RELATIONSHIPS BETWEEN QUALITY OF LIFE, PERCEIVED SOCIAL SUPPORT, SOCIAL NETWORK, AND LONELINESS IN A TURKISH SAMPLE

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YAŞAM KALİTESİ, SOSYAL DESTEK, SOSYAL AĞ VE YALNIZLIK ARASINDAKİ İLİŞKİLER

ÖZET

Amaç: Bu çalışma, sağlıkla ilişkili yaşam kalitesi, sosyal destek, sosyal ağ ve yalnızlık arasındaki ilişkileri sınamak amacıyla yürütülmüştür. Ek olarak, yaşam kalitesinin çeşitli alanlarının yordayıcı değişkenleri araştırılmıştır.

Yöntem: Çalışmanın katılımcıları 150 üniversite birinci sınıf öğrencisi idi. Dünya Sağlık Örgütü Yaşam Kalitesi Ölçeği (WHOQOL-100), Çok Boyutlu Algılanan Sosyal Destek Ölçeği (MSPSS), UCLA Yalnızlık Ölçeği ve altı sosyal ağ sorusu kullanılarak katılımcılar değerlendirildi.

Bulgular: Genel sağlık ve yaşam kalitesi, kişisel inançlar alanı hâriç, yaşam kalitesinin diğer bütün alanlarıyla ve algılanan sosyal destek ile pozitif yönde ve yalnızlıkla negatif yönde korelasyon gösterdi. Yordayıcılar açısından, özel bir insandan ve aileden alınan sosyal destek genel yaşam kalitesi ile ilişkili çıktı.

Sonuç ve Tartışma: Sonuçlar Batı kültüründe yapılmış çalışmaların sonuçları bağlamında tartışıldı.

Anahtar Kelimeler: yaşam kalitesi, sosyal destek, yalnızlık, sosyal ağ

ABSTRACT

Purpose: Quality of life refers to satisfaction with one's overall life or components of it. Most researchers agree that social support can exert some powerful beneficial effects. Social support has a positive influence on health in general. Loneliness reflects an interpersonal deficit that exists as a result of fewer or less satisfying relationships than a person desires. Loneliness is a common problem among college students. Lonely college students have smaller social networks. They also report significantly less intimacy and less social support from their friends and family members. Social networks of lonely students are less interconnected and less satisfying. The present study was carried out to examine the relationships between health related quality of life, perceived social support, social network, and loneliness. Also, an attempt was made to identify predictors of various domains of quality of life.

Method: The subjects were 150 freshmen students. They were assessed using demographic questions, The Turkish versions of the World Health Organisation Quality of Life Scale (WHOQOL-100), Multidimensional Scale of Perceived Social Support (MSPSS), UCLA Loneliness Scale, and six social network questions.

Findings: Overall quality of life and general health correlated with all domains of quality of life, except for spirituality, perceived social support in the positive direction and with loneliness in the negative direction. In terms of predictors, perceived social support from a significant other and family were related to overall quality of life and general health.

Discussion and Conclusion: The results were discussed within the context of findings from the studies conducted in Western cultures.

Keywords: quality of life, social support, loneliness, social network

INTRODUCTION

Quality of life refers to satisfaction with one's overall life or components of it. There are a variety of definitions of quality of life reflecting the multiplicity of concepts subsumed under the term. Calman (1984) defined quality of life as the difference, namely the 'gap', at a particular time, between one's hopes or expectations and one's experience. Quality of life has also been defined as the plans one has for one's life combined with the interrelated purposes that create a sense of meaning (O'Boyle 1992). There are other aspects of quality of life, one of which is life richness (Hyland 1997). Life richness refers to the variety of activity that a person engages in and reflects a value judgement that having a varied life is better than a monotonous life whatever activities are involved. Thus, quality of life is a multidimensional concept used to define life satisfaction.

A fruitful tradition of quality of life has emerged in the past 15 years. Quality of life research was inspired by an approach shaped by World Health Organisation. The WHO defines health as 'A state of complete physical, mental, and social well-being not merely the absence of disease and infirmity'. This 'biopsychosocial model' has gained general acceptance. Health in broad definition is often used as synonymous to health related quality of life. Most often, health is seen as a multidimensional construct, in which at least physical, psychological

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and social dimensions are represented. Questionnaires about health that offer a profile of health dimensions are often called 'health related quality of life' or 'quality of life' instruments (Fletcher 1992).

