SOCIAL SUPPORT (PERCEIVED VS. RECEIVED) AS THE MODERATOR BETWEEN THE RELATIONSHIP OF STRESS AND HEALTH OUTCOMES: IMPORTANCE OF LOCUS OF CONTROL

A THESIS SUBMITTED TO
THE GRADUATE SCHOOL OF SOCIAL SCIENCES
OF
MIDDLE EAST TECHNICAL UNIVERSITY

BY

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IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR
THE DEGREE OF MASTER OF SCIENCE
IN THE DEPARTMENT OF PSYCHOLOGY

AUGUST 2008

Approval of the Graduate School of Social Sciences

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I certify that this thesis satisfies all the requirements as a thesis for the degree of Master of Science

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ABSTRACT

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August 2008, 140 pages

The aim of the present study was to investigate the moderator role of different types of social support (perceived vs. received) on the relationship between stress and health outcomes (depression, anxiety, and physical health) among the Turkish freshmen university students (with internal vs. external locus of control). In order to measure received social support, The Inventory of Socially Supportive Behaviors (ISSB) (Barrera, Sandler, & Ramsay, 1981), was adapted into Turkish culture in Study 1 by using Middle East Technical University (METU) students from various

departments. The sample of Study 2 consisted of 224 METU freshman students from several departments. Multiple hierarchical regression analyses were conducted with perceived/received social support and stress (frequency, intensity, general) as independent variables and depression, anxiety, and general physical health problems as dependent variables for internal locus of control and external locus of control students separately. The findings suggested that for both internals and externals, stress intensity, stress frequency, and general stress predicted depression, anxiety, and general physical health problems for both perceived and received social support. Different patterns of relationships were found among perceived/received social support, stress (frequency, intensity, general), and the outcome variables (depression, anxiety, general physical health problems) for internal locus of control and external locus of control students. The findings and strengths as well as the limitations of the study were discussed.

Keywords: Received Social Support, Perceived Social Support, Locus of Control, Depression, Anxiety, General Physical Health Problems

ÖZ

STRES VE SAĞLIK ARASINDAKİ İLİŞKİDE, SOSYAL DESTEĞİN (ALINAN VE ALGILANAN) DÜZENLEYİCİ ETKİSİ: KONTROL ODAĞININ ÖNEMİ

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Ağustos 2008, 140 sayfa

Bu çalışma, farklı sosyal destek çeşitlerinin (algılanan – alınan) stres ile sağlık (depresyon, anksiyete, genel fiziksel sağlık) arasındaki düzenleyici etkisini 1. sınıf üniversite öğrencilerinde (iç- dış kontrol odaklı) araştırmayı amaçlamıştır. Alınan sosyal desteğin ölçülebilmesi için, The Inventory of Socially Supportive Behaviours (Barrera, Sandler, & Ramsay, 1981) (Sosyal Destek Veren Davranışlar Envanteri) Çalışma 1'de Orta Doğu Teknik Üniversitesi'nin (ODTÜ) çeşitli bölümlerinde okuyan öğrenciler kullanılarak Türk kültürüne uyarlanmıştır. Çalışma 2'nin örneklemini çeşitli bölümlerde okumakta olan 224 ODTÜ 1. sınıf öğrencisi oluşturmuştur.

Alınan/algılanan sosyal destek, stres (sıklığı, yoğunluğu ve genel stress) bağımsız değişken olarak, depresyon, anksiyete, ve genel fiziksel sağlık ise bağımlı değişken olarak alınarak çoklu hiyerarşik regresyon analizi yapılmıştır. Bulgular doğrultusunda, iç kontrol odaklı ve dış kontrol odaklı öğrencileri gruplarının her ikisi için de stres sıklığı, stres yoğunluğu ve genel stres; depresyonu, anksiyeteyi ve genel fiziksel sağlığı, alınan ve algılanan sosyal destek için yordamıştır. İç kontrol odaklı ve dış kontrol odaklı öğrencileri grupları için alınan/algılanan sosyal destek; stres sıklığı, stres yoğunluğu ve genel stres; ve depresyon, anksiyete ve genel fiziksel sağlığı arasında farklı örüntülü ilişkiler bulunmuştur. Çalışmanın güçlü yanları, zayıf tarafları ve katkıları tartışılmıştır.

Anahtar Kelimeler: Alınan Sosyal Destek, Algılanan Sosyal Destek, Kontrol Odağı, Depresyon, Anksiyete, Genel Fiziksel Sağlık Sorunları

To My Parents

Marianne & Mehmet Sıtkı EROL

ACKNOWLEDGEMENTS

I wish to express my gratitude to my supervisor Dr. Özlem Bozo for her continuous guidance and endless support at each stage of my thesis throughout the easy and hard times. I also would like to thank Prof. Dr. Tülin Gençöz for her encouragement and moral support. Without the motivation they provided, this work could have never been accomplished.

I would like to thank Dr. Sait Uluç for being in the jury and providing valuable comments and constructive suggestions.

I also wish to thank my instructors for all the valuable knowledge they had provided us during undergraduate and graduate education.

I am also very grateful to all the METU students who participated in this study and gave their time to fill out the rather long-lasting questionnaires.

Most of all I wish to express my gratefulness towards my parents Marianne and Mehmet Sıtkı Erol. Their support through every moment of my life is invaluable. I also wish to express that I am luck to have Leyla Mirjam Erol as my sister who is not just a sister but also one of my best friends.

I owe a very special thanks to my friends Nilay Aytolun, Pınar Bıçaksız, Emre Özkan and Eren Akdemir; and also to my housemate Duygu Cantekin. They were always there when I needed them and their belief in

me made it possible to finish this thesis. Without their presence, none of these would have been accomplished.

Finally, I would like to express my gratitude to TÜBİTAK, for the support they provided during my graduate education.

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CHAPTER I

INTRODUCTION

Attending college can become a very stressful period for students due to the need of adaptation, ongoing challenges, and constant changes. During this period while students may try to gain their independence from their families, they may also strive for other forms of intimate relations and acceptance from peers. Academic pressures, loneliness, problems in personal relationships, and financial concerns may be additional problems with which they will have to deal (Swift & Wright, 2000). Therefore, it can be suggested that every student experiences some stress during university years. However, some students deal with it better than others. Thus, the question is what is the mechanism behind this difference that some just handle the stress and others develop health problems (e.g. depression, anxiety, and physical health problems)? The aim of the current study is to examine the possible mechanisms underlying this problem.

1.1. *Stress*

Although the concept of stress has been known for years, it has been defined in two ways (Lazarus & Folkman, 1984). According to Lazarus and Folkman (1984) stress can be either defined as a stimulus or response. When stress is defined as stimulus (Holmes & Rahe, 1967; cited in Lazarus & Folkman, 1984), it includes the events in the environment like natural disasters, noxious conditions, or illness. According to this approach it is assumed that some situations are normatively stressful situations however, there are no individual differences are allowed for the evaluation of the events. However, this is considered as a weakness of this approach. On the other hand, when stress is defined as response (Selye, 1976; cited in Lazarus & Folkman, 1984), it is referred to it as a state of stress, being under stress, or distressed. According to this approach, not the stressor itself but the reactions have to be evaluated. However, even reactions that were considered to be indicating stress, such as increased hearth rate after jogging, can be the result of non stressful situations. Therefore, without referring to the source it is not possible to make reliable judgments. Due to the weaknesses of both approaches, Lazarus and Folkman (1984) claimed that both definitions are insufficient and they stated that stress is the relationship between the person and the environment; meaning that, a persons characteristics and the nature of the environment has to be taken into consideration. Therefore, the relationship between the person and the

environment has to be appraised as exceeding the person's resources and endangering the person's well-being to be defined as psychological stress.

1.2.*Sources of Stress*

Ross, Niebling, and Heckert (1999) proposed that there are basically four main groups of sources of stress among college students. These are interpersonal (e.g. change in social activities, roommate conflict), intrapersonal (change in sleeping habits, new responsibilities), academic (increased class workload, lower grade than anticipated), and environmental sources of stress (vacations/breaks, computer problems). Among these sources of stress, Ross, Niebling, and Heckert (1999) claimed that the most frequently reported one is the intrapersonal sources of stress, such as changes in sleeping habits, vacations/breaks, changes in eating habits, increased work load, and new responsibilities. Recently, another important intrapersonal source of stress was claimed to have a considerable impact on students. After conducting a qualitative research Darling, McWey, Howard, and Olmstead (2007) concluded that relationship difficulties like friendships, love relationships, and family relationships were important sources of stress.

In addition, stressors can be grouped as major life events and daily hassles and it was reported that daily hassles have significantly more impact on the students' lives than the major life events do (Ross, Niebling, &

Heckert, 1999). Similarly, Bouteyre, Maurel, and Bernaud (2006) indicated that daily hassles that were experienced during the first year of college, were considered a relevant risk factor for developing depression.

According to Ross, Niebling, and Heckert (1999), especially freshmen students have to adjust to being away from home for the first time, keep up with the new school work, and also adapt to the new social environment. However, not just the stressors themselves but also the interaction of the stressors with the students perception and their reaction to the stressor may lead to problems (Romano, 1992). Additionally, Misra and McKean (2000) concluded that freshmen and sophomores show higher reactions to stress than the juniors and seniors do. Although freshmen students are provided with freshmen orientation programs and advisors, they still experience stress due to change, conflict, and frustration (Misra & McKean, 2000). Considering these stressors and the findings mentioned above, it can be stated that first year university students are likely to experience higher levels of stress.

1.3.*Moderators of Stress*

Although all students experience similar stressors, their responses may vary. The reason why those responses vary may be the different stress moderating factors. According to Holahan and Moos (1986) those factors

can be grouped into three as personality variables, coping strategies, and social support.

1.3.1. *Personality Variables*

One of the possible moderators of stress is personality variables. According to Kobasa (1979) individuals that have the following characteristics are less likely to develop health related problems. First of all, the individual has to have a clear sense of one's values, goals and capabilities, and a belief in his/her importance (commitment to rather than alienation from self). Moreover, the individual has to have a strong tendency toward active involvement in one's environment (vigorousness rather than vegetativeness). Additionally, the individual has to have an ability to evaluate the impact of a general life plan with its established priorities (meaningfulness rather than nihilism). Furthermore, the individual should have a belief that one can control and change the events that he/she experiences (internal rather than external locus of control). And finally, the individual should be able to deal with external life stresses without making them threathen to one's private sphere and cause subjective strain (perceiving only a small amount of stress associated with one's personal or inner-life concerns). As mentioned above, there are many personal resources that could be taken into consideration while examining the moderators of stress. However, the present study will focus only on the locus of control.

1.3.1.1. *Locus of Control*

Locus of control, a personality variable, seems to have an important role in the relationship between social support and depression. In a study done with hemodialysis patients (Gençöz &Astan, 2006), it was found that there is a differential effect of social support when patients with external and internal locus of control were compared. It was concluded that for patients with internal locus of control, lack of perceived social support seemed to be associated with their depression. However, for patients with external locus of control, lack of satisfaction from received support seemed to be associated with their depression. Prior to these findings, it was found that individuals with external locus of control and little perceived social support had the highest level of depression (Grassi, Malacarne, Maestri, & Ramelli, 1997). Additionally, VanderZee, Buunk, and Sanderman (1997) found that individuals with an internal locus of control experienced more social support than did individuals with external locus of control. However, individuals with an external locus of control seemed to profit more from perceived social support than did the individuals with internal locus of control. In other words, the highest depression score was found when an external locus of control individual experiences very little support. This may be due to the assumption that internals control the positive outcomes by their own behaviors so that they are less dependent on social support (Lefcourt, 1980; cited in Vanderzee, Buunk, & Sanderman 1997).

Interestingly, the lowest depression score was not found among internal locus of control individuals with high social support. There was no difference between internal and external locus of control individuals when social support was high. Based on those findings Vanderzee, Buunk, and Sanderman (1997) concluded that individuals who believe that positive and negative outcomes depend on their behaviors, perceive more social support. However, the individuals who believe that they are powerless benefit highly from social support when they perceive it, and this social support contributes to their well-being.

According to Sandler and Lakey (1982), although the externals receive greater social support, the internals experience the stress-buffering effect. Based on that, it was concluded that the quantity of social support is not always a sign of better support. Another point of view was that internals had the ability to use the support more effectively than the externals. Besides, it is also unknown in which manner they received the support, what kind of support they received, or their interpretations of the stressful situation. Lefcourt, Martin, and Saleh (1982) conducted a study following the research of Sandler and Lakey (1982) to replicate and extend those findings. According to Lefcourt, Martin, and Saleh (1982) socially supported internals seemed to show decreases in their mood disturbances when there was an increase in negative experiences; however, less supported internals seemed to have increases in their mood disturbances in similar situations. No such interaction was found for externals. Thus, in the

face of stress social support operated as a moderator only for internals. Based on the data it was not possible to conclude whether those internals had greater need of social support or made better use of social support. However, it was suggested that internals express less need of social support but benefit more, and externals show more need of social support but gain less from such support. Therefore, internality can either predict depressive tendencies or prevent from depressive tendencies, and the direction of the relation may be determined by the availability of social support.

1.3.2. *Coping Strategies*

Another possible moderator was defined by Lazarus and Folkman (1984) as coping strategies that are defined as "constantly changing cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person".

There are two important overriding functions of coping. First, trying to manage the problem that is causing the distress, and then trying to regulate the emotional response to the problem (Lazarus & Folkman, 1984). The coping style that aims to manage the problem is called problem-focused coping. In this type of coping the person tries to define the problem, think of possible solutions, identify the pros and cons of the possible solutions, chose one possible solution and the act according to it (Lazarus & Folkman,

1984). On the other hand, the coping that aims to regulate the emotional responses to the problem is called emotion-focused coping. In this type of coping mainly cognitive processes like avoidance, minimization, distancing, selective attention, positive comparisons, and wrestling positive value from negative events are used to minimize the emotional distress (Lazarus & Folkman, 1984). Those two coping styles influence each other and can facilitate or impede each other (Lazarus & Folkman, 1984).

Felsten (1998) aimed to clarify the different coping strategies used by males and females. It was found that men and women show no difference in problem solving and avoidance. However, interesting results were found when avoidance coping predicted depression. For females avoidance coping predicted depression at all levels of stress. Concluding that, the use of more avoidance coping resulted in higher levels of depression. On the other hand for males, avoidance coping predicted depression only at high levels of stress and the use of low levels of avoidance coping predicted depression negatively regardless of the level of stress. Therefore, for both females and males when they used less avoidance coping, they had equally low depression at low levels of stress. Moreover, for both females and males when they used more avoidance coping, they had equally high depression at high levels of stress. In the present study, coping strategies will not be examined as a moderator.

1.3.3. *Social Support*

Social support, which is one of the most important factors mentioned above, can serve two different functions (Lin, Simone, Ensen, & Kuo 1979). One is as a condition that reduces the effect of negative events happening as a main effect and the other one is a buffering effect that changes the interpretation of the events.

According to Pengilly and Dowd (2000) social support was found to moderate the relationship between stress and depression. It was concluded that highly stressed individuals with low social support tend to score higher on the Beck Depression Inventory than low stressed individuals with low social support. Individuals with high support showed no change in their BDI scores regardless of their stress level. Meaning that, high social support can buffer the effect of any level of stress and without social support highly stressed individuals have higher scores of depression. So it appeared that social support could buffer the effects of stress. As Cohen and Willis (1985) suggested in their stress buffering model, people with strong social support tend to have better health than those with weak social support, but only with respect to exposure to stressors. In other words, support protects individuals from the potentially negative influence of stressful events (Dalgard, Bjork, & Tambs, 1995) and is significantly related to lower depression (Bouteyre, Maurel, & Bernaud, 2006). Thus, social support appears to buffer for the negative effects of stressors.

However, it is important to notice that social support is a broad concept and has to be examined it terms of its types. Swift and Wright (2000) stated that general social support may not always result in a buffering effect. A specific subfactor of social support may actually lead to the stress buffering effect. Therefore, the specific functions of social support have to be examined carefully. Lawson and Fuehrer (2001) tried to match the specific types of social support to specific stressors. Lawson and Fuehrer (2001) found that the effect of received social support is changed according to specific stressors. For instance, when dealt with separation from a friend, emotional support and social participation seemed to be more important than the other types of social support. However, when dealt with change in financial status, material aid seemed to be important. Additionally, it was found that in some situations the type of social support was more important than the source, but in other situations the reverse seemed to be valid.

Wethington and Kessler (1986) suggested that for stress-buffering research the distinction between perceived and received social support has considerable importance. They reported that the perception of the availability of the support is a major necessity for the stress-buffering effect, and therefore, it has to be differentiated from received support. They argued that personal coping is strengthened by the perception of support, and the actual support is only needed when coping fails. The results of Cummins' (1988) displayed that received social support was positively related with stress. However, perceived social support was negatively related to stress.

Interestingly, although moderately there was also a correlation between perceived and received social support. A possible explanation was that supportive behaviors (received social support) are given in stressful situations, whereas the perception of social support (perceived social support) elicits the reduction in sense of vulnerability and makes the individual experience stressful situations as less stressful.

A contradictory view is that received support and perceived support are positively related to each other (Sarason, Shearin, Pierce, & Sarason, 1987), and they are usually used interchangeably. However, they are still two different constructs and they may have differential effects. Therefore, the hypotheses of present study will be tested with both received and perceived social support.

1.5. *Gender Differences*

As the reactions to stress may vary among individuals, they may also vary across genders. Misra and McKean (2000) reported that female students experience more stressors and respond more insensitively. Similarly, another study suggested that females experience higher academic stress and anxiety (Misra, McKean, West, & Russo 2000). However, according to Misra, McKean, West, and Russo (2000) this difference may not be due to the inequality in the number of stressors but due to the difference in their perceptions. Additionally, Misra and McKean (2000)

found that female students not only experience higher academic stress but also higher anxiety. Interestingly, although the difference among males and females in experiencing stressors was significant, the reaction difference was not statistically significant except for physiological responses. On the other hand, it terms of depression a contradictory finding came from a study done by Ceyhan, Ceyhan, and Kurtyılmaz's (2005) in Turkey. They claimed that depression levels of university students showed no significant changes according to gender.

As there are differences in terms of stressors and reactions to stressors, there are also differences in terms of the moderating effect of social support. Lu (1995) reported that men received less social support than women. Another study done by Caldwell, Pearson, and Chin (1987) proposed that received social support had a moderating effect for females with internal locus of control. On the other hand perceived social support had a moderating effect for both females and males with external locus of control.

1.6. *Outcomes of Stress*

Like all other individuals, when students experience stress, they respond to these stressors in several ways. Misra, Mc Kean, West, and Russo (2000) categorized these responses into four groups that are emotional, cognitive, behavioral, and physiological responses. Emotional

responses were identified as fear, anxiety, worry, guilt, grief, or depression. Cognitive responses were defined as the appraisal of stressful situations and coping strategies. Crying, abuse of self or others, smoking, and irritability are some behavioral responses given to stress. And finally, physiological responses were identified as sweating, trembling, stuttering, headaches, weight loss or gain, and body aches. The most frequent ones among those stressors were found as emotional and cognitive reactions; and the focus of the present study is mainly the emotional responses given to stress, such as depression and anxiety.

Individuals may show those responses independently or even sometimes jointly. A study done by Eldeleklioğlu (2006) in Turkey found that in a college student sample depression and anxiety increased together. Similarly, McCarthy, Foulandi, Juncker, and Matheny (2006) concluded that anxiety contributes to the manifestation of depression. The present study, on the other hand, will examine these closely related cognitive responses, depression and anxiety separately.

1.6.1. *Depression*

There are several studies that have examined depression as a predictor of academic stress. According to Benson and Deeter (1992), individuals with an external locus of control, low social support satisfaction, and high impact ratings of negative life events are likely to score high in

depression scales. Additionally, for low social support satisfaction group negative life events, for moderate social support satisfaction group locus of control, and for high social satisfaction group both negative life events and positive life events were predictors of depression.

The effect of the buffering relationship of social support on depression was also studied in detail. Cohen, Sherrod, and Clark (1986) stated that the perceived availability of social support can protect individuals from depressive affect. A study done by Eldeleklioğlu (2006) in Turkey found that social support seems to have a negative relationship with depression. Especially social support from friends had a higher impact on depression than social support from family. Similarly, Ceyhan, Ceyhan, and Kurtyılmaz (2005) found that social support from friends predicted depression in university students. However, social support from family and from the society did not have such an effect on depression in the same sample.

Based on Cummins (1988) findings received social support had a buffering effect only for internal locus of control individuals. A possible explanation was that internals utilized social support as a means to cope with stress. However, there were also some contradictory results suggesting that reassurance of worth support had no buffering effect for internals. Those individuals with an internal locus of control see themselves in control and therefore may be less defensive. Therefore, when they encounter chronic stress they may strongly be affected. Thus, this does not cause a

discrepancy. It is still possible that behavioral support served the same internals as a buffer while worth support did just the opposite.

1.6.2. *Anxiety*

Depression and anxiety are two different outcome variables. However, there are both overlapping and distinguishing features of each one. According to McCarthy, Foulandi, Juncker, and Matheny (2006) the factors that distinguish depression and anxiety can be grouped into two. The first one is that there are different cognitions for depression and anxiety. Appraisals of helplessness are the major component of anxiety. On the other hand, perceptions of hopelessness are the major components of depression (Barlow, 1988 cited in McCarthy, Foulandi, Juncker, & Matheny, 2006). The second one is the temporal relationship between each other. McCarthy, Foulandi, Juncker, and Matheny (2006) tried to clarify this relationship between anxiety and depression. It was concluded that anxiety had an effect on depression. However, depression did not affect anxiety significantly. Due to these results it was proposed that anxiety contributes to the manifestation of depression.

Andrews and Wilding (2004) tried to clarify the specific stressors for depression and anxiety among British students. It was proposed that financial difficulties were the predictors of depression. On the other hand, relationship difficulties were the predictors of anxiety.

Misra and McKean (2000) suggested that anxiety was a significant predictor of academic stress. Additionally, it was concluded that social support decreased anxiety (Felsten & Wilcox, 1992; cited in Alvan, Belgrave, & Zea, 1996).

1.6.3. *General Physical Health Problems*

Another possible stress related outcome is general physical health problems. These may include physical illness and symptoms (Hurrelmann & Losel, 1990; cited in Zaleski, Levey-Thors, & Schiaffino, 1998). For instance, family conflict and academic difficulties may result in psychosomatic symptoms, such as asthma and headaches (Hurrelmann & Losel, 1990, cited in Zaleski, Levey-Thors, & Schiaffino, 1998).

