adulthood substance use (including cigarette) by either providing models which can be imitated. Moreover Green et al. (1991) found that adolescents and young adults were about two times as likely to have smoked daily if one or both parents smoked.

However, the research result failed to support the finding of Meijer et al. (1997) who found that parental (one or both parents) smoking did not increase the likelihood of smoking among adolescents and young adults.

As regard to mothers' smoking, the result indicated that both smokers and non-smokers did not have mothers who were smoker. The reason here seems that due to the cultural values in Ethiopia, mothers (females) smoker are infrequent.

Sibling Smoking as Predictor of Cigarette Smoking

The chi-square analysis undertaken addressed that there was a statically significant association between brothers' smoking and students' cigarette use. And the further analysis of the logistic regression has shown that brothers' smoking as independent predictor of cigarette smoking of

students. So, one can say from the findings that students who have brother(s) who smokes are more likely to practice smoking behaviors than those students with non smoker brother(s).

When we see the related literature in support of the above results McCaul et al. (1982) showed that brothers' smoking was significantly related to cigarette smoking of adolescents and young adulthoods. Moreover, Needle (1986) found that older sibling is frequently a source of cigarette smoking for their younger brothers. This result appeared, probably due to the fact that brothers have been characterized as a special category of peer influence and they can act as role models by reinforcing certain behavioral patterns. In addition, having sibling who smoke provides adolescent easier access to cigarettes.

In line to this, Melby et al. (1993) indicated that the presence in the home of a closing – age sibling who uses tobacco not only models the use of tobacco and helps to make tobacco more available to the adolescent, but also serves to legitimize association with others outside the family who use tobacco.

As for sisters' smoking, there was no association between sisters' smoking and students' cigarette use. The non existence of association between smokers and non-smokers relative to sisters' smoking seems

that sisters (females) smoker are relatively very few in number and due to cultural influence, the tolerance of female smoking is at a lesser degree.

4.1.2 Friends' Smoking as Predictors of Cigarette Smoking

In this study, friends' smoking was a dominant predictor of students' smoking as compared to the parental smoking, sibling smoking and the personal coping styles. The likelihood of a respondent being a smoker was 8.48 times greater (95% CI: 4.55 – 15.77) if he had a smoker friend. Since friends are the primary socializing agents of adolescents and young adulthoods, it is not surprising that the odds of smoking were greatly increased when having friends that smoke. This was consistent with the finding of previous studies that confirmed friends' smoking to be the most important determinants of adolescents and young adulthood smoking.

In line with this, Meijer et al. (1997) carried out a cross-sectional survey on students by asking about the smoking status of their parents, siblings, and friends and they conclude that friends' smoking was a very strong stimulus for smoking among the students.

Moreover, Wen, C. et al. (2005) revealed that from "significant others", having smoking friend(s) has been considered as the most important factor influencing smoking of adolescents and young adults. In the same HU, M. et al. (2006) found that friends' smoking is, among the significant

others' smoking, the strongest predictors of adolescent smoking initiation as well as current smoking.

Even though studies which directly explained the association between significant others' smoking and cigarette smoking among college and university students of Ethiopia are not available, one study conducted among high school students revealed that more than the smoking habit of parents, the smoking habit of friends appears to have significant association with the smoking habit of school children (Zein and Massresha, 1979).

In line with this, Halayya (1983) and Steinfeld (1984) underscored some possible reasons for the greatest influence of friends' smoking on adolescents and young adulthoods' cigarette smoking behavior. Young people may be considered a misfit if they do not do what others of their age group do or they may be rejected by their friends and classmates if they do not conform (Halayya, 1983). They begin to smoke as a result of peer pressure from a group they wish to join or imitate (Steinfeld, 1984).

