

A PROSPECTIVE STUDY OF LIFE STRESS, SOCIAL SUPPORT AND
ASSERTIVENESS AMONG TURKISH UNIVERSITY STUDENTS

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BY
SEDAT IŞIKLI

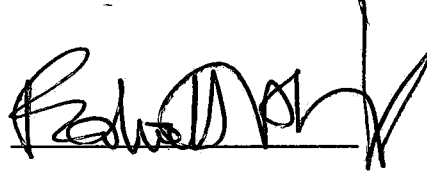
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T.C. YÜKSEKÖĞRETİM KURULU
DOKÜMANTASYON MERKEZİ

Approval of the Graduate School of Sciences



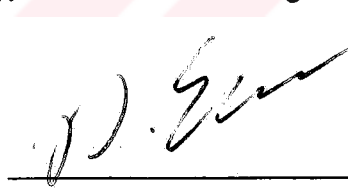
Prof. Dr. Bahattin Akşit
Director

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



Prof. Dr. Nuray Karancı
Head of Department

This is to certify that we have read this thesis and that in our opinion it is fully adequate, in scope and quality, as a thesis for the degree of Master of Science.



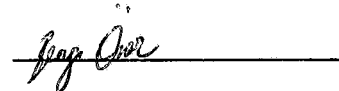
Prof. Dr. Doğan Eker
Supervisor

Examining Committee Members

Prof. Dr. Ferhunde Öktem



Dr. Bengi Öner



ABSTRACT**A PROSPECTIVE STUDY OF LIFE STRESS, SOCIAL SUPPORT AND
ASSERTIVENESS AMONG TURKISH UNIVERSITY STUDENTS****Işıklı, Sedat****M. S. In Applied Psychology****Supervisor: Prof. Dr. Doğan Eker****September 1998, 89 pages**

The purpose of the present study was to examine the relationship between stress, social support and assertiveness among university students in a prospective design. It was hypothesized that the interaction of social support and assertiveness would moderate the relationship between stress and its deleterious consequences. The participants of the study were 335 university students from the Middle East Technical University. The data were gathered by administering five instruments; Brief Symptom Inventory, Rathus Assertiveness Schedule, Social Provisisons Scale-T, Life Experience Survey, and Demographic Information Form. Multiple

Regression Technique was used to analyze the data. The findings of this study partially supported its hypothesis. The stress x social support x assertion interaction term manifested weak (ie., low magnitude) but relatively consistent relation in predicting distress. In other words, social support and assertiveness moderate to some extent the effects of stress on psychological well-being. Of the six interaction terms only the stress x assertion x social integration was significant. This significant interaction term indicated that in times of stress, person who are more assertive are able to gain more benefit from relationships with people who share their values and interests than person who are not assertive. The results were discussed within the context of the relevant literature.

Keywords: Social Support, Life Stress, Assertiveness, Prospective Design, University Students.

ÖZ

ÜNİVERSİTE ÖĞRENCİLERİNDE STRES, SOSYAL DESTEK VE GİRİŞKENLİK İLE İLGİLİ BOYLAMSAL BİR ÇALIŞMA

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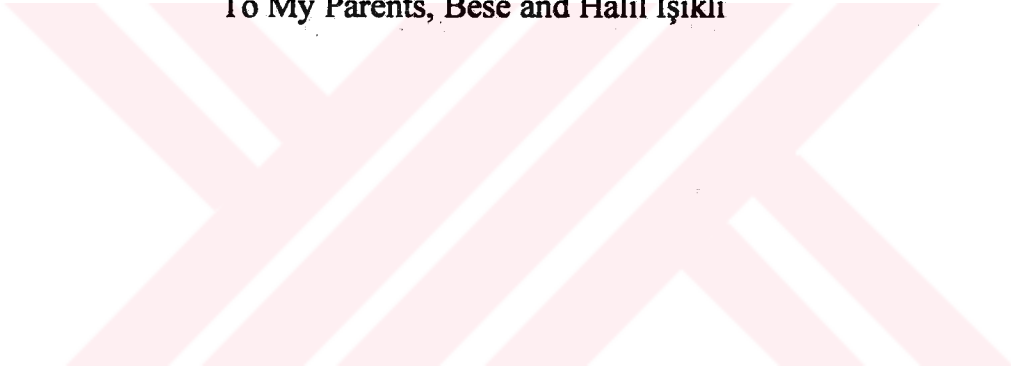
Bu çalışmanın temel amacı, üniversite öğrencilerindeki stres, sosyal destek ve girişkenlik düzeylerini boylamsal bir çalışma içinde incelemektir. Öğrencilerin sahip oldukları sosyal destek, girişkenlik ve stres düzeyleri etkileşimlerinin strese bağlı olarak ortaya çıkan sorunları engellemede rol oynayacağı beklentisi vardır. Araştırma Orta Doğu Teknik Üniversitesi'nde okuyan 335 öğrenci üzerinde yürütülmüştür. Bilgiler beş ölçeğin dağıtımını sonucunda elde edildi: Kısa Semptom Envanteri, Rathus Atılganlık Envanteri, Sosyal Provisyon Ölçeği, Yaşam Deneyimleri Anketi ve Demografik Bilgi Formu. Bilgilerin analizi için Çokyönlü Regrasyon Analizi Tekniği kullanıldı. Elde edilen sonuçlara göre öğrencilerin strese bağlı olarak yaşadıkları sıkıntıları yordamada stres, sosyal destek ve girişkenlik düzeyleri düşük ama anlamlı etkileşim gösterdi. Diğer bir deyişle, sosyal destek ve girişkenlik düzeyi stresin olumsuz etkilerini bir yere kadar engellemektedir. Ancak, altı tane sosyal destek tipine göre kurulan

etkileşimlerden bir tanesi anlamlı çıkmıştır. Buna göre; stres durumunda, kendileri ile aynı değerleri ve ilgileri paylaşan kişilerle kurdukları ilişkiler girişken olan öğrencileri stresin olumsuz sonuçlarından koruyabilmektedir. Sonuçlar ilgili literatür içinde tartışılmıştır.

Anahtar Kelimeler: Sosyal Destek, Stress, Girişkenlik, Boylamsal Çalışma, Üniversite Öğrencileri.



To My Parents, Besè and Halil Işıklı



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TABLE OF CONTENTS

ABSTRACT.....	iii
ÖZ.....	v
ACKNOWLEDGMENT.....	viii
TABLE OF CONTENTS.....	ix
LIST OF TABLES.....	xi
LIST OF FIGURES.....	xii
CHAPTER	
I. INTRODUCTION.....	1
II. REVIEW OF LITERATURE.....	
2.1 Stress and its consequences.....	8
2.2 Social support.....	15
2.3 Cross-sectional vs longitudinal study.....	25
2.4 Aim of the study.....	27
III. METHODS.....	30
3.1 Subjects.....	30
3.2 Instruments.....	34
3.2.1 Social Provisions Scale.....	34
3.2.2 Life Experience Survey.....	47
3.2.3 Rathus Assertiveness Schedule.....	49
3.2.4 Demographic Information Form.....	50
3.2.5 Brief Symptom Inventory.....	50
3.3 Procedure.....	52
3.4 Analysis of data.....	54
IV. RESULTS.....	55
V. DISCUSSION.....	63
REFERENCES.....	70
APPENDICES.....	

A. The Brief Symptom Inventory.....	84
B. The Rathus Assertiveness Schedule.....	85
C. The Social Provisions Scale.....	86
D. The Life Experience Survey.....	87
E. The Demographic Information Form.....	88
F. The Permission for Copyrighted Instrument.....	89



LIST OF TABLES

TABLE

1. Socio-demographic characteristics of the sample of the first study.....	30
2. Socio-demographic characteristics of the sample of the main study.....	31
3. Correlations of the SPS-T and its sub-scales with the Beck Depression Inventory and Beck Anxiety Inventory and its sub-scales.....	44
4. The corrected item-total correlations for the Social Provisions Scale-T..	45
5. Cronbach's alpha values for the six sub-scales and total scale of the Social Provisions Scale-T.....	47
6. Means and standart deviations of the variables.....	56
7. Correlations matrix of variables used in hierarchical regression analysis	57
8. Hierarchical regression of stress, social support, and assertion variables on time 2 distress, while statistically controlling for time 1 distress.....	58
9. Regression equations showing the three-way interaction of social integration by stress by assertiveness on psychological adjustment.....	60

LIST OF FIGURES

FIGURE

1. Hypothesized CFA model.....	41
2. Final modified CFA model with correlation coefficients presented in standardized form.....	43



CHAPTER I

INTRODUCTION

Changes in life require effective adaptation. Entering university is an important life event that requires an adjustment period for young adults. This period of time necessitates new individual, social and academic perspective bringing about new adaptation problems.

University students, especially in the first year, have to take new responsibilities in their individual, social, and academic lives. Taking on these new responsibilities creates new behavioral, emotional, and cognitive problems. This is a time for the young adult in which change occurs within almost every domain of experience -physical, affective, social, familial, and educational (Wenz-Gross, Siperstein, & Untch, 1997). Most adolescents handle these changes without developing problems. For some individuals, though, this period can represent a time of significant adjustment difficulties.

Entering university entails major changes for the young adults in individual, academic and social domains (Eccles, Midgley, Wigfield, Buchanan, Reuman, Flanagan, & MacIver, 1993). Individually, adjustment problems, such as low self-concepts, feeling of depression, and decreased motivation for school, all show increases at this time and are thought to be related to the changes associated with this period of time. Academically, the structure of the student's learning

environment becomes more complex than in previous educational settings, and expectation for academic achievement increases (Eccles et al., 1993). Socially, students must deal with a large and more fluctuating peer network at a time when relationship with peers intensify and take on greater significance in defining the self.

In the community mental health approach, university life is seen as a potential source of stress. Consequently, university students are faced with several problems, such as; feeling of depression, decreased motivation, lowered self-concepts, etc. By using community mental health strategies it may be possible to avoid some problems in living before they become so serious as to require clinical intervention. If social support and assertiveness are implicated as contributors to personal adjustment among university students, then avenues for intervention are available for counseling services interested in advancing the personal adjustment of university students.

One area that has received increasing attention in relation to stress is the educational setting (Wenz-Gross, Siperstein, & Untch, 1997). Stress is seen as a type of social/environmental factor that affects individual, social, and academic adjustment of university students. Individual consequences of stress, especially within the school context, that have been extensively studied, include dissatisfaction with school, absenteeism, anxiety, depression, somatisation, and use of tobacco, alcohol, and drugs (DeMeuse, 1985; Garrity & Ries, 1985). It was found that experiencing more than 12 stressful life events was associated with

negative academic performance (Lloyd, Alexander, Rice, & Greenfield, 1985). In the present investigation stress was chosen as one predictor of distress due to its demonstration as an important determinant of personal and social adjustment (Hobfoll, 1989) and its potential role as a predictor of academic performance (Garrity & Ries, 1985).

It has been repeatedly demonstrated that social support moderates the deleterious effects of stressful encounters for many people (Cohen & Wills, 1985; Winefield, Winefield, & Tiggman, 1992; Uchino, Cacioppo, & Kiecolt-Glaser, 1996; Uchino & Garvey, 1997; Ystgaard, 1997). Sarason (1983) defined social support as the existence or availability of people, on whom we can rely, people who let us know that they care about and value us. A large literature attests that people who report lower levels or lower quality of existing socially supportive system have more difficulties with depression and anxiety under stress (Cohen & Wills, 1985). That is, people with spouses, friends, and family members who provide psychological and material resources are in better health than those with less supportive social contact. According to Cohen and Wills, social support is a causal contributor to well-being even though correlational results do not themselves allow causal interpretation. The research literature, however, is characterised by inconsistent findings for the effects of social support (Cohen, McGowan, Fooskas, & Rose, 1984). A major reason for the inconsistent findings is the widely divergent conceptualisation and measurement of social support. According to Cohen, McGowan, Fooskas, and Rose (1984) some researchers have defined social support in terms of the nature and structure of an individual's social ties with significant others; that is, social embeddedness or the amount or nature of

potentially available social resources. Within this model, social support has been operationalized by such indices as marital status and participation in community. Other researchers recommend more direct and functional measures of social support, including measures of socially supportive behaviors actually received by an individual (eg., Cummins, 1988; Haines, Hurlbert, & Zimmer, 1991; Fried & Tiegs, 1993). Still other researchers emphasise the importance of perceived social support (eg., Procidano & Heller, 1983; Uchino & Garvey, 1997; Ystgaard, 1997; Winemiller, Mitchell, Sutliff, & Cline, 1993). Perceived support, on the other hand, can be defined as the extent to which an individual believes that his/her need for support, information, and feedback are fulfilled (Procidano & Heller, 1983). Perceived social support was selected as a predictor in the present study due to its having been consistently found to be a moderator of stress in affecting personal adjustment (Cohen & Wills, 1985; Ystgaard, 1997; Newbyfraser & Schlebusch, 1997).