A study done among collage freshmen students (Zaleski, Levey-Thors, & Schiaffino, 1998) concluded that the presence of more stressful life events led to an increase in physical symptoms. Interestingly, high social support from family resulted with an increase of physical symptoms. In other words, students with lower social support from family reported fewer physical symptoms when faced with daily hassles. This may be due to the assumption that individuals who are more attached to their families have more difficulty when they are separated. However, the study was applied in the first six months of college, due to that it was claimed that it is likely that

the negative effect of family social support will decline, and after a while social support from family will have a positive effect.

Although Misra and McKean (2000) suggested that emotional and cognitive responses were experienced more often than behavioral and physiological responses, the present study will measure both cognitive and physiological responses.

1.7. *Aim of the Study*

Although there is a considerable amount of literature based on stress and the role of social support on depression, anxiety, and physical health, there is respectively little literature on the role of locus of control on the relationship between social support and stress. There is even less research regarding the differential effects of specific types of social support. It is still not clear which type of social support (perceived vs. received) has a stress-buffering effect in internals and externals.

Based on that and the findings mentioned above, the aim of the present study is to investigate the moderator role of different types of social support (perceived vs. received) on the relationship between stress and health outcomes (depression, anxiety, and physical health) among the Turkish freshmen university students (with internal vs. external locus of control). It was hypothesized that when an individual has an external locus of control, the decreased level of perceived social support may lead to

stress, which in turn increases the likelihood of negative health related outcomes (depression, anxiety and/or physical health problems). On the other hand, when an individual has internal locus of control, the decreased level of received social support may lead to stress, that may lead to several health related outcomes (depression, anxiety and/or physical health problems). Furthermore, it is also expected that the buffering effect of social support may only be confirmed for perceived social support and not for received social support. And finally, it is expected that students who did not have a preparation year may score higher on stress, depression, anxiety and general physical health problems than students who had a preparation year.

CHAPTER II

STUDY 1

The aim of Study 1 is to adapt The Inventory of Socially Supportive Behaviors (ISSB) (Barrera, Sandler, & Ramsay, 1981), which will be used to assess the level of received social support in Study 2. The Inventory of Socially Supportive Behavior was developed by Barrera, Sandler, and Ramsay (1981) and three studies with a considerable agreement have examined the factor structure of the inventory (Barrera & Ainlay, 1983; Caldwell & Reinhart, unpublished; Strokes & Wilson, 1984).

2.1. *Method*

2.1.1. *Participants*

The sample consisted of 159 female and 158 male Middle East Technical University (METU) students from 33 different departments (N = 317). The age of the students ranged between 17 and 32 with the mean of 21.53 (SD = 2.00). While most of the students were undergraduate level (15 % freshman (n = 48), 27% sophomore (n = 88), 18% junior (n = 59), and

35% senior students (*n* =112)), only small part of them were graduate level (2% master (*n* = 8) and 0.6 % doctorate (*n* = 2)). Seventy-five per cent of the students had a preparation year (*n* = 239) at METU and 25% (*n* = 78) of them did not. While most of the students had middle income levels (*n* = 252, 79%), the rest had low (*n* = 41, % 12) and high income levels (*n* = 24, 7%). The mentioned income level during the text was defined according to the students' perception of their own income. (See Table 1).

Table 1

Demographic Characteristics of the Sample of Study 1

	N	%
Class		
Freshman	48	15
Sophomore	88	27
Junior	59	18
Senior	112	35
Master	8	2
Doctorate	2	0.6
Preparation year		
Yes	239	75
No	78	25
Income level		
Low	41	12
Middle	252	79
High	24	7

The sample for the retest consisted of 25 female and 30 male Middle East Technical University (METU) students from 19 different departments (N = 55). The age of the students ranged between 19 and 26 with the mean of 21.98 (SD = 1.68). About half of the retest sample was composed of senior students (n = 26, 47%), and the rest were sophomore (n = 17, 30%) and junior (n = 12, 21%) students. Seventy-five per cent of the students had a preparation year (n = 41) at METU and 25% of them did not (n = 14). While most of the students had middle income levels (n = 43, 81%), the rest had low (n = 6, % 11) and high income levels (n = 4, 7%). (See Table 2).

Table 2

Demographic Characteristics of the Test-Re-test Sample of Study 1

	N	*%*
Class		
Freshman	17	30
Sophomore	12	21
Junior	26	47
Preparation year		
Yes	41	75
No	14	25
Income level		
Low	6	11
Middle	43	81
High	4	7

2.1.2 *Measures*

The questionnaire set for Study 1 consisted of a demographic information form, The Inventory of Socially Supportive Behaviors (ISSB) (Barrera, Sandler, & Ramsay, 1981), The Multidimensional Scale of Perceived Social Support (MSPSS) (Zimet, Dahlem, Zimet, & Farley, 1988), and Beck Depression Inventory (BDI) (Beck, Ward, Mendelson, & Erbaugh, 1961). The test-re-test questionnaire set included only of ISSB (Barrera, Sandler, & Ramsay, 1981).

2.1.2.1. *Demographic Information Form*

The form included demographic questions such as age, gender, department, income level etc. Additionally, there was a question whether they had a preparation year or not (See Appendix A).

2.1.2.2. *The Inventory of Socially Supportive Behaviors (ISSB)*

The Inventory of Socially Supportive Behaviors (ISSB), which was developed by Barrera, Sandler, and Ramsay (1981), consists of forty 5-point Likert type items that range between 1 and 5 and aim to measure the frequency of received social support in the last month (See Appendix B). ISSB consists of the three factors, namely; guidance (e.g. “Taught you how to do something”), emotional support (e.g. “Expressed interest and concern in your well-being”), and

tangible assistance (e.g. “Provided you with a place to stay”) (Barrera & Ainlay, 1983). The internal consistency reliability of the original inventory was above .90 (Barrera, 1981).

2.1.2.3. *Multidimensional Scale of Perceived Social Support (MSPSS)*

MSPSS is a 12-item scale, which was developed to measure the level of perceived social support obtained from family, friends, and other domains. It is a 7 point Likert type scale ranging from 1 (totally disagree) to 7 (totally agree) and higher scores on this scale reflect higher levels of perceived social support (See Appendix C). The original scale was developed by Zimet, Dahlem, Zimet, and Farley (1988) and was translated into Turkish by Eker and Arkar (1995). The Cronbach alpha levels of the Turkish version were .85 for family, .88 for friends, .92 for the special person, and .89 for the whole scale. The correlational analyses between MSPSS, and Beck Depression Inventory, and Spielberger State Trait Anxiety Scale revealed that MSPSS is significantly and negatively correlated with BDI and Spielberger State Trait Anxiety Scale, suggesting that MSPSS is a valid scale.

2.1.2.4. *Beck Depression Inventory (BDI)*

In the present study, BDI (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961) was used to asses the level of depression of the participants (See Appendix F). BDI consists of 21 multiple-choice questions checking the moods of the participants for the last two weeks. The scores obtained from each question ranges between 0 and 3, and a lower overall score (out of 63) refers to a lower level of depression (Beck, Steer, & Brown, 1997). The inventory was translated into Turkish by Tegin (1980) and Şahin (1988). Test-retest reliability for the Turkish version of BDI was calculated as .65, whereas the split-half reliability was .78 for students and .61 for depressive patients. By looking at the correlation between BDI and Hamilton Depression Rating Scale, criterion related validity of the scale was calculated as .75.

2.1.3. *Procedure*

The translation of The Inventory of Socially Supportive Behaviors (ISSB) (Barrera, Sandler, & Ramsay, 1981) was made by three independent translators and then back translated by a bilingual person. The back-translated version of the inventory was compared with the original inventory.

METU students from various departments were asked to fill out the questionnaires. After reading the informed consent, students who agreed to participate were included in the study. It took approximately 10 minutes to fill out the questionnaires.

After two months, in order to test the test-re-test reliability of the Inventory of Socially Supportive Behaviors (ISSB) (Barrera, Sandler, & Ramsay, 1981), it was re-administered to randomly selected participants that had filled out the inventory before.

2.1.4. *Data Analysis*

The data was analyzed by using Statistical Package for Social Sciences (SPSS) (Green, Salkind & Akey, 1997). In order to investigate the factor structure of The Inventory of Socially Supportive Behaviors (ISSB) (Barrera, Sandler, & Ramsay, 1981), principal component factor analysis was conducted. Cronbach's Alpha scores were used to assess the reliability of the inventory.

2.2. *Results*

Principal factors extraction with varimax rotation was performed on 40 items of The Inventory of Socially Supportive Behaviors (ISSB) (Barrera, Sandler, & Ramsay, 1981) for a sample of 317 METU students. Principal components extraction was used prior to principal factors extraction to estimate number of factors, and factorability of the correlation matrices. Estimation of number of factors was first examined through Kaiser Criterion, which suggested 8 factors. However, due to the possibility of overestimation, scree plot was used for assurance. Scree plot analysis suggested 3 factors. Three factors were used in the

final analysis. The total explained variance by the 3 factors was %48, and the eigenvalues ranged between 14.99 and 1.62.

The first factor, which was named “Guidance”, consisted of 15 items like “Suggested some action that you should take”. This factor explained %37 of the total variance. The Cronbach’s Alpha for the “Guidance” factor was found to be .93.

The second factor, named as “Emotional Support”, consisted of 15 items; like “Told you that you are OK just the way you are”. This factor explained 7% of the total variance. The Cronbach’s Alpha for the “Emotional Support” factor was found to be .91.

The third factor, which was named “Tangible Assistance”, consisted of 10 items like “Loaned you over $25”. This factor explained 4% of the total variance. The Cronbach’s Alpha for the “Tangible Assistance” factor was found to be .81.

Item 6, Item 11, Item 25, Item 39, and Item 21 had crossloads and they were included in the factors that were theoretically more appropriate. Item loadings, communalities, eigenvalues, and proportion of variance explained by the factor analysis are displayed in Table 3.

Table 3

The Item Loadings for the Inventory of Socially Supportive Behaviors (ISSB)

No	Item	Factor 1 (Guidance)	Factor 2 (Emotional Support)	Factor 3 (Tangible Assistance)
16.	Suggested some action that you should take	**.73**	.21	.18
15.	Gave you some information on how to do something	**.69**	.10	.24
33.	Told you what to expect in a situation that was about to happen.	**.68**	.27	.25
27.	Said things that made your situation clearer and easier to understand	**.64**	.47	.08
19.	Gave you some information to help you understand a situation you were in	**.61**	.39	.21
28.	Told you how he/she felt in a situation that was similar to your	**.60**	.45	.11
23.	Helped you understand why you didn't do something well	**.60**	.35	.21
9.	Went with you to someone who could take action	**.59**	.22	.27
5.	Told you what she/he did in a situation that was similar to yours	**.59**	.32	.04
35.	Taught you how to do something	**.56**	.16	.42
36.	Gave you feedback on how you were doing without saying it was good or bad	**.56**	.44	.27
12.	Assisted you in setting a goal for yourself	**.54**	.39	.20

Table 3 (cont.)

No	Item	Factor 1 (Guidance)	Factor 2 (Emotional Support)	Factor 3 (Tangible Assistance)
13.	Made it clear what was expected of you	**.51**	.26	.30
32.	Told you who you should see for assistance	**.49**	.16	.37
21.	Checked back with you to see if you followed the advice you were given	**.41**	.22	.44
6.	Did some activity with you to help you get your mind off of things	.49	**.48**	.04
11.	Told you that she/he would keep the things that you talk about private - just between the two of you	.47	**.45**	.13
31.	Told you that she/he feels very close to you	.08	**.80**	.19
30.	Expressed interest and concern in your well-being	.24	**.74**	.19
29.	Let you know that he/she will always be around if you need assistance	.22	**.70**	.22
10.	Told you that you are OK just the way you are	.28	**.65**	.13
24.	Listened to you talk about your private feelings	.40	**.64**	-.02
18.	Comforted you by showing you some physical affection	.13	**.63**	.23

Table 3 (cont.)

No	Item	Factor 1 (Guidance)	Factor 2 (Emotional Support)	Factor 3 (Tangible Assistance)
2.	Was right there with you (physically) in a stressful situation	.25	**.62**	.08
37.	Joked and kidded to try to cheer you up	.23	**.62**	.13
14.	Expressed esteem or respect for a competency or personal quality of yours	.35	**.55**	.14
8.	Let you know that you did something well	.43	**.54**	.03
7.	Talked with you about some interests of yours	.42	**.48**	-.09
26.	Agreed that what you wanted to do was right	.45	**.46**	.18
3.	Provided you with a place where you could get away for awhile	.20	**.36**	.27
34.	Loaned you over $25	.07	.10	**.77**
40.	Loaned you under $25	.06	.03	**.71**
22.	Gave you under $25	.07	.11	**.69**
17.	Gave you over $25	.20	.09	**.68**
38.	Provided you with a place to stay	.17	.13	**.62**
1.	Looked after a family member when you were away	.12	.02	**.46**
4.	Watched after your possessions when you were away (pets, plants, home, apartment, etc.)	.20	.09	**.43**
20.	Provided you with some transportation	.14	.22	**.39**

Table 3 (cont.)

No	Item	Factor 1 (Guidance)	Factor 2 (Emotional Support)	Factor 3 (Tangible Assistance)
25.	Loaned or gave you something (a physical object other than money) that you needed	.46	.18	**.32**
39.	Pitched in to help you do something that needed to get done	.44	.31	**.41**
	Eigenvalue	14.99	2.91	1.62
	Explained Variance (%)	37.49	7.28	4.06
	Alpha Coefficient (α)	.93	.91	.81
	Test-Re-Test Alpha Coefficient (α)	.95	.95	.81

While the Cronbach's Alpha coefficient for The Inventory of Socially Supportive Behaviors (ISSB) (Barrera, Sandler, & Ramsay, 1981) was found to be as .95 (See Table 4 for the reliability analysis results), the test-re-test reliability of the Inventory of Socially Supportive Behaviors (ISSB) was found to be as .69 ($p <$ .001). The Cronbach's Alpha coefficients for the factors in the test-re-test were found to be as .95 for "Guidance", .95 for "Emotional Support", and .81 for "Tangible Assistance". These findings suggested that the Inventory of Socially Supportive Behaviors (ISSB) (Barrera, Sandler, & Ramsay, 1981) seems to be a reliable measure.

Table 4

Reliabilities of the Inventory of Socially Supportive Behaviors (ISSB)

Item	Mean	*SD*	α if item deleted	Item-total *r*
Item 1	1.64	1.17	.955	.288
Item 2	3.10	1.26	.953	.570
Item 3	1.82	1.16	.954	.461
Item 4	1.65	1.18	.954	.367
Item 5	2.75	1.19	.953	.584
Item 6	2.96	1.20	.953	.620
Item 7	3.67	1.11	.954	.511
Item 8	3.26	1.12	.953	.614
Item 9	2.29	1.14	.953	.625
Item 10	3.03	1.23	.953	.626
Item 11	2.75	1.31	.953	.623
Item 12	2.64	1.20	.953	.663
Item 13	2.58	1.21	.953	.603
Item 14	3.04	1.15	.953	.608
Item 15	2.98	1.07	.953	.602
Item 16	2.92	1.08	.953	.664
Item 17	1.93	1.06	.954	.459
Item 18	2.97	1.33	.953	.565
Item 19	2.76	1.14	.952	.715

Table 4 (cont.)

Item	Mean	*SD*	α if item deleted	Item-total *r*
Item 20	2.56	1.38	.955	.381
Item 21	1.93	1.04	.953	.574
Item 22	1.88	1.05	.954	.401
Item 23	2.35	1.06	.953	.681
Item 24	3.29	1.27	.953	.626
Item 25	2.51	1.16	.954	.529
Item 26	2.99	1.03	.953	.634
Item 27	2.94	1.15	.952	.722
Item 28	2.84	1.12	.952	.701
Item 29	3.11	1.33	.953	.646
Item 30	2.97	1.25	.953	.678
Item 31	3.03	1.39	.953	.603
Item 32	2.06	1.10	.953	.558
Item 33	2.35	1.09	.953	.700
Item 34	1.53	.93	.954	.430
Item 35	2.47	1.05	.953	.625
Item 36	2.56	1.08	.952	.737
Item 37	3.43	1.19	.953	.571
Item 38	2.03	1.34	.954	.444
Item 39	2.60	1.18	.953	.639

Table 4 (cont.)

Item	Mean	*SD*	α if item deleted	Item-total *r*
Item 40	1.64	1.02	.954	.954

Note. The internal consistency of the scale was measured by Cronbach's alpha is .95

The correlational analysis between The Inventory of Socially Supportive Behaviors (ISSB) and Multidimensional Scale of Perceived Social Support (MSPSS) yielded a significant and positive correlation coefficient (r = .33, $p < .001$) indicating that the higher the students scored on received social support, the higher they scored on perceived social support, as well. Thus, The Inventory of Socially Supportive Behavior seems to have convergent validity. Additionally, all three factors correlated with each other and also with the whole scale and the Multidimensional Scale of Perceived Social Support (MSPSS). Emotional Support was positively correlated with Guidance (r = .79, $p < .001$), Tangible Assistance (r = .51, $p < .001$), ISSB (r = .41, $p < .001$), and MSPSS (r = .41, $p < .001$). Guidance was positively correlated with Tangible Assistance (r = .64, $p < .001$), ISSB (r = .94, $p < .001$), and MSPSS (r = .27, $p < .001$). Tangible Assistance was positively correlated with ISSB (r = .76, $p < .001$) and MSPSS (r = .16, $p < .001$). MSPSS was negatively correlated with BDI (r = -.38, $p < .001$) (See Table 5).

Table 5

The Correlations between the continuous variables and the factors of ISSB

	Emotional Support	Guidance	Tangible Assistance	ISSB	MSPSS	BDI
Emotional Support	1					
Guidance	.79***	1				
Tangible Assistance	.51***	.64***	1			
ISSB	.91***	.94***	.76***	1		
MSPSS	.41***	.27***	.16***	.33***	1	
BDI	-.04	.03	.06	.01	-.38***	1

Note. * $p < .05$, ** $p < .01$, *** $p < .001$.

The results of the present study are congruent with the original version of the inventory. The three studies that examined the factor structure of The Inventory of Socially Supportive Behaviors (ISSB) had a considerable agreement (Barrera& Ainlay, 1983; Caldwell & Reinhart, unpublished; Strokes & Wilson, 1984). The factor structure found in the present study was same with factor structure found in the Caldwell and Reinhart (unpublished) study, which is an indication of construct validity.

CHAPTER III

STUDY 2

3.1. *Method*

3.1.1. *Participants*

The sample consisted of 100 female and 124 male Middle East Technical University (METU) freshman students from 29 different departments (N = 224). The age of the students ranged between 17 and 26 with the mean of 19.84 (SD = 1.22). Eighty-five per cent of the students had a preparation year (n = 191) at METU and 15% (n = 33) of them did not. While most of the students had middle income levels (n = 168, 75%), the rest had low (n = 37, % 17) and high income levels (n = 19, 8%) (See Table 6).

Table 6

Demographic Characteristics of the Sample of Study 2

	M	*SD*	*N*	%
Age	19.84	1.22		
Gender				
Female			100	45
Male			124	55
Preparation year				
Yes			191	85
No			33	15
Income level				
Low			37	17
Middle			168	75
High			19	8

3.1.2. *Measures*

The questionnaire set for Study 2 consisted of a demographic information form, The Inventory of Socially Supportive Behaviors (ISSB) (Barrera, Sandler, & Ramsay, 1981), The Multidimensional Scale of Perceived Social Support (MSPSS) (Zimet, Dahlem, Zimet, & Farley, 1988), Locus of Control Scale (Dağ, 2002), Life Events Inventory for University Students (Oral, 1999), Beck Depression Inventory (BDI) (Beck,

Ward, Mendelson, & Erbaugh, 1961), Beck Anxiety Inventory (BAI) (Beck, Epstein, Brown, & Steer 1988), and The Symptom Checklist (Derogatis, 1977).

3.1.2.1. *Demographic Information Form*

The form included questions such as age, gender, department, income level etc. Additionally, there was a question whether they had a preparation year or not (See Appendix A).

3.1.2.2. *The Inventory of Socially Supportive Behaviors (ISSB)*

The Inventory of Socially Supportive Behaviors (ISSB), which was developed by Barrera, Sandler, and Ramsay (1981), consists of forty 5-point Likert type items that range between 1 and 5, and aim to measure the frequency of received social support in the last month (See Appendix B). ISSB consists of three factors, namely; guidance (e.g. "Taught you how to do something"), emotional support (e.g. "Expressed interest and concern in your well-being"), and tangible assistance (e.g. "Provided you with a place to stay") (Barrera & Ainlay, 1983). The internal consistency reliability of the original inventory was above .90 (Barrera, 1981).

3.1.2.3. *Multidimensional Scale of Perceived Social Support (MSPSS)*

MSPSS is a 12-item scale, which was developed to measure the level of perceived social support obtained from family, friends, and other domains. It is a 7-point Likert type scale ranging from 1 (totally disagree) to 7 (totally agree), and higher scores on this scale reflect higher levels of perceived social support (See Appendix C). The original scale was developed by Zimet, Dahlem, Zimet, and Farley (1988) and was translated into Turkish by Eker and Arkar (1995). The Cronbach alpha levels of the Turkish version were .85 for family, .88 for friends, .92 for the special person, and .89 for the whole scale. The correlational analyses between MSPSS, and Beck Depression Inventory, and Spielberger State Trait Anxiety Scale revealed that MSPSS is significantly and negatively correlated with BDI and Spielberger State Trait Anxiety Scale, suggesting that MSPSS is a valid scale.

3.1.2.4. *Locus of Control Scale*

The scale was originally developed by Dağ (2002) (See Appendix D). It consists of 47 items that aim to classify people into internal or external locus of control categories. While the Cronbach alpha coefficient of the Locus of Control Scale was found to be .92, test-re-test reliability of the

scale was calculated as .88. Higher scores on this scale reflect external locus of control.

3.1.2.5. *Life Events Inventory for University Students (LEIU)*

The original Life Events Inventory for University Students (LEIU) consisted of forty-nine 5-point Likert type items that aimed to scan the negative life events of university students (See Appendix E). LEIU was developed by Oral (1999). In order to address some underrepresented domains, 5 items were added to the original scale by Dinç (2001). Thus, the Turkish version of the scale added up to 54 items. LEIU consists of two factors: achievement related life events, and social life events. The Cronbach alpha levels of the Turkish version were .88 for achievement related life events, .86 for social life events, and .90 for the whole scale (Oral, 1999).