Kuyken and colleagues (1994), in conjuction with a World Health Organisation project, addressed cultural sensitivity in assessing quality of life. They suggested a modified, combined subjective and objective approach. Using this method, respondents would provide their own domains as well as including four standard (physical, psychological, social, and spiritual) domains. In sum, these investigators suggest that quality of life include objective and subjective domains, that a standard for comparison be provided and that personal input be solicited through interviews or other methods.

The literature on social networks and social support has increased greatly during the past 25 years. Despite this proliferation, there is a lack of uniformity with regard to the conceptualization and definition of social support. There are many published measures of support tapping various aspects of helpful social interactions: some focus on the different types of help needed in different situations, some on the different possible sources of help, and some on the difference between quantitative and qualitive measures of social support.

Cohen and Wills (1985) provided a comprehensive review that conceptually delineated some of the problems that surround the issue. Cohen and Wills divided social support into four different categories (1) esteem support (intimacy, attachment, and cocern); (2) instrumental support (provision of aid or assistance); (3) informational support (providing advice, guidance, and information); (4) social companionship (leisure and recreation). Saranson and colleagues (1987), in contrast, found that subdividing the construct of support into discrete categories did not add much to the sensitivity of measures; they regarded the feeling of being loved and valued as the core components of support.

Most researchers agree that social support can exert some powerful beneficial effects. How it exerts these effects is not clear; two models have been suggested (Cohen and Wills 1985). The 'buffering model' proposes that social support is related to well-being only for persons under stress. Support buffers the potentially pathogenic influence of stressful events by preventing the initial stressful apprised or by alleviating physiological, emotional, and behavioral stress reactions. The alternative model ('main effect model') proposes that social resources have a positive influence on one's health irrespective of whether or not they are under strain by shielding people from exposure to certain types of stressors and/or by fostering good health and morale. In this model, social support has a positive influence on health in general.

Another issue in the social support literature is the distinction between perceived and received social support. The term 'perceived social support' indicated that there had been some subjective report of the provision or receipt of support. 'Received support' was the description utilized for instruments that measured the provision of support rather than receipt of supportive behaviors. In studies that examine both perceived and received support, the perception of support seems to be a better predictor of health outcomes than the actual receipt of support (Coyne and Downey 1991).

In their review paper, Heitzmann and Kaplan (1988) recommended that social support scales should assess both quantity and adequacy of support, which have commonly been operationalized as network size and recipient satisfaction. The concept of social support referred to some benefit derived from social interactions that assists recipients coping with stressful life circumstances.

Loneliness is a multifaced phenomenon, often defined as a subjective, unpleasant, painful experience. Although loneliness is a distressing experience, it can be a valuable signal that the personal relationships of an individual are inadequate in some important way. This experience has become an increasingly problem for many people. Loneliness reflects an interpersonal deficit that exists as a result of fewer or less satisfying relationships than a person desires. It increases as the discrepancy between what individuals expect and what they actually experience in their relationships increases (Peplau and Perlman 1982). Loneliness exists within every age group; however, young persons appear to be particularly vulnerable. Previous research indicates that loneliness is a common problem among college students (Schmitt and Kurdek 1985). Lonely college students have smaller social networks (Jones and Moore 1987). They also report significantly less intimacy and less social support from their friends and family members (Saranson et al. 1985). In general, social networks of lonely students are less interconnected and less satisfying.

According to Baron and Kenny (1986), when lonely students experience a lack of perceived social support, loneliness takes on greater internal psychological significance, and this unpleasant experience limits the extent to which students are motivated to carry out behaviors that provide satisfaction with life.

Improving the quality of life has been a concern for university educators and administrators, who have placed particular emphasis on students' health, related quality of life because college students typically experience developmental and behavioral-associated threats to health. As social support and loneliness are said to have an association with health related quality of life, an assessment of the rela-

tionships between these psychosocial variables can be a significant health related source. The present investigation was carried out to examine the relationships between health related quality of life and perceived social support and social networks and loneliness in a Turkish college students sample. Finally, an attempt was made to identify predictor variables of various domains of quality of life. It was thought that it would have been more informative to study which aspects of social interaction explain variance in different aspects of quality of life of students.

