# ORIGINAL PAPER

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# Perceived social support: psychometric properties of the MSPSS in normal and pathological groups in a developing country

**Abstract** The factorial structure, reliability and construct validity of the Multidimensional Scale of Perceived Social Support (MSPSS) were investigated in Turkey to check the generality of some of the previous findings from Western samples. Using samples consisting of normals and subjects with medical or mental health problems, the original three factors (subscales) were obtained. The internal consistencies of the MSPSS and its subscales were high. In general, the scales correlated significantly in the expected direction with measures of depression and anxiety, thus supporting the construct validity of the MSPSS. Among the samples, subjects with psychiatric/psychological problems perceived, in general, the least social support. This result further contributed to the construct validity of the scale.

## Introduction

In the community approach to care of the mentally ill, the helping relationship is not conceptualized as being limited to the traditionally defined therapeutic contexts. The naturally occurring support systems that consist of the less formal and less intentional helping relationships contribute to solving, complicating or altering the problems encountered in day-to-day living (Rappaport and Seidman 1983). Rappaport and Seidman note that the social/community interventionist is interested in learning the conditions under which helping is beneficial by studying such natural settings and that he/

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she also encourages the use of the more helpful relationships.

The literature on social support, although far from definite, generally shows that social support plays an important part in health (e. g. Heller 1990; Kessler et al. 1985; Taylor 1990). Some of the positive effects of social support may occur through direct effects, for example when certain cognitive factors protect the person from illness, whereas others may occur through buffering when the person is under stress (Rodin and Salovey 1989). Coyne and Downey (1991) have noted that the bulk of the recent studies on social support focus on the perceived supportiveness of relationships.

The present investigation examined the psychometric properties of a scale of perceived social support in Turkey. The scale was developed originally by Zimet et al. (1988) by using a Western sample (Duke University undergraduates). Our purpose was to show the utility of the scale in a non-Western country and to examine the similarities and differences between our findings and some of the previous findings concerning this scale.

The Multidimensional Scale of Perceived Social Support (MSPSS) was developed as a simple-to-use brief scale of subjective assessment of the adequacy of social support from three specific sources (Zimet et al. 1988). Due to its simplicity and brevity it appeared to the present investigators to be especially suitable for psychiatric patients and also for normal subjects who are not familiar with testing.

The subscale structure proposed included perceived support from three sources: family, friends and a significant other. Factor analysis has supported the proposed structure in undergraduates (Kazarian and McCabe 1991; Zimet et al. 1988), pregnant women (Zimet et al. 1990) and in an adolescent inpatient psychiatric sample (Kazarian and McCabe 1991). The internal consistencies of the total scale and the subscales are high, ranging between 0.79 and 0.98 in various samples (Kazarian and McCabe 1991; Zimet et al. 1988, 1990) and the test-retest reliability over a 2- to 3-month period gives correlations ranging between 0.72 and 0.85 (Zimet et

**Table 1** Demographic characteristics of the samples

| Variables | Samples | | | | |
|---|---|---|---|---|---|
| | University | Health centre | Renal | Normals | Psychiatric |
| Age Mean | 20.34 | 20.78 | 37.18 | 30.70 | 31.96 |
| (SD) | (1.55) | (2.17) | (12.86) | (8.14) | (11.23) |
| | $n$ | $n$ | $n$ | $n$ | $n$ |
| Total | 146 | 50 | 50 | 50 | 50 |
| Sex | | | | | |
| Females | 70 | 25 | 17 | 29 | 25 |
| Males | 76 | 25 | 33 | 21 | 25 |
| Year in university | | | | | |
| Freshmen | 39 | 7 | | | |
| Sophomore | 40 | 21 | | | |
| Junior | 40 | 6 | | | |
| Senior | 27 | 11 | | | |
| Graduate | 0 | 3 | | | |
| Residence | | | | | |
| Village | 4 | 1 | 7 | 6 | 1 |
| Town | 5 | 11 | 6 | 5 | 6 |
| City | 54 | 19 | 20 | 15 | 18 |
| Big city | 83 | 19 | 17 | 24 | 25 |
| Marital status | | | | | |
| Single | 146 | 48 | 10 | 20 | 24 |
| Divorced | 0 | 1 | 0 | 1 | 1 |
| Widow | 0 | 0 | 1 | 0 | 3 |
| Separated | 0 | 0 | 1 | 0 | 0 |
| Married | 0 | 1 | 38 | 29 | 22 |
| Education | | | | | |
| No schooling | | | 0 | 0 | 2 |
| Elementary | | | 10 | 5 | 12 |
| Middle | | | 9 | 2 | 2 |
| High (lycee) | | | 20 | 15 | 21 |
| University | | | 11 | 27 | 13 |