3.1.2.6. *Beck Depression Inventory (BDI)*

In the present study, Beck Depression Inventory (BDI) (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961) was used to asses the level of depression of the participants. BDI consists of 21 multiple-choice questions checking the moods of the participants for the last two weeks (See

Appendix F). The scores obtained from each question ranges between 0 and 3, and a lower overall score (out of 63) refers to a lower level of depression (Beck, Steer, & Brown, 1997). The inventory was translated into Turkish by Tegin (1980) and Şahin (1988). Test-retest reliability for the Turkish version of BDI was calculated as .65, whereas the split-half reliability was .78 for students and .61 for depressive patients. By looking at the correlation between BDI and Hamilton Depression Rating Scale, criterion related validity of the scale was calculated as .75.

3.1.2.7. *Beck Anxiety Inventory (BAI)*

BAI was originally developed by Beck, Epstein, Brown, and Steer (1988). The scale consists of 21 self report items and aiming measure individuals' subjective anxiety and somatic symptoms (See Appendix G). BAI was adapted into Turkish by Ulusoy, Şahin, and Erkmen (1996). The Cronbach alpha for the Turkish version was found to be as .93. Higher scores on this inventory reflect higher anxiety.

3.1.2.8. *Symptom Checklist (SCL-90)*

SCL was developed by Derogatis (1977) (See Appendix H). The Turkish form of the scale is a shortened version of the original scale that consist 53 items to evaluate the general physical health. SCL-90 was

adapted into Turkish by Şahin and Durak (1994). The Cronbach alpha scores for the 9 subscales ranged from .55 to .86. The Cronbach alpha scores for the Turkish version ranged from .55 to .86. Higher scores on this checklist reflect poorer physical health.

3.1.3. *Procedure*

After receiving the necessary permissions from the ethical committee of Middle East Technical University (METU), the participants were selected randomly from the first year students studying at the same university. The questionnaire set was put on a private academic internet web site to be filled out online. The selected participants received the link to the internet site with a consent form through their METU e-mail account. The students who accepted to fill out the questionnaire followed the instructions in the e-mail and completed the set online. The questionnaires could only be submitted when they were filled out completely. It took the students approximately 20 minutes to fill out the questionnaire set. After the data collection was completed, a lottery was done among the students who filled out the questionnaire and three students were given a 2GB flash disk.

3.1.4. *Data Analysis*

The data was analyzed by using Statistical Package for Social Sciences (SPSS) (Green, Salkind & Akey, 1997). In order to test all the hypotheses of the main study independent sample t-test, One-way ANOVA, and regression analyses were conducted.

3.2. *Results*

Descriptive information for the continuous variables of the study are provided in Table 7.

Table 7

Descriptive Statistics for the Continuous Measures of the Study

	M	*SD*	*Range*
Received Social Support	111.48	30.93	151
Perceived Social Support	29.33	14.64	68
Locus of Control	118.50	19.44	101
Stress Frequency	135.74	30.11	172
Stress Intensity	131.65	29.53	163
Depression	33.29	8.69	49
Anxiety	14.64	10.91	62
General Physical Health Problems	56.49	36.74	174

Before starting the analysis the sample was divided into two based on the participants' locus of control. First, the median of participants' locus of control scores was found to be 120. Later, participants who scores below the median score were placed in the internal locus of control (ILOC) group (n=114), and participants above the median score were placed in the external locus of control (ELOC) group (n=110). The ILOC group consisted of 59 females and 55 males. The ELOC group consisted of 41 females and 69 males. Seven participants had the median score, i.e. 120, and could not be placed in any of the groups; and they were deleted from the dataset. Thus, the total number of the participants included in the analysis was 224 (See Table 8).

In order to compare the participants belonging to different levels of the categorical variables (gender, preparation year, Income Level) in terms of the continuous variables (stress, perceived/received social support, depression, anxiety, general physiological health) two independent sample t-tests and a one-way ANOVA were conducted.

An independent sample t-test was conducted to examine the possible differences between the both genders in terms of the continuous variables (stress intensity/frequency, general stress, perceived/received social support, depression, anxiety, general physiological health) used in the study. The analysis revealed that female students with an internal locus of control received more social support (t = 3.20, p < .01). However, male students with an internal locus of control perceived more social support (t = -3.98, p

< .001). Similarly, female students with an external locus of control received more social support (t = 3.05, p < .01), and male students with an external locus of control perceived more social support (t = -2.26, p < .05). The analysis revealed that in both internal and external locus of control groups, there was no significant difference among female and male students in terms of depression, anxiety, general physical health problems, stress intensity, stress frequency and general stress.

Another independent sample t-test was conducted to examine the possible differences between the students who had a preparation year and who did not have a preparation year in terms of the continuous variables of the study. The analysis revealed that in both internal and external locus of control groups, there was no significant difference among students who had a preparation year and who did not have a preparation year in terms of the continuous variables of the study.

One-way ANOVA was run to examine the possible differences among income groups in terms of continuous variables of the study. The analysis yielded several significant differences. The students with internal locus of control differed significantly among income groups in terms of perceived social support (F (2, 111) = 12.31, p < .001), depression (F (2, 111) = 8.98, p < .001), general physical health problems (F (2, 111) = 5.24, p < .01), stress intensity (F (2, 111) = 9.17, p < .001), stress frequency (F (2, 111) = 9.28, p < .001), and finally in terms of general stress (F (2, 111) = 9.46, p < .001). Post-hoc analyses using Tukey HSD test indicated that the

low income group (m = 3.21) perceived more social support than both the middle income group (m = 2.00) and the high income group (m = 2.03). In terms of depression, the low income group (m = 1.75) had higher scores than both the middle income group (m = 1.46) and the high income group (m= 1.49). The low income group (m = 1.26) had significantly worse general physical health scores than both the middle income group (m = .86) and the high income group (m = .51). In terms of stress frequency, the low income group (m = 2.84) had higher scores than both the middle income group (m = 2.40) and the high income group (m = 2.09). The low income group (m = 2.77) did also have higher scores on stress intensity as compared to the middle income group (m = 2.31) and the high income group (m = 2.03). In terms of general stress, the low income group (m = 8.07) had higher scores than both the middle income group (m = 5.72) and the high income group (m = 4.66).

The students with external locus of control differed significantly among income groups in terms of received social support (F (2, 107) = 5.73, $p < .01$) and perceived social support (F (2, 107) = 4.77, $p < .01$). Post-hoc analyses using Tukey HSD test indicated that the middle income group (m = 2.81) received more social support than the high income group (m = 2.17), and the low income group (m = 3.33) perceived more social support than the middle income group (m = 2.47).

Table 8

Descriptive Statistics and Mean Differences of Demographic Characteristics of Participants by Stress Intensity, Stress Frequency, General Stress, Perceived Social Support, Received Social Support, Depression, Anxiety, and General Physical Health Problems for Internal and External Locus of Control

Internal Locus of Control

Variable	Stress Frequency					Stress Intensity					General Stress					Perceived Social Support				
	M	*SD*	*df*	*t*	*F*	*M*	*SD*	*df*	*t*	*F*	*M*	*SD*	*df*	*t*	*F*	*M*	*SD*	*df*	*t*	*F*
Gender			112	1.51^{ns}	---			112	1.44^{ns}	---			112	1.39^{ns}	---			112	-3.98***	---
Female	2.51	.51				2.42	.48				6.32	2.45				1.85	.62			
Male	2.37	.50				2.29	.54				5.68	2.47				2.57	1.25			
Prep. Year			112	1.07^{ns}	---			112	1.30^{ns}	---			112	.86^{ns}	---			112	1.12^{ns}	---
Yes	2.47	.46				2.39	.48				6.11	2.31				2.25	1.11			
No	2.34	.67				2.23	.61				5.60	3.04				1.98	.68			
Income			2,111	---	9.17***			2,111	---	9.28***			2,111	---	9.46***			2,111	---	12.31***
Level																				
Low	2.84a	.49				2.77a	.48				8.07a	2.64				3.21a	1.47			
Middle	2.40b	.45				2.31b	.45				5.72b	2.11				2.00b	.83			
High	2.09b	.70				2.03b	.72				4.66b	3.29				2.02b	.60			

Note 1. $^{*}p < .05$, $^{**}p < .01$, $^{***}p < .001$.

Note 2. The mean scores that do not share a common letter subscript on each column are significantly different from each other.

Table 8 (cont.)

Internal Locus of Control (cont.)

Variable	Received Social Support					Depression					Anxiety					General Physical Health Problems				
	M	*SD*	*df*	*t*	*F*	*M*	*SD*	*df*	*t*	*F*	*M*	*SD*	*df*	*t*	*F*	*M*	*SD*	*df*	*t*	*F*
Gender			112	3.20**	---			112	.17ns	---			112	.69ns	---			112	.63ns	---
Female	3.12	.81				1.49	.29				.63	.48				.93	.63			
Male	2.65	.75				1.48	.41				.57	.46				.86	.63			
Prep. Year			112	-.02ns	---			112	1.28ns	---			112	.67ns	---			112	1.12ns	---
Yes	2.89	.86				1.51	.35				.62	.46				.59	.59			
No	2.89	.64				1.41	.34				.54	.49				.75	.75			
Income Level			2,111	---	2.46ns			2,111	---	8.98***			2,111	---	1.82ns			2,111	---	5.24**
Low	2.54	1.11				1.75a	.48				.74	.60				1.26a	.71			
Middle	2.93	.73				1.46b	.29				.60	.44				.86b	.58			
High	3.18	.82				1.23b	.28				.39	.36				.51b	.59			

Note 1. * $p < .05$, ** $p < .01$, *** $p < .001$.

Note 2. The mean scores that do not share a common letter subscript on each column are significantly different from each other.

Table 8 (cont.)

External Locus of Control

Variable	Stress Frequency					Stress Intensity					General Stress					Perceived Social Support				
	M	*SD*	*df*	*t*	*F*	*M*	*SD*	*df*	*t*	*F*	*M*	*SD*	*df*	*T*	*F*	*M*	*SD*	*df*	*t*	*F*
Gender			108	1.39^{ns}	---			108	1.66^{ns}	---			108	1.43^{ns}	---			108	-2.27*	---
Female	2.69	.48				2.64	.50				7.31	2.72				2.33	1.27			
Male	2.52	.65				2.45	.60				6.49	3.00				2.92	1.34			
Prep. Year			108	.68^{ns}	---			108	1.13^{ns}	---			108	1.13^{ns}	---			108	-.90^{ns}	---
Yes	2.60	.60				2.54	.58				6.90	2.99				2.66	1.32			
No	2.46	.56				2.33	.38				5.80	1.77				3.07	1.55			
Income Level			2,107	---	1.08^{ns}			2,107	---	.98^{ns}			2,107	---	1.02^{ns}			2,107	---	4.77**
Low	2.74	.67				2.64	.61				7.57	3.20				3.33a	1.30			
Middle	2.57	.57				2.52	.53				6.70	2.77				2.47a	1.28			
High	2.41	.68				2.33	.80				6.07	3.51				3.35ab	1.48			

Note 1. * $p < .05$, ** $p < .01$, *** $p < .001$.

Note 2. The mean scores that do not share a common letter subscript on each column are significantly different from each other.

Table 8 (cont.)

External Locus of Control (cont.)

Variable	Received Social Support					Depression					Anxiety					General Physical Health Problems				
	M	*SD*	*df*	*t*	*F*	*M*	*SD*	*df*	*t*	*F*	*M*	*SD*	*df*	*t*	*F*	*M*	*SD*	*df*	*t*	*F*
Gender			108	3.05**	---			108	-2.27 ns	---			108	-.01 ns	---			108	-.40 ns	---
Female	2.94	.71				1.64	.37				.79	.60				1.20	.65			
Male	2.52	.68				1.75	.48				.80	.53				1.26	.75			
Prep. Year			108	.98 ns	---			108	.77 ns	---			108	.45 ns	---			108	.82 ns	---
Yes	2.70	.70				1.72	.44				.80	.56				1.26	.73			
No	2.47	.84				1.61	.45				.72	.48				1.06	.54			
Income Level			2,107	---	5.73**			2,107	---	.96 ns			2,107	---	1.11 ns			2,107	---	1.15 ns
Low	2.41ab	.60				1.84	.50				.90	.59				1.47	.69			
Middle	2.81a	.71				1.69	.41				.80	.54				1.19	.71			
High	2.17b	.62				1.68	.53				.58	.56				1.19	.83			

Note 1. * $p < .05$, ** $p < .01$, *** $p < .001$.

*Note 2.*The mean scores that do not share a common letter subscript on each column are significantly different from each other.

3.2.1. *Correlations*

The zero order correlation coefficients among the measures were examined in order to investigate the relationship among the variables of the current study (See Table 9). In terms of demographic variables, the only significant relationship was the negative correlation between the income level and the age for both internal (r = -.23, p < .05) and external (r = -.20, p < .05) locus of control students. For internal locus of control students, perceived social support was positively correlated with depression (r = .44, p < .001), general physical health problems (r = .32, p < .001), stress frequency (r = .24, p < .01), stress intensity (r = .28, p < .01), and general stress (r = .28, p < .01); and was negatively correlated with received social support(r = -.39, p < .001). For external locus of control students, perceived social support was positively correlated with depression (r = .42, p < .001), general physical health problems (r = .35, p < .001), stress frequency (r = .39, p < .001), stress intensity (r = .30, p < .001), and general stress (r = .37, p < .001); and was negatively correlated with received social support(r = -.40, p < .001). However received social support was only correlated with anxiety (r = .24, p < .01) positively, and with perceived social support (r = -.40, p < .001) negatively for internal locus of control students. Similarly, for external locus of control students received social support was only correlated with anxiety (r = .23, p < .05) positively, and with perceived social support (r = -.40, p < .001) negatively.

There were several significant correlation coefficients among the income level of the internal locus of control (ILOC) students and other variables that were not significant for external locus of control (ELOC) students. Income level of ILOC students was correlated with received social support ($r = .20$, $p < .05$), perceived social support ($r = -.35$, $p < .001$), depression ($r = -.37$, $p < .001$), general physical health problems ($r = -.29$, $p < .01$), stress frequency ($r = -.37$, $p < .001$), stress intensity ($r = -.37$, $p < .001$), and general stress ($r = -.37$, $p < .001$).

Table 9

Intercorrelations among: Age, Income Level, Received Social Support, Perceived Social Support, Depression, Anxiety, General Physical Health Problems, Stress Intensity, Stress Frequency, General Stress

Internal Locus of Control

Variable		1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1.	Age	1									
2.	Income Level	-.23*	1								
3.	Received Social Support	.01	.20*	1							
4.	Perceived Social Support	.07	-.35***	-.39***	1						
5.	Depression	.16	-.37***	.04	.44***	1					
6.	Anxiety	.05	-.18	.24**	.09	.71***	1				
7.	General Physical Health Problems	.02	-.29**	.06	.32***	.80***	.83***	1			
8.	Stress Intensity	.13	-.37***	.10	.24**	.58***	.54***	.68***	1		
9.	Stress Frequency	.11	-.37***	.11	.28**	.61***	.55***	.68***	.9***	1	
10.	General Stress	.12	-.37***	.10	.28**	.62***	.57***	.71***	.98***	.98***	1

Note. * $p < .05$, ** $p < .01$, *** $p < .001$.

Table 9 (cont.)

Intercorrelations among: Age, Income Level, Received Social Support, Perceived Social Support, Depression, Anxiety, General Physical Health Problems, Stress Intensity, Stress Frequency, General Stress

External Locus of Control

Variable		1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1.	Age	1									
2.	Income Level	-.20*	1								
3.	Received Social Support	-.06	.001	1							
4.	Perceived Social Support	.12	-.07	-.40***	1						
5.	Depression	.06	-.11	-.16	.42***	1					
6.	Anxiety	.03	-.13	.23*	.08	.60***	1				
7.	General Physical Health Problems	.09	-.12	.06	.35***	.74***	.79***	1			
8.	Stress Intensity	.15	-.14	.03	.39***	.59***	.52***	.70***	1		
9.	Stress Frequency	.11	-.13	.01	.30***	.57***	.54***	.73***	.83***	1	
10.	General Stress	.15	-.14	.02	.37***	.60***	.54***	.74***	.96***	.94***	1

Note. * $p < .05$, ** $p < .01$, *** $p < .001$.

3.2.2. *Predictors of Depression*

Thirty-six multiple hierarchical regression analyses were conducted. Before conducting the regression analyses, as Aiken and West (1991) suggested, the continuous variables (stress frequency/intensity, general stress, received/perceived social support, depression, anxiety, general physical health problems) were linearly transformed, by subtracting the sample mean from each variable, and these variables were used in the main analyses (See Table 10).

Multiple hierarchical regression was run to find out whether stress intensity and perceived social support predicted depression after controlling for the effect of gender in the first step for internal locus of control students. The explained variance of the first step was not significant ($R^2 = .00$, $F_{inc}(1, 112) = .03$, $p > .05$). In the second step, with the addition of stress intensity, R^2 resulted in a significant increment and explained 34% of the variance ($R^2 = .34$, $F_{inc}(1, 111) = 55.95$, $p < .001$). After controlling for the effect of gender, stress intensity predicted depression ($\beta = .585$, $p < .001$) positively. In the third step, the addition of perceived social support contributed to a significant increment in explained variance ($R^2 = .43$, $F_{inc}(1, 110) = 18.38$, $p < .001$). This explained an additional 9% of the variance. After controlling for the effects of gender and stress intensity, perceived social support predicted depression positively ($\beta = .347$, $p < .001$). In the final step of the regression, the interaction of perceived social support and

stress intensity was entered into the regression and it was resulted in a significant contribution ($R^2 = .45$, $F_{inc}(1, 109) = 4.21$, $p < .05$). This explained an additional 2% of the variance. The interaction of stress intensity and perceived social support significantly predicted depression, too ($\beta = .162$, $p < .05$).

Figure 1 shows the interaction effect of stress intensity and perceived social support for internal locus of control students. The procedures recommended by Cohen, Cohen, West, and Aiken (2003) were used to compute the regression of depression on stress intensity for low (-1.09) and high (.96) levels of perceived social support. The slope of each regression line was tested to see whether they were statistically significant (Aiken & West, 1991). This analysis revealed that the regression of depression on stress intensity for internal locus of control occurred for when both perceived social support was low (slope coefficient = .24, $t(110) = 3.32$, $p < .001$) and high (slope coefficient = .43, $t(110) = 6.47$, $p < .001$). Accordingly, when the level of stress intensity was low, students with high perceived social support experienced lower levels of depression than those with low perceived social support for students with internal locus of control. However, when the level of stress intensity was high, those with high perceived social support scored higher on depression than those with low perceived social support with internal locus of control.

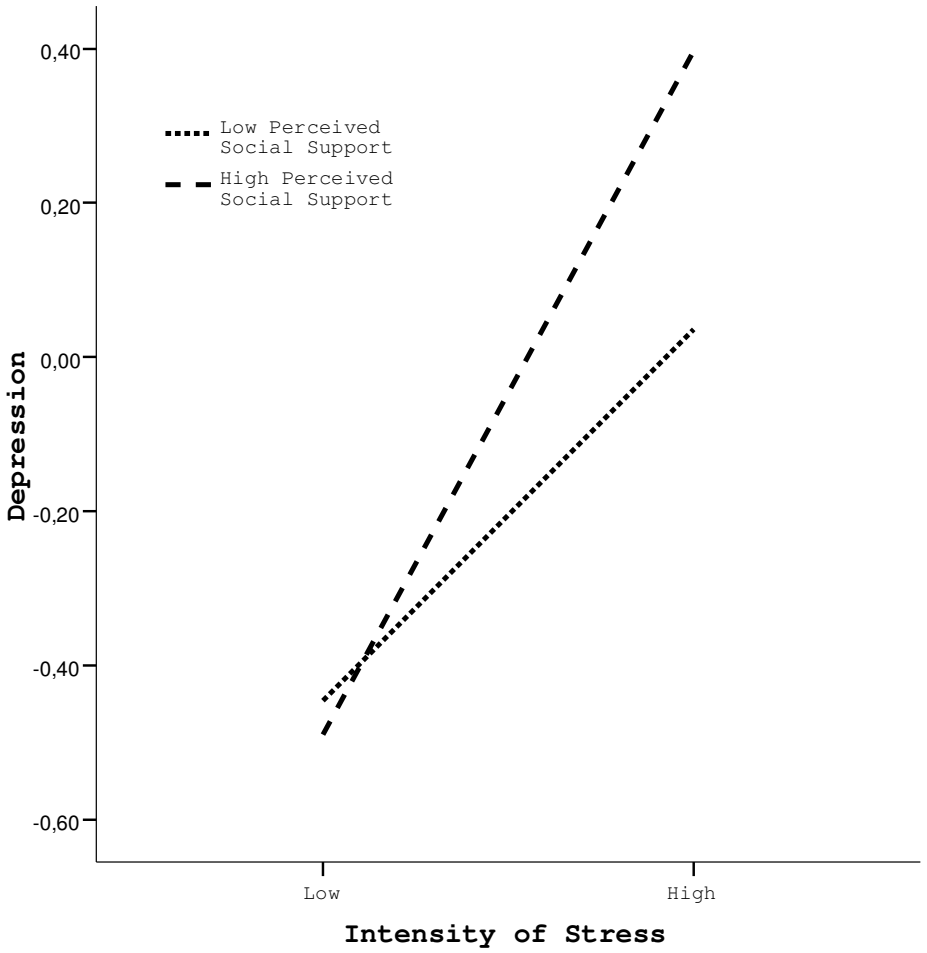

Figure 1.The interaction plot of stress intensity and perceived social support for internal locus of control.

Multiple hierarchical regression was run to find out whether stress intensity and perceived social support predicted depression after controlling for the effect of gender in the first step for external locus of control students. The explained variance of the first step was not significant (R^2 = .02, F_{inc} (1, 108) = 1.63, p >.05). In the second step, with the addition of stress intensity, R^2 resulted in a significant increment and explained 37%

of the variance (R^2 = .39, F_{inc} (1, 107) = 64.80, p < .001). After controlling for the effect of gender, stress intensity predicted depression (β = .615, p < .001) positively. In the third step, the addition of perceived social support contributed to a significant increment in explained variance (R^2 = .41, F_{inc} (1, 106) = 4.24, p < .05). This explained an additional 2% of the variance. After controlling for the effect of gender and stress intensity, perceived social support predicted depression (β = .174, p<.05) positively. In the final step of the regression the interaction of perceived social support and stress intensity was entered into the regression and it was resulted in a significant contribution (R^2 = .47, F_{inc} (1, 105) = 11.09, p < .001). This explained an additional 6% of the variance. The interaction of stress intensity and perceived social support significantly predicted depression, too (β = .262, p < .001).