On the other hand, some researchers assert that findings on the role of support in alleviating stress are sometimes contradictory and difficult to interpret (Cummins, 1988; Elliot & Gramling, 1990; Elliot et al., 1991; Buunk & Hoorens, 1992). According to these researchers this is largely due to lack of attention given to the role of interpersonal processes and the mechanism by which social support achieves its effects.

Interpersonal skills such as assertiveness may play a critical role in social support mechanisms. According to Wolpe and Lazarus (1966, cited in Rathus, 1975)

people who are assertive are believed to competently communicate their thoughts and feeling in a manner that respect the right of others. It has been found that assertive college students under stress are able to benefit from supportive relationships that provide a sense of social integration and personal worth (Elliot & Gramling, 1990; Newbyfraser & Schlebusch, 1997). Assertiveness, as an interpersonal factor, was selected as a predictor in the present study because assertiveness, which has a role of accessing the social support mechanism, has been argued to be an important determinant in personal adjustment (Elliot & Gramling, 1990; Elliot, Herrick, Patti, Witty, Godshall & Spruell, 1991; Newbyfraser & Schlebusch, 1997). Assertiveness training has also been prescribed as a cost-effective intervention strategy for university counseling centers (Elliot & Gramling, 1990).

Another questionable point about the social support process is if social support is the causal factor (Cohen & Wills, 1985). Cross-sectional designs cannot distinguish between two important alternative hypothesis: (1) Reports of perceived support are influenced by pre-existing psychological symptoms; (2) Social support affects well-being (Schoenfeld, 1991). A defect in perceived support measures is their potential for confounding with psychological symptoms (Schonfeld, 1991). Perception of support available from others is likely to be influenced by one's psychological state. It is, therefore, important to control for pre-existing symptom levels when measuring perceived support (Cohen & Wills, 1985; Schoenfeld, 1991). In their review of the social support literature, Cohen and Wills (1985) suggested a design which allows causal interpretation of social

support mechanisms. They pointed out that a stronger test of the capacity of the social support scales to predict psychological symptoms would involve a longitudinal design.

In summary, university students are at the transitional stage from adolescence to adulthood. During this period, as well as confronting problems of adjusting to a new educational life, they struggle to achieve financial and emotional independence from the family, establish stable relationship with the opposite sex, and accept a new set of social values. This period requires an adjustment for young adults and creates a number of sources of stress. Consequently, they are faced with several individual, social, and academic problems during this period of time. Social support moderates the deleterious effects of such stressful encounters for many people. However, interpersonal variables, such as assertion, should be taken into account in the process of social support mechanisms.

The purpose of this study is to evaluate the potential role of three predictors, social support, assertiveness and stress, on psychological well-being of university students in a longitudinal design.

In the present investigation social support, assertiveness, and stress appraisal were investigated to determine whether social support and assertiveness moderate the relationship between stress and psychological distress among Turkish university students in a prospective design. The longitudinal design in the present investigation involved measuring symptoms in individuals at two points in time,

and allowing for Time 1 measures of support and assertiveness and Time 2 measures of stress to predict Time 2 symptoms, while statistically controlling for the pre-existing (Time 1) levels of symptom, which are potential 'contaminants' of the support measures.



CHAPTER II

REVIEW OF THE LITERATURE

2.1 Stress and its consequences

Stress is a part of everyone's life. A certain amount of stress is to be expected in daily life, but too much stress may be harmful. There are few areas of contemporary psychology which receive more attention than stress (Hobfoll, 1989). Therefore, there is a large and growing literature on stressful life events and their relationship to physical and emotional illness (Garrity & Ries, 1985). It is well known that stress is damaging to the effectiveness and efficiency of the organism. The stress literature reflects the researchers' belief that stress is a major factor affecting people's lives and is intimately tied with many problems of physical health (Hobfoll, 1989). Hobfoll (1989) added that the interest in stress has also caught the attention of the popular press, illustrating that stress is of concern to the lay public as well as the academic community. A large number of recent studies have examined the relationship between stress and psychological well-being (e.g., Cohen, McGowan, Fooskas, & Rose, 1984; Aro, Hanninen, & Paronen, 1989; Clum & Febbraro, 1994; Ystgard, 1997). Research findings show that the adverse effects of stress cost society dearly, both in terms of individual suffering and in the form of economic burden of medical expenses, absenteeism, and occupational injuries (Abouserie, 1994). Stress has been shown to predispose individuals to cardiovascular disease, to gastrointestinal problems, to muscle-

related disorders, to allergic reaction, and to decreased productivity (Kohn & Frazer, 1986). Short-term stress has also been implicated in reports of more immediate physical complaints (DeLongis, Folkman, & Lazarus, 1988). In their prospective study, DeLongis et al., (1988) have examined daily stress processes among 75 married couples across 20 assessments during a 6-month period. It was found that there was a tendency for an increase in daily hassles to be associated with a decline in health and mood. That is, a significant relationship was found between daily stress and the occurrence of both concurrent and subsequent health problems such as the flu, sore throat, headaches, and backaches. Their study also found individual differences in the extent to which daily stress was associated with health and mood across time. Participants with unsupportive social relationships and low self-esteem were more likely to experience an increase in psychological and somatic problems both on and following stressful days than were participants high in self-esteem and social support (DeLongis, Folkman, & Lazarus, 1988).

Life events (Lin & Ensel, 1989) and life changes (Sarason, Johnson, & Siegel, 1978) are considered to be sources of stress for individuals. Sarason et al. (1978) asserted that the previous studies were based on the assumptions that (a) life changes require adaptation on the part of the individual and are stressful, and (b) persons experiencing marked degrees of life change during the recent past are susceptible to physical and psychiatric problems. Historically, most stress research with adolescents has focused on assessing the effects of major life events, such as death of a close family member or parents' divorce. More recently,

due to the recognition that a majority of psychiatric problems in children and youth are attributable to smaller scale everyday problems rather than major crises, the influence of ongoing stresses and strains has received increased attention (Ainslie, Shafer, & Reynolds, 1997). Grannis (1992) sees a need for stress research that would include persistent conditions and daily stresses and disappointments. Compas, Phares and Ledoux (1989, cited in Ainslie, Shafer, & Reynolds, 1997) found evidence that major and daily stressors play complementary roles in relation to symptoms, with daily stressors mediating the association between major events and symptoms.

University students are at the transitional stage from adolescence to adulthood. During this period, as well as confronting problems of adjusting to a new educational life, they struggle to achieve financial and emotional independence from the family, establish stable relationship with the opposite sex, and accept a new set of social values. This period requires an adjustment period for young adults and creates a number of sources of stress consequently.

Individual consequences of stress, especially within the school context, that have been extensively studied include dissatisfaction with school, absenteeism, anxiety, depression, somatisation, and use of tobacco, alcohol, and drugs (DeMeuse, 1985; Garrity & Ries, 1985). Russell and Petrie (1992, cited in Solberg, 1997) posit that stress is a type of social/environmental factor that should also affect academic adjustment of university students. In a study by Şahin, Rugancı, Taş, Kuyucu, and Sezgin (1992), which was intended to investigate the stress related factors and

effectiveness of coping among Turkish university students, it has been found that the most important stress related factors that the students reported were specific to the university context. In a relatively recent study (Ystgard, 1997) which was intended to investigate the life stress, social support, and psychological distress in late adolescence, it was found that regarding the stressor, academic problems seemed to be of high importance. They were the most common and also the only type of stressors that contributed significantly to the variation in psychological distress for both boys and girls. These results suggested that academic problems are of specific significance at this developmental stage.

In another study (Rawson, Bloomer, & Kendall, 1994), which was intended to investigate the relationship between stress, anxiety, depression, and physical illness among university students, it was found that the partial correlation between stress and physical illness remained significant even when anxiety and depression were held constant. That is, stress still accounted for the variation in illness once anxiety and depression were held constant.

Stress and its effects on an individual's self perceptions have received substantial attention. Perceived control of time as it relates to students' stress has been the focus of empirical research. Macan, Shahani, Dipboye, and Phillips (1990) found that students who felt in control of their time reported significantly better evaluations of their performance, greater work and life satisfaction, less role ambiguity, less role overload, and lower job-induced and somatic tensions. The authors also found a correlation between aspects of time management and self-

reported performance and stress. Students reported less satisfaction with their life and work when experiencing greater role demands in conjunction with increased psychological and physical stress. These findings are consistent with the idea that the more stress students experience, the less satisfied they will be in the other areas of their life.

Garg (1992) found past academic performance to be a predictor of subsequent self-perceptions. That is, perception of scholastic competence may affect the individual's self-perceptions. Additionally, nonacademic perceptions (eg., physical ability, physical appearance, relations with the same or the opposite gender) were found to be influenced by the family, social satisfaction, mental stress associated with recent life-change experiences, and health factors. Those participants with low emotional self-concepts were also likely to have experienced recent life-change experiences and mental health problems. Specifically, students with high levels of stress (or life-change units) tended to have a less positive sense of mental well-being. Additionally, the author found that those who came from an intact family possessed a higher academic self-concept than those from a divorced or separated family. In a study (Goldman & Wong, 1997) which was intended to examine stress and college students' domain specific self-perceptions, stress was found to be negatively associated with the students' self-concepts. The students with higher stress levels reported less satisfaction in the domain of job competence. This study also found that those with higher stress had lower levels of global self-worth.

Stressful life events are seen as precipitating or triggering factors and occur close to the suicidal act (Heikkinen, Aro, & Lönnqvist, 1993). Therefore, the relationship between stressful life events and suicidal ideation within the academic setting has been examined by a number of investigators (e.g., Chair & Morris, 1991; Dixon, Rumford, Heppner, & Lips, 1992; Clum & Febbraro, 1994; Hirsch & Ellis, 1996; Tüzün, 1997). Chair and Morris (1991) found that college students may experience stress based on the occurrence of several variables, including, demands on time, perceived lack of support from faculty, financial pressure, competition, fear of failure, and parental or interpersonal conflict. As stress is presented and continues, students may become less confident in their abilities or fearful of their circumstances, thereby increasing the risk for suicidal behaviors. A study (Hirsch & Ellis, 1996), which was conducted with a sample of suicidal ideator and non-ideator college students, found that the presence of increased levels of stressors, including academic, interpersonal, social, and financial stressors, may be somewhat overwhelming, particularly if a person has a less well developed ability to resolve stressful life events. These authors have suggested that an inability to adequately cope with negative life-events may result in feelings of frustration, or hopelessness, which may promote suicidal ideation or behaviors. They also found that individuals endorsing suicidal ideation had greater levels of stress and lower levels of adaptive characteristics, than did non-ideators. This suggests that those individuals who have difficulty finding adequate methods of coping with stressful situations may become “hopelessly” overwhelmed when confronted with a stressor, and may consider suicide as an alternative solution to their problems.

When perceived demands exceed perceived personal abilities, stress may escalate. Higher levels of stress may demonstrate a negative relationship with physical or mental health. Some studies have found that there are some personal factors that mediate stress/health relationship. These factors are found to be cognitive appraisal and coping strategies (Folkman, Lazarus, Dunkel-Schetter, DeLongis & Gruen, 1986), self-complexity (Linville, 1987), and hardiness (Kobasa & Pucetti, 1983). Various resources, however, may also act as mediators in the stress/health relationship. Social resources include environmental variables such as social support which is one of the important resources that mediate stress/health relationship (Jenning, 1990).

This sphere of research has expanded to include the measurement of variables hypothesized to mediate or buffer the negative effects of stressors among students. Stress buffering refers to a variable's ability to protect an individual from the deleterious effects of appraised negative life-events (Cohen & Wills, 1985). Such variables can function in at least two ways (Towbes, Cohen, & Glyshaw, 1989). First, they can influence the cognitive appraisal of either the negative events themselves, or the coping responses elicited. Second, they can influence the reliance on specific coping strategies. One of the most investigated stress-buffering variables is social support.

2.2 Social Support

In recent years there has been considerable interest in the relation of social support to physical and psychological health. It has been repeatedly demonstrated that social support moderates the deleterious effect of stressful encounters for many people (Cohen & Wills, 1985; Winefield, Winefield, & Tiggeman, 1992; Uchino, Cacioppo, & Kiecolt-Glaser, 1996; Uchino & Garvey, 1997; Ystgaard, 1997; Winemiller, Mitchell, Sutliff, & Cline, 1993).