Another explanation for the greatest influence of friends' smoking on adolescents and young adults' smoking could be that the strength of influence from parents and friends depends on the quality of their social bond with adolescents. Given the adolescence is a period of increasing bonds with peer, and possibly weakening bonds with parents, smoking

among friends is expected to exert more influence on an adolescents' own smoking (Kandel et al., 1987). Besides, they noted that, if this is so, increasing peer influence is more likely to produce a direct path between friends' and adolescents' smoking than between parental and adolescents' smoking. Moreover, McCubbin et al. (1985) explained that adolescents drive progressively less protection and information from their parents while at the same time they are receiving increasing social support from friends.

Besides, the reason for the greatest influence of friends' smoking on students' smoking may be attributed to social comparisons. Supporting this idea, Piko et al. (2005) reported that adolescents often observe and learn new behavioral patterns through the process of social comparison that helps them adjust to peer norms and behaviors. Furthermore, they suggested that social comparison tendencies may play an important role in adolescents' smoking where adolescents tend to use peers as a basis of comparison rather than the general population.

In the college setting, students may be susceptible to new friends and adult influence to tobacco use. In line to this a study was conducted in Ethiopia by Yigzaw (2001) that indicated when students are questioned as to why they first smoke, social pressure is frequently mentioned.

Generally college students' smoking behaviors are affected by friends' smoking since they spend the majority of their lives in the school setting and together with friends.

The present study is not intended to test specific theories. However, it provides considerable support for theory of Bandura social learning theory (Bandura, 1977). It postulates that parents and friends influence adolescent smoking behavior by setting an example and providing social reinforcement. The theory emphasize the direct observation and imitation of a particular behavior of significant others are the essential processes for adolescents do acquire that behavior.

4.2 Coping styles as predictors of cigarette smoking

In this respect, the results of chi-square analysis indicated that cigarette smoking was associated with productive coping style, non-productive coping style and reference to others coping style. Further analysis of logistic regression revealed that productive coping style, non productive coping style and reference to other coping style were independent predictors of cigarette smoking. Lower scores on the productive coping style and/or reference to others coping style, and/or higher scores on the non-productive coping style indicated more likely to smoke.

The result agrees with the earlier findings of McCubbin et al. (1985) and Wills (1986) who found that the more an individual employs a negative or

non productive coping style, or low use of positive or productive coping style, the greater the likelihood of the individual becoming a cigarette smoker. Furthermore, McCubbin on the same study found that adolescents' efforts to express frustrations and tensions through getting angry and yelling, blaming others, and complaining to friends and family members was associated with their greater use of cigarettes.

In line with this, Wills and Vaughan (1989) revealed that parental and other adult supports were inversely related to cigarette smoking. Moreover, Niaz et al. (2005) found that there existed highly significant negative correlations between high scores on subscales of coping skills (productive) and cigarette smoking of students.

An association between coping styles and smoking behavior has also been found in other studies. Smoking is sometimes used as a means of dealing with stress (Halayya, 1983; Morlatt and Judith, 1985; Naquin and Gilbert, 1996; Snow and Bruce, 2003). Furthermore, Yigzaw (2001) reported that one of the main reasons given for smoking among university students was for relieving stress. This indicated that when individuals are under some stress, they may smoke a cigarette in the belief that it would relieve their tension.

Regarding the coping styles, the result also indicated that non-productive coping style was the strongest predictable variable for cigarette smoking

as compared to productive and reference to others coping styles. The likelihood of a respondent being a smoker was 7.4 times greater (95% CI: 3.95-13.89) if he had high scores on the non-productive coping style than he had low scores. The magnitude of the association between non-productive coping style and cigarette smoking suggested that influence from non-productive coping style is as strong as other kind of social influence such as smoking by friends.

Even though coping is normally viewed as a set of constructive efforts designed to protect the adolescent and young adults from negative physical and psychological consequences as a result of experiencing a pile-up of demands. The findings of this study point to the potentially dysfunctional nature of coping strategies. According to Sussman et al. (1993), coping strategies may influence individual's smoking behavior because they provide alternative behavioral and cognitive outlets which facilitate or inhibit smoking, or because they are expressions of general coping effort to smoke or not to smoke. They further concluded that the most effective approaches in reducing cigarette smoking among adolescents included cognitive-behavioral components, such as instruction in coping skills, which can help adolescents find alternative ways to cope with negative affects. Wills (1986) came to a similar conclusion upon observation that certain coping strategies (adult support, behavioral coping, and relaxation) resulted in less smoking.