Figure 2 shows the interaction effect of stress intensity and perceived social support for external locus of control students. The procedures recommended by Cohen, Cohen, West, and Aiken (2003) were used to compute the regression of depression on stress intensity for low (-1.12) and high (1.27) levels of perceived social support. The slope of each regression line was tested to see whether they were statistically significant (Aiken & West, 1991). This analysis revealed that the regression of depression on stress intensity for external locus of control occurred for when both perceived social support was low (slope coefficient = .18, t (106) = 2.27, p < .05) and high (slope coefficient = .54, t (106) = 7.02, p < .001).

Accordingly, when the level of stress intensity was low, students with high perceived social support experienced lower levels of depression than those with low perceived social support for students with external locus of control. However, when the level of stress intensity was high, those with high perceived social support scored higher on depression than those with low perceived social support with external locus of control.

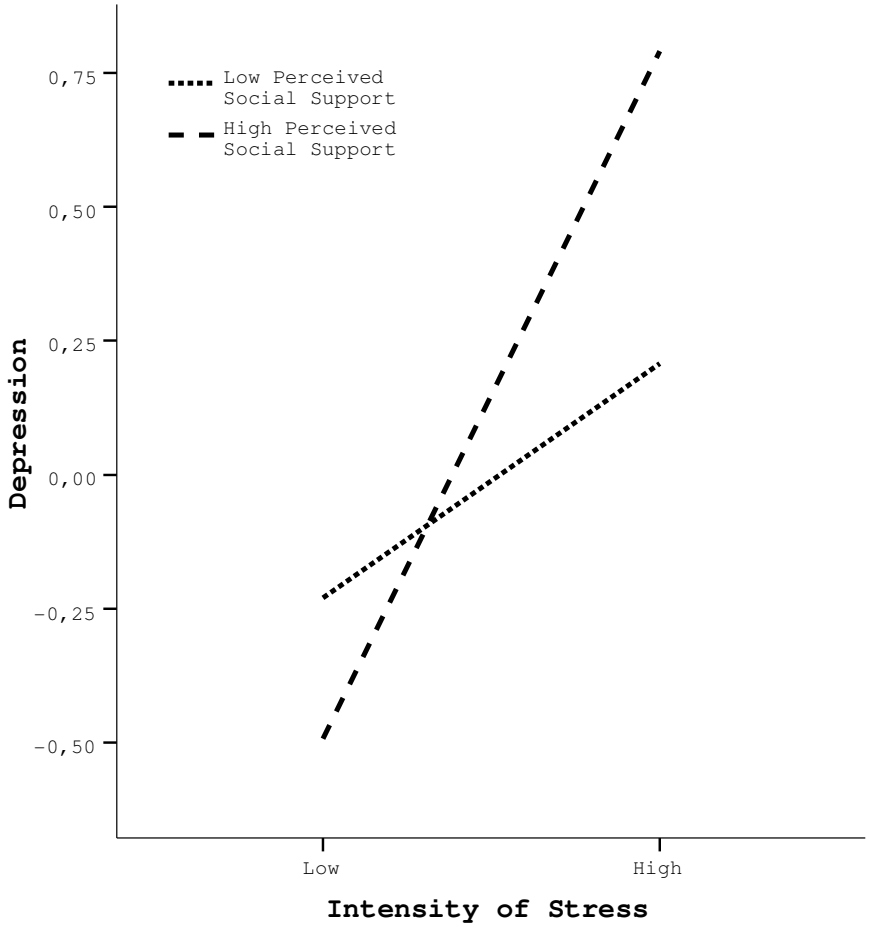

Figure 2. The interaction plot of stress intensity and perceived social support for external locus of control.

Multiple hierarchical regression was run to find out whether stress frequency and perceived social support predicted depression after controlling for the effect of gender in the first step for internal locus of control students. The explained variance of the first step was not significant ($R^2 = .00$, $F_{inc}(1, 112) = .03$, $p > .05$). In the second step, with the addition of stress frequency, R^2 resulted in a significant increment and explained 38% of the variance ($R^2 = .38$, $F_{inc}(1, 111) = 67.86$, $p < .001$). After controlling for the effect of gender, stress frequency predicted depression ($\beta = .622$, $p < .001$) positively. In the third step, the addition of perceived social support contributed to a significant increment in $R^2 = .46$, $F_{inc}(1, 110) = 15.70$, $p < .001$. This explained an additional 8% of the variance. After controlling for the effect of gender and stress frequency, perceived social support predicted depression ($\beta = .317$, $p < .001$) positively. In the final step the interaction of perceived social support and stress frequency entered the regression however could not contribute to the regression significantly ($R^2 = .47$, $F_{inc}(1, 109) = 2.74$, $p > .05$).

Multiple hierarchical regression was run to find out whether stress frequency and perceived social support predicted depression after controlling for the effect of gender in the first step for external locus of control students. The explained variance of the first step was not significant ($R^2 = .02$, $F_{inc}(1, 108) = 1.63$, $p > .05$). In the second step, with the addition of stress frequency, R^2 resulted in a significant increment and explained

36% of the variance, (R^2 = .37, F_{inc} (1, 107) = 60.38, p < .001). After controlling for the effect of gender, stress frequency predicted depression positively (β = .604, p < .001). In the third step, the addition of perceived social support contributed to a significant increment in explained variance (R^2 = .41, F_{inc} (1, 106) = 7.53, p < .01). This explained an additional 4% of the variance. After controlling for the effect of gender and stress frequency, perceived social support predicted depression positively (β = .223, p < .01). In the final step the interaction of perceived social support and stress frequency was entered into the regression however could not contribute to the regression significantly (R^2 = .42, F_{inc} (1, 105) = .54, p > .05).

Multiple hierarchical regression was run to find out whether general stress and perceived social support predicted depression after controlling for the effect of gender in the first step for internal locus of control students. The explained variance of the first step was not significant (R^2 = .00, F_{inc} (1, 112) = .03, p > .05). In the second step, with the addition of general stress, R^2 resulted in a significant increment and explained 39% of the variance (R^2 = .39, F_{inc} (1, 111) = 70.98, p < .001). After controlling for the effect of gender, general stress predicted depression positively (β = .630, p < .001). In the third step, the addition of perceived social support contributed to a significant increment in explained variance (R^2 = .46, F_{inc} (1, 110) = 15.09, p < .001). This explained an additional 7% of the variance. After controlling for the effect of gender and general stress, perceived social support predicted depression positively (β = .310, p < .001). In the final step

the interaction of perceived social support and general stress was entered into the regression and resulted in a significant contribution (R^2 = .45, F_{inc} (1, 109) = 3.91, p < .05). This explained an additional 2% of the variance. The interaction of general stress and perceived social support showed a significant contribution to the regression (β = .152, p < .05).

Figure 3 shows the interaction effect of general stress and perceived social support for internal locus of control students. The procedures recommended by Cohen, Cohen, West, and Aiken (2003) were used to compute the regression of depression on general stress for low (-5.32) and high (4.56) levels of perceived social support. The slope of each regression line was tested to see whether they were statistically significant (Aiken & West, 1991). This analysis revealed that the regression of depression on general stress for internal locus of control occurred for when both perceived social support was low (slope coefficient = .06, t (110) = 4.13, p < .001) and high (slope coefficient = .09, t (110) = 7.29, p < .001). Accordingly, when the level of general stress was low, students with high perceived social support experienced lower levels of depression than those with low perceived social support for students with internal locus of control. However, when the level of general stress was high, those with high perceived social support scored higher on depression than those with low perceived social support with internal locus of control.

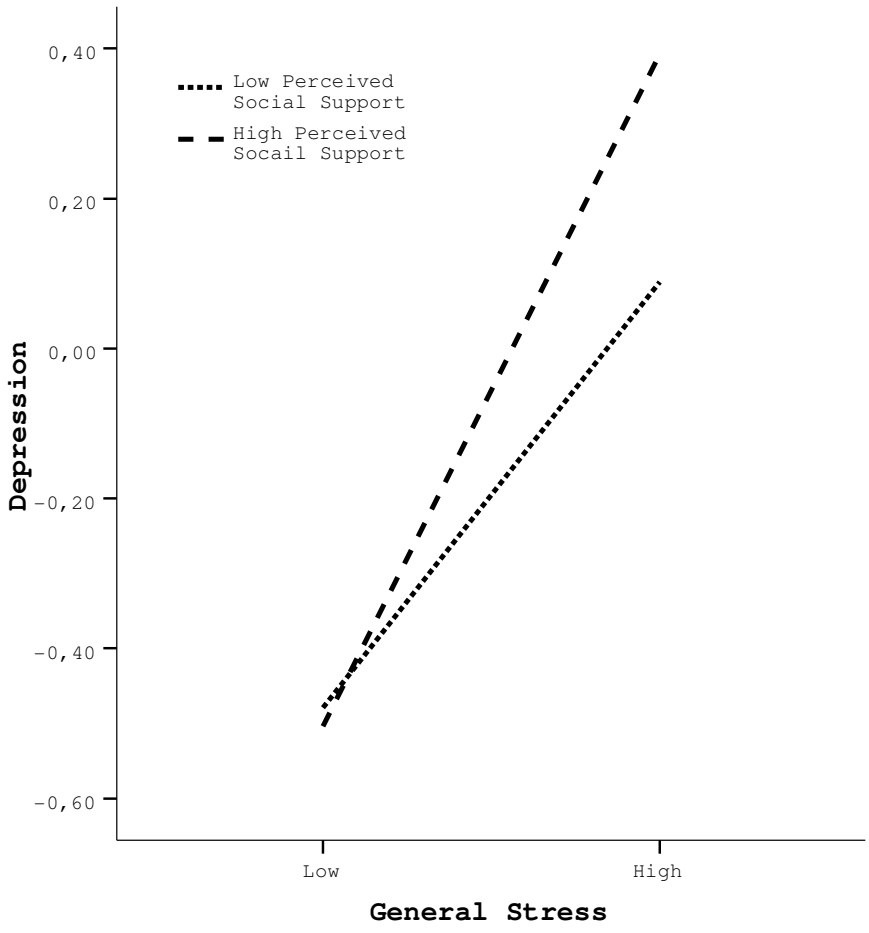

Figure 3.The interaction plot of general stress and perceived social support for internal locus of control.

Multiple hierarchical regression was run to find out whether general stress and perceived social support predicted depression after controlling for the effect of gender in the first step for external locus of control students. The explained variance of the first step was not significant (R^2 = .02, F_{inc} (1, 108) = 1.62, p > .05). In the second step, with the addition of general stress, R^2 resulted in a significant increment and explained 38%

of the variance (R^2 = .40, F_{inc} (1, 107) = 67.44, p < .001). After controlling for the effect of gender, general stress predicted depression positively (β = .623, p < .001). In the third step, the addition of perceived social support contributed to a significant increment in explained variance (R^2 = .42, F_{inc} (1, 106) = 4.60, p < .05). This explained an additional 3% of the variance. After controlling for the effect of gender and general stress, perceived social support predicted depression positively (β = .178, p < .05). In the final step the interaction of perceived social support and general stress entered the regression and resulted in a significant increment in explained variance (R^2 = .44, F_{inc} (1, 105) = 3.84, p < .05). This explained an additional 2% of the variance. The interaction of general stress and perceived social support significantly predicted depression, too (β = .165, p < .05).

Figure 4 shows the interaction effect of general stress and perceived social support for external locus of control students. The procedures recommended by Cohen, Cohen, West, and Aiken (2003) were used to compute the regression of depression on general stress for low (-5.42) and high (6.24) levels of perceived social support. The slope of each regression line was tested to see whether they were statistically significant (Aiken & West, 1991). This analysis revealed that the regression of depression on general stress for external locus of control occurred for when both perceived social support was low (slope coefficient = .05, t (106) = 2.56, p < .05) and high (slope coefficient = .10, t (106) = 6.19, p < .001). Accordingly, when the level of general stress was low, students with high

perceived social support experienced lower levels of depression than those with low perceived social support for students with external locus of control. However, when the level of general stress was high, those with high perceived social support scored higher on depression than those with low perceived social support with external locus of control.

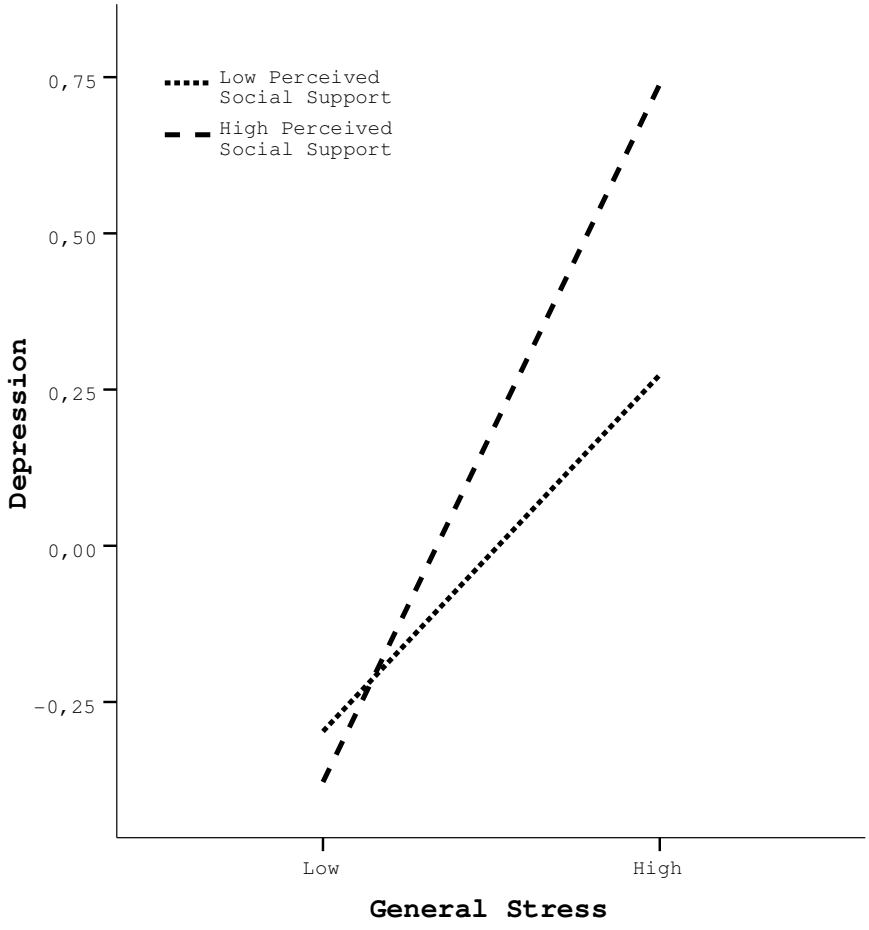

Figure 4. The interaction plot of general stress and perceived social support for external locus of control.

Multiple hierarchical regression was run to find out whether stress intensity and received social support predicted depression after controlling for the effect of gender in the first step for internal locus of control students. The explained variance of the first step was not significant ($R^2 = .00$, $F_{inc}(1, 112) = .03$, $p > .05$). In the second step, with the addition of stress intensity, R^2 resulted in a significant increment and explained 34% of the variance ($R^2 = .34$, $F_{inc}(1, 111) = 55.95$, $p < .001$). After controlling for the effect of gender, stress intensity predicted depression positively ($\beta = .585$, $p < .001$). In the third step received social support ($R^2 = .34$, $F_{inc}(1, 110) = .00$, $p > .05$), and in the final step the interaction of received social support and stress intensity ($R^2 = .35$, $F_{inc}(1, 109) = 2.18$, $p > .05$) entered the regression and did not result in a significant increment in explained variance.

Multiple hierarchical regression was run to find out whether stress intensity and received social support predicted depression after controlling for the effect of gender in the first step for external locus of control students. The explained variance of the first step was not significant ($R^2 = .02$, $F_{inc}(1, 108) = 1.63$, $p > .05$). In the second step, with the addition of stress intensity, R^2 resulted in a significant increment and explained 37% of the variance ($R^2 = .39$, $F_{inc}(1, 107) = 64.80$, $p < .001$). After controlling for the effect of gender, stress intensity predicted depression positively ($\beta = .615$, $p < .001$). In the third step received social support ($R^2 = .39$, $F_{inc}(1, 106) = 1.21$, $p > .05$) and in the final step the interaction of received social

support and stress intensity ($R^2 = .39$, $F_{inc}(1, 105) = .06$, $p > .05$) entered the regression and did not result in a significant increment in explained variance.

Multiple hierarchical regression was run to find out whether stress frequency and received social support predicted depression after controlling for the effect of gender in the first step for internal locus of control students. The explained variance of the first step was not significant ($R^2 = .00$, $F_{inc}(1, 112) = .03$, $p > .05$). In the second step, with the addition of stress frequency, R^2 resulted in a significant increment and explained 38% of the variance ($R^2 = .38$, $F_{inc}(1, 111) = 67.86$, $p < .001$). After controlling for the effect of gender, stress frequency predicted depression positively ($\beta = .622$, $p < .001$). In the third step received social support ($R^2 = .38$, $F_{inc}(1, 110) = .01$, $p > .05$) and in the final step the interaction of received social support and stress frequency ($R^2 = .40$, $F_{inc}(1, 109) = 2.87$, $p > .05$) entered the regression and did not result in a significant increment in explained variance.

Multiple hierarchical regression was run to find out whether stress frequency and received social support predicted depression after controlling for the effect of gender in the first step for external locus of control students. The explained variance of the first step was not significant ($R^2 = .02$, $F_{inc}(1, 108) = 1.63$, $p > .05$). In the second step, with the addition of stress frequency, R^2 resulted in a significant increment and explained 36% of the variance ($R^2 = .37$, $F_{inc}(1, 107) = 60.38$, $p < .001$). After

controlling for the effect of gender, stress frequency predicted depression positively (β = .604, p < .001). In the third step received social support (R^2 = .37, F_{inc} (1, 106) = .69, p > .05) and in the final step the interaction of received social support and stress frequency (R^2 = .38, F_{inc} (1, 105) = .17, p > .05) entered the regression and did not result in a significant increment in explained variance.

Multiple hierarchical regression was run to find out whether general stress and received social support predicted depression after controlling for the effect of gender in the first step for internal locus of control students The explained variance of the first step was not significant (R^2 = .00, F_{inc} (1, 112) = .03, p > .05). In the second step, with the addition of general stress, R^2 resulted in a significant increment and explained 39% of the variance (R^2 = .39, F_{inc} (1, 111) = 70.98, p < .001). After controlling for the effect of gender, general stress predicted depression positively (β = .630, p < .001). In the third step, received social support entered the regression and resulted in no significant increment in explained variance (R^2 = .39, F_{inc} (1, 110) = .00, p > .05). In the final step the interaction of received social support and general stress entered the regression and resulted in significant increment in explained variance (R^2 = .41, F_{inc} (1, 109) = 3.99, p < .05). This explains 2% of the variance. After controlling for the effect of gender, general stress, and received social support, the interaction of received social support and general stress predicted depression negatively (β=-.148, p < .05).

Figure 5 shows the interaction effect of general stress and received social support for internal locus of control students. The procedures recommended by Cohen, Cohen, West, and Aiken (2003) were used to compute the regression of depression on general stress for low (-5.32) and high (4.56) levels of received social support. The slope of each regression line was tested to see whether they were statistically significant (Aiken & West, 1991). This analysis revealed that the regression of depression on general stress for internal locus of control occurred for when both received social support was low (slope coefficient = .11, t (110) = 7.72, $p < .001$) and high (slope coefficient = .07, t (110) = 4.81, $p < .001$ Accordingly, when the level of general stress was low, students with low received social support experienced lower levels of depression than those with high received social support for students with internal locus of control. However, when the level of general stress was high, those with low received social support scored higher on depression than those with high received social support with internal locus of control.

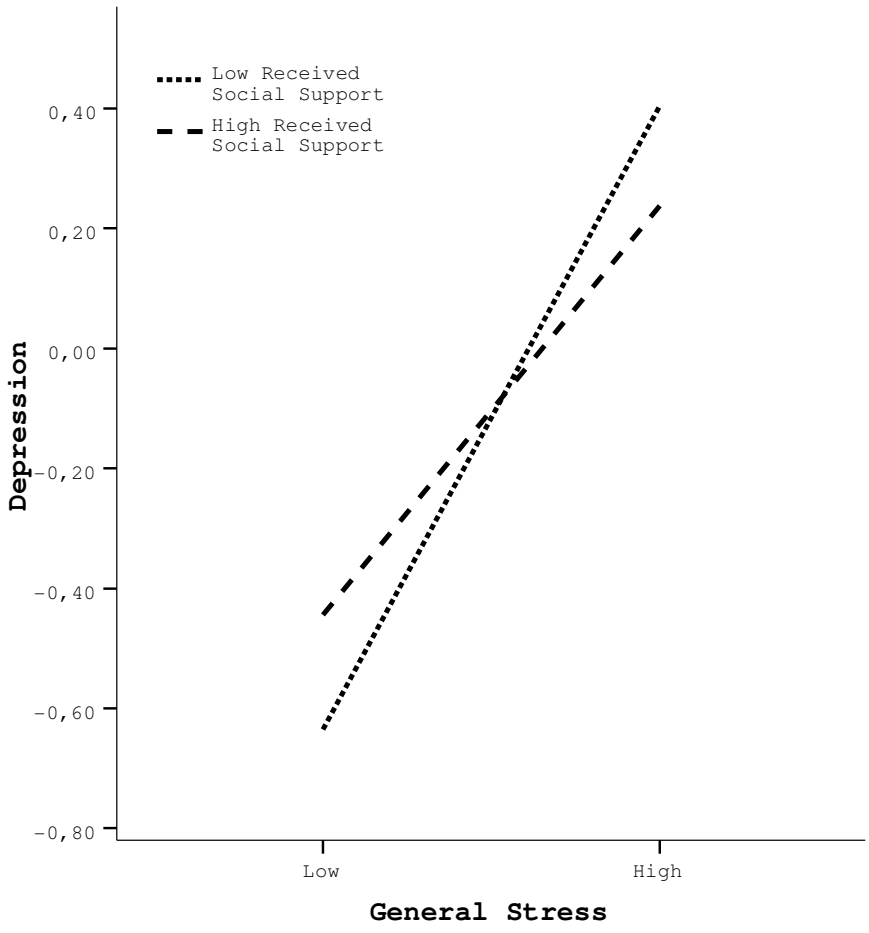

Figure 5.The interaction plot of general stress and received social support for internal locus of control.