The term social support has been widely used to refer to the mechanism by which interpersonal relationships presumably protect people from the deleterious effects of stress (Cohen & Wills, 1985). A large literature attests that people who report lower levels or lower quality of existing socially supportive systems have more difficulties with depression and anxiety under stress (Cohen & Wills, 1985). That is, people with spouses, friends, and family members who provide psychological and material resources are in better health than those with fewer supportive social contacts. Cohen and Wills (1985) described two models that illustrated possible roles played by social support, as well as the specific aspect of social support likely to be involved in each model. The main effect model suggests that social support produces a generalised positive effect on individuals regardless of the level of stressor. Studies utilising measures of embeddedness (eg. one's sheer number of contacts with family or friends) most often support a main effect model, perhaps because a large social network might provide more opportunities for positive experiences and help individuals to avoid negative ones (Cohen & Wills, 1985). Evidence of the main effect model implies that lack of social

support is itself a source of stress, and conversely, that the availability of support has a positive impact on adjustment (Mallinckrodt & Leong, 1992). The second model, the buffering model, suggests that social support interacts with stress, in that high levels of social support moderate the negative effects of stress on adjustment. That is, perceived social support may buffer individuals against the adverse psychological consequences of exposure to stressors. Significant statistical interactions of social support with stress in predicting levels of stress symptoms are taken as evidence of buffering effects (House, 1981, cited in, Mallinckrodt & Leong, 1992). Under the buffering effects social support is more useful to persons undergoing relatively high levels of stress than to persons who are relatively stress-free, and the availability of support moderates or “buffers” the otherwise deleterious impact of life stresses (Mallinckrodt & Leong, 1992). Studies utilising measures of perceived availability of specific support function (especially esteem and informational support) most often provide evidence consistent with the buffering model (Cohen & Wills, 1985). Although, both the main-effect (e.g. Fried & Tiegs, 1993; Windle, 1992; Flannery & Wieman, 1989) and the buffering models (e.g. Ystgard, 1997; Flannery & Wieman, 1989) have received empirical support the validity of either model appears to be contingent upon such conditions as the sources of social support, the stressor and strains examined and, especially, the conceptualisation and definitions of social support, and the type of design of the study. With regard to the type of design, it appears to be important if the study is conducted cross-sectionally or longitudinally.

The recent review studies on social support (Winemiller et al. 1993; Hupcey, 1998) have shown that there is a lack of uniformity with regard to the conceptualisation and definition of social support. One significant finding of Wiemiller et al (1993) and Hupcey (1998) was that the definition of social support is continuing to evolve. The term "social support" has been conceptualised and defined in various ways. Three examples may suffice to indicate conceptual differences among theorists. Sarason (1983) defined social support as the existence or availability of people, on whom we can rely, people who let us know that they care about and value us. This consideration of social support is primarily a cognitive or psychological characteristic of individuals. According to Thoits (1985, cited in Hupcey, 1998) social support most commonly refers to helpful functions performed for an individual by significant others such as family members, friends, coworkers, relatives, and neighbours. These functions typically include emotional aid, instrumental aid, and informational aid. On the other hand, Procidano and Heller (1983) defined support as the perceived availability of assistance in a person's network to cope adequately with stressors. As can be seen from the literature review, there is no uniformity in respect to the definition of social support. As a result of the differences in how social support is conceptualised, findings on the role of support in alleviating stress are sometimes contradictory and difficult to interpret.

Cohen and Wills (1985) gave importance to the perception of social support as a moderator in the link between stress and psychological well-being and suggested at least three distinct types of social support provided by interpersonal

relationships. First, interpersonal relationships may contribute to health because they are a source of acceptance and intimacy, ie. emotional support. Second, there is consensus that social support may provide useful information, advice and guidance, ie. informational support. Third, people may assist with instrumental problems by providing financial assistance, goods, or service, ie. instrumental support. This consideration points to multidimensionality of social support.

Because social support has not been systematically conceptualised, instruments for its measurement are varied and in the studies on social support and stress, various measures of social support have been developed (Cohen & Wills, 1985; Schonfield, 1991; Winemiller et al., 1993). Some instruments address social network resources. One purpose of these measures is to document the existence of specific social relationships such as marriage. The idea behind the usage of such types of measurements is to define social support as a network. However, there are some criticisms in defining the social support as a network. A criticism levelled at social network measures is that they do not predict responsivity to stressors and, therefore, provide only indirect evidence of support (Cohen & Wills, 1985; Schonfield, 1991). That is to say, the existence of a relationship between two individuals (eg. marriage) is not evidence that supportive behaviors are enacted. Another type of support measure perhaps remedies the deficiency of structural measures, that of support actually received (Schonfield, 1991). A disadvantage of measures of received support, however, is their confounding with need for support (Cohen & Wills, 1985). The amount of support received is confounded with the extent to which an individual encounters stressful life

situations and, consequently, becomes in need for support (Schonfield, 1991). In contrast, a number of investigators have advanced the view that measures of the perceived social support have advantages relative to alternative network and received-support measures (Cohen & Wills, 1985; Winemiller et. al., 1993; Antonucci & Israel, 1986; Uchino & Garvey, 1997). Compared to received-support or network measures, indices of the perceived support are less susceptible to confounding with life-events (Schonfield, 1991). Typically, research shows a low correlation between people's perceptions of the support they receive and objective indices (third-person ratings of behavior) of this support (Sarason, Shearin, Pierce, & Sarason, 1987). Because of such findings, Mankowski and Wyer (1996) asserted that some researchers have theorised that people's perceptions of the support they have available reflect a stable way of viewing their social environment that is relatively insensitive to variation in the support that actually exists. In their review study, Winemiller et al. (1993) revealed that 69.1 % of the studies examined perceived available support rather than support utilised or networks orientation. Therefore, recent empirical studies, (eg. Clum & Febraro, 1994; Solberg, 1997; Newbyfraser & Schlebusch, 1997; Ystgard, 1997) in which university students have been taken as samples, have utilised instruments which were intended to measure the perceived social support in order to test the hypothesis whether social support can moderate between stress and psychological well-being. The resulting data highlight the potential importance of differentiating the availability or perception and enactment of social support in studies of psychosocial processes and health.

From a measurement perspective, few researchers have provided adequate evidence of the reliability or validity of their instruments (Cutrona & Russell, 1987). Regarding reliability over time, a crucial point that arises concerns whether or not social support can be viewed as an enduring characteristic associated with the person. Until we know more about the relative stability of social support over time, it is crucial that we strive for measures that possess both test-retest reliability and sensitivity to actual changes in available support. However, in their review article, Winemiller et al. (1993) have reported that a large number of studies have utilised novel measures (61.1 %). That is, to say, a large number of studies were conducted with the instruments which were developed specifically for a particular study. This can also account for contradictory findings.

Many researchers (eg. Cummins, 1988; Elliot & Gramling, 1990; Elliot, Herrick, Patti, Witty, Godshall & Spruell, 1991; Buunk & Hoorens, 1992; Cutrona, 1989) asserted that findings of the studies on social support are contradictory and difficult to interpret largely due to lack of attention given to the role of personal and interpersonal process and the mechanism by which social support achieves its effects.

More recently the role of personal factors as determinants of both appraisals of support and actual support received has attracted increasing attention (Repetti, 1987; Sarason, Sarason, & Shearin, 1986). Cutrona (1989) has asserted that two individuals with objectively identical social support resources may describe these resources quite differently. By contrast, an individual's personal factors may

affect his or her actual social environment. Individuals who are more socially extraverted may behave in a way that draws others to them and that motivates others to behave in a supportive manner (Cutrona, 1989). This support from others may serve to protect the individual against the deleterious effect of stressful life events.

The process by which individuals appraise the quality or adequacy of social support may be influenced by a variety of personal factors, including self-efficacy (Newbyfraser & Schlebusch, 1997; Solberg, 1997), self-esteem (DeLongis, Folkman, & Lazarus, 1988), problem solving skills (Clum & Febbraro, 1994), locus of control (Jennings, 1990; Cauce, Hannan, & Sargeant, 1992; Cummins, 1988; Jorgensen & Johnson, 1990), and interpersonal factors such as assertion (Elliot & Gramling, 1990; Elliot, Herrick, Patti, Witty, Godshall & Spruell, 1991; Newbyfraser & Schlebusch, 1997). Beyond the effect of personal and interpersonal factors on people's subjective appraisal of social support, the actual quality and availability of support may be affected by the characteristics of the individuals.

Some researchers (Jenning, 1990; Cummins, 1988; Cauce, Hannan, & Sargeant, 1992) concluded that of the many personal factors, locus of control represents the variable with the soundest empirical evidence of association with stress/health equation. That is, individuals with an internal locus of control apparently use social support as an aid to coping with stress.

In a study which was conducted with 112 university students and which utilised perceived availability of social support, it was found that the perceived availability of social support buffers the effects of stress for internals on locus of control (Cummins, 1988). In that study, the moderator effects of locus of control and social support were assessed by significant interaction terms of both variables in the equations after the effect of stress in the equations was statistically controlled. However, the study can be criticised in terms of its cross-sectional type of design, which will be discussed later in this section.

In another study (Solberg, 1997), which was intended to investigate whether self-efficacy and social support moderate the relationship between stress and psychological distress among 164 college students, a total of 46% of the variance in psychological distress was accounted for by the combination of self-efficacy, social support, and stress. Self-efficacy and social support combined to account for 33% of the variance in college adjustment, with self-efficacy providing the largest contribution (27%). On the other hand, eventhough the author hypothesized the moderator effects of self-efficacy and social support in adjustment, each of the variables were entered into the equation separately but not interactively. That is, the strength of prediction of each variable was calculated separately. Statistically, the moderator effects of two variables can only be obtained from the significant interaction of these two variables after controlling for their main effects.

Measures of problem-solving skills of a college sample were utilised by Clum and Febraro (1994) in order to assess whether stress, social support, and problem-solving skills were predictive of level of suicidality within a chronic suicidal college sample. This study has found out that problem-solving skills are significant predictors of severity of suicide ideation. In addition, both problem-solving skills and social support mediated the relationship between stress and level of suicide ideation.

Elliot and Gramling (1990) have asserted that several studies have found unexpected negative results of social support among people under stress. These result have been difficult to interpret and integrate, primarily because of the general disregard of personal and interpersonal factors that potentially moderate social support processes (Elliot & Gramling, 1990). The lack of understanding of the role of interpersonal and personal factors in the social support process poses unique problems, especially for counseling intervention.

Coyne and DeLongis (1986) have argued that overinvolvement, overprotectiveness, and intrusiveness in problematic relationships are very distressing, and therefore these relationship do not qualify as “supportive”. They recommended future social support research to take into account the interactional components of social relationships that may moderate supportive and distressing qualities. People who are high in self-esteem and who are comfortable receiving help report more satisfaction with social support received following a stressful encounter than do those who have lower levels of these personal characteristics

(Dunkel-Schetter, Folkman & Lazarus, 1986). The exact impact of interpersonal factors, such as assertion, on the social support process has been systematically explored with very limited empirical studies, despite the recommendations of many who believe such work is necessary for further understanding and for the development of intervention programs especially for the university students (Coyne & DeLongis, 1986; Cutrona, 1986).

Assertiveness as an interpersonal factor may play a critical role in the social support process. According to Wolpe and Lazarus (1966, cited in Rathus, 1975) people who are assertive are believed to competently communicate their thoughts and feeling in a manner that respects the rights of others. Assertive individuals develop confidence and satisfaction in their ability to communicate with others (Rathus, 1975). In their cross-sectional study which utilised a sample of 141 undergraduate college students, Elliot and Gramling (1990) have found out that assertive college students under stress were able to benefit from supportive relationships that provide a sense of social integration and personal worth. In another cross-sectional study (Elliot et al., 1991) conducted to test the hypothesis that whether assertiveness and social support would be predictive of psychological adjustment among persons with acquired spinal cord injuries, it has been found out that assertiveness and social support were predictive of post-injury depression and psychosocial impairment. Interestingly, the interaction between assertion and social support accounted for a greater percentage of available variance in depression and impairment scores than assertiveness alone. In a relatively recent study (Newby-Fraser & Schlebusch, 1997), which utilised a sample of 247 first

year college students, non-assertion significantly predicted psychosomatic and emotional symptoms beyond the effects of loneliness and life change events.

Assertive individuals who are experiencing high levels of stress, then, would be expected to display effective interpersonal behavior in the social support process. This would encompass appropriate requests for assistance from others, declining inappropriate offers of help, and defending personal rights in the face of insensitive remarks (Elliot & Gramling, 1990). These behaviors provide a person with skills essential for adaptive coping under stress and would be instrumental in enhancing the positive effect of social relationships. It is reasonable to expect assertive persons to be more effective in utilizing support available in their interpersonal environment (Elliot et al., 1991). Therefore, assertiveness training can help college students acquire interpersonal behaviors to effectively access and use support which in fact can moderate the deleterious effects of stress in their natural social environment.

2.3 Cross-sectional vs Longitudinal Study

As it is mentioned above the mechanism by which social support achieves its effect has not been clarified yet due to differences in conceptualisation of social support, problems with psychometric properties of social support instruments, and the type of research design utilised.