Generally, findings of this study indicated that smoking by fathers, brothers or friends, and the personal coping styles have considerable influence on cigarette smoking of students. Similar to previous reviews, friends' smoking are the most significant determinants of smoking (for instance, Flay et al., 1994; Piko, B., 2005). Coping styles have a similar role, use of non-productive coping strategies have highly significant positive association with cigarette use.

CHAPTER FIVE

SUMMARY, CONCLUSION AND SUGGESTIONS

The purpose of this study was to investigate whether family smoking, friends' smoking, and students' coping styles have significant contribution on the prediction of cigarette smoking. To this effect, the following basic questions were formulated to carry out the study.

- Do family smoking such as fathers' smoking, mothers' smoking, brothers' smoking, sisters' smoking or other family members' smoking has significant contribution in predicting cigarette smoking of students?
- Does friends' smoking has a dominant significant contribution in predicting cigarette smoking of students?
- Do coping styles, namely productive coping, unproductive coping or reference to others coping has significant contribution in predicting cigarette smoking of students? If so, which of them makes the greater independent contribution?

A total of 658 male students drawn from final year of students in main campus of AAU participated in the study. Participants were

selected by using proportional stratified (with respect to department) random sampling technique.

To gather the necessary information about students' family and friends smoking status, students' coping styles and cigarette smoking status of students, a self report questionnaire was prepared and administered to selected students in the classroom.

To analyze the data collected Chi-square and Logistic regression analyses were employed and the level of significance used was at 0.05 level.

The chi-square analysis indicated that cigarette smoking of students was significantly associated with fathers', brothers' or friends' smoking, while mothers', sisters' and other family members' smoking was not. The Chi-square result also indicated that smokers were far more likely than non-smokers to be surrounded by father, brother(s), and/or friend(s) who smoke. Regarding coping styles variable, the chi-square indicated that cigarette smoking was significantly associated with all of the coping styles (productive, non-productive and reference to others). The chi-square result also revealed that students with lower scores on productive coping style and/or reference to others coping style, and/or higher scores on the non-productive coping style have more likely to smoke cigarette than higher scores on productive and/or reference to others coping styles, and/or lower scores on the non-productive coping style.

An examination of the logistic regression analysis for the relative contribution of fathers' smoking, brothers' smoking, friends' smoking, and students' coping styles in predicting cigarette smoking has show that fathers' smoking, brothers' smoking, friends' smoking and the all coping styles (productive, non- productive and reference to others) as independent predictors of cigarette smoking. The logistic regression also revealed that friends' smoking was a dominant independent predictor of cigarette smoking of students.

From the above findings, the following conclusions could be made.

1. Fathers' smoking and brothers' smoking have significant contribution in predicting cigarette smoking of students.
2. Friends' smoking has a dominant significant contribution in predicting cigarette smoking of students
3. All coping styles (productive coping style, non-productive coping style and reference to others coping style) were shown to be an independent predictors of cigarette smoking of students. Non-productive coping style was the strongest predictable variable for cigarette smoking as compared to productive and reference to others coping styles.

A number of limitations need to be considered with respect to these results.