METHOD

Subjects

The subjects of this study consisted of 150 freshmen students from the various departments of Dokuz Eylül University Health Services Proffession College in Izmir. The data were collected during regular class hours from the students who were attending Behavioral Sciences course in their departments. Participation was on a voluntary basis and none declined to participate in the study. The respondents were unmarried. They were 71 females and 79 males, and the mean age of the sample was 19. The great majority of the students (n=121) indicated that they lived in an urban environment for most of their lives, with only a small number (n=29) indicating a rural environment.

Instruments

World Health Organization Quality of Life Scale (WHOQOL-100): WHOQOL-100 is a 100-item self-report scale with six domains of health related quality of life, and the twenty-four facets covered within each domain. These are physical health (energy and fatigue; pain and discomfort; sleep and rest), psychological (body image and appearance; negative feelings; positive feelings; learning, memory and concentration), level of independence (mobility; activities of daily livings; dependence on medicinal substances and medical aids; work capacity), social relationships (personal relationships; social support; sexual activity), and environment domains (financial resources; physical safety and security; health and social care: accessibility and quality; home environment; opportunities for acquiring new information and skills; participation in and opportunities for recreation/leisure; physical environment; transport). Four items are included for each facet, as well as four general items covering subjective overall quality of life and general health... All items are rated on a 5- point scale. In Turkish populations the reliability and validity of the WHOQOL-100 has been investigated by Eser and colleagues (1999). The scale has adequate psychometric properties.

Multidimensional Scale of Perceived Social Support (MSPSS): MSPSS is a 12-item scale of subjective assessment of the adequacy of social support from three sources (Zimet et al. 1988). MSPSS consists of three subscales (family, friends and significant other) with four items under each subscale. Items are rated on seven-point scales. Higher scores indicate higher perceived support. Its reliability and validity has been studied in Turkey by Eker and Arkar (1995) and Eker, Arkar and Yaldız (2000).

UCLA Loneliness Scale: UCLA Loneliness Scale was developed by Russell, Peplau and Cutrona (1980) in order to measure the subjective experience of loneliness. The scale consists of 20 items rated on four-point scales. Higher scores indicate higher perceived loneliness. Demir (1989) reported reliability and validity studies of UCLA Loneliness Scale in Turkish population.

Procedure

The scales described above were administrated to the subjects and the scales were randomized for each subject to eliminate a possible order effect. Each scale had the necessary instructions. The first page of the set of scales includud a general introduction to the study, the names and addresses of the investigators and information for the subjects to the effect that participation on a volunteer basis. This page also included the questions in demographic characteristics.

The second page contained six social network questions. The English translations of these six social network questions, developed by Eker (personal communication), are as follows:

1. In a casual week, with how many people can you meet and talk to?
2. How many acquaintances do you have with whom you share the similar interests (like; sports, travel, and activities of art).
3. With how many friends do you feel comfortable to visit your house when it is untidy?
4. With how many family members and friends can you able to talk openly and sincerely?
5. To how many people can you reach for little help?
6. Besides your family (eg.mother, father, spouse, children, brothers, sisters), how many people are there to help you when you are in a difficult situation?

The answers were in terms of a seven-point scale ranging from 'none' to '16 and more'. Since single item variables are problematic due to their unknown reliability, social network questions were transformed into one measure of network size. This scale gave a reliability coefficient of 0.70 (Cronbach's Alpha).

FINDINGS

Means and standard deviations of WHOQOL-100 domains and facets, MSPSS overall and three subsca-