Multiple hierarchical regression was run to find out whether general stress and received social support predicted depression after controlling for the effect of gender in the first step for external locus of control students. The explained variance of the first step was not significant ($R^2 = .02$, $F_{inc}(1, 108) = 1.63$, $p > .05$). In the second step, with the addition of general stress, R^2 resulted in a significant increment and explained 38%

of the variance (R^2 = .40, F_{inc} (1, 107) = 67.44, p < .001). After controlling for the effect of gender, general stress predicted depression positively (β = .623, p < .001). In the third step received social support (R^2 = .40, F_{inc} (1, 106) = .98, p > .05) and in the final step the interaction of received social support and general stress (R^2 = .40, F_{inc} (1, 105) = .03, p > .05) entered the regression and did not result in a significant increment in explained variance.

3.2.3. *Predictors of Anxiety*

Multiple hierarchical regression was used to find out whether stress intensity and perceived social support predicted anxiety after controlling for the effect of gender in the first step for internal locus of control students. The explained variance of the first step was not significant (R^2 = .00, F_{inc} (1, 112) = .48, p > .05). In the second step, with the addition of stress intensity, R^2 resulted in a significant increment and explained 29% of the variance (R^2 = .29, F_{inc} (1, 111) = 44.90, p < .001). After controlling for the effect of gender, stress intensity predicted anxiety positively (β = .541, p < .001). In the third step perceived social support (R^2 = .29, F_{inc} (1, 110) = .32, p > .05) and in the final step the interaction of perceived social support and stress intensity (R^2 = .31, F_{inc} (1, 109) = 1.87, p > .05) entered the regression and did not result in a significant increment in explained variance.

Multiple hierarchical regression was run to find out whether stress intensity and perceived social support predicted anxiety after controlling for the effect of gender in the first step for external locus of control students. The explained variance of the first step was not significant ($R^2 = .00$, $F_{inc}(1, 108) = .00$, $p > .05$). In the second step, with the addition of stress intensity, R^2 resulted in a significant increment and explained 28% of the variance ($R^2 = .28$, $F_{inc}(1, 107) = 41.33$, $p < .001$). After controlling for the effect of gender, stress intensity predicted anxiety positively ($\beta = .533$, $p < .001$). In the third step perceived social support ($R^2 = .30$, $F_{inc}(1, 106) = 3, 68$, $p > .05$) and in the final step the interaction of perceived social support and stress intensity ($R^2 = .47$, $F_{inc}(1, 105) = .01$, $p > .05$) entered the regression and did not result in a significant increment in explained variance.

Multiple hierarchical regression was run to find out whether stress frequency and perceived social support predicted anxiety after controlling for the effect of gender in the first step for internal locus of control students. The explained variance of the first step was not significant ($R^2 = .00$, $F_{inc}(1, 112) = .48$, $p > .05$). In the second step, with the addition of stress frequency, R^2 resulted in a significant increment and explained 30% of the variance ($R^2 = .30$, $F_{inc}(1, 111) = 47.67$, $p < .001$). After controlling for the effect of gender, stress frequency predicted anxiety positively ($\beta = .552$, $p < .001$). In the third step perceived social support ($R^2 = .31$, $F_{inc}(1, 110) = .76$, $p > .05$) and in the final step the interaction of

perceived social support and stress frequency (R^2 = .31, F_{inc} (1, 109) = 1.00, p > .05) entered the regression and did not result in a significant increment in explained variance.

Multiple hierarchical regression was run to find out whether stress frequency and perceived social support predicted anxiety after controlling for the effect of gender in the first step for external locus of control students. The explained variance of the first step was not significant (R^2 = .00, F_{inc} (1, 108) = .00, p > .05). In the second step, with the addition of stress frequency, R^2 resulted in a significant increment and explained 29% of the variance (R^2 = .29, F_{inc} (1, 107) = 44.39, p < .001). After controlling for the effect of gender, stress frequency predicted anxiety positively (β = .548, p < .001). In the third step perceived social support (R^2 = .31, F_{inc} (1, 106) = 1.87, p > .05) and in the final step the interaction of perceived social support and stress frequency (R^2 = .31, F_{inc} (1, 105) = .66, p > .05) entered the regression and did not result in a significant increment in explained variance.

Multiple hierarchical regression was run to find out whether general stress and perceived social support predicted anxiety after controlling for the effect of gender in the first step for internal locus of control students. The explained variance of the first step was not significant (R^2 = .00, F_{inc} (1, 112) = .48, p > .05). In the second step, with the addition of general stress, R^2 resulted in a significant increment and explained 32% of the variance (R^2 = .33, F_{inc} (1, 111) = 53.36, p < .001). After controlling

for the effect of gender, general stress predicted anxiety positively (β = .573, p < .001). In the third step perceived social support (R^2 = .33, F_{inc} (1, 110) = 1, 10, p > .05) and in the final step the interaction of perceived social support and general stress (R^2 = .34, F_{inc} (1, 109) = 1.53, p > .05) entered the regression and did not result in a significant increment in explained variance.

Multiple hierarchical regression was run to find out whether general stress and perceived social support predicted anxiety after controlling for the effect of gender in the first step for external locus of control students. The explained variance of the first step was not significant (R^2 = .00, F_{inc} (1, 108) = .00, p > .05). In the second step with the addition of general stress R^2 resulted in a significant increment and explained 30% of the variance (R^2 = .30, F_{inc} (1, 107) = 45.76, p < .001). After controlling for the effect of gender, general stress predicted anxiety positively (β = .552, p < .001). In the third step perceived social support (R^2 = .32, F_{inc} (1, 106) = 3, 76, p > .05) and in the final step the interaction of perceived social support and general stress (R^2 = .32, F_{inc} (1, 105) = .55, p > .05) entered the regression and did not result in a significant increment in explained variance.

Multiple hierarchical regression was run to find out whether stress intensity and received social support predicted anxiety after controlling for the effect of gender in the first step for internal locus of control students. The explained variance of the first step was not significant

(R^2 = .00, F_{inc} (1, 112) = .48, p > .05). In the second step, with the addition of stress intensity, R^2 resulted in a significant increment and explained 29% of the variance (R^2 = .29, F_{inc} (1, 111) = 44.90, p < .001). After controlling for the effect of gender, stress intensity predicted anxiety positively (β=.541, p < .001). In the third step the addition of received social support contributed to a significant increment and explained 4% of the variance (R^2 = .33, F_{inc} (1, 110) = 6.68, p < .05). After controlling for the effect of gender and stress intensity, received social support predicted anxiety positively (β = .211, p < .05). In the final step the interaction of received social support and stress intensity (R^2 = .34, F_{inc} (1, 109) = .58, p > .05) entered the regression and did not result in a significant contribution.

Multiple hierarchical regression was run to find out whether stress intensity and received social support predicted anxiety after controlling for the effect of gender in the first step for external locus of control students. The explained variance of the first step was not significant (R^2 = .00, F_{inc} (1, 108) = .00, p > .05). In the second step, with the addition of stress intensity, R^2 resulted in a significant increment and explained 28% of the variance (R^2 = .28, F_{inc} (1, 107) = 41.33, p < .001). After controlling for the effect of gender, stress intensity predicted anxiety positively (β = .533, p < .001). In the third step the addition of received social support contributed to a significant increment in the explained variance (R^2 = .34, F_{inc} (1, 106) = 8.98, p < .01). This explained an additional 6% of the variance. After controlling for the effect of gender and stress intensity,

received social support predicted anxiety positively ($\beta = .247$, $p < .01$). In the final step the interaction of received social support and stress intensity ($R^2 = .36$, $F_{inc}(1, 105) = 3.65$, $p > .05$) entered the regression and did not result in a significant contribution.

Multiple hierarchical regression was run to find out whether stress frequency and received social support predicted anxiety after controlling for the effect of gender in the first step for internal locus of control students. The explained variance of the first step was not significant ($R^2 = .00$, $F_{inc}(1, 112) = ,48$, $p > .05$). In the second step, with the addition of stress frequency, R^2 resulted in a significant increment and explained 30% of the variance ($R^2 = .30$, $F_{inc}(1, 111) = 47.67$, $p < .001$). After controlling for the effect of gender, stress frequency predicted anxiety positively ($\beta = .552$, $p < .001$). In the third step the addition of received social support contributed to a significant increment in explained variance ($R^2 = .34$, $F_{inc}(1, 110) = 6.26$, $p < .05$). This explained an additional 4% of the variance. After controlling for the effect of gender and stress frequency, received social support predicted anxiety positively ($\beta = .203$, $p < .05$). In the final step the interaction of received social support and stress frequency ($R^2 = .34$, $F_{inc}(1, 109) = .54$, $p > .05$) entered the regression however could not contribute to the regression significantly.

Multiple hierarchical regression was run to find out whether stress frequency and received social support predicted anxiety after controlling for the effect of gender in the first step for external locus of

control students. The explained variance of the first step was not significant (R^2 = .00, F_{inc} (1, 108) = .00, p > .05). In the second step, with the addition of stress frequency, R^2 resulted in a significant increment and explained 29% of the variance (R^2 = .29, F_{inc} (1, 107) = 44.39, p < .001). After controlling for the effect of gender, stress frequency predicted anxiety positively (β = .548, p < .001). In the third step the addition of received social support contributed to a significant increment in the explained variance (R^2 = .36, F_{inc} (1, 106) = 10.77, p < .001). This explained an additional 7% of the variance. After controlling for the effect of gender and stress frequency, received social support predicted anxiety positively (β = .266, p < .001). In the final step the interaction of received social support and stress frequency (R^2 = .37, F_{inc} (1, 105) = 1.56, p > .05) entered the regression however could not contribute to the regression significantly.

Multiple hierarchical regression was run to find out whether general stress and received social support predicted anxiety after controlling for the effect of gender in the first step for internal locus of control students The explained variance of the first step was not significant (R^2 = .00, F_{inc} (1, 112) = .48, p > .05). In the second step, with the addition of general stress, R^2 resulted in a significant increment and explained 32% of the variance (R^2 = .33, F_{inc} (1, 111) = 53.36, p < .001). After controlling for the effect of gender, general stress predicted anxiety positively (β = .573, p < .001). In the third step the addition of received social support contributed to a significant increment in the explained variance (R^2 = .37, F_{inc} (1, 110) =

6.84, $p < .01$). This explained an additional 4% of the variance. After controlling for the effect of gender and general stress, received social support predicted anxiety positively ($\beta = .208$, $p < .01$). In the final step the interaction of received social support and stress frequency ($R^2 = .37$, $F_{inc}(1, 109) = .30$, $p > .05$) entered the regression, however, the interaction term did not contribute to the regression significantly.

Multiple hierarchical regression was run to find out whether general stress and received social support predicted anxiety after controlling for the effect of gender in the first step for external locus of control students. The explained variance of the first step was not significant ($R^2 = .00$, $F_{\text{inc}}(1, 108) = .00$, $p > .05$). In the second step, with the addition of general stress, R^2 resulted in a significant increment and explained 30% of the variance ($R^2 = .30$, $F_{inc}(1, 107) = 47.76$, $p < .001$). After controlling for the effect of gender, general stress predicted anxiety positively ($\beta = .552$, $p < .001$). In the third step the addition of received social support contributed to a significant increment in the explained variance ($R^2 = .36$, $F_{inc}(1, 106) = 9.95$, $p < .01$). This explained an additional 6% of the variance. After controlling for the effect of gender and general stress, received social support predicted anxiety positively ($\beta = .256$ $p < .01$). In the final step the interaction of received social support and general stress ($R^2 = .37$, $F_{inc}(1, 105) = 1.24$, $p > .05$) entered the regression, however, it did not contribute to the regression significantly.

3.2.4. *Predictors of General Physical Health Problems*

Multiple hierarchical regression was used to find out whether stress intensity and perceived social support predicted general physical health problems after controlling for the effect of gender in the first step for internal locus of control students. The explained variance of the first step was not significant ($R^2 = .00$, $F_{inc}(1, 112) = .39$, $p > .05$). In the second step, with the addition of stress intensity, R^2 resulted in a significant increment and explained 46% of the variance ($R^2 = .46$, $F_{inc}(1, 111) = 94.15$, $p < .001$). After controlling for the effect of gender, stress intensity predicted general physical health problems positively ($\beta = .683$, $p < .001$). In the third step the addition of perceived social support contributed to a significant increment in the explained variance ($R^2 = .49$, $F_{inc}(1, 110) = 5.66$, $p < .05$). This explained an additional 3% of the variance. After controlling for the effect of gender and stress intensity, perceived social support predicted general physical health problems positively ($\beta = .183$, $p < .05$). In the final step the interaction of perceived social support and stress intensity ($R^2 = .48$, $F_{inc}(1, 109) = .17$, $p > .05$) entered the regression and did not result in a significant increment in R^2.

Multiple hierarchical regression was run to find out whether stress intensity and perceived social support predicted general physical health problems after controlling for the effect of gender in the first step for external locus of control students. The explained variance of the first step

was not significant ($R^2 = .00$, $F_{inc}(1, 108) = .16$, $p > .05$). In the second step, with the addition of stress intensity, R^2 resulted in a significant increment and explained 51% of the variance ($R^2 = .51$, $F_{inc}(1, 107) = 110.11$, $p < .001$). After controlling for the effect of gender, stress intensity predicted general physical health problems positively ($\beta = .718$, $p < .001$). In the third step perceived social support ($R^2 = .51$, $F_{inc}(1, 106) = .58$, $p > .05$) and in the final step the interaction of perceived social support and stress intensity ($R^2 = .51$, $F_{inc}(1, 105) = .43$, $p > .05$) entered the regression and did not result in a significant increment in the explained variance.

Multiple hierarchical regression was run to find out whether stress frequency and perceived social support predicted general physical health problems after controlling for the effect of gender in the first step for internal locus of control students. The explained variance of the first step was not significant ($R^2 = .00$, $F_{inc}(1, 112) = .39$, $p > .05$). In the second step, with the addition of stress frequency, R^2 resulted in a significant increment and explained 46% of the variance ($R^2 = .47$, $F_{inc}(1, 111) = 96.89$, $p < .001$). After controlling for the effect of gender, stress frequency predicted general physical health problems positively ($\beta = .688$, $p < .001$). In the third step the addition of perceived social support contributed to a significant increment in the explained variance ($R^2 = .49$, $F_{inc}(1, 110) = 4.14$, $p < .05$). This explained an additional 2% of the variance. After controlling for the effect of gender and stress frequency, perceived social support predicted general physical health problems positively ($\beta = .158$, $p < .05$). In the final step the

interaction of perceived social support and stress frequency (R^2 = .49, F_{inc} (1, 109) = .00, p > .05) entered the regression and did not result in a significant increment in the explained variance.

Multiple hierarchical regression was run to find out whether stress frequency and perceived social support predicted general physical health problems after controlling for the effect of gender in the first step for external locus of control students. The explained variance of the first step was not significant (R^2 = .00, F_{inc} (1, 108) = .16, p > .05). In the second step with the addition of stress frequency R^2 resulted in a significant increment and explained 56% of the variance (R^2 = .56, F_{inc} (1, 107) = 134.66, p < .001). After controlling for the effect of gender, stress frequency predicted general physical health problems positively (β = .755, p < .001). In the third step perceived social support (R^2 = .57, F_{inc} (1, 106) = 2.32, p > .05) and in the final step the interaction of perceived social support and stress frequency (R^2 = .57, F_{inc} (1, 105) = .11, p > .05) entered the regression and did not result in a significant increment in the explained variance.

Multiple hierarchical regression was run to find out whether general stress and perceived social support predicted general physical health problems after controlling for the effect of gender in the first step for internal locus of control students. The explained variance of the first step was not significant (R^2 = .00, F_{inc} (1, 112) = .39, p > .05). In the second step, with the addition of general stress, R^2 resulted in a significant increment and explained 50% of the variance (R^2 = .50, F_{inc} (1, 111) = 112.21, p < .001).

After controlling for the effect of gender, general stress predicted general physical health problems positively ($\beta = .714$, $p < .001$). In the third step perceived social support ($R^2 = .52$, $F_{inc}(1, 110) = 3.53$, $p > .05$) and in the final step the interaction of perceived social support and general stress ($R^2 = .52$, $F_{inc}(1, 109) = .00$, $p > .05$) entered the regression and did not result in a significant increment in explained variance.

Multiple hierarchical regression was run to find out whether general stress and perceived social support predicted general physical health problems after controlling for the effect of gender in the first step for external locus of control students. The explained variance of the first step was not significant ($R^2 = .00$, $F_{inc}(1, 108) = .16$, $p > .05$). In the second step, with the addition of general stress, R^2 resulted in a significant increment and explained 57% of the variance ($R^2 = .57$, $F_{inc}(1, 107) = 142.92$, $p < .001$). After controlling for the effect of gender, general stress predicted general physical health problems positively ($\beta = .763$, $p < .001$). In the third step perceived social support($R^2 = .57$, $F_{inc}(1, 106) = .46$, $p > .05$) and in the final step the interaction of perceived social support and general stress($R^2 = .58$, $F_{inc}(1, 105) = .15$, $p > .05$) entered the regression and did not result in a significant increment in explained variance.

Multiple hierarchical regression was run to find out whether stress intensity and received social support predicted general physical health problems after controlling for the effect gender in the first step for internal locus of control students. The explained variance of the first step was not

significant (R^2 = .00, F_{inc} (1, 112) = .39, p > .05). In the second step, with the addition of stress intensity, R^2 resulted in a significant increment and explained 46% of the variance (R^2 = .46, F_{inc} (1, 111) = 94.15, p < .001). After controlling for the effect of gender, stress intensity predicted general physical health problems positively (β = .683, p < .001). In the third step received social support (R^2 = .46, F_{inc} (1, 110) = .00, p > .05) and in the final step the interaction of received social support and stress intensity (R^2 = .46, F_{inc} (1, 109) = .03, p > .05) entered the regression and did not result in a significant increment in explained variance.

Multiple hierarchical regression was run to find out whether stress intensity and received social support predicted general physical health problems after controlling for the effect of gender in the first step for external locus of control students. The explained variance of the first step was not significant (R^2 = .00, F_{inc} (1, 108) = .16, p > .05). In the second step, with the addition of stress intensity, R^2 resulted in a significant increment and explained 51% of the variance (R^2 = .51, F_{inc} (1, 107) = 110.11, p < .001). After controlling for the effect of gender, stress intensity predicted general physical health problems positively (β = .718, p < .001). In the third step received social support (R^2 = .51, F_{inc} (1, 106) = 1.23, p > .05) and in the final step the interaction of received social support and stress intensity (R^2 = .53, F_{inc} (1, 105) = 2.93, p > .05) entered the regression and did not result in a significant increment in explained variance.

Multiple hierarchical regression was run to find out whether stress frequency and received social support predicted general physical health problems after controlling for the effect of gender in the first step for internal locus of control students. The explained variance of the first step was not significant ($R^2 = .00$, $F_{inc}(1, 112) = .39$, $p > .05$). In the second step, with the addition of stress frequency, R^2 resulted in a significant increment and explained 46% of the variance ($R^2 = .47$, $F_{inc}(1, 111) = 96.89$, $p < .001$). After controlling for the effect of gender, stress frequency predicted general physical health problems positively ($\beta = .688$, $p < .001$). In the third step received social support ($R^2 = .47$, $F_{inc}(1, 110) = .02$, $p > .05$) and in the final step the interaction of received social support and stress intensity ($R^2 = .47$, $F_{inc}(1, 109) = .15$, $p > .05$) entered the regression and did not result in a significant increment in explained variance.

Multiple hierarchical regression was run to find out whether stress frequency and received social support predicted general physical health problems after controlling for the effect of gender in the first step for external locus of control students. The explained variance of the first step was not significant ($R^2 = .00$, $F_{inc}(1, 108) = .16$, $p > .05$). In the second step, with the addition of stress frequency, R^2 resulted in a significant increment and explained 56% of the variance ($R^2 = .56$, $F_{inc}(1, 107) = 134.66$, $p < .001$). After controlling for the effect of gender, stress frequency predicted general physical health problems positively ($\beta = .755$, $p < .001$). In the third step the addition of received social support ($R^2 = .57$, $F_{inc}(1, 106) = 2.44$, p

> .05) resulted in no significant increment in the explained variance. In the final step the interaction of received social support and stress frequency entered the regression and resulted in a significant increment in explained variance (R^2 = .59, F_{inc} (1, 105) = 4.28, p < .05). This explained an additional 2% of the variance. After controlling for the effect of gender, stress frequency, and received social support, the interaction of received social support and stress frequency predicted general physical health problems positively (β=. 136, p < .05).

Figure 6 shows the interaction effect of stress frequency and received social support for external locus of control students. The procedures recommended by Cohen, Cohen, West, and Aiken (2003) were used to compute the regression of general physical health problems on stress frequency for low (-1.06) and high (1.22) levels of received social support. The slope of each regression line was tested to see whether they were statistically significant (Aiken & West, 1991). This analysis revealed that the regression of general physical health problems on stress frequency for external locus of control occurred for when both received social support was low (slope coefficient = .77, t (106) = 7.18, p < .001) and high (slope coefficient = 1.11, t (106) = 9.05, p < .001). Accordingly, when the level of stress frequency was low, students with high received social support experienced lower levels of general physical health problems than those with low received social support for students with external locus of control. However, when the level of stress frequency was high, those with high

received social support scored higher on general physical health problems than those with low received social support with external locus of control.