First, data on students cigarette use is based on self report. Therefore, response bias was possible. However, previous researches have indicated a substantial correlation between self-report and biochemical evidence for smoking (Komro et al., 1993; Miller and Kriven, 2000), and research shows that students' self-report can be accurate provided confidentiality is assured (Dolcini et al., 1996), which was the case in the present study. Second, generalization can not be made beyond the population from which these data were gathered and further studies, with range of sub-population under different settings, would be useful to extend these findings. Third, a number of other important factors should be included in future research work (for instance, cultural norms, acceptability of smoking behavior, self esteem, level of parental and peer attachment, parental attitudes etc). Finally, since the causal relationship between the variables can not be established, thus some related factors can be there which might influence students' tobacco use and be caused by student tobacco use. It is entirely conceivable that students who smoke may select friends whom they know also smoke (the selection process). In the future studies, an alternative approach must be taken. Instead of using direct questions (i.e. whether their friends smoke or not), friends'

smoking should be assessed based on some objective data, that is, the actual smoking status among the students' friends should be assessed.

Based on the aforementioned discussions and conclusions, the following suggestions are made.

- As indicated in the study, fathers', brothers' and friends' smoking have significant contribution to the prediction of cigarette smoking of students. This finding suggests that these different aspects of inter-personal factors should be targeted from early age, through interventions aimed both at strengthening family wellbeing, and the capacity of schools to foster and value positive peer relationships.
- As indicated in the study, friends' smoking is a very strong stimulus for smoking cigarette among college students. Therefore, educators must aim to make students more self-confident and less influenced by peer pressure.
- As indicated in the study, coping is an important predictor of students' cigarette smoking. More can be done to enhance the students' repertoire of productive coping skills which reduce the risk of their adopting cigarette smoking behavior. Certainly, the family unit and parents in particular can play a vital role in

modeling, developing, and reinforcing such positive coping skills.

- As indicated in the study, non-productive coping style is the most significant predictor of cigarette smoking as compared to productive and reference to others coping styles. The main implication of this finding is that if one were to consider intervening in the education of students in order to improve coping behavior, more specifically it may be tried to avert the development of non-productive strategies. Such an approach would also appear consistent with recent literature which argues that it may be more important to wellbeing to minimize the use of non-productive strategies than it is to maximize the use of productive one (Frydenberg and Lewis,2000).
- Majority of students who smoke use cigarette as a coping strategy (even if not presented in the result section). The University should offer meaningful alternative to cigarette smoking to help students deal with different problems, and the University should teach and counsel its students on ways of coping with problems rather than starting to smoke.

- The continuum of smoking behavior among adolescents and young adults can be described in stages, i.e. preparation, trying, experimentation, regular smoking and nicotine dependence or addiction. Therefore, the researcher suggests for more investigations of the potentially different predictors of cigarette smoking across the stage of smoking behavior.

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APPENDIX A

**Addis Ababa University
School of Graduate Studies
Department of psychology**

Questionnaire for College Students

General Objective

The purpose of this questionnaire was to get some information about students, their family and friends' cigarette smoking status; and to examine the method of coping of students for a wide variety of concerns or problems. The questionnaire has four main parts: the first part intended to get personal information; the second part includes items used to measure cigarette smoking status of students; the third part of the questionnaire contains items used to measure the cigarette smoking status of students' family and friends; the forth part contains items used to measure the coping styles of students.

Dear Students

The study can be successfully accomplished only when you complete all the items honestly and frankly. Please be confident and honest enough while filling this questionnaire. Your response will be kept confidential. Don't write your name at any place in the questionnaire.

Thank you in advance for your cooperation

Part I

Personal Information

Direction: - Please respond to the following personal information by marking "X" or supplying the required information in space provided.

1. Sex Male ☐ Female ☐
2. Age -----
3. Current year in college -----
4. Study area (Department) -----

Part II

Cigarette Use Inventory

Direction Please respond to the following items by marking "X" in the space provided.

1. Do you currently smoke cigarettes?
 - Yes, I smoke cigarettes daily. ☐
 - Yes, I smoke cigarettes at least once a week but not daily. ☐
 - Yes, I smoke cigarettes less than once a week. ☐
 - Not at all ☐

If your response for question **No 1** is "Not at all", respond to question **No 2**

2. In the past, have you ever been a smoker?
 - Yes ☐
 - No ☐

Part III

Students' Family and Friends Smoking Status Items

Direction

Please respond to the following items by marking "x" in the space provided.