From a methodological standpoint, cross-sectional findings are susceptible to bias associated with possible confounding between measures of socio-environmental

conditions, such as social support and stress, and adjustment (DuBois, Felner, Meares, & Krier, 1994). Prospective research is needed in which the effects of stress and its interaction with social support on strain measured at a later point in time are examined (Cohen & Wills, 1985; Wohlgemuth & Betz, 1991; DuBois, Felner, Meares, & Krier, 1994). Much research in this area has involved cross-sectional collection of both predictor and criterion measures, even though in theoretical conceptualisation stress is viewed as antecedent to or a cause of strain. Although several studies which utilised cross-sectional design identified a significant relationship between stress and social support, it is not possible, on the basis of the cross-sectional design, to draw a safe conclusion about causality (Cohen & Wills, 1985; Ystgard, 1997). Cross-sectional designs cannot distinguish between two important alternative hypotheses: (1) Reports of perceived support are influenced by pre-existing psychological symptoms; (2) Social support affects well-being (Cohen & Wills, 1985; Schonfeld, 1991). Prospective data can begin to address these issues by examining the time-lagged correlation between initial levels of factors, such as support and stress, and subsequent adjustment (that is, psychological symptoms) (DuBois, Felner, Brand, Adan, & Evans, 1992). In brief, a defect in perceived support measures is their potential for confounding with psychological symptoms. Network measures, by contrast, are less susceptible to this type of confounding since they can be documented as present or absent (Schonfeld, 1991). Perception of the support available (that is, perceived support) from others is likely to be influenced by one's psychological state. It is, therefore, important to statistically control for pre-existing symptom levels when measuring perceived support. The design for addressing this concern is proposed by a

number of investigators (eg., Cohen & Wills, 1985; DuBois et. al., 1992; Ystgard, 1997). The suggested strategy is to use a prospective approach in which longitudinal correlations between predictors (such as, social support, stress or other personal or interpersonal variables) and criterion (adjustment or psychological symptoms) are analysed after controlling statistically for the initial levels of adjustment or symptoms. Although significant correlations obtained in this manner still do not “prove” causation, they do provide considerably stronger evidence for the etiological contribution of mentioned factors than either cross-sectional results or simple longitudinal associations (DuBois et. al., 1992). Therefore, the above described longitudinal design is suggested as a stronger test of the capacity of the social support scales to predict psychological symptoms (Cohen & Wills, 1985; Schonfeld, 1991; Wohlgemuth & Betz, 1991; DuBois, Felner, Meares, & Krier, 1994; Cohen, McGowan, Fooskas, & Rose, 1984; Ystgard, 1997; DuBois, Felner, Brand, Adan, & Evans, 1992).

2.4 Aim of the Study

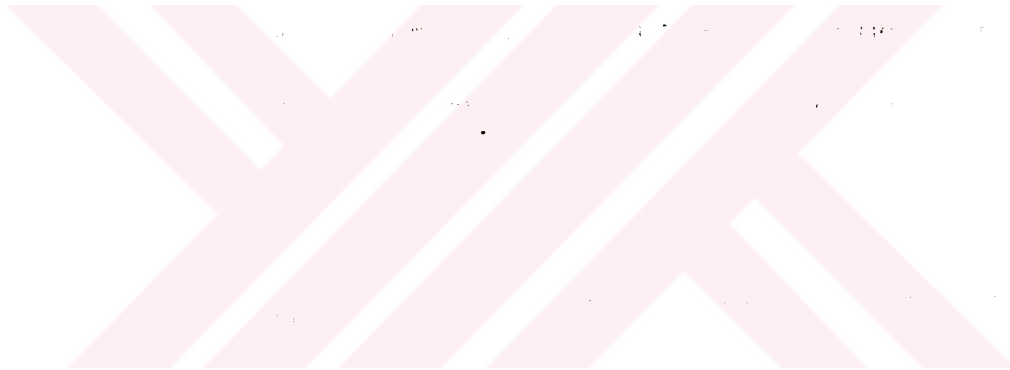
University life creates various sources of stress resulting in a number of psychological, physiological, and academic problems, especially for the students who are in their first year at the university. Social support systems, on the other hand, moderate these deleterious effects of stress occurring in the university setting. However, in order to access or utilise the available social support systems the interpersonal factors, such as assertiveness, should be taken into account.

Social support, assertiveness, and stress appraisal were investigated to determine whether social support and assertiveness moderate the relationship between stress and psychological distress among Turkish university students by using a prospective design. The present study has focused on the support system's functions, that is, the perceived types of support being offered. Guidance, attachment, and social integration are just some examples of the functions measured. This type of support may be termed functional perceived social support because the measures ask for subjective self-reports of the amounts of support that the individual perceives. Stress was measured in terms of the incidence of various important stressful life events that have occurred over the last 3 months. Psychological adjustment, on the other hand, was measured in terms of the psychological symptoms that the subjects had at the moment.

The longitudinal design in the present study involved measuring symptoms in individuals at two points in time, and allowing for Time 1 measures of support and assertiveness and Time 2 measures of stress to predict Time 2 symptoms, while statistically controlling for the pre-existing symptoms (Time 1), which are potential 'contaminants' of the support measures.

Although university students experience a high level of stress, the relationship between stress, social support and interpersonal factors, specifically, assertion in such a sample has been of limited interest in the literature. The primary objective of this study is to extend the literature in this area by specifically examining the relationship between stress, social support and assertiveness in a prospective

design. It was hypothesized that (a) stress would be directly related to levels of distress and, (b) the interaction of social support and assertion would moderate the relationship between stress and levels of distress (ie., the negative effects of stress would be ameliorated by perceiving higher amounts of social support available and by possessing higher assertion). More specifically, related to the second hypothesis, the six interaction terms (stress x assertion x each of the six perceived types of social support) would be significant.



CHAPTER III

METHOD

3.1 SUBJECTS

The present study consisted of two stages. In the first stage 280 university students (114 females and 166 males) were used for the adaptation study of Social Provisions Scale into Turkish. As a sampling procedure, convenience sampling was used but an attempt was made to include students from various faculties. The students ranged in age from 17 to 29 with a mean of 22.15 (Sd=1.61). All of the students were from the different departments of Middle East Technical University. Some socio-demographic characteristics of the group are given in Table 1.

Table 1. Socio-demographic characteristics of the sample of the first study (N=280)

Variables	Mean	SD
Age	22.15	1.61
	Frequencies	
Gender		
Male	166	
Female	114	
Faculties		
Engineering	91	
Education	53	
Architecture	9	
Arts and Science	85	

(Table 1. Continued)

Economy and Administration	41
Automation Technology	1

In the main study, the sample consisted of 335 university students (108 females, 227 males). All of the students were from the English preparatory school of Middle East Technical University. Students ranged in age from 16 to 24 with a mean of 18.01 (Sd=1.13). The majority of them (95.8 %) fell between the ages of 17 and 19. Some socio-demographic characteristics of the main group are given in Table 2.

Table 2. Socio-demographic characteristics of the sample of the main study (N=335)

Variables	Mean	SD
Age	18.01	1.13
	Frequencies	
Gender		
Male	227	
Female	108	
Faculties		
Engineering	130	
Education	38	
Architecture	23	
Arts and Science	96	
Economy and Administration	44	
Automation Technology	4	
Residence ^a		
Village	12	
Town	34	

(Table 2. Continued)

City	113
Big city	176
Mother alive	
Yes	333
No	2
Mother's educational level	
Illiterate	14
Literate (No formal schooling)	11
Primary school graduate	109
Middle school graduate	28
High school graduate	72
University graduate	100
No information	1
Mother's profession	
Retired employer	54
Teacher	38
Housewife	202
Employer	20
P1 (Private jobs; lawyer, doctor etc.)	11
P1 (Private jobs; trade, contractor etc.)	5
Worker	2
Retired worker	1
No information	2
Father alive	
Yes	323
No	12
Father's educational level	
Illiterate	1
Literate (No formal schooling)	6
Primary school graduate	74
Middle school graduate	18

(Table 2. Continued)

High school graduate	67
University graduate	169
Father's profession	
Retired employer	90
Teacher	33
No formal job	4
Employer	56
P1 (Private jobs; lawyer, doctor etc.)	54
P1 (Private jobs; trade, contractor etc.)	62
Worker	31
Retired worker	2
No information	3
Parents together	
Yes	311
No	24
Parents separated; living with	
Mother	22
Father	2
Siblings	
Yes	315
No	20
Place of living	
Family	104
Relatives	37
Dormitory	158
Home alone	5
Home with friends	25
Home with siblings	6

* For the longest duration of time

3.2 INSTRUMENTS

Five instruments, namely, Brief Symptom Inventory (BSI) (Appendix A), Rathus Assertiveness Schedule (RAS) (Appendix B), Social Provisions Scale-T (SPS-T) (Appendix C), Life Experience Survey (LES) (Appendix D) and Demographic Information Form (Appendix E) were used in the present study. The scales are described below.

3.2.1 Social Provisions Scale (SPS)

Because it is possible that assertiveness could enhance the support from certain types of social relationship and not others, it was considered crucial to measure social support from a theoretical perspective that takes into account the different naturally occurring social relationships (Elliot & Gramling, 1990). The Social Provisions Scale (SPS; Russell & Cutrona, 1984) is a measure of perceived social support based on Weiss' (1974) typology of social relationships (Cutrona & Russell, 1987). Weiss described six different social functions or "provisions" that may be obtained from relationships with others. He contends that all six provisions are needed for individuals to feel adequately supported and to avoid loneliness, although different provisions may be most crucial in certain circumstances or at different stages of the life cycle. Each of the provisions is most often obtained from a particular kind of relationship, but multiple provisions may be obtained from the same person. Weiss' provisions may be divided conceptually into two broad categories: assistance-related and non-assistance-related (Cutrona & Russell, 1987). In the first category fall the functions most directly relevant to problem-solving in the context of stress; *guidance* (advice or

information) and *reliable alliance* (the assurance that others can be counted upon for tangible assistance). Guidance is most often obtained from teachers, mentors, or parent figures, whereas family members most often provide reliable alliance.

According to Cutrona and Russell (1987) the non-assistance-related provisions do not contribute directly to problem solving, and would seem to have beneficial effects under conditions of both high and low levels of stress. Their effects are probably mediated by cognitive processes (eg., enhancement of self-efficacy, effect on causal attribution processes). *Reassurance of worth* (recognition of one's competency, skills, and value by others) is one such provision.

A second provision with implications for self-esteem is unique to Weiss's theoretical model (Cutrona & Russell, 1987). According to Weiss, an important aspect of interpersonal relationship is feeling needed by others. Thus, he includes *opportunity for nurturance* (the sense that others rely upon one for their well-being) in his conceptual scheme. According to Weiss, the most frequent sources of opportunity for nurturance is one's offspring, although the spouse is another frequent source. Cutrona and Russell (1987), the developers of this scale, added that opportunity for nurturance couldn't be considered social support, in that the individual is the provider rather than recipient of assistance.

The last two provisions concern the presence of affectional ties: *attachment* (emotional closeness from which one derives a sense of security) and *social integration* (a sense of belonging to a group that shares similar interests, concern,

and recreational activities). Attachment is most provided by the spouse, but may also be derived from close friendship or family relationships. Social integration is acquired most often from friends. Such ties may provide comfort, security, pleasure, and a sense of identity. To the extent that such positive affects have an impact on health, attachment and social integration may promote health (Cutrona & Russell, 1987).

The Social Provisions Scale (SPS; Russell & Cutrona, 1984), as it is mentioned above, is a measure of social support based on Weiss' typology. The 24-item questionnaire requires respondents to rate each item on a four-point Likert scale to indicate the degree to which a type of support is being provided by one of the theoretically-derived relationships. Separate sub-scale scores are computed for six sub-scales, namely, attachment (A), social integration (SI), guidance (G), reassurance of worth (ROW), reliable alliance (RA), and opportunity for nurturance (OFN), each measuring a component of social support postulated by Weiss. From this perspective, relationships that comprise social support systems can be categorised into the essential functions that they serve. Social relationships have demonstrated differential effects on depression and other symptoms across diverse populations such as postpartum women, elderly individuals, nurses (Cutrona & Russell, 1987), and college students (Elliot & Gramling, 1990).

To evaluate the reliability of the original instrument, analyses were conducted on a sample of 1792 respondents, which included 1183 students, 303 public school teachers, and 306 nurses from a military hospital (Cutrona & Russell, 1987). The

coefficient alphas ranged from .65 to .76 indicating that the reliabilities of the individual social provisions sub-scales are adequate for the use of the instrument in research context. Reliability of the total Social Provisions score was .92. Test-retest reliability obtained among a sample of elderly adults for the total score on the SPS was 0.55 over a 6-month period (Cutrona & Russell, 1987). In the same study, Cutrona and Russell reported that, confirmatory factor analysis has confirmed a six-factor structure corresponding to the six provisions.