al. 1988). In terms of validity, the MSPSS correlates positively with another social support scale and a self-concept measure (Kazarian and McCabe 1991) and negatively with measures of depression (Kazarian and McCabe 1991; Zimet et al. 1988) and anxiety (Zimet et al. 1988). Zimet et al. (1990) have reported comparisons between married and single subjects, and a relationship between sharing concerns with the mother and higher scores on the family subscale, all of which support expectations.

All of the above findings have been obtained in Western samples. The present investigation attempted to examine the utility of the MSPSS in a non-Western country, namely Turkey. The psychometric properties (factorial structure, internal consistency and construct validity) were investigated by using various samples. They included undergraduate students, normal visitors in a hospital, patients from two hospital departments (renal and psychiatric) and patients of a health centre. Several different samples were used to show the generality of the findings.

## Method

### Subjects

The study consisted of two stages. In the first stage university students ($n = 146$) were used for the initial examination of the psychometric properties of the Turkish translation of the MSPSS. After these initial findings, which were encouraging, similar and additional data were obtained from a hospital sample consisting of four groups: a group of university students applying to the university health centre for psychiatric/psychological reasons, patients (half inpatient and half outpatient) from the department of psychiatry, patients with kidney problems and a randomly selected group of visitors (normals) to the hospital. Each of the hospital groups consisted of 50 subjects. Since in factor analysis these latter four groups had to be combined to form one sample to meet the sample size requirement of the analysis, the term *hospital sample* will be used in this paper to refer to this combined sample. Otherwise, the individual names of the groups will be used.

Demographic characteristics of the samples are given in Table 1. A summary of the characteristics will be given here. The subjects were all Turkish citizens and were all Moslems. All five groups consisted of males and females and the great majority of the subjects lived in cities rather than in rural areas for most of their lives. The two student groups were from various levels of university, although the health centre group were mainly second-year or senior students. As would be expected, these students were quite young and were almost all single, whereas the three groups from the hospital had higher mean ages (particularly the renal

**Table 2** Factor loadings (pattern matrix) for the Multidimensional Scale of Perceived Social Support (MSPSS) items

| Items | Friends | | Family | | Significant other | |
|---|---|---|---|---|---|---|
| | University | Hospital | University | Hospital | University | Hospital |
| 1 | − 0.01 | 0.03 | 0.03 | 0.00 | 0.89 | − 0.82 |
| 2 | − 0.01 | − 0.00 | − 0.02 | − 0.00 | 0.91 | − 0.88 |
| 5 | − 0.08 | 0.04 | − 0.03 | 0.08 | 0.87 | − 0.81 |
| 10 | 0.04 | 0.04 | 0.00 | − 0.05 | 0.87 | − 0.82 |
| 3 | − 0.08 | 0.18 | 0.84 | 0.79 | − 0.06 | 0.12 |
| 4 | 0.01 | − 0.19 | 0.88 | 0.88 | − 0.05 | − 0.13 |
| 8 | 0.13 | − 0.07 | 0.90 | 0.82 | 0.10 | − 0.10 |
| 11 | − 0.08 | 0.12 | 0.79 | 0.83 | − 0.01 | 0.06 |
| 6 | − 0.88 | 0.84 | − 0.04 | 0.04 | − 0.04 | − 0.02 |
| 7 | − 0.90 | 0.82 | − 0.01 | 0.00 | − 0.09 | − 0.11 |
| 9 | − 0.76 | 0.80 | 0.07 | 0.10 | 0.21 | − 0.09 |
| 12 | − 0.74 | 0.86 | 0.06 | − 0.07 | 0.12 | 0.05 |
| Variance (%) | 12.7 | 42.2 | 22.7 | 17.7 | 39.8 | 12.7 |