1. Does your father smoke? Yes ☐ No ☐
2. Does your mother smoke? Yes ☐ No ☐
3. Do you have brother/s/who smoke? Yes ☐ No ☐
4. Do you have sister/s/ who smoke? Yes ☐ No ☐
5. Do you have other family member/s/ who smoke? Yes ☐ No ☐
6. Do you have friend/s/ who smoke? Yes ☐ No ☐

Part IV

Coping Scale

Direction

Students have a number of concerns or worries about things such as school, work, family, friends, the world and the like. Below is a list of ways in which people of your age cope with a wide Variety of concerns or problems. Please mark "x" under the points to indicate the extent to which each statement characterizes you. There are no rights or wrong answers. Do not spend too much time on any one statement but give the answer, which best describes how you feel.

The four points are

1. Doesn't apply to me
2. Applies to me sometimes
3. Applies to me often
4. Applies to me always

No	Items (Statements)	Doesn't apply to me 1	Applies to me sometimes 2	Applies to me often 3	Applies to me always 4
1	Talk to other people about my concern to help me sort it out.				
2	Wish a miracle would happen				
3	Listen to music, radio or watch TV				
4	Worry about what will happen to me				
5	Sleep more than usual.				
6	Keep fit and healthy				
7	Get more involved in activities in university /School/				
8	Try to make my self feel better by eating, drinking etc ...				
9	Go to church or mosque				
10	Don't let others know how I am feeling.				
11	Join with people who have the same concern.				
12	Improve my relationship with others				
13	Find a way to let off steam; for example smoking cigarettes, take drugs etc ...				
14	See my self as being as fault				
15	Make time for leisure activities				
16	Talk to Priest or Shiek.				
17	Keep my feelings to my self.				
18	Avoid being with people in general				
19	I have no way of dealing with the situation				

No	Items (Statements)	Doesn't apply to me 1	Applies to me sometimes 2	Applies to me often 3	Applies to me always 4
20	Work hard to achieve.				
21	Be close to someone I care about				
22	Work at solving the problem to the best of my ability				
23	Talk to family members about what bothers me				
24	Read different books, magazine etc				
25	Ask a relative or friend I respect for advice				
26	Shut my self off from the problem so that I can avoid it.				
27	Come up with a couple of different solutions to the problem				
28	Pray for help and guidance so that everything will be all right				

List any other things you do to cope with your concern/S

፡፡በህጋዊነት ስራዎች ስራዎች ስራዎች

፡፡ፍጥነት ስራዎች ስራዎች ስራዎች

፡፡በህጋዊነት ስራዎች ስራዎች ስራዎች

፡፡በህጋዊነት ስራዎች ስራዎች ስራዎች

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☐ ልቦናዎን

☐ ሰው

2. ከዚህ በፊት ታሪክ ስላለዎት?

የመጀመሪያ ጥያቄ መልስ በፊት ስላለዎት ስለሆነ ፡ ለሁለተኛው ጥያቄ መልስ ስላለዎት

☐ ልቦናዎን በፊት

☐ ልቦናዎን በፊት ስላለዎት ስለሆነ ፡ ለሁለተኛው ጥያቄ መልስ ስላለዎት

☐ ልቦናዎን በፊት ስላለዎት ስለሆነ ፡ ለሁለተኛው ጥያቄ መልስ ስላለዎት

☐ ልቦናዎን በፊት ስላለዎት ስለሆነ ፡ ለሁለተኛው ጥያቄ መልስ ስላለዎት

1. ስለሁሉም ጉዳዮች ስለሆነ?