Table 1: Means And Standart Deviations Of The Sample

Scales	Sample Males	Females	Total
WHOQOL			
Physical Domain	57.73 (16.5)	59.60(14.9)	58.61(15.7)
Pain & discomfort	48.97(15.6)	43.31(15.0)	46.29(15.5)
Energy & fatigue	58.23(17.5)	63.29(18.3)	60.62(18.0)
Sleep & rest	63.92(34.4)	58.80(25.9)	61.50(30.6)
Psychological Domain	60.25(13.7)	61.25(13.0)	60.73(13.4)
Positive feelings	61.55(17.6)	60.56(16.6)	61.08(17.1)
Cognitions	60.20(16.1)	63.82(18.3)	61.92(17.2)
Self esteem	65.66(17.4)	69.72(16.0)	67.58(16.8)
Body image	71.04(34.2)	65.14(23.4)	68.25(29.6
Negative feelings	57.20(16.7)	52.99(16.7)	55.21(16.8)
Independence Domain	67.03(13.5)	64.63(14.1)	65.89(13.8)
Mobility	52.61(14.9)	54.23(17.9)	53.37(16.4)
Activities	62.26(28.6)	54.49(19.7)	58.58(25.0)
Medication	12.34(16.6)	11.71(16.9)	12.04(16.7)
Working capacity	65.58(35.1)	61.53(20.20)	63.67(28.9)
Social relationships Domain	62.63(13.6)	59.31(15.8)	61.06(14.7)
Personal relationships	74.68(17.7)	65.14(17.6)	68.58(17.92)
Social support	68.83(18.3)	61.44(20.7)	65.33(17.8)
Sex	47.39(16.9)	51.35(21.0)	49.26(19.04)
Environment Domain	53.86(12.6)	50.24(15.08)	52.14(14.3)
Physical safety	59.65(16.7)	57.75(22.9)	58.75(19.8)
Home environment	61.47(27.0)	50.44(24.4)	56.25(26.3)
Financial resources	57.36(21.1)	45.07(23.1)	51.54(22.8)
Health/social care	47.23(19.2)	43.13(21.7)	45.29(20.4)
Information	50.08(23.7)	53.78(21.6)	51.83(22.7)
Recreation	51.81(16.6)	53.34(20.1)	52.54(18.3)
Physical environments	48.34(17.1)	46.39(20.7)	47.42(18.9)
Transport	54.90(23.0)	52.02(25.2)	53.54(24.0)
Spirituality Domain	69.86(16.6)	69.28(19.3)	69.58(17.9)
OQoLGH*	56.25(14.4)	52.02(18.2)	54.25(16.4)
MSPSS			
Family	23.82(4.6)	21.34(5.9)	22.65(5.4
Friend	18.24(9.2)	18.13(8.7)	18.19(8.9)
Significant other	22.82(5.1)	21.24(5.7)	22.07(5.4)
Overall	64.86(13.1)	60.84(13.7)	62.96(13.5)
UCLA Loneliness	34.94(10.7)	37.52(8.9)	36.16(10.0)
Social Network Total	20.51(6.3)	23.73(6.5)	22.03(6.6)

Note: Standart deviations were given in paranthesis.
*OQoLGH= Overall Quality of Life and General Health

les, total social network score, and UCLA Loneliness are presented in Table 1.

In order to see the degrees of relationship between quality of life, social network, perceived social support, and loneliness, correlations were computed between six domains and overall quality of life and general health scores of WHOQOL-100, social network overall score, three subscales scores of MSPSS, and UCLA Loneliness score (see Table 2).

Overall quality of life and general health correlated significantly with all domains of quality of life, except for spirituality domain, perceived social support in the positive direction and with loneliness in the negative direction. That is, the higher overall quality of life and general health, the higher physical health, psychological, environment, level of independence, and social relationships domains of quality of life, the higher the tendency to perceive social support from a significant other, family, and friends, and the lower the tendency to perceive loneliness.

Loneliness correlated significantly with all variables investigated in the study, except for spirituality domain, in the negative direction. That is, the higher the tendency to perceive loneliness, the lower physical health, psychological, level of independence, social relationships, and environment domains of quality of life, the less social network size, and the lower perceived social support.

Except for spirituality,

Table 2: Intercorrelations Between Quality Of Life, Social Network, Perceived Social Support, And Loneliness.