**Table 3** Reliability (Cronbach's alpha) for the MSPSS

| Scales | Samples | | | | |
|---|---|---|---|---|---|
| | University | Health centre | Renal | Normal | Psychiatric |
| Significant other | 0.91 | 0.79 | 0.83 | 0.89 | 0.89 |
| Family | 0.87 | 0.82 | 0.92 | 0.83 | 0.83 |
| Friends | 0.87 | 0.86 | 0.78 | 0.90 | 0.86 |
| Total scale | 0.85 | 0.77 | 0.86 | 0.87 | 0.88 |

**Table 4** Correlations of the MSPSS with the Beck Depression Inventory (BDI)

| Scales | Samples | | | | |
|---|---|---|---|---|---|
| | University | Health centre | Renal | Normal | Psychiatric |
| Significant other | − 0.21[*3] | − 0.01 | − 0.20 | − 0.11 | − 0.46[*4] |
| Family | − 0.21[*3] | − 0.20 | − 0.31[*2] | − 0.01 | − 0.43[*4] |
| Friends | − 0.24[*3] | − 0.41[*3] | − 0.05 | − 0.34[*3] | − 0.41[*3] |
| Total scale | − 0.30[*4] | − 0.31[*2] | − 0.26[*1] | − 0.22 | − 0.55[*4] |

[*1] $P \leq 0.05$; [*2] $P \leq 0.02$; [*3] $P \leq 0.01$; [*4] $P \leq 0.001$

group) and included both married and single subjects. These latter three groups were distributed over various educational levels, with the highest number of university graduates in the normal group.

Instruments

In addition to the MSPSS, two other inventories, anxiety and depression inventories, were used. They were utilized to examine the construct validity of the MSPSS. The instruments used in the study are briefly described below.

*The Multidimensional Scale of Perceived Social Support (MSPSS)*

The psychometric properties of this scale were summarized in the Introduction. The MSPSS is a 12-item scale with 4 items for each source of support (i.e. family, friends and a significant other). Each item is rated on a 7-point scale ranging from disagree very strongly (1) to agree very strongly (7). The scale was translated into Turkish by the principal investigator who had spent a number of years in clinical training in both the United States and Turkey,

and the translation was finalized after discussions with the second investigator. In the present study, the scale scores on the four items under each subscale were added to obtain the subscale scores, and all subscale scores were added to obtain the total scale score. Higher scores indicated higher perceived social support.

*Depression and anxiety inventories*

The Beck Depression Inventory (BDI) and the State-Trait Anxiety Inventory (STAI) were used to measure depression and anxiety. Both the state and the trait anxiety measures of the STAI were used. In Turkish populations the reliability of the BDI has been studied by Tegin (1987) and its validity, by Aydın and Demir (1989) and by Hisli (1988). In the case of the STAI, Öner and Le Compte (1983) have reported reliability and validity studies. In the case of both instruments, research results support their use in the Turkish culture.

Procedure

The instruments described above were administered together as a set. The first page included a general introduction to the study and questions concerning demographic characteristics. Each scale/inventory had the necessary instructions. The order of the scales/inventories was randomized for each subject. In the university sample the STAI was not administered, whereas in the hospital groups the whole set was used.

In the university sample the instruments were administered during regular course hours in the Middle East Technical University in Ankara. An attempt was made to select various courses to obtain a heterogeneous sample as much as possible. The four hospital groups (the normal visitors and the patients with medical or psychiatric/psychological problems) were selected in the Medical Faculty and Health Centre of Dokuz Eylül University in İzmir, and scale/inventory administrations were on an individual basis with help provided when necessary. Participation was voluntary, and almost all of those who were asked agreed to participate.