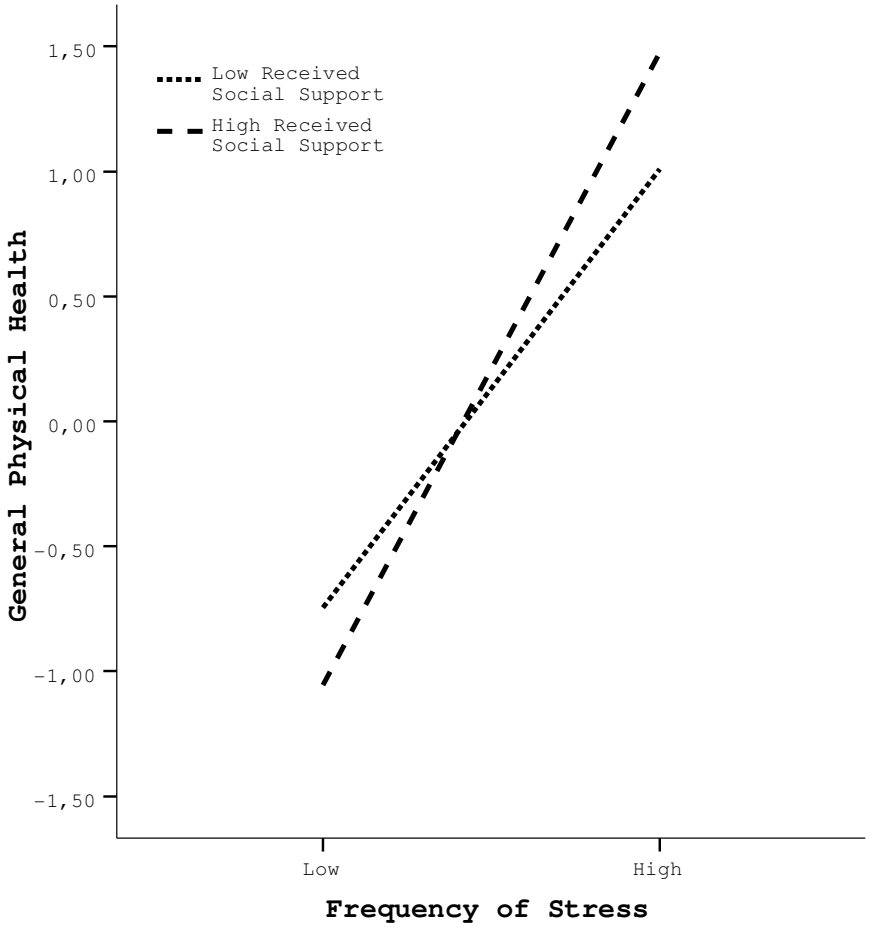

Figure 6. The interaction plot of stress frequency and received social support for external locus of control.

Multiple hierarchical regression was run to find out whether general stress and received social support predicted general physical health problems after controlling for the effect of gender in the first step for

internal locus of control students. The explained variance of the first step was not significant (R^2 = .00, F_{inc} (1, 112) = .39, p > .05). In the second step, with the addition of general stress, R^2 resulted in a significant increment and explained 50% of the variance (R^2 = .50, F_{inc} (1, 111) = 112.21, p < .001). After controlling for the effect of gender, general stress predicted general physical health problems positively (β = .714, p < .001). In the third step received social support (R^2 = .50, F_{inc} (1, 110) = .00, p >.05) and in the final step the interaction of received social support and general stress (R^2 = .50, F_{inc} (1, 109) = .00, p >.05) entered the regression and did not result in a significant increment in explained variance.

Multiple hierarchical regression was run to find out whether general stress and received social support predicted general physical health problems after controlling for the effect of gender in the first step for external locus of control students. The explained variance of the first step was not significant (R^2 = .00, F_{inc} (1, 108) = .16, p >.05). In the second step, with the addition of general stress, R^2 resulted in a significant increment and explained 57% of the variance (R^2 = .57, F_{inc} (1, 107) = 142.92, p < .001). After controlling for the effect of gender, general stress predicted general physical health problems positively (β = .763, p < .001). In the third step received social support (R^2 = .58, F_{inc} (1, 106) = 1.87, p > .05) and in the final step the interaction of received social support and general stress (R^2 = .58, F_{inc} (1, 105) = .98, p > .05) entered the regression and did not result in a significant increment in explained variance.

The summary of all results are presented in Table 11. The crossing points show the significant effects. The 4th column shows the significant interaction effects between the specific stress types and the specific types of social support.

Table 10

Predictors of Depression, Anxiety, and General Physical Health Problems

Predictors of Depression

		Internal Locus of Control					External Locus of Control				
		B	SE B	β	ΔR^2	ΔF	B	SE B	β	ΔR^2	ΔF
1.	Gender	-.01	.07	-.02	.01	.03	.11	.09	.12	.02	1.63
2.	Stress Intensity(SI)	.40	.05	.59***	.34	55.95***	.45	.06	.62***	.37	64.80***
3.	Perceived Social Support(PSS)	.12	.03	.35***	.10	18.38***	.06	.03	.17*	.02	4.24*
4.	SI X PSS	.10	.05	.16*	.02	4.21*	.13	.04	.26***	.06	11.09***
1.	Gender	-.01	.07	-.02	.01	.03	.11	.09	.12	.02	1.63
2.	Stress Frequency(SF)	.42	.05	.62***	.38	67.86***	.47	.06	.60***	.37	60.38***
3.	Perceived Social Support(PSS)	.11	.03	.32***	.46	15.70***	.07	.03	.22**	.41	7.53**
4.	SF X PSS	.07	.04	.13	.47	2.74	.03	.05	.06	.42	.54
1.	Gender	-.01	.07	-.02	.01	.03	.11	.09	.12	.02	1.63
2.	General Stress(GS)	.09	.01	.63***	.39	70.98***	.09	.01	.62***	.40	67.44***
3.	Perceived Social Support(PSS)	.10	.03	.31***	.46	15.10***	.06	.03	.18*	.42	4.60*
4.	GS X PSS	.02	.01	.15*	.48	3.91*	.02	.01	.17*	.44	3.84*

Note. * $p < .05$, ** $p < .01$, *** $p < .001$.

Table 10 (cont.)

Predictors of Depression (cont.)

		Internal Locus of Control					External Locus of Control				
		B	SE B	β	ΔR^2	ΔF	*B*	*SE B*	β	ΔR^2	ΔF
1.	Gender	-.01	.07	-.02	.01	.03	.11	.09	.12	.02	1.63
2.	Stress Intensity(SI)	.40	.05	.59***	.34	55.95***	.46	.06	.62***	.39	67.80***
3.	Received Social Support(RSS)	.01	.04	.01	.34	.01	-.05	.05	-.09	.39	1.21
4.	SI X RSS	-.09	.06	-.12	.35	2.18	.02	.08	.02	.39	.06
1.	Gender	-.01	.07	-.02	.01	.03	.11	.09	.12	.02	1.63
2.	Stress Frequency(SF)	.42	.05	.62***	.38	67.86***	.47	.06	.60***	.37	60.38***
3.	Received Social Support(RSS)	.01	.03	-.10	.38	.01	-.04	.05	-.07	.37	.69
4.	SF X RSS	-.10	.06	-.13	.40	2.87	.03	.08	.03	.38	.17
1.	Gender	-.01	.07	-.02	.01	.03	.11	.09	.12	.02	1.63
2.	General Stress(GS)	.09	.01	.63***	.39	70.98***	.09	.01	.62***	.40	67.44***
3.	Received Social Support(RSS)	.01	.03	.01	.39	.01	-.05	.05	-.08	.40	.98
4.	GS X RSS	-.02	.01	-.15*	.41	3.99*	.01	.02	-.01	.40	.03

Note. * $p < .05$, ** $p < .01$, *** $p < .001$.

Table 10 (cont.)

Predictors of Anxiety										
		Internal Locus of Control					External Locus of Control				
		B	SE B	β	ΔR^2	ΔF	B	SE B	β	ΔR^2	ΔF
1.	Gender	-.06	.09	-.06	.01	.48	.01	.11	.01	.01	.01
2.	Stress Intensity(SI)	.50	.07	.54***	.29	44.90***	.49	.08	.53***	.28	41.33***
3.	Perceived Social Support(PSS)	-.02	.04	-.05	.29	.32	-.07	.04	-.18	.30	3.68
4.	SI X PSS	.10	.07	.12	.31	1.87	.01	.06	.01	.30	.01
1.	Gender	-.06	.09	-.07	.01	.48	.01	.11	.01	.01	.01
2.	Stress Frequency(SF)	.50	.07	.55***	.30	47.67***	.53	.08	.55***	.29	44.39***
3.	Perceived Social Support(PSS)	-.04	.04	-.08	.31	.76	-.05	.04	-.12	.31	1.87
4.	SF X PSS	.06	.06	.09	.31	1.00	-.05	.06	-.07	.31	.66
1.	Gender	-.06	.09	-.07	.01	.48	.01	.11	.01	.01	.01
2.	General Stress(GS)	.11	.02	.57***	.33	53.36***	.11	.02	.55***	.30	45.76***
3.	Perceived Social Support(PSS)	-.04	.04	-.09	.33	1.10	-.07	.04	-.17	.32	3.76
4.	GS X PSS	.02	.01	.11	.34	1.53	-.01	.01	-.07	.33	.55

Note. * $p < .05$, ** $p < .01$, *** $p < .001$.

Table 10 (cont.)

Predictors of Anxiety (cont.)

		Internal Locus of Control					External Locus of Control				
		B	SE B	β	ΔR^2	ΔF	B	SE B	β	ΔR^2	ΔF
1.	Gender	-.06	.09	-.07	.01	.48	.01	.11	.01	.01	.01
2.	Stress Intensity(SI)	.50	.07	.54***	.29	44.90***	.50	.08	.53***	.28	41.33***
3.	Received Social Support(RSS)	.12	.05	.21*	.33	6.68*	.19	.06	.25**	.34	8.98**
4.	SI X RSS	.06	.06	.06	.34	.58	.18	.10	.16	.36	3.65
1.	Gender	-.06	.09	-.07	.01	.48	.10	.11	.01	.01	.01
2.	Stress Frequency(SF)	.50	.07	.55***	.30	47.67***	-.11	.08***	.55	.29	44.39***
3.	Received Social Support(RSS)	.12	.05	.20*	.34	6.26*	-.23	.06***	.27	.36	10.77***
4.	SF X RSS	.06	.08	.06	.34	.54	-.22	.10	.10	.37	1.56
1.	Gender	-.06	.09	-.07	.01	.48	.01	.11	.01	.01	.01
2.	General Stress(GS)	.11	.02	.57***	.33	53.36***	.11	.02	.55***	.30	45.76***
3.	Received Social Support(RSS)	.12	.05	.21**	.37	6.84**	.20	.06	.26**	.36	9.95**
4.	GS X RSS	.01	.02	.04	.37	.30	.02	.02	.09	.37	1.24

Note. * $p < .05$, ** $p < .01$, *** $p < .001$.

Table 10 (cont.)

Predictors of General Physical Health Problems

		Internal Locus of Control					External Locus of Control				
		B	SE B	β	ΔR^2	ΔF	B	SE B	β	ΔR^2	ΔF
1.	Gender	-.07	.12	-.06	.01	.39	.06	.14	.04	.01	.16
2.	Stress Intensity(SI)	.84	.09	.68***	.46	94.15***	.87	.08	.72***	.51	110.11***
3.	Perceived Social Support(PSS)	.11	.05	.18*	.49	5.66*	.03	.04	.06	.51	.59
4.	SI X PSS	.03	.08	.03	.49	.17	.04	.06	.05	.51	.43
1.	Gender	-.07	.12	-.06	.01	.39	.06	.14	.04	.01	.16
2.	Stress Frequency(SF)	.84	.09	.69***	.47	96.89***	.95	.08	.76***	.56	134.66***
3.	Perceived Social Support(PSS)	.10	.05	.16*	.49	4.14*	.06	.04	.11	.57	2.32
4.	SF X PSS	.03	.07	.01	.49	.01	-.02	.06	-.02	.57	.11
1.	Gender	-.07	.12	-.06	.01	.39	.08	.14	.04	.01	.16
2.	General Stress(GS)	.18	.02	.71***	.50	112.21***	.19	.02	.76***	.57	142.92***
3.	Perceived Social Support(PSS)	.09	.05	.14	.52	3.53	.03	.04	.05	.57	.46
4.	GS X PSS	.01	.01	.01	.52	.01	-.01	.01	-.03	.58	.15

Note. * $p < .05$, ** $p < .01$, *** $p < .001$.

Table 10 (cont.)

Predictors of General Physical Health Problems (cont.)

		Internal Locus of Control					External Locus of Control				
		B	SE B	β	ΔR^2	ΔF	B	SE B	β	ΔR^2	ΔF
1.	Gender	-.07	.12	-.06	.01	.39	.06	.14	.04	.01	.16
2.	Stress Intensity(SI)	.84	.09	.68***	.46	94.15***	.87	.08	.72***	.51	110.11***
3.	Received Social Support(RSS)	.01	.06	.01	.46	.01	.08	.07	.08	.51	1.23
4.	SI X RSS	.02	.10	.01	.46	.03	.19	.11	.12	.53	2.93
1.	Gender	-.06	.12	-.06	.01	.39	.06	.14	.04	.01	.16
2.	Stress Frequency(SF)	.84	.09	.69***	.47	96.89***	.95	.08	.76***	.56	134.66***
3.	Received Social Support(RSS)	-.01	.06	-.01	.47	.02	.10	.07	.10	.57	2.44
4.	SF X RSS	.04	.10	.03	.47	.15	.23	.11	.14*	.59	4.28*
1.	Gender	-.07	.12	-.06	.01	.39	.06	.14	.04	.01	.16
2.	General Stress(GS)	.18	.02	.71***	.50	112.21***	.19	.02	.76***	.57	142.92***
3.	Received Social Support(RSS)	.01	.05	.01	.50	.01	.09	.07	.09	.58	1.87
4.	GS X RSS	.01	.02	.01	.50	.01	.02	.02	.07	.58	.98

Note. * $p<.05$, ** $p<.01$, *** $p<.001$.

Table 11

Summary of the Results

		Internal Locus of Control				External Locus of Control			
Depression		1.	2.	3.	4.	1.	2.	3.	4.
1. Stress Intensity		***				***			
2. Stress Frequency			***				***		
3. General Stress				***				***	
4. Perceived Social Support	SI	***			*	*			***
	SF		***		ns		**		ns
	GS			***	*			*	*
Anxiety									
1. Stress Intensity		***				***			
2. Stress Frequency			***				***		
3. General Stress				***				***	
4. Perceived Social Support	SI	ns			ns	ns			ns
	SF		ns		ns		ns		ns
	GS			ns	ns			ns	ns
General Physical Health Problems									
1. Stress Intensity		***				***			
2. Stress Frequency			***				***		
3. General Stress				***				***	
4. Perceived Social Support	SI	*			ns	ns			ns
	SF		*		ns		ns		ns
	GS			ns	ns			ns	ns

Note. * $p<.05$, ** $p<.01$, *** $p<.001$, ns not significant.

Table 11 (cont.)

Summary of the Results (cont.)

		Internal Locus of Control				External Locus of Control			
Depression		1.	2.	3.	4.	1.	2.	3.	4.
1. Stress Intensity		***				***			
2. Stress Frequency			***				***		
3. General Stress				***				***	
4. Received Social Support	SI	ns			ns	ns			ns
	SF		ns		ns		ns		ns
	GS			ns	*			ns	ns
Anxiety									
1. Stress Intensity		***				***			
2. Stress Frequency			***				***		
3. General Stress				***				***	
4. Received Social Support	SI	*			ns	**			ns
	SF		*		ns		***		ns
	GS			**	ns			**	ns
General Physical Health Problems									
1. Stress Intensity		***				***			
2. Stress Frequency			***				***		
3. General Stress				***				***	
4. Received Social Support	SI	ns			ns	ns			ns
	SF		ns		ns		ns		*
	GS			ns	ns			ns	ns

Note. * $p<.05$, ** $p<.01$, *** $p<.001$, ns not significant.

CHAPTER IV

DISCUSSION

Various studies tried to clarify the moderator role of social support between stress and health outcomes for individuals who have external vs. internal locus of control. Several studies did also examine the differences among specific types of social support. However, the present study tried to examine whether the moderator role of social support changes according to different types of social support (received vs. perceived social support) for both externals and internals. Based on the findings mentioned in chapter 1, the aim of the present study was to investigate the moderator role of different types of social support (perceived vs. received) on the relationship between stress and health outcomes (depression, anxiety, and physical health) among the Turkish freshmen university students (with internal vs. external locus of control).

4.1. *Results of the Study*

In this section, the psychometric properties of the Inventory of Socially Supportive Behaviors (Barrera, Sandler, & Ramsay, 1981), the effects of

demographic variables on the outcome variables, and the predictors of the outcome variables will be presented and discussed in the light of the literature.

4.1.1. *Psychometric Properties of the Inventory of Socially Supportive Behaviors*

In order to measure the two different types of social support, two different scales had to be used. To measure perceived social support, Multidimensional Scale of Social Support (Zimet, Dahlem, Zimet, & Farley, 1988) was used. This scale was translated and adapted into Turkish by Eker and Arkar (1995) and it was found highly reliable.

However, there was not any received social support scale that was adapted to Turkish culture. The Inventory of Socially Supportive Behaviors (Barrera, Sandler, & Ramsay, 1981) was chosen because it measures the amount of social support and is clearly measuring a concept that is different from support satisfaction and perceived availability of social support (Barrera, 1983). The adaptation of the scale was conducted as study 1 with Middle East Technical University students from various departments.

The results of the adaptation study of the Inventory of Socially Supportive Behaviors (Barrera, Sandler, & Ramsay, 1981) revealed that both the scale and its subscales (guidance, emotional support, and tangible assistance) were highly reliable for Turkish university students.

4.1.2. *The Effects of Demographic Variables on the Outcome Variables*

The effects of some demographic variables (gender, preparation year, and Income Level) on the outcome variables (depression, anxiety, and general physical health problems) were investigated.

Males and females received significantly different scores from both perceived and received social support measures. Female students with internal locus of control received more social support. However, male students with internal locus of control perceived more social support. Similarly, female students with external locus of control received more social support and male students with external locus of control perceived more social support. Parallel to these results, Lu (1995) had proposed that men received less social support than women. Similarly, the results of the present study did show that women receive more social support than men. However, interestingly, men perceived more social support. Therefore, even though women received more social support, they perceive less. This may be due to a perception bias. For men, it may be possible that even if the received support is little they perceive it as enough. On the other hand, for women, although the received support is of a considerable amount, they perceive it as little and insufficient.

On the other hand, there was no significant difference among female and male students in terms of depression, anxiety, general physical health problems, stress intensity, stress frequency, and general stress.

Although Misra and McKean (2000) found that female students not only experience higher academic stress but also higher anxiety, the present study could not find any significant difference in terms of anxiety and stress. However, in terms of depression, the results were congruent with the literature, (Ceyhan, Ceyhan, & Kurtyılmaz, 2005) and it was concluded that university students showed no significant differences in terms of depression based on gender.

Preparation year was another demographic variable. It was proposed that there may be a difference between among students who had a preparation year and who did not in terms of continuous variables of the study. Students with a preparation year might have an easier period of adaptation than the students without a preparation year. However, the results showed that for both internal and external locus of control students, there was no significant difference among students who had a preparation year and who did not have a preparation year in terms of the continuous variables of the study. There may be two reasons for that. One is that there were very few students who had a preparation year (only 15%). Thus, there may be a difference among students who had and who did not have a preparation year. However, due to the sample size of the students without a preparation year, the difference may not be strong enough to be noticed. The other reason may be the timing of the data collection. Data was collected during the final exams of the spring term. Therefore, the students who did not have a preparation year were already studying at the university for one year and

may have gotten used to the stressors that may have been causing trouble at the beginning of the academic year.

Income level was another demographic variable used in the study and there were several significant differences among the different income groups in terms of the continuous variables of the study. For students with internal locus of control, there were several differences in terms of perceived social support, depression, general physical health problems, stress intensity, stress frequency, and general stress. For all those variables the low income group had higher scores than both the middle income group and the high income group. The low income group perceived more social support than both the middle income group and the high income group. In terms of depression, the low income group had higher scores than both the middle income group and the high income group. This may be due to lack of resources that cause additional problems and function as further stressors, with which the middle and high income group do not have to deal. The low income group had significantly worse general health scores than both the middle income group and the high income group. This may also be due to lack of resources. In terms of stress intensity, the low income group had higher scores than both the middle income group and the high income group. The low income group did also have higher scores on stress frequency as compared to the middle income group and the high income group. In terms of general stress, the low income group had higher scores than both the middle income group and the high income group. Thus, in

terms of all three stress measures as compared to middle and high income groups the low income group had higher scores. As mentioned above lack of resources might have serves as stressors and this might have resulted in higher stress levels than the middle and high income group.

For external locus of control students, the only found statistically significant difference was in terms of perceived and received social support. The middle income group received more social support than the high income group; and the low income group perceived more social support than the middle income group. A possible explanation may be that the high income group does not need to receive support. They already have people who do the necessary things instead of them. On the other hand, the low income group may perceive more support because they may have in-group cooperation. Although they may experience financial difficulties, there may be a developed support system which makes them perceive support whenever they need it.

4.1.3. *Predictors of Depression*

The effects of the independent variables (stress intensity, stress frequency, general stress, and perceived/received social support) on depression were investigated, by controlling for the effect of gender. The analyses revealed that there were several significant predictors of depression for both internal and external locus of control students.

Stress intensity, stress frequency, and general stress predicted depression for both internal and external locus of control when perceived social support was in the regression model. Congruent with the findings of Misra, Mc Kean, West, and Russo (2000), depression which was one of the most common emotional responses to academic stress, was found to be predicted at all levels of stress. Furthermore, when perceived social support was used in regression models, with all types of stress (stress intensity, stress frequency, and general stress), it predicted depression positively for both internals and externals. According to Ryan, and Solky (1996), social support challenges the person's autonomy. When an individual is aware that he/she is getting support, this may lead to decreases in self-esteem (Shapiro, 1978). Therefore, in the present study the individuals may have experienced social support as a weakness and developed depressive symptoms. Additionally, the interaction of stress intensity and perceived social support, and the interaction for general stress and perceived social support significantly predicted depression. Therefore, it was concluded that when the level of stress intensity was low, students with high perceived social support experienced lower levels of depression than those with low perceived social support for internal locus of control students and for external locus of control students. However, when the level of stress intensity was high, those with high perceived social support scored higher on depression than those with low perceived social support for internal locus of control students and for external locus of control students. Moreover, for

the second interaction it was concluded that when the level of general stress was low, students with high perceived social support experienced lower levels of depression than those with low perceived social support for students for internal locus of control students and for external locus of control students. However, when the level of general stress was high, those with high perceived social support scored higher on depression than those with low perceived social support for internal locus of control students and for external locus of control students. For both internals and externals, perceived social support seemed to have a buffering effect only when stress intensity and general stress was low. On the other hand, when stress intensity and general stress was high, higher perceived social support seemed to have a negative stress buffer effect, and results in higher scores of depression. Although, most of the studies found a difference between externals and internal (e.g. VanderZee, Buunk, & Sanderman, 1997), in the present study similar results were found for both internals and externals. Contradictory to the findings that social support protects from potentially negative influences of stressful events (Dalgard, Bjork, & Tambs, 1995) and is significantly related to lower depression (Bouteyre, Maurel, & Bernaud, 2006), the findings of the present study concluded that high perceived social support seemed to have negative stress buffer effect. Bolger, Zuckerman, and Kessler (2000) suggested that emotional support has to be invisible to be useful. Otherwise the person will experience social support as an emotional cost and it will harm his/her self esteem. Another similar view

is that, social support makes the receiver feel indebted to the provider (Walster, Berscheid, & Walster, 1973). Therefore, in order to have a stress buffering effect, the social support has to be invisible.