An issue that arises in validating social support measures concerns their discriminant validity. In order to evaluate the discriminant validity of the Social Provisions Scale, Cutrona and Russell (1987) used a sample of 242 college student at the University of Iowa. In this study the subjects completed an extensive set of measures. Different types of scales were intended to measure perceived social support, depression, neuroticism, and social desirability. They asserted that one method for assessing the discriminant validity of a scale involves evaluating the convergent and divergent validities. Specifically, they expected that score on the Social Provisions Scale would be more highly correlated with other measures of social support (convergent validity) than they would with measures of conceptually distinct constructs (divergent validity). They found that the correlations between the scores on the Social Provisions Scale and the other measures of social support were generally higher (ranging between .35 and .45) than they were with the measures of the other variables (ranging between -.27 and .28).

All the results given above support the adequate psychometric properties of the Social Provisions Scale. It can measure perceived social support in a reliable and valid way in a Western sample.

The aim of the first stage of the present study was to evaluate the psychometric properties of the Social Provisions Scale (SPS; Russell & Cutrona, 1984) in a Turkish sample. In June 1997 the permission for the copyrighted instrument and the original form of the Social Provisions Scale (Appendix F) was received from Carolyn E. Cutrona who is one of the developers of this scale. Four Turkish native speakers who are proficient in English translated the scale into Turkish. Two of them had spent several years in the U.S.A. After the translation the form on which there was a very high consensus among the four translators was used as the Social Provisions Scale-Turkish Form (SPS-T). The socio-demographic characteristics of the sample are given in Table1. The sample consisted of 280 (114 females and 166 males) university students from different departments of the Middle East Technical University. In addition to the SPS-T, two other inventories, anxiety and depression inventories were used. They were utilised to examine the construct validity of the SPS-T. The instruments used in the first study are described briefly below.

The Beck Depression Inventory and the Beck Anxiety Inventory are used to measure depression and anxiety, respectively. The studies, which were aimed to evaluate the psychometric properties of the Beck Depression Inventory (BDI) in Turkish samples, were conducted by Tegin (1980), Aydın and Demir (1989) and by Hisli (1988). Test-retest reliability of the inventory in a normal sample was .65

over a two-week period and the internal consistency, which was estimated by the split-half reliability coefficient, was .78 in a normal sample and .61 in a depressed sample (Tegin, 1980). In another study, in which a sample of university students were used, the split-half reliability coefficient was found to be .74 (Hisli, 1989). In the same study it was found that the Beck Depression Inventory's concurrent validity, calculated with the use of the Depression Subscale of the Minnesota Multiphasic Personality Inventory, was .63 and .50 in a student and a psychiatric sample, respectively.

A study, which aimed to evaluate the psychometric properties of the Beck Anxiety Inventory in Turkish samples, was conducted by Ulusoy, Şahin, and Erkmen (1996, cited in Savaşır & Şahin, 1997). This study, in which 177 psychiatric patients were used, reported that the Cronbach Alpha Coefficient was found to be .93 for the whole scale. The test-retest reliability of the inventory was .57. However, the time period for this procedure was not reported. This study also reported some information about the criterion-related validity of the Beck Anxiety Inventory. The correlation coefficients of this scale with the Automatic Thoughts Questionnaire, the Hopelessness Scale, the Beck Depression Inventory, the State Anxiety Inventory (STAI-S), and the Trait Anxiety Inventory (STAI-T) were .41, .34, .46, .45, and .53, respectively. The result of factor analysis showed that the Beck Anxiety Scale had two factors: the Subjective Anxiety Subscale which consisted of 13 items and the Somatic Symptoms Subscale which consisted of 8 items. In the case of both instruments, research results support their use in the Turkish culture.

In the present study all the analyses for examining the psychometric properties of the Social Provisions Scale were carried out by using the SPSS (Nie, Hull, Jenkins, Steinbrenner, & Bent, 1975; Tabachnick & Fidell, 1996) and LISREL8W (Jöreskog & Sörbom, 1993) programs.

Prior to the analysis all the demographic and the test variables were examined through various SPSS programs for accuracy of data entry, missing values, and fit between their distributions and the assumptions of univariate/multivariate analysis. All the cases with missing values on any one variable were deleted. To reduce the extreme skewness and kurtosis, value of depression, anxiety, and social support were transformed by using square root transformation (Tabachnick & Fidell, 1996). Then, normality was checked and was found to be satisfactory after square root transformation.

Fifteen cases with extremely low z scores on the variables were found to be univariate outliers. All fifteen outliers were deleted, leaving 232 cases for analysis.

In the present investigation it was decided to keep all the six sub-scales (that is, provisions) of the Social Provisions Scale because it is important to find out the type of provision that moderates the effect of stress. Due to difficulties of well-known factorial solutions in terms of confirmation of any given scale and its sub-scales in cross-cultural research a confirmatory factor analysis, based on data from the Turkish university students, was performed through LISREL8W (Jöreskog &

Sörbom, 1993) on the Social Provisions Scale-Turkish Form. The hypothesized model is presented in Figure 1 where the circle represents the latent variable, and the rectangles represent the measured variables. Absence of a line connecting variables implies no hypothesized direct effect. A one-factor model of social support was hypothesized.

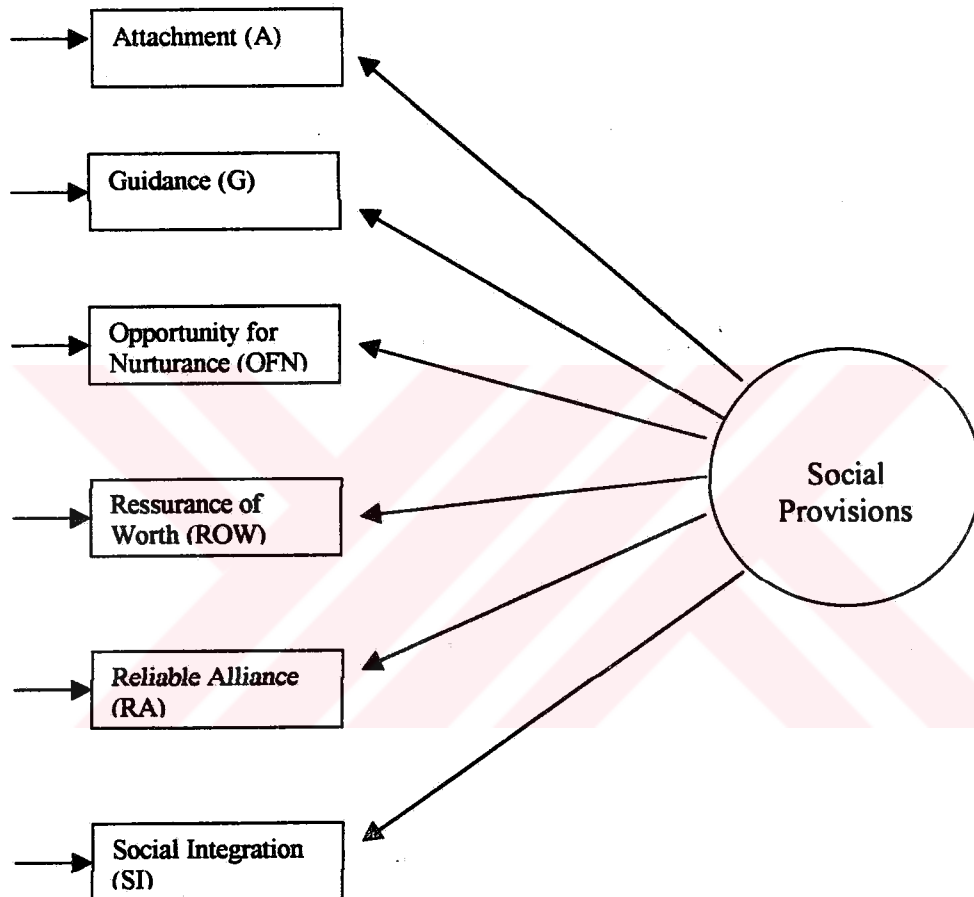


Figure 1.Hypothesized CFA Model.

Maximum likelihood estimation was employed to estimate all models. The independence model that tests the hypothesis that all variables are uncorrelated was easily rejected, $\chi^2 (15, N=232) = 860.58, p < .01$. This χ^2 tests the hypothesis

that the variables are unrelated; it should always be significant (Tabachnick & Fidell, 1996). If it is not, modeling should be reconsidered.

The hypothesized model was tested next and support for it was found, χ^2 (8, N=232) = 28.80, $p = .005$, comparative fit index (CFI) = .94. Ideally a non-significant chi-square is desired. (If the model were perfect, the chi-square would equal zero and the probability level of a zero chi-square would equal 1.) Therefore, the model modification was considered. Post hoc model modification was performed in an attempt to develop a better fitting and a possibly more parsimonious model. The model modification suggested letting the error variances of the Opportunity of Nurturance Sub-scale and the Guidance Sub-scale correlate in order to develop better fitting. After this modification (that is, letting the error variance of the two sub-scales correlate with each other) a reestimation was done with the results: χ^2 (8, N=232) = 13.73, $p = .08$, comparative fit index (CFI) = 0.99, goodness of fit index (GFI) = 0.98, adjusted goodness of fit index (AGFI) = 0.96. The comparative fit index, the goodness of fit index, and the adjusted goodness of fit index indicated a better fitting, more parsimonious model after modification. The final model, including significant correlation coefficients in standardized form, is illustrated in Figure 2.

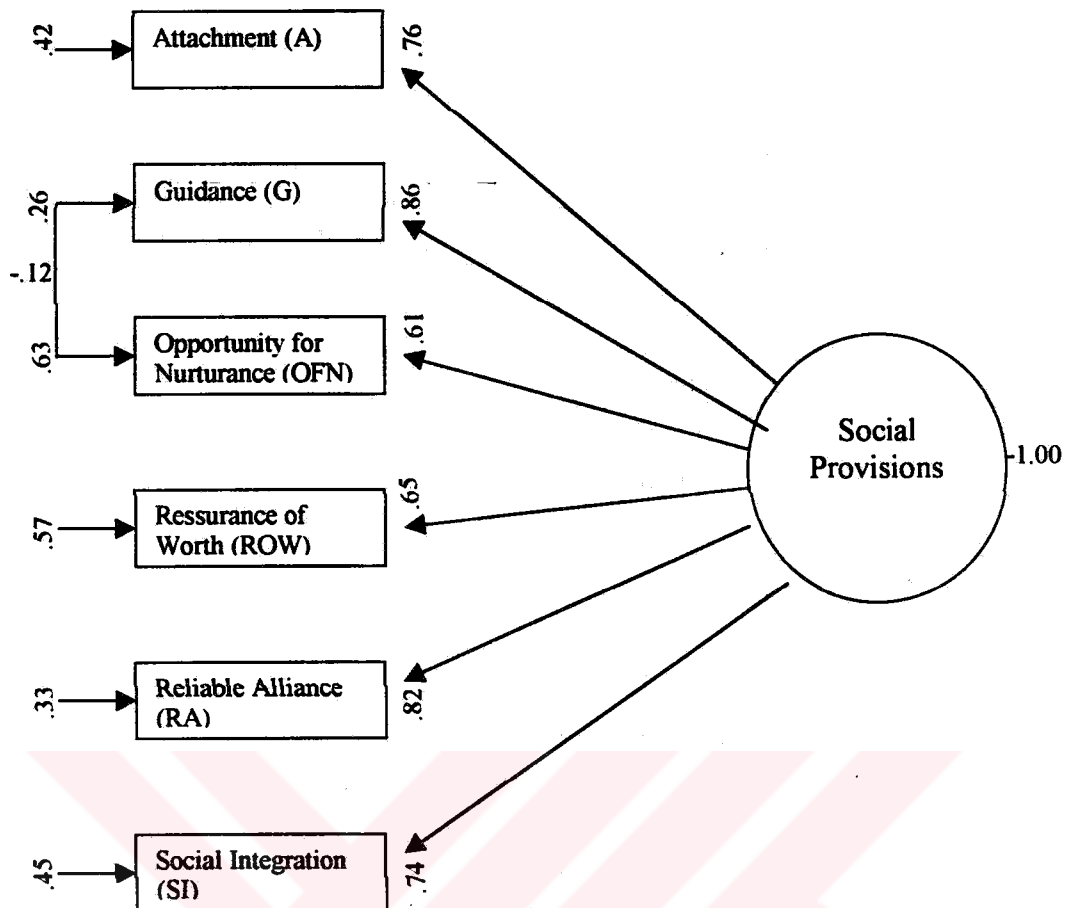


Figure 2. Final Modified CFA Model with Correlation Coefficients Presented in Standardized Form.

Overall, the results of the factor analysis have confirmed a six-factor structure corresponding to the six provisions sub-scales. These factor analysis results, therefore, suggest that the measure of social provisions form separate six correlated factors (see Table 3 for correlation coefficients between the sub-scales).