፡፡-ሁሉንም ይመለከታል

መጨረሻ ፡ የመጨረሻውን ጥያቄ መልስ ስላለዎት ስለሆነ ፡ ለሁለተኛው ጥያቄ መልስ ስላለዎት

የመጨረሻውን ጥያቄ መልስ ስላለዎት ስለሆነ ፡ ለሁለተኛው ጥያቄ መልስ ስላለዎት

የሁሉንም ይመለከታል

(Field of the study) -----

4. በዚህ ጉዳይ ስለሆነ ፡ ለሁለተኛው ጥያቄ መልስ ስላለዎት ስለሆነ ፡ ለሁለተኛው ጥያቄ መልስ ስላለዎት

3. የሁሉንም ይመለከታል ፡፡-ሁሉንም ይመለከታል

2. ፊት ፡፡-ሁሉንም ይመለከታል

1. ፊት ፡፡-ሁሉንም ይመለከታል

፡፡-ሁሉንም ይመለከታል ፡፡-ሁሉንም ይመለከታል

መጨረሻ ፡ የመጨረሻውን ጥያቄ መልስ ስላለዎት ስለሆነ ፡ ለሁለተኛው ጥያቄ መልስ ስላለዎት

የመጨረሻውን ጥያቄ መልስ ስላለዎት ስለሆነ ፡ ለሁለተኛው ጥያቄ መልስ ስላለዎት

የሁሉንም ይመለከታል

ክፍል ሶስት

ስለተማሪዎች ቤተሰብና ጓደኞቻቸው የሲጋራ የማጨስ ደረጃ /ሁኔታ/ የሚገልጹ ጥያቄዎች

መመሪያ:- በዚህ ክፍል ውስጥ የቀረቡትን ጥያቄዎች በጥሞና ካነበባችሁ በኋላ በእያንዳንዱ ጥያቄ ፊት ለፊት ከቀረቡት ሁለት አማራጮች ውስጥ ቤተሰቦቻችሁን እና ጓደኞቻችሁን በትክክል የሚገልጸው ላይ የ "x" በማድረግ መልሱ::

1. አባትህ ያጨሳሉ? አዎ ☐ አያጨስም ☐
2. እናትህ ያጨሳሉ? አዎ ☐ አታጨስም ☐
3. የሚያጨስ/ስ/ ወንድም /ሞች/ አለህ /ሉህ/? አዎ ☐ የለኝም ☐
4. የምታጨስ /የሚያጨሱ/ እህት /ቶች/ አለችህ /አሉህ/? አዎ ☐ የለኝም ☐
5. የሚያጨሱ /ስ/ የምታጨስ ሌሎች /ሌላ/ የቤተሰብ አባላት /አባል/ አሉ /አለህ/?
አዎ ☐ የሉም /የለኝም/ ☐
6. የሚያጨሱ /ስ/ የምታጨስ ጓደኞች /ጓደኛ/ አሉህ/ አለህ/? አዎ ☐ የለኝም ☐

ክፍል አራት

ችግር በሚያጋጥሙን ጊዜ ምን ዓይነት ስልቶችን እንደምንጠቀም ለመለየት የሚያስችል መጠይቅ / Coping Scale/

መመሪያ:- እንደሚታወቀው ተማሪዎች በርካታ የሚያሳስባቸው እና የሚያስጨንቃቸው ጉዳዮች ይኖራሉ:: ከነዚህም ውስጥ ትምህርት፣ ስራ፣ ቤተሰብ፣ ጓደኛ፣ የኑሮ ውጣውረዶች እና የመሳሰሉት ናቸው:: ከዚህ በታች በእናንተ እድሜ ክልል ውስጥ የሚገኙ በርካታ ሰዎች ከላይ የጠቀስናቸውንና ሌሎችንም ችግሮች ሊቋቋሙ የሚችሉባቸው መንገዶች ተዘርዝረዋል:: በእያንዳንዱ ጥያቄ ከተሰጡት አራት አማራጮች ውስጥ አንተን በትክክል ሊገልጽ የሚችለውን በመምረጥ በተሰጠው ሳፕን ውስጥ "x" ምልክትን በማስቀመጥ እንድትመልስልኝ በትህትና እጠይቃለሁ:: እያንዳንዱ ጥያቄ ትክክለኛ መልስ የሚባል የለውም መጠይቁ የተዘጋጀው የመልሶችን ጥቅል ግንዛቤ ለማወቅ በመሆኑ በተናጠል አንዱ መጠይቅ ላይ ብዙ ጊዜ ሳታጠፋ መልስህን አኑር::