Stress intensity, stress frequency, and general stress predicted depression for both internal and external locus of control when received social support was in the regression model. As mentioned above, any type of stress seems to predict depression (Misra, Mc Kean, West, & Russo, 2000). However, received social support could not predict depression at any levels of stress for both internal and external locus of control. Additionally, only the interaction for general stress and received social support for internal locus of control showed significant results. Therefore, it was concluded that, when the level of general stress was low, students with low received social support experienced lower levels of depression than those with high received social support for students with internal locus of control. However, when the level of general stress was high, those with low received social support scored higher on depression than those with high received social support with internal locus of control. Received social support seemed to have a positive buffering effect for internal locus of control students when stress was high. Congruent with the Cummins' findings (1988), received social support has a stress buffering effect only for internals. A possible explanation for that was that internals utilize social support to cope. Additionally, the findings of the present study seemed to overlap with the findings of Lefcourt, Martin, and Saleh (1982), which

stated that socially supported internals seemed to show decreases in their mood disturbances when there was an increase in negative experiences; however, less supported internals seemed to have increases in their mood disturbances in similar situations. No such interaction was found for externals. Another partly supporting finding is the results of the study done by Caldwell, Pearson, and Chin (1987). It was proposed that females with an internal locus of control made use of received social support as a moderator. On the other hand, internal locus of control males made use of perceived social support. However, the findings of the present study showed that received social support showed a moderation effect for both males and females. Also, the findings of the present study showed similarities with Sandler and Lakey's (1982) findings. It was proposed that although externals receive greater support, internals experienced the stress-buffering effect. As in the present study internals seemed to benefit from social support and experience the stress buffering effect when stress was high. However, when stress was low, high social support was not beneficial. As suggested by Lefcourt, Martin, and Saleh (1982) internality can either predict depressive tendencies or prevent from depressive tendencies.

Thus, in the face of general stress received social support operated as a moderator only for internals. Based on the data it was not possible to conclude whether those internals had greater need of social support or made better use of social support. However, it was suggested that internals expressed less need of social support but benefit more, and

externals show more need of social support but gain less from such support. Therefore, internality can either predict depressive tendencies or prevent from depressive tendencies, and the direction of the relation may be determined by the availability of social support.

4.1.4. *Predictors of Anxiety*

The effects of the independent variables (stress intensity, stress frequency, general stress, and perceived/received social support) on anxiety were investigated by controlling for the effect of gender. The analysis revealed that there were several significant predictors of anxiety for both internal and external locus of control students. Both for internal and external locus of control students, stress intensity, stress frequency, and general stress predicted anxiety when perceived social support was in the regression model. Congruent with Misra, Mc Kean, West, and Russo's (2000) findings any type of stress predicted anxiety. In addition when received social support was used as in the regression model, for both internal and external locus of control students, stress intensity, stress frequency, and general stress predicted anxiety. Furthermore, received social support predicted anxiety at all levels of stress for both internal and external locus of control.

Congruent with the findings of Andrews and Wilding (2004), all levels of stress predicted anxiety when perceived and received social supports were used in the regression model. On the other hand, only

received social support could predict anxiety at all levels of stress and not perceived social support. As mentioned above, Bolger, Zuckerman, and Kessler (2000) suggested the received emotional support is only useful when it is invisible to the receiver. Otherwise, the awareness of receiving social support results in an emotional cost and thereby harms the receiver's self-esteem (Fisher, Nadler, & Whitcher-Alagna, 1982). This in turn may lead to an increase in anxiety. Therefore, in the present study, the visible received social support may have led to an increase in anxiety.

4.1.5. *Predictors of General Physical Health Problems*

The effects of the independent variables (stress intensity, stress frequency, general stress, and perceived/received social support) on general physical health problems were investigated by controlling for the effect of gender. The analysis revealed that there were several significant predictors of general physical health problems for both internal and external locus of control students.

Stress intensity, stress frequency, and general stress predicted general physical health problems, both for internals and externals when perceived social support was in the regression model but also when received social support was in the regression model. Misra, Mc Kean, West, and Russo's (2000) concluded that physiological responses to stress are less likely than emotional responses however they are still common responses to

stress. As in the present study, all types of stress were found to be significant predictors of general physical health problems.

In addition, perceived social support could predict general physical health problems only at stress frequency and stress intensity but not of the general stress; and only for external locus of control. Externals may rely completely on the support they perceive and due to that not engage in the necessary behaviors to remain healthy.

Futhermore, the interaction of stress frequency and received social support could predict general physical health problems for external locus of control students. This significant interaction revealed that when the stress frequency was low, students with high received social support experienced lower levels of general physical health problems than those with low received social support for students with external locus of control. However, when the level of stress frequency was high, those with high received social support scored higher on general physical health problems than those with low received social support with external locus of control. Congruent with the findings of Cummins' (1988), received social support seemed to have a positive relationship with stress. Cummins' (1988) also proposed that received social support would have a buffering effect when the locus of control is internal, due to the reason that, internals utilize social support to cope. Parallel to the findings of Cummins (1988), in the present study externals scored high on general physical health problems when they received high social support. Cummins' (1988) claimed that this may be due

to the possibility that actual support is given in stressful situations. Another view was that support draws attention to the problem which may result in cognitive appraisal costs (Lazarus, 1991). As mentioned before by Lefcourt, Martin, and Saleh (1982), externals may show more need of social support but gain less from such support. Furthermore, when stress is low, externals benefit from received social support but when stress is high received social support has the reverse effect.

To conclude, for both internals and externals stress intensity, stress frequency, and general stress predicted depression, anxiety, and general physical health problems in case of both perceived and received social support as moderators. As of the literature suggested, anxiety (Misra & McKean, 2000) and general physical health problems (Hurrelmann & Losel, 1990; cited in Zaleski, Levey-Thors, & Schiaffino, 1998) were found significant predictors of academic stress. Moreover, Misra, Mc Kean, West, and Russo (2000) had proposed that anxiety and depression were the most common emotional responses given to stressors, which are also parallel to the findings of the present study. In addition to those results, it is also important to notice that social support is complex and can take many forms; each form may result in different outcomes for the receiver (Beach, & Gupta, 2006). Therefore, both perceived and received social support can have positive and negative effects in terms of stress buffering.

4.2. *Limitations of the Present Study*

One of the most important limitations of the current study is that the study was a cross-sectional study, and therefore, no cause-effect relationship could be concluded. Yet another limitation is that there were very few students that had not a preparation year. It would have been preferable to have an equal number of students who did and who did not have a preparation year. Another important limitation was the timing of the data collection. The sample of the study was chosen as freshman students due to the assumption that freshmen year is a very stressful period of life (e.g. Swift & Wright, 2000; Ross, Niebling, & Heckert, 1999; Misra & McKean, 2000). However, due to the adaptation of the new scale (ISSB), data collection could only be done at the end of the academic year. Due to this delay, most of the freshman students might already have gotten used to college life and related stressors, such as changes in sleeping habits, vacations/breaks, changes in eating habits, increased work load, and new responsibilities (Ross, Niebling, & Heckert, 1999). On the other hand, the data was collected during the final exams period of the spring semester, which is another stressful period for students. Therefore, even if the expected stressors were not present, other stressors were prevalent.

Still another limitation of the study was that the analyses were done with the whole scale scores of perceived and received social support. While Multidimensional Scale of Perceived Social Support (Zimet, Dahlem,

Zimet, & Farley, 1988) had three subscales, which are social support from family, friend, and special person, the Inventory of Socially Supportive Behaviors (Barrera, Sandler, & Ramsay, 1981) had three subscales, which are guidance, emotional support, and tangible assistance. However, due to practical reasons the analyses were done with the whole scale scores. Due to that, possible differences between internal and external locus of control students in terms of specific types of social support could not be concluded.

4.3. *Implications of the Present Study*

One of the most important implications of the present study is that the Inventory of Socially Supportive Behaviors (Barrera, Sandler, & Ramsay, 1981), which measures the amount of social support a person gets, was successfully adapted to and used in Turkish culture. The Multidimensional Scale of Perceived Social Support (Zimet, Dahlem, Zimet, & Farley, 1988) was adapted to Turkish by Eker and Arkar years ago (1995). However, this scale was developed to measure perceived social support. Therefore, it could not be used to measure received social support, which is a different concept than perceived social support and has a different stress-buffering role (Wethington & Kessler, 1986). The adaptation study yielded showed highly reliable results (Study 1), and after that it was used in the main study.

4.4. *Directions for Future Studies*

Further studies, in which the data is collected at the beginning of the semester and than at the end of the semester would be advisable. Thereby, it would be possible to clarify the effects of different types of stressors. Additionally, this method may lead to the identification of the specific stressor types at specific semester periods.

Another direction for future studies may be to compare the freshmen students with and without a preparation year. In the present study, it was proposed that there may be a difference between students who had a preparation year and then started collage, and the students who did not have a preparation year and started college right after high school. Students with a preparation year might have an easier period of adaptation than the students without a preparation year. However, the sample consisted mostly of students with a preparation year. Therefore, a reliable comparison was not possible. It is advisable to test whether preparation year has an effect on the adaptation process with an equally distributed sample.

Further studies which include other personality variables, such as hardiness (Kobasa, 1979) and also coping strategies may be an extension of this study in order to clarify the interaction of those variables with both received and perceived social support. This study focused on a specific type of personality variable, which was locus of control. However, further studies may add hardiness or other personality variables to see its effect on the

relationship among stress, social support, and psychological/physical health variables. Similarly, coping strategies, which have an important role in stress buffering (Holahan, & Moos, 1986) may also be taken into consideration.

CHAPTER V

CONCLUSION

The findings of the present study showed that received and perceived social support are two different concepts and may function differently for internal locus of control students and external locus of control students. Therefore, it is important to notice that each type of social support is not effective for everyone. The perception of the supported person is of great importance, which in turn is a result of his/her locus of control orientation. Although the mechanism behind the different kinds of social support is complicated, the present study might have made a small contribution to clarify it.

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APPENDICES

APPENDIX A: Demographic Information Form

1. Yaşınız:
2. Cinsiyetiniz: ____ Kadın ____ Erkek
3. Öğrenci Numaranız:
4. Bölümünüz:
5. Sınıfınız:
6. ODTU'de İngilizce Hazırlık okudunuz mu?

   _____Evet _____ Hayır
7. Aylık gelir miktarınız: _____ Düşük _____ Orta _____ Yüksek

APPENDIX B: Inventory of Socially Supportive Behaviors (ISSB)

Sosyal Destek Veren Davranışlar Envanteri

Son dört haftada, insanların size nasıl yardım ettiğini ya da hayatınızı sizin için nasıl daha iyi yapmaya çalıştıklarını öğrenmek istiyoruz. Aşağıda çeşitli aktivitelerden oluşan bir liste bulacaksınız. Bunların bazılarını geçmiş haftalarda diğer insanlar sizin için, size ya da sizinle birlikte yapmış olabilirler. Lütfen her maddeyi dikkatle okuyunuz ve bu aktivitelerin size *son dört haftada* ne sıklıkla olduğunu belirtiniz.

Değerlendirmeleriniz için aşağıdaki ölçeği kullanınız:

A. Hiç
B. Bir ya da iki kere
C. Yaklaşık haftada bir kere
D. Haftada birkaç kere
E. Hemen hemen her gün

Değerlendirmelerinizi örnek madde de gösterildiği gibi yapınız.
Örneğin, bu madde;
45. Sizi taşıtıyla doktora götürdü.

son dört haftada bir ya da iki kere olduysa, değerlendirmenizi şu şekilde yapmalısınız.

	Hiç	**1 ya da 2 kere**	**Yaklaşık haftada bir kere**	**Haftada birkaç kere**	**Hemen hemen her gün**
45. Sizi taşıtıyla doktora götürdü.		X			

Lütfen her maddeyi dikkatlice okuyunuz ve en uygun olduğunu düşündüğünüz değerlendirmeyi seçiniz.

Son dört haftada, bu aktiviteleri diğer insanlar sizin için, size ya da sizinle birlikte ne sıklıkla yapmışlardır:	**Hiç**	**1 ya da 2 kere**	**Yaklaşık haftada bir kere**	**Haftada birkaç kere**	**Hemen hemen her gün**
1. Siz yokken bir aile üyesine gözkulak oldu.					
2. Stresli bir durumda fiziksel olarak sizin yanınızda oldu.					
3. Bir süre uzaklaşabilmeniz için size bir yer sağladı.					
4. Siz yokken size ait şeylere (evcil hayvanlar, bitkiler, ev vb.) gözkulak oldu.					
5. Size, sizin içinde bulunduğunuz duruma benzer bir durumda kendisinin ne yaptığını anlattı.					
6. Aklınızdan bazı şeyleri uzaklaştırmanız için sizinle birlikte bir aktivitede yer aldı.					
7. Sizinle, ilgilendiğiniz bazı şeyler hakkında sohbet etti.					
8. Size, bir işi iyi yaptığınızı söyledi.					
9. İşinizi halledebilecek birisine sizinle beraber geldi.					
10. Size, böyle, olduğunuz şekilde, gayet iyi olduğunuzu söyledi.					
11. Size, konuştuğunuz özel şeylerin sadece ikiniz arasında kalacağını söyledi.					
12. Kendiniz için bir hedef belirlemenizde size yardımcı oldu.					
13. Sizden ne beklendiğini size açıkladı.					
14. Sizin bir yeteneğiniz ya da özelliğinize duyduğu güveni ya da saygısını ifade etti.					
15. Bir şeyin nasıl yapılacağı konusunda size bilgi verdi.					
16. Yapmanız gereken bir eylem önerdi.					
17. Size 30 YTL'den fazla para verdi.					
18. Fiziksel yakınlık göstererek sizi rahatlattı.					
19. İçinde bulunduğunuz bir durumu anlamanıza yardım etmek için size bazı bilgiler verdi.					
20. Sizi taşıtıyla bir yerlere bıraktı.					
21. Size verilen bir tavsiyeye uyup uymadığınızı kontrol etti.					
22. Size 30 YTL'den az para verdi.					
23. Bir şeyi neden iyi yapamadığınızı anlamanıza yardımcı oldu.					
24. Özel duygularınız hakkında konuşurken sizi dinledi.					
25. İhtiyacınız olan bir şeyi (para dışında fiziksel bir obje) size ödünç olarak ya da tamamen verdi.					
26. Yapmak istediğiniz şeyin doğru olduğu konusunda size katıldı.					
27. İçinde bulunduğunuz durumu daha net ve kolay anlamanızı sağlayacak şeyler söyledi.					
28. Sizin durumunuza benzer bir durumda kendini nasıl hissettiğini anlattı.					
29. Yardıma ihtiyacınız olduğunda her zaman yanınızda olacağını söyledi.					
30. Sizin iyi olmanız için, sizin için endişelendiğini ifade etti ve size ilgi gösterdi.					
31. Kendisini size çok yakın hissettiğini söyledi.					
32. Yardım almanız için kimi görmeniz gerektiğini söyledi.					
33. Gerçekleşmek üzere olan bir durumdan neler beklemeniz gerektiğini söyledi.					
34. Size 30 YTL'den fazla para borç verdi.					
35. Size bir şeyin nasıl yapılacağını öğretti.					
36. İyi veya kötü demeden, nasıl olduğunuza dair size geribildirim verdi.					
37. Sizi neşelendirmek için şakalar yaptı.					
38. Size kalacak bir yer sağladı.					
39. Yapmanız gereken bir iş için geldi ve size yardım etti.					
40. Size 30 YTL'den az para borç verdi.					

APPENDIX C: Multidimensional Scale of Perceived Social Support

(MSPPS)

Algılanan Çok Yönlü Sosyal Destek Ölçeği

Aşağıda 12 cümle ve her birinde de cevaplarınızı işaretlemeniz için 1 den 7ye kadar rakamlar verilmiştir.Her cümlede söyleneni sizin için ne kadar çok doğru olduğunu veya olmadığını belirtmek için o cümle altındaki rakamlardan yalnız bir tanesini daire içine alarak işaretleyiniz. Bu şekilde 12 cümlenin her birinde bir işaret koyarak cevaplarınızı veriniz.

1. İhtiyacım olduğunda yanımda olan özel bir insan var.

Kesinlikle hayır	1	2	3	4	5	6	7	Kesinlikle evet

2. Sevinç ve kederimi paylaşabileceğim özel bir insan var.

Kesinlikle hayır	1	2	3	4	5	6	7	Kesinlikle evet

3. Ailem bana gerçekten yardımcı olmaya çalışır.

Kesinlikle hayır	1	2	3	4	5	6	7	Kesinlikle evet

4. İhtiyacım olan duygusal yardımı ve desteği ailemden alırım.

Kesinlikle hayır	1	2	3	4	5	6	7	Kesinlikle evet

5. Beni gerçekten rahatlatan bir insan var.

Kesinlikle hayır	1	2	3	4	5	6	7	Kesinlikle evet

6. Arkadaşlarım bana gerçekten yardımcı olmaya çalışırlar.

Kesinlikle hayır	1	2	3	4	5	6	7	Kesinlikle evet

7. İşler kötü gittiğinde arkadaşlarıma güvenebilirim.

Kesinlikle hayır	1	2	3	4	5	6	7	Kesinlikle evet

8. Sorunlarımı ailemle konuşabilirim.

Kesinlikle hayır	1	2	3	4	5	6	7	Kesinlikle evet

9. Sevinç ve kederlerimi paylaşabileceğim arkadaşlarım var.

Kesinlikle hayır	1	2	3	4	5	6	7	Kesinlikle evet

10. Yaşamımda duygularıma önem veren özel bir insan var.

Kesinlikle hayır	1	2	3	4	5	6	7	Kesinlikle evet

11. Kararlarımı vermede ailem bana yardımcı olmaya isteklidir.

Kesinlikle hayır	1	2	3	4	5	6	7	Kesinlikle evet

12. Sorunlarımı arkadaşlarımla konuşabilirim.

Kesinlikle hayır	1	2	3	4	5	6	7	Kesinlikle evet

APPENDIX D: Locus of Control Scale

KOÖ

Bu anket, insanların yaşama ilişkin bazı düşüncelerini belirlemeyi amaçlamaktadır. Sizden, bu maddelerde yansıtılan düşüncelere ne ölçüde katıldığınızı ifade etmeniz istenmektedir. Bunun için, her maddeyi dikkatle okuyunuz ve o maddede ifade edilen düşüncenin *sizin* düşüncelerinize uygunluk derecesini belirtiniz. Bunun için de, her ifadenin karşısındaki seçeneklerden sizin görüşünüzü yansıtan kutucuğa bir (X) işareti koymanız yeterlidir. "Doğru" ya da "yanlış" cevap diye bir şey söz konusu değildir.

Tüm maddeleri eksiksiz olarak ve i ç t e n l i k l e cevaplayacağınızı umuyor ve araştırmaya yardımcı olduğunuz için çok teşekkür ediyoruz.

	Hiç uygun değil	**Pek uygun değil**	**Uygun**	**Oldukça uygun**	**Tamamen uygun**
1. İnsanın yaşamındaki mutsuzlukların çoğu, biraz da şanssızlığına bağlıdır.					
2. İnsan ne yaparsa yapsın üşütüp hasta olmanın önüne geçemez.					
3. Bir şeyin olacağı varsa eninde sonunda mutlaka olur.					
4. İnsan ne kadar çabalarsa çabalasın, ne yazıkki değeri genellikle anlaşılmaz.					
5. İnsanlar savaşları önlemek için ne kadar çaba gösterirlerse göstersinler, savaşlar daima olacaktır.					
6. Bazı insanlar doğuştan şanslıdır.					
7. İnsan ilerlemek için güç sahibi kişilerin gönlünü hoş tutmak zorundadır.					
8. İnsan ne yaparsa yapsın, hiç bir şey istediği gibi sonuçlanmaz.					
9. Bir çok insan, raslantıların yaşamlarını ne derece etkilediğinin farkında değildir.					
10. Bir insanın halen ciddi bir hastalığa yakalanmamış olması sadece bir şans meselesidir.					
11. Dört yapraklı yonca bulmak insana şans getirir.					
12. İnsanın burcu hangi hastalıklara daha yatkın olacağını belirler.					

	Hiç uygun değil	Pek uygun değil	Uygun	Oldukça uygun	Tamamen uygun
13. Bir sonucu elde etmede insanın neleri bildiği değil, kimleri tanıdığı önemlidir.					
14. İnsanın bir günü iyi başladıysa iyi; kötü başladıysa da kötü gider.					
15. Başarılı olmak çok çalışmaya bağlıdır; şansın bunda payı ya hiç yoktur ya da çok azdır.					
16. Aslında şans diye bir şey yoktur.					
17. Hastalıklar çoğunlukla insanların dikkatsizliklerinden kaynaklanır.					
18. Talihsizlik olarak nitelenen durumların çoğu, yetenek eksikliğinin, ihmalin, tembelliğin ve benzeri nedenlerin sonucudur.					
19. İnsan, yaşamında olabilecek şeyleri kendi kontrolü altında tutabilir.					
20. Çoğu durumda yazı-tura atarak da isabetli kararlar verilebilir.					
21. İnsanın ne yapacağı konusunda kararlı olması, kadere güvenmesinden daima iyidir.					
22. İnsan fazla bir çaba harcamasa da, karşılaştığı sorunlar kendiliğinden çözülür.					
23. Çok uzun vadeli planlar yapmak herzaman akıllıca olmayabilir, çünkü bir çok şey zaten iyi ya da kötü şansa bağlıdır.					
24. Bir çok hastalık insanı yakalar ve bunu önlemek mümkün değildir.					
25. İnsan ne yaparsa yapsın, olabilecek kötü şeylerin önüne geçemez.					
26. İnsanın istediğini elde etmesinin talihle bir ilgisi yoktur.					
27. İnsan kendisini ilgilendiren bir çok konuda kendi başına doğru kararlar alabilir.					
28. Bir insanın başına gelenler, temelde kendi yaptıklarının sonucudur.					
29. Halk, yeterli çabayı gösterse siyasal yolsuzlukları ortadan kaldırabilir.					
30. Şans ya da talih hayatta önemli bir rol oynamaz.					
31. Sağlıklı olup olmamayı belirleyen esas şey insanların kendi yaptıkları ve alışkanlıklarıdır.					