# Results

Factorial structure

The psychometric properties of the MSPSS were first examined in the university sample. After checking the initial findings, which were satisfactory, data were ob-

**Table 5** Correlations of the MSPSS with the State-Trait Anxiety Inventory (STAI)

| Scales | Samples | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | Health centre | | Renal | | Normal | | Psychiatric | |
| | State | Trait | State | Trait | State | Trait | State | Trait |
| Significant other | − 0.05 | − 0.07 | − 0.27[*1] | − 0.08 | − 0.22 | − 0.23 | − 0.42[*4] | − 0.24[*1] |
| Family | − 0.25[*1] | − 0.28[*1] | − 0.37[*3] | − 0.30[*2] | − 0.12 | − 0.18 | − 0.29[*2] | − 0.20 |
| Friends | − 0.36[*3] | − 0.37[*3] | − 0.20 | − 0.10 | − 0.41[*3] | − 0.29[*2] | − 0.38[*3] | − 0.31[*2] |
| Total scale | − 0.33[*3] | − 0.36[*3] | − 0.38[*3] | − 0.21 | − 0.35[*3] | − 0.32[*2] | − 0.47[*4] | − 0.32[*2] |

[*1] $P \leq 0.05$; [*2] $P \leq 0.02$; [*3] $P \leq 0.01$; [*4] $P \leq 0.001$

**Table 6** Means and standard deviations (in parentheses) of the samples for the MSPSS

| Sample | Scales[a] | | | |
| --- | --- | --- | --- | --- |
| | Significant other | Family | Friends | Total scale |
| University | 19.15 | 20.17 | 21.64 | 60.97 |
| | (7.54) | (6.14) | (5.26) | (13.64) |
| Health centre | 16.12 | 18.60 | 17.96 | 52.68 |
| | (6.98) | (6.82) | (6.46) | (13.35) |
| Renal | 21.78 | 23.46 | 21.66 | 66.90 |
| | (6.77) | (6.11) | (4.66) | (13.26) |
| Normal | 21.22 | 22.02 | 20.64 | 63.88 |
| | (7.38) | (5.79) | (7.13) | (15.07) |
| Psychiatric | 16.04 | 19.18 | 16.60 | 51.82 |
| | (8.30) | (7.29) | (7.50) | (18.08) |

[a] Higher scores indicate higher perceived social support

tained from the hospital groups to examine the generality of the initial findings.

A principal components factor analysis with oblique rotation was carried out on the MSPSS data separately for the university sample ($n = 146$) and the hospital sample ($n = 200$). The four groups selected from the hospital were combined to form one sample due to the sample size requirement of factor analysis. The resulting factors are reported separately for the university and the hospital groups in Table 2. As expected, the 12 items loaded on the factors for which they were intended in both samples. The three factors obtained, namely the friends, significant other and family factors, together accounted for 75.2 % of the total variance in the university sample and 72.5 % in the hospital sample.

## Reliability

Cronbach's alpha procedure was used as the measure of reliability. The results are reported in Table 3 for each of the five groups in this study. The values ranged between 0.77 and 0.92, and showed good internal consistency for the subscales and the total scale in all the samples.

## Construct validity

*Correlations with other scales*

To examine the construct validity of the MSPSS, correlations with the BDI and the STAI were calculated. In

the university sample only the correlations with the BDI are available. As can be seen from Tables 4 and 5, all the correlations of the MSPSS and its subscales with the BDI and the trait and the state anxiety scales of the STAI were negative, as expected. However, not all the correlations were significant. The correlations of the *total scale* of the MSPSS with the BDI and the STAI were almost all significant (with two exceptions) in the samples. However, the *subscales* of the MSPSS did not always correlate significantly with the other scales in the various samples. Findings for two groups should be noted here; in these two groups the construct validity was particularly well supported. In the university sample, for which we have only the BDI results, all the negative correlations with the total scale and the subscales of the MSPSS were significant. The same was true in the sample of psychiatric patients. Moreover, in this last group, the negative correlations of the MSPSS and its subscales with the trait and the state anxiety scales were all (with one exception) significant.

It should also be noted that the significant other subscale of the MSPSS was the subscale that had the least number of significant correlations with the BDI and the STAI. In short, on the basis of the correlations with the other scales, there appeared to be support for the construct validity of the MSPSS especially in two particular samples (university and psychiatric patient samples).

*Health status and the MSPSS*

Since the five groups of the study differed from each other in terms of health status, it was of interest to compare these groups in terms of perceived social support (see Table 6 for the means and standard deviations). However, the reader is reminded that these groups also differed from each other in terms of various demographic characteristics. Therefore, the results of the comparisons should be viewed as tentative.