	OQOLGH a	Physical	Psychological	Independence	So.relation	Environment
Physical health	0.457**					
Psychological	0.498**	0.403**				
Lev. of independence	0.585**	0.408**	0.563**			
Social Relationships	0.499**	0.426**	0.545**	0.497**		
Environment	0.688**	0.413**	0.592**	0.544**	0.599**	
Spirituality	0.081	0.084	0.131	0.127	0.205*	0.162*
Social network	0.064	-0.034	0.265**	0.034	0.207*	0.161*
MSPSS Family	0.277**	0.097	0.195*	0.107	0.463**	0.247**
MSPSS Friend	0.190*	0.170*	0.270**	0.185*	0.263**	0.272**
MSPSS Sig.other	0.314**	0.353**	0.311**	0.402**	0.620**	0.446**
UCLA loneliness	-0.312**	-0.268**	-0.423**	-0.377**	-0.635**	-0.395**

*p< 0.05
** p< 0.01
a. OQOLGH = Overall Quality of Life and General Health

Table 2: (continued):

	Spirituality	So.network	Family	Friend	Sig.other
Physical health					
Psychological					
Lev. of independence					
Social Relationships					
Environment					
Spirituality					
Social network	0.099				
MSPSS Family	0.163*	0.092			
MSPSS Friend	0.023	0.121	0.053		
MSPSS Sig.other	0. 65	0.187*	0.260**	0.294**	
UCLA loneliness	-0.138	-0.358**	-0.261**	-0.273**	-0.672**

*p< 0.05
** p< 0.01

the correlations between six domains and overall quality of life were moderate to high (ranging from 0.403 to 0.688). Spirituality domain correlated only with social relationships (r=0.205) and environment (r=0.161) domains. It was important to examine the relationship between domains to investigate the construct validity of Turkish WHOQOL-100. Domain structure for WHOQOL-100 was largely confirmed by the data, except for spirituality.

Multiple linear regression analysis employing a stepwise entry of independent variables were used in predicting overall quality of life and general health and six domains of WHOQOL-100. Predictor variables entered into the regression equation included three subscales of MSPSS, social network measure total score, and UCLA loneliness score (see Table 3 for significant predictors).

Significant other and family subscales of MSPSS predicted overall quality of life and general health. That is, overall quality of life was related to higher perceived support from a significant other and family. Fifteen percent of the variance in overall quality of life could be accounted for by these two variables. A key element in regards to physical and level of independence domains appeared to MSPSS significant other subscale. That is, higher social support from a significant other was related to physical and level of independence domains of quality of life. Thirteen percent of the variance in physical domain and twenty percent of the variance in independence level domain could be accounted for by this variable. Loneliness

Table 3: Significant Predictors

	Multiple R	R Square	B	Beta	Std. Error	F
Dependent variable: Overall Quality of Life and General Health						
Predictors:						
Significant other	0.34	0.12	- 5.37	-0.34	15.47	19.57*
Family	0.39	0.15	-3.22	-0.20	15.19	13.32*
Constant	67.24					
Dependent variable: Physical Domain						
Predictor:						
Significant other	0.36	0.13	-5.36	0.36	14.74	21.46*
Constant			71.57			
Dependent variable: Psychological Domain						
Predictors:						
Loneliness	0.42	0.18	-0.57	-0.42	12.15	32.33*
Friend	0.45	0.19	0.25	0.17	12.00	18.94*
Constant	81.28					
Dependent variable: Independence Level Domain						
Predictor:						
Significant other	0.45	0.20	-5.93	- 0.45	12.42	37.03*
Constant	80.24					
Dependent variable: Social relations Domain						
Predictors:						
Loneliness	0.63	0.40	-0.94	-0.63	11.43	99.80*
Family	0.70	0.48	-4.34	0.30	10.64	69.57*
Significant other	0.73	0.53	-4.14	0.29	10.17	55.64*
Constant	95.01					
Dependent variable: Environment Domain						
Predictors:						
Significant other	0.45	0.21	-6.26	- 0.46	12.72	39.27*
Friend	0.48	0.23	0.25	0.15	12.58	22.14*
Constant	67.27					

*p <0.001

and MSPSS friend subscale predicted psychological domain. That is, psychological domain was related to higher tendency to perceive social support from friends and lower loneliness. These variables accounted for nineteen percent of the variance in psychological domain. Three key elements in regard to social relations domain appeared to loneliness, and family and significant other subscales of MSPSS. That is, social relations domain was related to lower perceived loneliness and higher tendency to perceive support from a significant other and family. Fifty three percent of the variance in social relations could be accounted for by these three variables. Significant other and friend subscales of MSPSS predicted environment domain. That is, higher social support from a significant other and friends were related to environment domain. Twenty three percent of the variance in environment domain could be accounted for by these three variables. Any key element in regard to spirituality did not appear.