	Hiç uygun değil	Pek uygun değil	Uygun	Oldukça uygun	Tamamen uygun
32. İnsan kendi yaşamına temelde kendisi yön verir.					
33. İnsanların talihsizlikleri yaptıkları hataların sonucudur.					
34. İnsanlarla yakın ilişkiler kurmak, tesadüflere değil, çaba göstermeye bağlıdır.					
35. İnsanın hastalanacağı varsa hastalanır; bunu önlemek mümkün değidir.					
36. İnsan bugün yaptıklarıyla gelecekte olabilecekleri değiştirebilir.					
37. Kazalar, doğrudan doğruya hataların sonucudur.					
38. Bu dünya güç sahibi bir kaç kişi tarafından yönetilmektedir ve sade vatandaşın bu konuda yapabileceği fazla bir şey yoktur.					
39. İnsanın dini inancının olması, hayatta karşılaşacağı bir çok zorluğu daha kolay aşmasına yardım eder.					
40. Bir insan istediği kadar akıllı olsun, bir işe başladığında şansı yaver gitmezse başarılı olamaz.					
41. İnsan kendine iyi baktığı sürece hastalıklardan kaçınabilir.					
42. Kaderin insan yaşamı üzerinde çok büyük bir rolü vardır.					
43. Kararlılık bir insanın istediği sonuçları almasında en önemli etkendir.					
44. İnsanlara doğru şeyi yaptırmak bir yetenek işidir; şansın bunda payı ya hiç yoktur ya da çok azdır.					
45. İnsan kendi kilosunu, yiyeceklerini ayarlayarak kontrolü altında tutabilir.					
46. İnsanın yaşamının alacağı yönü, çevresindeki güç sahibi kişiler belirler.					
47. Büyük ideallere ancak çalışıp çabalayarak ulaşılabilir.					

APPENDIX E: Life Events Inventory for University Students (LEIU)

Üniversite Öğrencileri için Stres Envanteri

Aşağıda günlük yaşantınızda size sıkıntı verebilecek bazı olaylar ve sorunlardan bahsedilmektedir. Her maddeyi dikkatli bir şekilde okuyarak, son bir ay içerisinde bu olay ya da sorunun size ne yoğuklukta bir sıkıntı yaşattığını ve ne kadar sıklıkla böyle bir olay ya da sorunla karşılaştığınızı maddelerin karşılarında bulunan seçeneklerden uygun rakamları işaretleyerek belirtiniz.

	Bu sorun size ne yoğunlukta bir sıkıntı yaşattı veya yaşatmakta?					Bu sorunu ne sıklıkla yaşadınız?				
	Hiç	Az	Orta	Fazla	Çok fazla	Hiç	Nadiren	Ara sıra	Sık sık	Her zaman
1. Derslerin ağırlığı ve yoğunluğu	1	2	3	4	5	1	2	3	4	5
2. Genel sağlık problemleri……...	1	2	3	4	5	1	2	3	4	5
3. Kız/erkek arkadaşımla olan problemler……	1	2	3	4	5	1	2	3	4	5
4. Barınma ile ilgili sorunlar……..	1	2	3	4	5	1	2	3	4	5
5. Ulaşım sorunu……	1	2	3	4	5	1	2	3	4	5
6. Zamanın sıkışıklığı……	1	2	3	4	5	1	2	3	4	5
7. Anne ve babamla aramızdaki çatışmalar……	1	2	3	4	5	1	2	3	4	5
8. Gelecekle ilgili kaygılar……	1	2	3	4	5	1	2	3	4	5
9. Arkadaş ilişkilerinde yaşanan sorunlar……	1	2	3	4	5	1	2	3	4	5
10. Ülkedeki olumsuz siyasi gelişmeler……	1	2	3	4	5	1	2	3	4	5
11. Sevdiğim insanlardan ayrı olmak (Aile, arkadaşlar vs.)……..	1	2	3	4	5	1	2	3	4	5
12. Çevresel koşullardan (Gürültü, havalar, kirlilik vs.) dolayı yaşanan sorunlar……	1	2	3	4	5	1	2	3	4	5
13. Okula uyum sağlayamamak…	1	2	3	4	5	1	2	3	4	5
14. Maddi problemler……	1	2	3	4	5	1	2	3	4	5
15. Sosyal faaliyetlere katılamamak (spor, sinemaya, tiyatroya gitmek vs.)……	1	2	3	4	5	1	2	3	4	5
16. Öğretim görevlileri ile ilgili sorunlar……	1	2	3	4	5	1	2	3	4	5

	Bu sorun size ne yoğunlukta bir sıkıntı yaşattı veya yaşatmakta?					Bu sorunu ne sıklıkla yaşadınız?				
	Hiç	Az	Orta	Fazla	Çok fazla	Hiç	Nadiren	Ara sıra	Sık sık	Her zaman
17. İnsanların birbirine karşı duyarsız olmaları……...	1	2	3	4	5	1	2	3	4	5
18. Yalnızlık kaygıları……...	1	2	3	4	5	1	2	3	4	5
19. Kişiliğimle ilgili kendimi sorgulamak……	1	2	3	4	5	1	2	3	4	5
20. Yorgunluk……	1	2	3	4	5	1	2	3	4	5
21. İçki, sigara ve benzeri alışkanlıkların verdiği rahatsızlıklar……	1	2	3	4	5	1	2	3	4	5
22. Karar vermekte güçlük çekmek……	1	2	3	4	5	1	2	3	4	5
23. Uykusuzluk……..	1	2	3	4	5	1	2	3	4	5
24. Beslenme problemi……..	1	2	3	4	5	1	2	3	4	5
25. Sorumluluklarımı yerine getirememek……	1	2	3	4	5	1	2	3	4	5
26. Reddedilme korkusu……	1	2	3	4	5	1	2	3	4	5
27. Fiziksel görünüşümle ilgili endişeler……	1	2	3	4	5	1	2	3	4	5
28. Okulda başarısız olmak……	1	2	3	4	5	1	2	3	4	5
29. Aileden birinin rahatsızlığı…..	1	2	3	4	5	1	2	3	4	5
30. Ödevler ya da projelerin verdiği rahatsızlıklar……..	1	2	3	4	5	1	2	3	4	5
31. Okuduğum bölümden memnun olmamak……	1	2	3	4	5	1	2	3	4	5
32. Tüm ya da bazı konularda emeğimin karşılığını alamama…	1	2	3	4	5	1	2	3	4	5
33. Yeterince ders çalışamamak…	1	2	3	4	5	1	2	3	4	5
34. Sınavların sıkışıklığı, sınav kaygısı…….	1	2	3	4	5	1	2	3	4	5
35. Okula devamsızlık problemleri……	1	2	3	4	5	1	2	3	4	5
36. Yurt ya da ev arkadaşlarımla aramızdaki sorunlar……...	1	2	3	4	5	1	2	3	4	5
37. Kardeşim/lerimle ilgili sorunlar……	1	2	3	4	5	1	2	3	4	5
38. Zamanımı yeterince iyi değerlendirememek…….	1	2	3	4	5	1	2	3	4	5
39. Kendimi insanlara yeterince ifade edememek……..	1	2	3	4	5	1	2	3	4	5
40. Ailevi problemler……	1	2	3	4	5	1	2	3	4	5

	Bu sorun size ne yoğunlukta bir sıkıntı yaşattı veya yaşatmakta?					Bu sorunu ne sıklıkla yaşadınız?				
	Hiç	Az	Orta	Fazla	Çok Fazla	Hiç	Nadiren	Ara sıra	Sık sık	Her zaman
41. Çalıştığım işle ilgili sorunlar...	1	2	3	4	5	1	2	3	4	5
42. İş görüşmeleri ile ilgili kaygılar……	1	2	3	4	5	1	2	3	4	5
43. Yayın organlarındaki kötü haberlerle ilişkili kaygılar……..	1	2	3	4	5	1	2	3	4	5
44. Derslerin İngilizce olmasından dolayı zorluk çekmek……	1	2	3	4	5	1	2	3	4	5
45. Cinsel sorunlar……..	1	2	3	4	5	1	2	3	4	5
46. Kilomla ilgili kaygılar…….	1	2	3	4	5	1	2	3	4	5
47. Mezun olamama kaygısı……..	1	2	3	4	5	1	2	3	4	5
48. Hata yapma kaygısı…….	1	2	3	4	5	1	2	3	4	5
49. Eleştirilmekten duyduğum rahatsızlık……	1	2	3	4	5	1	2	3	4	5
50. Tatmin edici ilişkiler kuramama / bulamama……..	1	2	3	4	5	1	2	3	4	5
51. Kız/erkek arkadaştan ayrılma..	1	2	3	4	5	1	2	3	4	5
52. Ailemin beklentilerini yerine getirememe kaygısı……	1	2	3	4	5	1	2	3	4	5
53. Tüm ya da bazı derslerde başarısız olma endişesi……..	1	2	3	4	5	1	2	3	4	5
54. Yaşadığım yere uyum sağlayamamak……	1	2	3	4	5	1	2	3	4	5

APPENDIX F: Beck Depression Inventory (BDI)

Beck Depresyon Envanteri

Aşağıda gruplar halinde bazı sorular yazılıdır. Her gruptaki cümleleri dikkatle okuyunuz. Bugün dahil, geçen hafta içinde kandinizi nasıl hissettiğinizi en iyi anlatan cümleyi seçiniz. Seçmiş olduğunuz cümlenin yanındaki numaranın üzerine (X) işareti koyunuz.

1. (a) Kendimi üzgün hissetmiyorum.
(b) Kendimi üzgün hissediyorum.
(c) Her zaman için üzgünüm ve kendimi bu duygudan kurtaramıyorum.
(d) Öylesine üzgün ve mutsuzum ki dayanamıyorum.

2. (a) Gelecekten umutsuz değilim.
(b) Geleceğe biraz umutsuz bakıyorum.
(c) Gelecekten beklediğim hiçbir sey yok.
(d) Benim için bir gelecek yok ve bu durum düzelmeyecek.

3. (a) Kendimi başarısız görmüyorum.
(b) Çevremdeki birçok kişiden daha fazla başarısızlıklarım oldu sayılır.
(c) Geriye dönüp baktığımda, çok fazla başarısızlığımın olduğunu görüyorum.
(d) Kendimi tümüyle başarısız bir insan olarak görüyorum.

4. (a) Her şeyden eskisi kadar zevk alabiliyorum.
(b) Her şeyden eskisi kadar zevk alamıyorum.
(c) Artık hiçbir şeyden gerçek bir zevk alamıyorum.
(d) Bana zevk veren hiçbir şey yok. Her şey çok sıkıcı.

5. (a) Kendimi suçlu hissetmiyorum.
(b) Arada bir kendimi suçlu hissettiğim oluyor.
(c) Kendimi çoğunlukla suçlu hissediyorum.
(d) Kendimi her an için suçlu hissediyorum.

6. (a) Cezalandırıldığımı düşünmüyorum.
(b) Bazı şeyler için cezalandırılabileceğimi hissediyorum.
(c) Cezalandırılmayı bekliyorum.
(d) Cezalandırıldığımı hissediyorum.

7. (a) Kendimden hoşnutum.
(b) Kendimden pek hoşnut değilim.
(c) Kendimden hiç hoşlanmıyorum.
(d) Kendimden nefret ediyorum

8. (a) Kendimi diğer insanlardan daha kötü görmüyorum.
(b) Kendimi zayıflıklarım ve hatalarım için eleştiriyorum.
(c) Kendimi hatalarım için çoğu zaman suçluyorum.
(d) Her kötü olayda kendimi suçluyorum.

9. (a) Kendimi öldürmek gibi düşüncelerim yok.
(b) Bazen kendimi öldürmeyi düşünüyorum, fakat bunu yapmam.
(c) Kendimi öldürebilmeyi isterdim.
(d) Bir fırsatını bulsam kendimi öldürürdüm.

10. (a) Her zamankinden daha fazla ağladığımı sanmıyorum.
(b) Eskisine göre şu sıralarda daha fazla ağlıyorum.
(c) Şu sıralarda her an ağlıyorum.
(d) Eskiden ağlayabilirdim, ama şu sıralarda istesem de ağlayamıyorum.

11. (a) Her zamankinden daha sinirli değilim.
(b) Her zamankinden daha kolayca sinirleniyor ve kızıyorum.
(c) Çogu zaman sinirliyim.
(d) Eskiden sinirlendiğim şeylere bile artık sinirlenemiyorum.

12. (a) Diğer insanlara karşı ilgimi kaybetmedim.
(b) Eskisine göre insanlarla daha az ilgiliyim.
(c) Diğer insanlara karşı ilgimin çoğunu kaybettim.
(d) Diğer insanlara karşı hiç ilgim kalmadı.

13. (a) Kararlarımı eskisi kadar kolay ve rahat verebiliyorum.
(b) Şu sıralarda kararlarımı vermeyi erteliyorum.
(c) Kararlarımı vermekte oldukça güçlük çekiyorum.
(d) Artık hiç karar veremiyorum.

14. (a) Dış görünüşümün eskisinden daha kötü olduğunu sanmıyorum.
(b) Yaşlandığımı ve çekiciliğimi kaybettiğimi düşünüyor ve üzülüyorum.
(c) Dış görünüşümde artık değiştirilmesi mümkün olmayan olumsuz değişiklikler olduğunu hissediyorum.
(d) Çok çirkin olduğumu düşünüyorum.

15. (a) Eskisi kadar iyi çalışabiliyorum.
(b) Bir işe başlayabilmek için eskisine göre kendimi daha fazla zorlamam gerekiyor.
(c) Hangi iş olursa olsun, yapabilmek için kendimi çok zorluyorum.
(d) Hiçbir iş yapamıyorum.

16. (a) Eskisi kadar rahat uyuyabiliyorum.
(b) Şu sıralarda eskisi kadar rahat uyuyamıyorum.

(c) Eskisine göre 1 veya 2 saat erken uyanıyor ve tekrar uyumakta zorluk çekiyorum.
(d) Eskisine göre çok erken uyanıyor ve tekrar uyuyamıyorum.

17. (a) Eskisine kıyasla daha çabuk yorulduğumu sanmıyorum.
(b) Eskisinden daha çabuk yoruluyorum.
(c) Şu sıralarda neredeyse her şey beni yoruyor.
(d) Öyle yorgunum ki hiçbir şey yapamıyorum.

18. (a) İştahım eskisinden pek farklı degil.
(b) İştahım eskisi kadar iyi degil.
(c) Şu sıralarda iştahım epey kötü.
(d) Artık hiç iştahım yok.

19. (a) Son zamanlarda pek fazla kilo kaybettiğimi sanmıyorum.
(b) Son zamanlarda istemediğim halde üç kilodan fazla kaybettim.
(c) Son zamanlarda istemediğim halde beş kilodan fazla kaybettim.
(d) Son zamanlarda istemediğim halde yedi kilodan fazla kaybettim.
Daha az yemeye çalışarak kilo kaybetmeye çalısıyorum. Evet ( ) Hayır ( )

20. (a) Sağlığım beni pek endişelendirmiyor.
(b) Son zamanlarda agrı, sızı, mide bozukluğu, kabızlık gibi sorunlarım var.
(c) Ağrı, sızı gibi bu sıkıntılarım beni epey endişelendirdiği için başka şeyleri düşünmek zor geliyor.
(d) Bu tür sıkıntılarım beni öylesine endişelendiriyor ki, artık başka hiçbir şey düşünemiyorum.

21. (a) Son zamanlarda cinsel yaşantımda dikkatimi çeken bir şey yok.
(b) Eskisine oranla cinsel konularla daha az ilgileniyorum.
(c) Şu sıralarda cinsellikle pek ilgili değilim.
(d) Artık cinsellikle hiçbir ilgim kalmadı.

APPENDIX G: Beck Anxiety Inventory (BAI)

Beck Anksiyete Envanteri

Aşağıda insanların kaygılı ya da endişeli oldukları zamanlarda yaşadıkları bazı belirtiler verilmiştir. Lütfen her maddeyi dikkatle okuyunuz. Daha sonar, her maddedeki belirtinin, bugün dahil son bir haftadır sizi ne kadar rahatsız ettiğini aşağıdaki ölçekten yararlanarak maddelerin yanındaki uygun yere (x) işareti koyarak belirtiniz.

0 hiç 2 orta derecede

1 hafif derecede 3 ciddi derecede

	0 hiç	1 hafif	2 orta	3 ciddi
1. Bedeninizin herhangi bir yerinde uyuşma veya karıncalanma				
2. Sıcak/ ateş basmaları				
3. Bacaklarda halsizlik, titreme				
4. Gevşeyememe				
5. Çok kötü şeyler olacak korkusu				
6. Baş dönmesi veya sersemlik				
7. Kalp çarpıntısı				
8. Dengeyi kaybetme korkusu				
9. Dehşete kapılma				
10. Sinirlilik				
11. Boğuluyormuş gibi olma korkusu				
12. Ellerde titreme				
13. Titreklik				
14. Kontrolünü kaybetme korkusu				
15. Nefes almada güçlük				
16. Ölüm korkusu				
17. Korkuya kapılma				
18. Midede hazımsızlık/ rahatsızlık hissi				
19. Baygınlık				
20. Yüzün kızarması				
21. Terleme (sıcağa bağlı olmayan)				

APPENDIX H: Symptom Checklist (SCL-90)

Kısa Semptom Envanteri

Aşağıda zaman zaman herkeste olabilecek yakınma ve sorunların bir listesi vardır. Lütfen her birini dikkatlice okuyunuz. Sonra bu durumun bugün de dahil olmak üzere son bir ay içinde sizi ne ölçüde huzursuz ve tedirgin ettiğini göz önüne alarak aşağıda belirtilen tanımlamalardan uygun olanının numarasını karşısındaki boşluğa yazınız. Düşüncenizi değiştirirseniz ilk yazdığınız numarayı tamamen siliniz. Lütfen başlangıç örneğini dikkatle okuyunuz ve anlamadığınız bir cümle ile karşılaştığınızda uygulayan kişiye danışınız.

Örnek :	Tanımlama :
Aşağıda belirtilen sorundan	0 Hiç
ne ölçüde rahatsız olmaktasınız?	1 Çok az
	2 Orta derecede
	3 Oldukça fazla
	4 Aşırı düzeyde

1. İçinizdeki sinirlilik ve titreme hali
2. Baygınlık, baş dönmesi .....
3. Bir başka kişinin sizin düşüncelerinizi kontrol edeceği fikri .....
4. Başınıza gelen sıkıntılardan dolayı başkalarının suçlu olduğu duygusu .....
5. Olayları hatırlamada güçlük .....
6. Çok kolayca kızıp öfkelenme .....
7. Göğüs (kalp) bölgesinde ağrılar .....
8. Meydanlık (açık) yerlerden korkma duygusu .....
9. Yaşamınıza son verme düşünceleri .....
10. İnsanların çoğuna güvenilmeyeceği hissi .....
11. İştahta bozukluklar .....
12. Hiçbir nedeni olmayan ani korkular .....
13. Kontrol edemediğiniz duygu patlamaları .....
14. Başka insanlarla beraberken bile yalnızlık hissetmek .....
15. İşleri bitirme konusunda kendini engellenmiş hissetmek .....
16. Yalnız hissetmek .....

17. Hüzünlü, kederli hissetmek .....
18. Hiçbir şeye ilgi duymamak .....
19. Ağlamaklı hissetmek .....
20. Kolayca incinebilme, kırılmak .....
21. İnsanların sizi sevmediğine, kötü davrandığına inanmak .....
22. Kendini diğerlerinden daha aşağı görme .....
23. Mide bozukluğu, bulantı .....
24. Diğerlerinin sizi gözlediği ya da hakkınızda konuştuğu duygusu .....
25. Uykuya dalmada güçlükler .....
26. Yaptığınız şeyleri tekrar tekrar doğru mu diye kontrol etmek .....
27. Karar vermede güçlükler .....
28. Otobüs, tren, metro gibi umumi vasıtalarla seyahatlerden korkmak .....
29. Nefes darlığı, nefessiz kalmak .....
30. Sıcak soğuk basmaları .....
31. Sizi korkuttuğu için bazı eşya, yer ya da etkinliklerden uzak kalmaya çalışmak .....
32. Kafanızın 'bomboş' kalması .....
33. Bedeninizin bazı bölgelerinde uyuşmalar, karıncalanmalar .....
34. Günahlarınız için cezalandırılmanız gerektiği .....
35. Gelecekle ilgili umutsuzluk duyguları .....
36. Konsantrasyonda (dikkati bir şey üzerinde toplama) güçlük/zorlanmak .....
37. Bedeninizin bazı bölgelerinde zayıflılık, güçsüzlük hissi .....
38. Kendini gergin ve tedirgin hissetmek .....
39. Ölme ve ölüm üzerine düşünceler
40. Birini dövme, ona zarar verme, yaralama isteği .....
41. Bir şeyleri kırma dökme isteği .....
42. Diğerlerinin yanındayken yanlış bir şeyler yapmamaya çalışmak .....
43. Kalabalıklarda rahatsızlık duymak .....
44. Başka bir insana hiç yakınlık duymamak .....
45. Dehşet ve panik nöbetleri .....
46. Sık sık tartışmaya girmek .....
47. Yalnız bırakıldığında/ kalındığında sinirlilik hissetmek .....
48. Başarılarınız için diğerlerinden yeterince takdir görmemek .....

49. Yerinde duramayacak kadar tedirgin hissetmek .....
50. Kendini yetersiz görmek/ değersizlik duyguları .....
51. Eğer izin verirseniz insanların sizi sömüreceği duygusu .....
52. Suçluluk duyguları .....
53. Aklınızda bir bozukluk olduğu fikri .....