A one-way ANOVA procedure showed that the group comparisons on the significant other [$F$ (4, 341) = 6.71, $P \le 0.001$], the family [$F$ (4, 341) = 5.16, $P \le 0.001$] and the friends [$F$ (4, 341) = 9.09, $P \le 0.001$] subscales, and the total scale [$F$ (4, 341) = 11.06, $P \le 0.001$] were significant. The Duncan procedure was used for the pairwise comparisons (at $P = 0.05$ level). In general, the groups with psychiatric/psychological problems perceived the least amount of social support. The specific findings were as follows. In terms of the total scale and the significant other subscale, the renal, the normal and the university sample scores were significantly higher than the health centre and the psychiatric patient sample scores. The renal sample scores were also significantly higher than the university sample scores. The same result was found on the friends subscale except that there was no significant difference between the renal and the university samples. On the family subscale, again the results were similar to those of the total scale and the significant other subscale, except that there were no significant differences between the university sample and the health centre and the psychiatric patient samples. It appears that the MSPSS and its subscales differentiated particular samples. Although these findings further contributed to the construct validity of the MSPSS, they should be accepted as tentative owing to differences in other measures than health status between the groups.

## Discussion

The results of this study supported the cross-cultural stability of the factor structure of the MSPSS. The three factors identified in Western samples (Kazarian and McCabe 1991; Zimet et al. 1988, 1990) were also observed in a non-Western country. Moreover, in the present study, the same factor structure was observed, not only in normal university students, but in another sample consisting of subjects with psychiatric/psychological problems, medical problems and normal visitors in a hospital. Apparently, across different cultures subjects differentiate between three sources of perceived social support.

The results of the present study also showed that the scale as a whole and the three subscales had a high internal consistency. Again, this finding was consistent with the previous findings on the MSPSS (Zimet et al. 1988, 1990; Kazarian and McCabe 1991).

Concerning construct validity as assessed by correlations with other scales, the findings of the present study provided support especially in two samples: the university students and the psychiatric patients. Zimet et al. (1988) have reported "moderate construct validity" (p 38) in undergraduates. Kazarian and McCabe (1991) have reported negative and significant correlations with measures of depression in university students and psychiatric adolescents, and positive and significant correlations with a self-concept scale in psychiatric adolescents.

It is of interest to note that, in the present study, the least number of significant correlations between the MSPSS and the depression and the anxiety scales was for the significant other subscale. Zimet et al. (1988) have also reported the lowest (although significant) correlation (−0.13) for the same subscale. Apparently, for particular samples the significant other subscale, as against the other two subscales, may be less predictive of depression or anxiety.

In the present study, the highest correlations were in the psychiatric patient sample for depression. One can see a similar trend in the correlations with depression for the psychiatric adolescents in the study reported by Kazarian and McCabe (1991). It seems that under certain conditions perceived social support becomes particularly relevant and predictive of discomfort. What conditions make perceived social support (overall and from specific sources) especially relevant for predicting symptomatology is a question for further research.

Further, concerning construct validity, differences were observed in the five groups in this study on the MSPSS, in generally in the expected direction. The two groups with psychiatric/psychological problems reported the least amount of perceived social support of all groups. The university sample was an interesting case here. On the total scale and on the family and the significant other subscales, this sample perceived significantly less support than the renal patients. Moreover, the university students perceived support from their family at a level similar to those of patients with psychiatric/psychological problems. If one remembers that there was a significant negative correlation between the family subscale and depression in the university sample, one may say that the students may be a group at risk. However, support from the other sources may compensate for this.

Another point that should be noted is that the patients with psychiatric/psychological problems perceived the least amount of support, whereas those with a medical problem perceived the highest support. This finding is consistent with literature reports on the social rejection of the mentally ill (Greenly 1984; Rabkin 1972; Trute et al. 1989). The reader should, however, bear in mind that the findings for these group comparisons are tentative, because the samples in this study may differ not only in the presence or the absence of medical or psychiatric problems.

In summary, the factor structure of the MSPSS was stable cross-culturally and it had good internal consis-

tency. The construct validity for particular samples was satisfactory. However, the sample characteristics that make perceived social support especially relevant in the prediction of symptoms should be investigated.

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