DISCUSSION

The basic purpose of the present study was to examine the relationships between quality of life, perceived social support, social network, and loneliness. The results provide strong support for relatedness. Analysis showed that quality of life correlated significantly with perceived social support in the positive direction and loneliness in the negative direction.

Perceived social support was positively related to quality of life and negatively to loneliness. According to Weiss (1973), loneliness is a response to the absence of some particular relational provision such as deficits in the relational provision involved in social support. Thus, perceived social support is negatively related to loneliness. Empirical support for the inverse relationship between social support and loneliness has been found in studies of college students (Schmitt and Kurdek, 1985), adolescents (Mahon and Yarcheski, 1992) and young adults (Mahon et al., 1998). The present finding of our study is consistent with above previous research. Peplau and Perlman (1982) suggested a motivational framework that explains loneliness and its outcomes. According to Peplau and Perlman, loneliness apparently has paradoxical motivational properties in that loneliness might arouse motivation for interpersonal contact but diminish motivation for nonsocial activities. In this framework when motivation is diminished, lonely people are apathetic and aimless and do not have the energy to complete tasks successfully, which clearly could influence the quality of life.

In summary, perceived social support contributes positively to quality of life, perceived social support is inversely related to loneliness, and loneliness negatively influences quality of life. When young people experience a lack of perceived social support, loneliness takes on greater internal psychological significance, and this subjective, unpleasant experience limits the extent to which young people are motivated to carry out behaviors that directly influence health related quality of life. In other words, when young people perceive high levels of social support, they are less lonely, and in turn, carry out high levels of satisfactory behaviours.

Some other findings in the present study are worth noting. One of these was that loneliness showed the highest negative correlations with social support from a significant other and social relationships domain of quality of life. Lonely students approach interpersonal encounters with cynicism and mistrust, and tend to be hyperalert and overly vigilant to threat in social situations (Stokes 1985). These students' thoughts are dominated by doubts about their ability to find satisfying romantic relationships and fears of being hurt or rejected in an intimate pairing (Wilbert and Rupert 1986). Lonely students spend more time alone and find it harder to make friends and are perceived to be less likeable and uninterested in friendship. Loneliness and uninvolvement are related (Bell 1985).

Concerning the predictor variables, the finding on quality of life was paralled to those of other investigations (Keith and Schalock, 1994; Berry, 1995). Overall quality of life was related to higher tendency to perceive social support from a significant other and family members. Loneliness and perceived social support from friends predicted psychological domain. Independence level domain was related to higher tendency to perceive support from asignificant other. There was no significant predictor in regard to spirituality. It is noteworthy that social network size did not predict any domains of quality of life. This finding is parallel to view that the perception of support is a better predictor of health outcomes than actual receipt of support. It is thought that students place different levels of importance and satisfaction on their quality of life domains in accordance with different aspects of social interaction.

There are certain limitations to the present study. This study relied on self-report assessment of quality of life, social support, and loneliness. Some of the correlations among the various measures are likely due to shared method variance. However, most of the measurement instruments have been used in previous research and they are well-validated. Another limitation relates to the student population. This may limit the generalizability of the findings.

CONCLUSION

In conclusion, the purpose of the present study was to find empirical support for the connections between quality of life and perceived social, support and social network and loneliness. The study confirms links between these variables. Future research with a greater sample size and a more representative sample of the culture should attempt to clarify and extend the present findings. As Rappaport and Seidman (1983) noted, natural support systems in the community play a role in solving, complicating, or altering the problems directly influence one's quality of life. Any factor that may contribute significantly to the process of support in relation to the quality of life (positively or negatively) should be investigated.

REFERENCES

Baron RM, Kenny DA (1986) The moderator-mediator variable distinction in social-psychological research: conceptual, strategic, and statistical considerations. J Pers Soc Psychol; 51: 275-301.

Bell R (1985) Conversational involvement and loneliness. Commun Monogr; 52: 218-235.

Berry M (1995) The experience of being a woman student. Br J Guidance Counsel; 23: 211-217.