አራቱ አማራጮች፡-

1. ፈጽሞ አላደርግም
2. አንዳንድ ጊዜ አደርጋለሁ
3. ብዙ ጊዜ አደርጋለሁ
4. ሁል ጊዜ አደርጋለሁ

ተ.ቁ	መጠይቅ (ዓረፍተ ነገር)	ፈጽሞ አላደርግም 1	አንዳንድ ጊዜ አደርጋለሁ 2	ብዙ ጊዜ አደርጋለሁ 3	ሁል ጊዜ አደርጋለሁ 4
1	ከሌሎች ሰዎች ጋር ለችግራ መፍትሔ እንዳገኝ መነጋገር /መወያየት/				
2	ተዓምር እንዲፈጠርልኝ መመኘት				
3	ሙዚቃ፣ ሬድዮ ማዳመጥ ወይም ቴሌቭዥን መመልከት				
4	ወደ ፊት ሊደርስብኝ ስለሚችለው መጨነቅ				
5	ከተለመደው ጊዜ በላይ መተኛት /ተኝቶ ማሳለፍ/				
6	ብቁና ጤናማ መሆን				
7	በዩኒቨርስቲ /በትምህርት ቤት/ ውስጥ በተለያዩ እንቅስቃሴዎች መሳተፍ				
8	የተሻለ ስሜት እንዲሰማኝ መመገብ፣ መጠጣት				
9	ወደ ቤተክርስቲያን ወይም መስጊድ መሄድ				
10	ችግሩ ምን እንደሆነ ለሌሎች አለማሳወቅ				
11	እንደኔ ተመሳሳይ ችግር የገጠማቸውን ሰዎች መገናኘት				
12	ከሌሎች ሰዎች ጋር ያለኝን ግንኙነት ማሻሻል				
13	ከችግሩ የማምለጫ ዘዴዎችን መፈለግ፣ ለምሳሌ ሲጋራ ማጨስ፣ እዎችን መውሰድ የመሳሰሉት				

ተ.ቁ	መጠይቅ (ዓረፍተ ነገር)	ፈጽሞ አላደረግም 1	አንዳንድ ጊዜ አደርጋለሁ 2	ብዙ ጊዜ አደርጋለሁ 3	ሁል ጊዜ አደርጋለሁ 4
14	እራስን እንደጥፋተኛ አድርጎ መውሰድ				
15	ለመዝናኛ (ለሚያዝናኑ ነገሮች) ጊዜ መመደብ				
16	ለቁስ ወይም ሼህ ጋር መነጋገር /መወያየት/				
17	የራሴን /የግሌን/ ስሜት ደብቄ መያዝ				
18	ከሌሎች ሰዎች ራስን ማግለል				
29	ወደ መፍትሔ የምደርስበት ምንም አይነት መንገድ የለም ብሎ ማለብ				
20	ስኬታማ ለመሆን ጠንክሮ መስራት				
21	ከሚጨነቅልኝ /ከሚረዳኝ/ ሰው ጋር ቅርብቴን ማጠናከር				
22	ችግሩን ለመፍታት የምችለውን ያህል መስራት				
23	ከቤተሰብ አባላት ጋር ስለሚያስጨንቀኝ ነገር መወያየት				
24	የተለያዩ መጽሀፍትን ማንበብ ለምሳሌ እንደ ልብ ወለድ፣ መጽሔት፣ ጋዜጣ፣ የመሳሰሉት				
25	የማከብረውን ዘመድ ወይም ጓደኛ ምክር መጠየቅ				
26	በግሌ ችግሩን ስለማስወግደው (ስለማቃልለው)፣ ስለችግሩ ምንም አለማለት				
27	ለችግሩ የተለያዩ የመፍትሄ ሀሳቦችን ማቅረብ				
28	ሁሉም ነገር ጥሩ ይሆንልኝ ዘንድ አምላክ እንዲረዳኝና እንዲመራኝ መጸለይ				