Table 3. Correlations of the SPS-T and Its Sub-scales with the Beck Depression Inventory and Beck Anxiety Inventory and Its Sub-scales

Scales	A	SI	G	ROW	RA	OFN	SPS-T
Attachment (A)	.53**						
Social Integration (SI)	.68**	.63**					
Guidance (G)	.53**	.50**	.57**				
Reassurance of Worth (ROW)	.59**	.59**	.71**	.48**			
Reliable Alliance (RA)	.38**	.47**	.39**	.45**	.44**		
Opportunity for Nurture (OFN)	.81**	.79**	.86**	.75**	.82**	.64**	
Total Score of Social Provisions Scale-T	-.29**	-.24**	-.24**	-.35**	-.24**	-.11*	-.31**
Beck Depression Inventory (BDI)	-.10	-.15*	-.12*	-.12*	-.14*	.01	-.13*
Beck Anxiety Inventory (BAI)	-.12*	-.17**	-.14*	-.10	-.13*	.02	-.15*
Subjective Anxiety Subscale of BAI	-.08	-.10	-.07	-.12*	-.15*	.02	-.10

* p < .05, one-tailed. ** p < .001, one-tailed.

In order to evaluate the construct validity of the Social Provisions Scale-T, correlations with the Beck Depression Inventory and the total scale score of the Beck Anxiety Inventory and its sub-scales were calculated. As can be seen from Table 3 almost all of the correlations of the Social Provisions Scale-T and its sub-scales with the Beck Depression Inventory and the Beck Anxiety Inventory were negative, as expected. However, not all the correlations were significant. Most of the correlations of the total scale of and the five sub-scales of the Social Provisions Scale-T with the Beck Depression Inventory were significant at $p = 0.001$. On the other hand, the correlations of the total scale and only four sub-scales with the Beck Anxiety Inventory can reach the significance level. In summary, on the basis of the correlations with the Beck Depression Inventory, there appeared to be support for the construct validity of the Social Provisions Scale-T. However, the coefficients with the Beck Anxiety Inventory are not encouraging. These results, especially the coefficients of the Social Provisions Scale-T and its sub-scales with the Beck Anxiety Inventory, will be discussed in the Discussion Section.

The corrected item-total correlations of the Social Provisions Scale-T are given in Table 4. As can be seen three items of the scale (7, 9, and 15) correlated below 0.30 with the total scale.

Table 4. The corrected item-total correlations for the Social Provisions Scale-T

Items	r
Sps01	.58
Sps02	.38

(Table 4 Continued)

Sps03	.43
Sps04	.44
Sps05	.48
Sps06	.42
Sps07	.19
Sps08	.35
Sps09	.25
Sps10	.38
Sps11	.67
Sps12	.70
Sps13	.70
Sps14	.64
Sps15	.28
Sps16	.70
Sps17	.59
Sps18	.67
Sps19	.61
Sps20	.48
Sps21	.52
Sps22	.54
Sps23	.70
Sps24	.56

Cronbach's Alpha procedure was used as the measure of reliability. The results are given in Table 5 for the sub-scales and the total scale score of the Social Provisions Scale-T. The values for the sub-scales of the Social Provisions Scale-T ranged between 0.54 and 0.74, and showed moderate internal consistency for the sub-scales. For the whole scale, the coefficient was found to be 0.90, which showed good internal consistency for the total scale.

Table 5. Cronbach's Alpha values for the six sub-scales and the total scale of the Social Provisions Scale-T

Scales	Cronbach's Alpha
Attachment (A)	.70
Social integration (SI)	.60
Guidance (G)	.74
Reassurance of worth (ROW)	.61
Reliable alliance (RA)	.73
Opportunity of Nurturance (OFN)	.54
Total Scale of SPS-T	.90

3.2.2 Life Experience Survey (LES)

Sarason, Johnson, and Siegel (1978) developed Life Experience Survey (LES), which is a 57-item self-report measure. It assesses the incidence of various important stressful life events that have occurred over the last 6 months or 1 year. Although the Life Experience Survey assesses the life changes occurring during two 6-month intervals, in the present study all the analyses have involved change scores based on the preceding 3-month period. The respondents were asked to indicate the events experienced during the past 3 months, whether they viewed each event as being positive or negative and the perceived impact of the particular events on their lives. Each ratings was made on a 7-point Likert scale ranging from extremely negative (-3) to extremely positive (+3). Summing the ratings of those events designated as negative by the subjects provides a negative life experiences score. Positive life experiences score is obtained by summing the impact ratings of those events experienced as positive by the subjects. By adding these two values a total score is obtained. As Sarason et al. (1978) has indicated,

undesirable events may have a very different, and possibly a more damaging effect on individuals than positive events. Life Experiences Survey was based on the assumption that individuals perceive events differently and that overall life change may not reflect the actual amount of stress resulting from the experience of the specific event. Therefore, it was important to individualize the ratings of the desirability of events that individuals experienced. Negative life change scores have been found to correlate in the expected direction with a larger number of variables (eg., anxiety, academic achievement, social desirability, personal maladjustment, depression, locus of control, and patient status (Sarason et. al., 1978).

The Life Experience Survey appears to be moderately reliable, with the test-retest coefficients ranging from .63 to .64 over a 6-week period (Sarason et. al., 1978). In addition, as indicated above, negative life stress scores have been found to correlate significantly with a variety of variables (eg., anxiety, depression, loss of control and personal maladjustment).

The psychometric properties of the Life Experience Survey in a Turkish sample were evaluated by Aslanoğlu (1985) except for the last ten items that were relevant for students. In his study some other life event items which were thought to be related to Turkish culture were added to the translated scale. The test-retest reliability was .83 over a six-week period, and negative and total life change scores have been found to correlate significantly in the expected direction with State-Trait Anxiety Scale (STAI).

In another study (Tüzün, 1997), which used a sample of Turkish university students, the last ten items relevant for students were translated into Turkish and some of the items (ie. marriage, death of a spouse, trouble with employer, divorce) that were not relevant for university students were eliminated from the scale. The Cronbach's Alpha for the Life Experience Survey's total life change score and the negative life change score were found to be .67 and .66, respectively. The correlation coefficient of the Life Experience Survey with Beck Depression Inventory was found to be .34 and those with the sub-scales of the Suicide Probability Scale ranged between .42 and .68, which were significant at .001.

For the purpose of the present study, the severity ratings of the negative life events, which were obtained by summing the Likert Severity ratings of those events designated as negative by the subjects, were utilised in the analysis.

3.2.3 Rathus Assertiveness Schedule (RAS)

It is a 30-item measure of global assertiveness (Öner, 1996). The Rathus Assertiveness Schedule is one of the more widely used and accepted measures of assertiveness, and has evidenced acceptable test-retest (.78) and split-half (.77) reliabilities (Rathus, 1973, cited in Öner, 1996) and validity with other self-reported and observational measures of assertiveness and social skills. Rathus and Nevid (1977, cited in Voltan-Acar, 1980) conducted a study with psychiatric patients and found the internal consistency coefficient to be 0.84.

The psychometric properties of RAS were evaluated by Voltan-Acar (1980) in a Turkish sample. In this study, which used 37 university students as a sample, the test-retest reliability coefficient for a period of 15 days was found to be 0.91. Split-half reliability coefficient was 0.77. The criterion-related validity was conducted with a sample of 36 university students (Voltan-Acar, 1980). The scale was administered to a sample of 36 university students and to the instructors of those students. The correlation coefficient between these two groups was found to be 0.70.

3.2.4 Demographic Information Form

This questionnaire was prepared by the investigator in order to obtain information about the demographic and family characteristics of the subjects (See Appendix E). The questionnaire consisted of 15 questions. Some of them were “multiple choice” type and some were “fill in the blanks” type of questions.

3.2.5 The Brief Symptom Inventory (BSI)

The Brief Symptom Inventory (Derogatis, 1992), a self-report instrument, consists of 53 items related to various aspects of physical and psychological distress and is a shorter version of the original SCL-R-90 (Derogatis, 1992). Participants were instructed to indicate how distressed they had felt in the past 7 days by rating their level of distress on a 5-point scale (0=not at all to 4=Extremely). The Brief Symptom Inventory possesses good convergent and discriminant validity, as well as reliability (Derogatis & Melisaratos, 1983). With respect to convergent and discriminant validity, the items were found to correlate (all > .30) with the associated scales selected from the Minnesota Multiphasic Personality Inventory

(MMPI) and were not correlated with those MMPI scales not expected to be associated. A principal components analysis was performed to examine the construct validity and this yielded the nine hypothesized sub-scales, each with a loading greater than .35. The inventory consists of 53 items which have the highest loadings on the nine sub-scales of SCL-R-90 (Derogatis, 1992). In order to evaluate the internal consistency of the scale, a study which was conducted with 719 psychiatric patients, 626 male hypertension patients, and 25 normal persons, found out that the coefficients for the nine sub-scales ranged between .71 and .85 (Derogatis, 1992). In the same study, internal consistency estimate for the total scale was found to be .95. Test-retest reliability coefficients for two weeks period of time ranged between .68 and .91 for the nine sub-scales (Derogatis, 1992).

The Brief Symptom Inventory was adapted to Turkish by Şahin and Durak (1994). Factor analysis was performed in order to see the structure of the scale in Turkish culture and it was found that the Brief Symptom Inventory had five factors, namely, "Anxiety", "Depression", "Negative Self-identity", "Somatisation", and "Hostility". In three different studies conducted by Şahin and Durak (1994) the sub-scales were found to possess adequate internal consistency ranging from .55 to .86. For the whole scale the internal consistency coefficients ranged between .95 and .96. In terms of the convergent validity of the whole scale the correlations of the Brief Symptom Inventory with the UCLA-Loneliness Scale ranged between .24 and .36 in the three different studies (Şahin and Durak, 1994). The range for the Offer Loneliness Scale in the same three studies were between

.34 and .57; and for the Beck Depression Inventory it was between .34 - .70 (Şahin and Durak, 1994). As evidence for the construct validity for the total score of the Brief Symptom Inventory, these studies showed that this inventory could significantly differentiate a low stress group from a high stress group.

For the purpose of the present study all the items were summed to provide an index of university students' distress without using any sub-scale scores.

3.3 PROCEDURE

The present study consisted of two stages. The first stage included the adaptation of the Social Provisions Scale. In July 1997 during the summer school of The Middle East Technical University, the first group of instruments, namely, the Beck Depression Inventory, the Beck Anxiety Inventory, the Social Provisions Scale-T, and the Demographic Information Form were distributed to the students during course hours by the researcher in order to examine the psychometric properties of the Social Provisions Scale-T. An attempt was made to use a variety of classes in order to obtain a heterogeneous sample as much as possible. Permission was obtained from the instructors of the courses. Although the participation was on a voluntary basis, some of the instructors gave extra credit for the students' participation in the study. The first page included a general introduction to the study and questions concerning demographic characteristics. Each scale had the necessary instructions. The order of the scales was randomised for each subject in order to control for any possible effects due to order. The completion of the scales took about 30 minutes.

As the design of the main study was longitudinal, the set of the scales was administered to the first year students of the English Preparatory School of the Middle East Technical University at two different times. The Permission was obtained from the Head of the Preparatory School. She was informed about the aim and the procedure of the study, that the administration of the scales would be at two different times during the fall semester of the 1997-1998 Academic Year. The Head of the Preparatory School decided on the classes in which the scales would be distributed. The instructors of the chosen classes were informed about the study and the administration date and time was decided on. The first administration was done within the second week of the first semester. The participation was on a voluntary basis. For the first administration (Time 1) The Brief Symptom Inventory, the Social Provisions Scale-T, and the Rathus Assertiveness Scale were distributed as a set. The first page included a general introduction to the study and questions concerning demographic characteristics. Each scale had the necessary instructions. The order of the scales was randomised for each subject in order to control for the order effect. In the first administration the students were informed about the design of the study; therefore, they were requested to write either their names or their id numbers on the first page of the set. The completion of the scales took about 25 minutes. The second administration (Time 2) was at the end of the semester. The Brief Symptom Inventory and the Life Experiences Survey were administered as a set. The first page included a general introduction to the study and questions concerning demographic characteristics. Each scale had the necessary instructions and the

order of the scales was again randomised for each subject. The completion of the scales took about 20 minutes.

3.4 ANALYSIS OF DATA

The data were subjected to hierarchical regression analysis with the Brief Symptom Inventory (Time 2) as the dependent variable and the six sub-scales of the Social Provision Scale-T (Time 1), the Rathus Assertiveness Scale (Time 1), the Life Experiences Survey (Time 2) as the independent variables, and the Brief Symptom Inventory (Time 1) as the control variable. The Time 1 scores of the Brief Symptom Inventory were first entered into equation in order to control for their effect on the Time 2 scores of the Brief Symptom Inventory. Following the instruction of Cohen and Wills (1985), social support and assertiveness were entered into the regression model secondly to assess whether these predictors were directly related to personal levels of distress beyond that afforded by the previous symptom levels. Stress was entered next, followed by the six three-way interaction terms (stress by each of six social support sub-scales by assertiveness). Analysis of the interaction terms will permit inferences regarding the extent to which assertiveness moderates the effect of social support in predicting the symptom levels at different levels of stress.