Calman KC (1984) Quality of life in cancer patients - a hypothesis. J Med Ethics; 10: 124-127.

Cohen S, Wills TA (1985) Stress, social support, and the buffering hypothesis. Psychol Bull; 98: 310-357.

Coyne JC, Downey G (1991) Social factors and psychopathology: stress, social support, and coping processes. Annu Rev Psychol; 42: 401-425.

Demir A (1989) The validity and reliability of the UCLA loneliness scale (article in Turkish). Psikoloji Dergisi, 7: 4-11.

Eker D, Arkar H (1995) Perceived social support: psychometric properties of the MSPSS in normal and pathological groups in a developing country. Soc Psychiatry Psychiatr Epidemiol; 30: 121-126.

Eker D, Arkar H, Yaldız H (2000) Generality of support sources and psychometric properties of a scale of perceived social support in Turkey. Soc Psychiatry Psychiatr Epidemiol, 35: 228-233.

Eser E, Fidaner H, Fidaner C, Eser SY, Elbi H, Göker E (1999) Psychometric properties of the WHOQOL-100 and WHOQOL-BREF (in Turkish). 3P Dergisi, 7: 23-40.

Fletcher A, Gore S, Jones D, Fitzpatrick R, Spiegelhalter D, Cox D (1992) Quality of life measures in health care II: design, analysis, and interpretation. BMJ; 305: 1145-1148.

Heitzmann CA, Kaplan RM (1988) Assessment of methods for measuring social support. Health Psychol; 7: 75-109.

Hyland ME (1997) Health and values: the values underlying health resource. Psychol Health; 12: 389-403.

Jones WH, Moore TL (1987) Loneliness and social support. J Soc Behav Pers; 2: 145-156.

Keith KD, Schalock RL (1994) The measurement of quality of life: the quality of student life questionnaire. Am J Fam Ther; 22: 83-87.
Kuyken W, Orley J, Hudelson P, Sartorius N (1994) Quality of life assessment across cultures. Int J Mental Health; 23: 527.
Mahon NE, Yarcheski A (1992) Alternate explanations of loneliness in adolescents: a replication and extension study. Nurs Res; 41: 151-156.
Mahon NE, Yarcheski A, Yarcheski TJ (1998) Social support and positive health practices in young adults; loneliness as a mediating variable. Clin Nurs Res; 7: 292-308.
O'Boyle CA (1992) Assessment of quality of life in surgery. Br J Surg; 79: 395-398.
Peplau LA, Perlman D (1982) Perspectives on loneliness. Peplau LA, Perlman D, editors. Loneliness: A Sourcebook of Current Theory, Research and Therapy. New York: John Wiley, 1-19.
Rappaport TJ, Seidman E (1983) Social and community interventions. Walker CE, editor. The Handbook of Clinical Psychology: Theory, Research, and Practice, vol 2. Homewood: Dow Jones-Irwin, 1089-1122.
Russell D, Peplau LA, Cutrona C (1980) The revised UCLA loneliness scale: concurrent and discriminant validity evidence. J Pers Soc Psychol; 39: 472-480.
Saranson B, Saranson I, Hacker T, Basham R (1985) Concomitants of social support: social skills, physical attractiveness, and gender. J Pers Soc Psychol; 49: 469-480.
Saranson BR, Shearin EN, Pierce GR, Saranson IG (1987) Interrelations of social support measures: theoretical and practical implications. J Pers Soc Psychol; 52: 813-832.
Schmitt JP, Kurdek LA (1985) Age and gender differences in and personality correlates of loneliness in different relationships. J Pers Assess; 49: 484-496.
Stokes J (1985) The relation of social network and individual difference variables to loneliness. J Pers Soc Psychol; 48: 981-990.
Weiss RS (1973) Loneliness: the experience of emotional and social isolation. Cambridge: Massachusetts Institute of Technology, 17.
Wilbert J, Rupert P (1986) Dysfunctional attitudes, loneliness, and depression in college students. Cognit Ther Res; 10: 71-77.
Zimet GD, Dahlem NW, Zimet SG, Farley GK (1988) The multidimensional scale of perceived social support. J Pers Assess; 52: 30-41.