ችግርህን ለመፍታት የምትጠቀምባቸው ሌሎች ስልቶች ካሉ ዘርዝራቸው፡፡

APPENDIX C

Categorization of coping and pilot test analysis result

No	Items	Coping strategies	Coping style	Item- total Correlation (for each sub- scale)
1 a c	Talk to other people about my concern to help me sort it out.	Seek social support	Productive /reference to others	0.458/0.327
2 a	Wish a miracle would happen	Wishful thinking	Non-productive	0.476
3	Listen to music, radio or watch TV	Seek relaxing diversions	productive	0.578
4 a	Worry about what will happen to me	Worry	Non-productive	0.654
5	Sleep more than usual.	Tension reduction	Non-productive	0.566
6 a b	Spend more time with friends or romantic partner	Invest in close friends	Non-productive	0.166
7 a	Keep fit and healthy	Physical recreation	Productive	0.654
8 a b	Look on the bright side of things and think of all that is good	Focus on positive	Productive	0.235
9	Get more involved in activities in university /School/	Seek diversion	Productive	0.642
10	Try to make my self feel better by eating, drinking etc ...	Tension reduction	Non-productive	0.431
11	Go to church or mosque	Seek spiritual support	Reference to others	0.772
12 a	Don't let others know how I am feeling.	Keep to self	Non-productive	0.302
13 a	Join with people who have the same concern.	Social action	Reference to others	0.574
14 a	Improve my relationship with others	Improve relationship	Productive	0.657
15 a	Find a way to let off steam; for example smoking cigarettes, take drugs etc ...	Tension reduction	Non-productive	0.656
16 b	Talk to teacher or counselor at university	Seek professional help	Reference to others	0.024
17 a	See my self as being as fault	Self blame	Non- productive	0.506

18 b	Day dream or imagine a better time or place than one I am in	Wishful thinking	Non-productive	0.033
19 a	Make time for leisure activities	Seek relaxing diversions	Productive	0.523
20	Talk to Priest or Shiek.	Seek spiritual support	Reference to others	0.757
21	Keep my feelings to my self.	Keep to self	Non-productive	0.655
22 ab	Ask a professional person for help	Seek professional help	Reference to others	0.268
23	Avoid being with people in general	Keep to self	Non-productive	0.591
24 a	I have no way of dealing with the situation	Not cope	Non-productive	0.636
25 a	Work hard to achieve.	Work hard and achieve	Productive	0.794
26	Be close to someone I care about	Social action	Reference to others	0.478
27a	Work at solving the problem to the best of my ability	Focus on solving the problem	Productive	0.695
28	Talk to family members about what bothers me	Seek social support	Reference to others	0.698
29	Read different books, magazine etc	Seek relaxing diversions	Productive	0.632
30	Ask a relative or friend I respect for advice	Seek social support	Reference to others	0.793
31 a	Shut my self off from the problem so that I can avoid it.	Keep to self	Non-productive	0.828
32	Come up with a couple of different solutions to the problem	Focus on solving the problem	Productive	0.759
33 a	Pray for help and guidance so that everything will be all right	Spiritual support	Reference to others	0.701

- a. Adopted items from Frydenberg and Lewis' (1993) ACS.
- b. Items that are removed from the respective coping scale during pilot test analysis.
- c. Item that used to measure both productive and reference to others coping dimensions.

DECLARATION

I, the undersigned declare that this thesis is my original work, has not been presented for a degree in any other university and that all source of materials used for the thesis have been duly acknowledged.

Name: Tigist Wuhib

Signature: Tigist Wuhib

Date: June/ 2006

This thesis has been submitted for examination with my approval as university advisor.

Dr. Dubey Surendra, N.

Dr. Dubey Surendra, N. (Associate Professor)