All the analyses of this study were carried out by using the Statistical Package for Social Sciences (SPSS) programs (Nie, Hull, Jenkins, Steinbrenner, & Bent, 1975; Tabachnick & Fidell, 1996).

CHAPTER IV

RESULTS

In this study, data from 335 university students (108 females, 227 males) were analysed. All of the students were from the English Preparatory School of the Middle East Technical University. The students ranged in age from 16 to 24 with a mean of 18.01 (Sd=1.13). The majority of them (95.8 %) fell between the ages of 17 and 19. All the students were administered five scales; the Life Experiences Survey (LES), the Social Provisions Scale-T (SPS-T), the Brief Symptom Inventory (BSI), the Rathus Assertiveness Schedule (RAS), and the Demographic Information Form.

Prior to the analysis, all the data were examined through various SPSS programs for accuracy of data entry, missing values, and fit between their distributions and the assumptions of multivariate analysis. Fifteen cases were found to have missing values and it was decided to delete all these 15 cases. To improve pairwise linearity and to reduce the extreme skewness and kurtosis, the z score for all variables was computed. Sixteen cases with extremely low and high z scores were found to be univariate outliers, therefore, these cases were also deleted; sixteen other cases were identified through Mahalanobis distance as multivariate outliers with $p < .01$. All multivariate outliers were also deleted, leaving 288 cases for analysis.

Table 6 presents the means and the standard deviations for all Time 1 and Time 2 measures.

Table 6. Means and Standard Deviations of the Variables

Variables (N=288)	M	SD
1. The Six Sub-scales of Social Provisions Scale-T		
Attachment (Time 1)	12.28	2.3
Social Integration (Time 1)	12.90	1.7
Guidance (Time 1)	13.30	2.2
Reassurance of Worth (Time 1)	12.27	1.6
Reliable Alliance (Time 1)	13.77	1.9
Opportunity for Nurturance (Time 1)	12.50	1.6
2. Total Score of Social Provisions Scale-T (Time 1)	77.27	8.6
3. Life Experiences Scale (Time 2) ^a	6.60	5.6
4. Rathus Assertiveness Schedule (Time 1)	122.22	17.3
5. Brief Symptom Inventory (Time 1)	45.17	26.3
6. Brief Symptom Inventory (Time2)	37.11	23.8

^aLES = Life Experiences Survey; higher scores indicate greater severity of negative life events.

The Pearson product-moment correlations among the major predictors and criterion measures are presented in Table 7. As expected, all six sub-scales of the Social Provisions Scale-T were significantly positively correlated with each other. Even though these sub-scales were negatively correlated with stress level (the Life Experiences Survey) with one exception, only Reliable Alliance and Guidance reached significance level at $p = .05$. Additionally, five of the sub-scales of the Social Provisions Scale-T were significantly positively correlated with assertiveness (the Rathus Assertiveness Schedule). In terms of the correlations with the Time 1 and Time 2 symptom levels of the respondents, the four sub-scales of the Social Provisions Scale-T were significantly negatively correlated with the Brief Symptoms Inventory at Time 1 and Time 2. Similarly, significant positive correlations between stress level (the Life Experiences Survey) and distress (the Brief Symptom Inventory) at Time 1 and Time 2 were observed.

Table 7. Correlation Matrix of Variables Used in Hierarchical Regression Analysis

Variable	1	2	3	4	5	6	7	8	9	10
The Six Sub-scales of the Social Provisions Scale-T										
1. Attachment (Time 1)	—	.35**	.66**	.45**	.58**	.34**	-.06	.30**	-.13*	-.17**
2. Social Integration (Time 1)		—	.43**	.45**	.36**	.43**	-.06	.20**	-.07	-.03
3. Guidance (Time 1)			—	.41**	.72**	.36**	-.10*	.30**	-.13*	-.12*
4. Reassurance of Worth (Time 1)				—	.41**	.32**	-.08	.32**	-.17**	-.13*
5. Reliable Alliance (Time 1)					—	.37**	-.13*	.23**	-.14*	-.13*
6. Opportunity for Nurture (Time 1)						—	.10*	.04	.10*	.10*
7. Life Experience Survey (Time 2)							—	-.15*	.40**	.49**
8. Rathus Assertiveness Schedule (Time 1)								—	-.43**	-.34**
9. Brief Symptom Inventory (Time 1)									—	.70**
10. Brief Symptom Inventory (Time2)										—

* p< .05, one-tailed. ** p< .001, one-tailed.

A hierarchical multiple regression analysis was conducted to evaluate how well the stress, social support and assertiveness and their three-way interaction predicted the distress levels of the university students at the end of the first semester, while statistically controlling for the previous distress levels. The predictors were social support, assertion, stress level, and their interactions, while the criterion variable was the distress index of the students at the end of the first semester (Time 2). The previous distress index (Time 1) was taken as a control variable in order to control for its confounding effect on the predictors.

Table 8 displays the unstandardised regression coefficients (β), the standardised regression coefficients (Beta), R^2 , and R^2 change after each step of the hierarchical regression. After step five, with all independent variables in the equation, $R = .76$, $F(15, 272) = 24.24$, $p < .001$. Thus, in the overall model, stress, social support, and assertiveness, and their interaction together account for a significant portion of the variance in Time 2 distress scores while controlling for Time 1 distress scores.

Table 8. Hierarchical Regression of Stress, Social Support, and Assertion Variables on Time 2 Distress, While Statistically Controlling for Time 1 Distress.

Variable	Step	R^2	R^2 change	β	B
The Brief Symptom Inventory (Time 1)	1	.491	.491**	.518	.572
The Six Sub-scales of the Social Provisions Scale-T	2	.501	.010		
Attachment (A)				-.987	-.098
Guidance (G)				.458	.043
Reassurance of Worth (ROW)				.493	.037
Opportunity for Nurturance (OFN)				.589	.041
Social Integration (SI)				.204	.015
Reliable Alliance (RA)				-.154	-.012
Rathus Assertiveness Schedule (RAS)	3	.502	.001	-7.3E-02	-.053
Life Experiences Survey (LES)	4	.553	.051**	1.108	.262
LES X SPS-T X RAS	5	.572	.019*		
LESxRASxA				-2.50	-.099

(Table 8. Continued)

LESxRASxG	-3.6E-02	-.001
LESxRASxROW	3.30	.127
LESxRASxOFN	3.78	.104
LESxRASxRA	.25	.009
LESxRASxSI	-5.68*	-.18

* $p < .05$ ** $p < .001$

After step one, the Time 1 distress measure predicted significantly the Time 2 distress measure, R^2 change = .49, $F(1,286) = 275.4$, $p < .001$. Since the Time 1 distress is the control variable, it was entered first to the equation in order to statistically control for its effect. At step two, the six sub-scales of the Social Provisions Scale were entered as a set and it was found out that the total score of the social support measure did not predict significantly the Time 2 distress measure. Based on these results, social support appears to offer little additional predictive power beyond that contributed by the Time 1 distress measure. The assertiveness variable (RAS) was entered at step three, and though the overall model remained significant, the R^2 increment at this step was not significant. At step four, the stress variable (LES) was entered and it resulted in a significant increment in R^2 , R^2 change = .051, $F(1,278) = 31.57$, $p < .001$, indicating that the stress variable significantly increased our ability to predict the time 2 distress scores beyond that afforded by the previous variables together. This result supported the first hypothesis which suggested that stress would be directly related to levels of distress. The second hypothesis of the present investigation suggested that the interaction of social support and assertion would moderate the relationship between stress and levels of distress. Therefore, the six three-way interaction terms (LES x RAS x each of the six sub-scales of the Social Provisions Scale-T) were entered as a set in step five. As expected, the increment in R^2 was

significant, R^2 change = .020, $F(6,272) = 2.07$, $p < .05$, indicating that regression of social support on distress varies as levels of assertiveness and stress vary. However, the second hypothesis was partially confirmed. Of the six interaction terms entered at step five of the hierarchical regression, only the stress (LES) x assertion (RAS) x Social Integration (SI) interaction was significant. The remaining five interaction terms did not reach the significance level. The significant interaction term was subjected to further analysis by using the procedures suggested by a number of researchers (Cohen & Cohen, 1983; Jaccard, Turrisi, & Wan, 1990; Kelly, Beggs, McNeil, Eichelberger, & Lyon, 1969) for specifying the relationship among variables when an interaction term is significant. Essentially, the procedure calls for the calculation of separate regression equations with high, medium, and low values of the moderating variables entered into each equation, respectively. The results of these calculations will show how different levels of the moderator variables (eg., stress level, assertiveness) affect the regression of the remaining independent variable (eg., social integration) on the dependent measure (eg., psychological symptoms) after controlling for a pre-existing variable.

Table 9. Regression Equations Showing the Three-Way Interaction of Social Integration (SI) by Stress by Assertiveness on Psychological Adjustment

Stress level	Social Integration (SI)	Assertiveness
High	$Y = -307 \text{ SI} + 3,15$	High
	$Y = -267 \text{ SI} + 4,17$	Medium
	$Y = -228 \text{ SI} + 5$	Low
Medium	$Y = -166 \text{ SI} + 1,71$	High

(Table 9. Continued)

	$Y = -143 \text{ SI} + 2,71$	Medium
	$Y = -124 \text{ SI} + 3,61$	Low
Low	$Y = -25 \text{ SI} + 0,26$	High
	$Y = -22 \text{ SI} + 1,18$	Medium
	$Y = -19 \text{ SI} + 2,16$	Low

Note. Y = Predicted psychological symptom scores at varying levels of stress and assertiveness when SI is held constant.

Following Cohen and Cohen (1983), values of stress (the Life Experience Survey) and assertion (the Rathus Assertiveness Schedule) were chosen to be one standard deviation below the mean (Stress_{Low} = 1,0; Assertion_{Low} = 104,9), at the mean (Stress_{Medium} = 6,6; Assertion_{Medium} = 122,2), and one standard deviation above the mean (Stress_{High} = 12,2; Assertion_{High} = 140,4). Substituting these values, in turn, in the equation 4.1 then generated simple regression lines.

$$\hat{Y} = a + b_1 \text{ Stress (S)} + b_2 \text{ Social Integration (SI)} + b_3 \text{ Assertion (A)} + b_4 \text{ SxSIxA} \quad (4.1)$$

For example, to generate the simple regression for Stress_{Low} = 1.0 and Assertion_{High} = 140.4, while Social Integration was held constant, the following substitution was made:

$$\begin{aligned} \hat{Y} &= 7,4 + 0,15 \text{ SI} + 0,26 + (-7,4) + (-25,2 \text{ SI}) \\ &= -25 \text{ SI} + 0,26 \end{aligned}$$

Table 9 presents nine regression line equations of Social Integration's (SI) predictions of symptoms calculated at high, medium, and low levels of assertiveness at each of three levels of stress. The results indicate that the negative

correlation between social integration and psychological symptoms increase as both stress levels and assertiveness increase.

In summary, the findings of this study partially support its hypotheses. Regarding the stress, as expected, the findings indicate a significant association between negative life events and later psychological symptoms, even after controlling for the previous symptom levels. The stress x social support x assertion interaction term manifested weak (ie., low magnitude) but relatively consistent relation in predicting distress. That is, to say, social support and assertiveness moderate to some extent the effects of stress on psychological well-being. Of the six interaction terms only the stress x assertion x social integration was significant. This significant interaction term indicates that the negative correlation between social integration and psychological symptoms increase as both stress level and assertiveness increase.

CHAPTER V DISCUSSION

The primary objective of the present study was to examine the relationship of assertiveness to social support in predicting psychological adjustment of the Turkish university students under stressful conditions. Failure to effectively modulate stress can lead to a variety of symptoms and problems, including decrease in academic performance, anxiety, absenteeism, lowered self-esteem, and depression in university students. The university setting can be seen as an important source of stress. As a result, it can be assumed that students are subjected to various sources of stress. It is, therefore, important to understand the factors that may moderate stress in university students.

The strengths and consistency of relations between stressful life events, social support, and distress are conditional on type of research design used (eg., cross-sectional or longitudinal) and conceptualisation of social support (eg., social network, received social support, or perceived social support). The literature on social support, therefore, reveals contradictory findings on whether social support can be a moderator between stress and distress or not.

The present investigation found out that after statistically controlling for the pre-existing psychological symptom levels, the unique contributions of social support and assertion were not significantly predictive of symptoms for the sample. Therefore, the results were not consistent with the main-effect model of social

support. In a cross-sectional study (Elliott et al., 1990) it was found that social support had main effect on distress scores of university students. However, the previous distress levels of the students were not statistically controlled in that study. Therefore, it is difficult to draw such a conclusion in a cross-sectional type of design as it was mentioned before. However, the present investigation revealed that the stress variable significantly increased our ability to predict Time 2 distress scores beyond that afforded by previous variables together. Specifically, the findings indicated that stressful life events in university students were associated with psychological symptoms, as expected. This result is consistent with the findings of previous prospective studies (eg., DuBois et al., 1992; DuBois et al., 1994; DeLongis et al., 1988; Rawson et al., 1994) which revealed that stressful life events resulted in several psychological and physiological problems. Although these studies were prospective in nature, stress variable was entered into the equation as the first or the second variable in order to predict distress. However, as it was mentioned before, the stress variable must be entered into the equation after all the other variables are entered in order to find out the pure contribution of stress in predicting distress scores beyond that afforded by the previous variables.

The test for the hypothesis of a significant interaction between perceived social support, assertion and stress is whether the change in symptoms related to stress (measured by negative life events) is modified by the quality of relationship (social support) and interpersonal factors (assertion). The results partly supported the hypothesis. The interaction of stress, social support, and assertiveness contributed a small but statistically significant amount of additional variance in

predicting psychological symptom scores beyond what was already accounted for by stress, social support, and assertiveness. As it was previously mentioned, an important predictor of future health is perceived social support. In their prospective study, spanning 35 years, Russek and Schwartz (1997) found out that perceptions of parental caring obtained during college predict health and illness in midlife. More specifically, their findings provided strong evidence that perceptions of parental caring predict later physical health across a variety of disorders. In another prospective study (DuBois et al., 1994), it was found out that perceived social support from family was associated prospectively with reduced levels of both psychological distress and conduct problems.

More important, the small but significant three-way interaction between stress, social integration (one of the six sub-scales of the Social Provisions Scale-T), and assertiveness provide evidence that the beneficial effects of social integration are moderated by a person's interpersonal behavior (that is, assertiveness) under stress. These findings suggest that in times of stress, persons who are more assertive are able to gain more benefit from relationships with people who share their values and interests than persons who are not assertive. Subsequently, assertive persons may evidence fewer symptoms when under stress. It must be recognised that only a small but significant proportion of the variance in psychological symptoms was attributable to the interaction of the social integration and assertiveness.

More recently the role of personal and interpersonal factors as determinants of both appraisals of support and actual support received has attracted increasing attention. These factors are self-efficacy (Newbyfraser & Schlebusch, 1997; Solberg, 1997), self-esteem (DeLongis, Folkman, & Lazarus, 1988), problem solving skills (Clum & Febraro, 1994), locus of control (Jennings, 1990; Cauce, Hannan, & Sargeant, 1992; Cummins, 1988; Jorgensen & Johnson, 1990), and assertion (Elliot & Gramling, 1990; Elliot, Herrick, Patti, Witty, Godshall & Spruell, 1991; Newbyfraser & Schlebusch, 1997). There are only three studies, to the knowledge of the present investigator, in which assertion was used as the mechanism by which social support achieves its effects. In a cross-sectional study (Elliot & Gramling, 1990), it was found out that social support had significant interaction with assertion in predicting distress. More specifically, Elliot and Gramling suggested that persons who were more assertive and under stress displayed more pronounced benefits from relationships providing social integration and reassurance of worth. In another cross-sectional study (Elliot et al., 1991), which was intended to test the hypothesis that assertiveness and social support would be predictive of psychological adjustment among persons with acquired spinal cord injuries, it was found out that assertiveness and social support were predictive of post-injury depression and psychosocial impairment. In a third study (Newby-Fraser & Schlebusch, 1997), which utilised assertion as a mediator, it was found out that assertiveness displayed no direct relationship with symptoms but was significantly linked with lack of social support. These three studies are cross-sectional in design. As it was previously mentioned, this type of design is not suitable for testing the hypothesis that social support and assertion

can be moderator between stress and its deleterious effects, since there are confounding variables such as previous distress levels, which must be statistically controlled. On the other hand, the present investigation, to the knowledge of the present investigator, is the first prospective study in which social support and assertion were taken as moderators between stress and its damaging consequences. However, despite the significant advantages that are associated with using a prospective design, it is important to note that the findings of the study are still essentially correlational and thus do not by themselves constitute "proof" of the hypothesized causal linkages between social support, assertion, stress, and distress (DuBois et al., 1994). Therefore, to address this question fully, it will be necessary to conduct controlled studies that use experimental designs.

The general implication that can be derived from the present study is that, although stress causes several psychological and physiological problems in a college student, its damaging effects can be moderated to some extent by the interaction of social support systems and interpersonal factors. Given this relationship, preventive strategies, including social skills training may be developed specifically for university students.

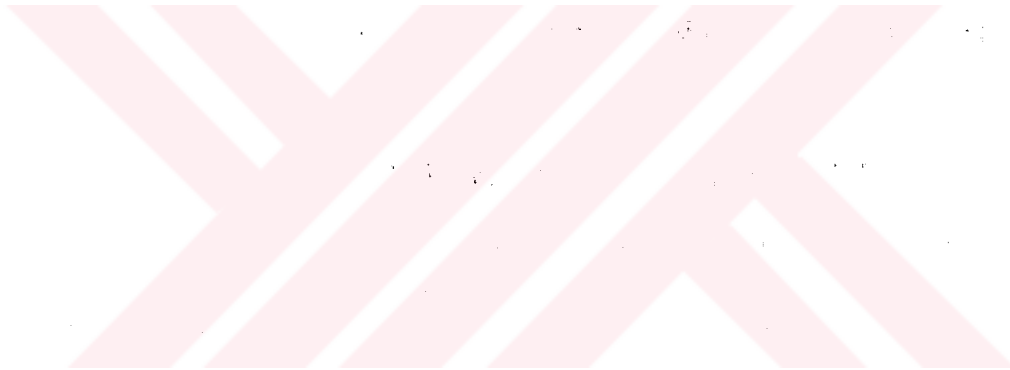
Social skills training for young adults has been associated with enhanced self-esteem (Thompson, Bundy, & Wolfe, 1996) and improved problem solving skills (Sarason & Sarason, 1981). Self-esteem and problem solving skills have also been shown to moderate between stress and its consequences (DeLongis, Folkman, & Lazarus, 1988; Clum & Febbraro, 1994). Assertiveness is a social skill that is defined as expressing one's rights and opinions while respecting for the rights of

others (Rathus, 1975). Counselling intervention could be used to equip students with interpersonal and social skills that could be used to access and use social support.

These results should be interpreted in the context of some methodological limitations. Because it is possible that assertiveness could enhance the support from certain sources of social relationships (family, friends, etc.), it may be crucial to use a scale intended to measure the support from particular sources. Some problems exist in the psychometric properties of one of the utilised scales, namely, the Social Provisions Scale-T. As it was previously mentioned, the correlation coefficients between this scale and the Beck Anxiety scale were moderate even though they were significant for four of the sub-scales. The correlations coefficients with the Beck Anxiety Inventory ranged between .01 and -.15 for the six sub-scales of the Social Provisions Scale-T and it was -.13 for the whole scale. Additionally, the Cronbach's Alpha coefficients for some of the sub-scales of the Social Provisions Scale-T were moderate. These coefficients ranged between .54 and .70 for the six sub-scales of the Social Provisions Scale-T and it was .90 for the whole scale. The Beck Anxiety Inventory may not be an appropriate criterion for construct validity of scales, which are intended to measure perceived social support. Therefore, there is a need for an independent study in order to evaluate and improve the psychometric properties of the Social Provisions Scale (Russell & Cutrona, 1984) in a Turkish sample.

Finally, since the Time 1 scales, namely, The Social Provisions Scale-T and the Rathus Assertiveness Schedule were not distributed in Time 2, it was not possible

to see how these psychological constructs (eg. perceived social support and assertiveness) had varied during the 3-month period. Therefore, in order to obtain considerably stronger evidence for the etiological contribution of mentioned factors it is recommended to measure perceived social support and assertiveness in Time 2, too.



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APPENDIX A

The Brief Symptom Inventory (Sample of Items)

1. İinizdeki sinirlilik ve titreme hali.
 2. Yalnızlık hissetme.
 3. Karar vermede güçlükler.
 4. Sululuk duyguları.
-

Savaşır, I., & Şahin, N. H. (Eds.) (1997). *Bilişsel-davranışçı terapilerde değerlendirme: Sık kullanılan ölçekler*. Ankara: Türk Psikologlar Derneği Yayınları.

APPENDIX B

The Rathus Assertiveness Schedule (Sample of Items)

1. Bir lokantada isteđime gre hazırlanmamıř bir yemek getirilince garsona řikayette bulunurum.
 2. Bařkalarının beni kırdıđını farkettiđim halde, onları incitmemeye dikkat ederim.
 3. Karřı cinsten çekici bulduđum birine ne syleyeceđimi çođu kez bilemem.
 4. Biri benim hakkımda yanlış ve kt řeyler sylerse, hemen o kiřiye arar konuřurum.
-

Voltan-Acar, N. (1980). Rathus atılganlık envanteri geđerlik ve gvenirlik alıřması. *Psikoloji Dergisi*, 10, 23-25.

APPENDIX C**The Social Provisions Scale-T (Sample of Items)**

1. Gerçekten ihtiyacım olduğunda bana yardım edecek insanlar var.
 2. Birşeyler ters gitse kimse yardımına gelmezdi.
 3. İlgi ve meraklarımı paylaşacak kimse yok.
 4. Acil bir durumda güvenebileceğim insanlar var.
-

Sedat Işıklı. Orta Doğu Teknik Üniversitesi Sağlık ve Rehberlik Merkezi

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APPENDIX D**The Life Experience Survey (Sample of Items)**

1. Yakın bir arkadaşın ölümü.
 2. Aileye yeni bir üyenin katılması (doğum, evlat edinme v.s.).
 3. Evden ilk defa ayrılma.
 4. Üniversiteye başlama.
 5. Önemli bir derste başarısız olma.
-

Zeynep Tüzün. Bilkent Üniversitesi, Öğrenci Gelişim ve Danışma Merkezi, No:

20/15 Tel: 266 40 00/1785-86.

APPENDIX E

Bu araştırma ODTÜ öğrencilerinin karşılaştıkları yaşam olaylarını, bu olaylardan nasıl etkilendiklerini ve ne şekilde tepki gösterdiklerini anlamak için yapılmaktadır. Çalışma iki aşamadan oluşmaktadır. İkinci aşamada da aynı öğrencilere ulaşılabilmesi için isim yazmanız gerekmektedir. Anketlere verilecek cevaplar ve isimler sadece araştırma amacı için kullanılacak ve kesinlikle gizli tutulacaktır.

Araştırma soruları hakkında danışmak istediğiniz herhangi birşey olursa veya sonuçlar hakkında bilgi edinmek isterseniz aşağıdaki adres ve telefona başvurmaktan lütfen çekinmeyiniz. Yardımlarınız için şimdiden teşekkür ederim.

Psikolog Sedat IŞIKLI
Sağlık ve Rehberlik Merkezi
Tel : 210 49 94

Adınız - Soyadınız : _____

Yaşınız : _____

Bölümünüz : _____

Cinsiyetiniz : K E

Anneniz hayatta mı? Evet Hayır

Babanız hayatta mı? Evet Hayır

Anne ve babanız birlikte mi? Evet Hayır

Cevabınız "Hayır" ise hangisi ile yaşıyorsunuz (belirtiniz): _____

Kardeşiniz var mı? Hayır Evet Kaç tane (belirtiniz) : _____

Üniversite eğitimi sürdürürken kaldığınız yer

Aile yanı

Akraba yanı

Yurt

Tek başına evde

Arkadaşlarla evde

Diğer (belirtiniz) : _____

Haytınızda en uzun yaşadığınız yer : Köy Kasaba Şehir Büyükşehir

Annenizin eğitim durumu:

Okuryazar değil

Okuryazar

İlkokul mezunu

Ortaokul mezunu

Lise ve dengi okul mezunu

Üniversite/ yüksek okul mezunu

Diğer (belirtiniz) : _____

Babanızın eğitim durumu :

Okuryazar değil

Okuryazar

İlkokul mezunu

Ortaokul mezunu

Lise ve dengi okul mezunu

Üniversite/ yüksek okul mezunu

Diğer (belirtiniz) : _____

Annenizin Mesleği : _____

Babanızın Mesleği : _____

APPENDIX F

IOWA STATE UNIVERSITY
OF SCIENCE AND TECHNOLOGY

College of Liberal Arts and Science
Department of Psychology
W112 Legomarcino Hall
Ames, Iowa 50011-5180
(515) 294-1724
FAX (515) 294-6424

Dear Colleague:

I am enclosing a copy of the Social Provisions Scale and information on its psychometric properties and scoring. I am pleased that you are interested in the scale, and I give my permission for you to use this copyrighted instrument.

Sincerely,

Carolyn E. Cutrona

Carolyn E. Cutrona, Ph.D.
Professor

I am also enclosing the source-specific version, FYI.