Validity and Reliability of the Turkish Version of the Monitoring My Multiple Sclerosis Scale

Cansu POLAT¹, Zeliha TÜLEK¹, Murat KÜRTÜNCÜ², Mefkure ERAKSOY²

¹Istanbul University Florence Nightingale Faculty of Nursing, İstanbul, Turkey
²Department of Neurology, İstanbul University İstanbul School of Medicine, İstanbul, Turkey

INTRODUCTION

Multiple sclerosis (MS) is an inflammatory and degenerative disease of the central nervous system. MS is a chronic and progressive disease that causes significant limitations on the physical, emotional, and social functions of individuals, which affects the quality of life of patients (1,2,3).

Multiple sclerosis is the leading disease that causes non-traumatic neurological deficits in adults; there are 2–2.5 million MS patients worldwide and 400,000 in Europe (4,5). In a systematic review and meta-analysis study performed by Heydarpour et al. (6), which included North Africa and Middle Eastern countries (52 countries), the prevalence of MS was reported to be 52/100,000, with increasing number of patients every year. Except for a few local studies on MS prevalence, the exact prevalence of MS in Turkey is unknown. MS prevalence was found to be 101/100,000 in an epidemiological study conducted in a district of Istanbul (Maltepe) and 30/100,000 in Edirne, a city located to the west but at a similar latitude. Turkey is estimated to be at a medium risk for MS (6,7).

Many symptoms are seen in MS patients. Disabilities occur in some patients with the accumulation of these symptoms. As a result of physical and emotional dysfunction, limitations on daily functioning, and the unpredictable course of the disease, psychosocial problems in patients are common (8,9,10). Nurses who care for patients with numerous complicated problems have important responsibilities in the maintenance of patient wellbeing and daily needs, management of symptoms, and supporting compliance with immunomodulatory treatments (2,11,12).

Continuous monitoring of functioning is important for determining health needs because MS is a progressive disease that has a substantial impact on all aspects of life (13). The evaluation of subjective perceptions of health provides the possibility of understanding problems from the patients’ perspective. The evaluation of perceptions of health helps in gaining an understanding of the impacts of the disease process and treatment on patients’ daily lives and defining the social, emotional, and physical needs of patients. Therefore, it contributes to the development of an individual management plan that meets patients’ needs and it could also be used as a self-evaluation tool by patients to monitor their own symptoms (2,3,11,14,15,16,17).
METHODS

Design, Sample, and Setting
This study was designed as a methodological and descriptive research. The study was carried out on MS patients who were admitted to the outpatient MS clinic of a university hospital between January and September 2013. To realize psychometric analysis in cultural adaptation studies of questionnaires, it is generally recommended to study the analyses in a population with a size of at least five times the number of items in the questionnaire (18,19). In this study, on the basis of the number of items in the questionnaire, a sample size of 140 patients with definite MS was targeted. Patients who were able to communicate effectively and had not had an attack in the previous month were included.

Ethical Considerations
Before data collection, ethical approval was obtained from the Clinical Research Ethical Committee of the hospital (2012/1717-1277). The study was explained and informed consent was obtained from patients included in the study.

Data Collection
The questionnaire was applied by researchers to patients who fulfilled the inclusion criteria. For test–retest purposes, second meetings were performed with 30 patients in the same group after 2 weeks (19).

Instruments
Monitoring My Multiple Sclerosis Scale (MMMS) was administered to the patients for data collection. MMMS was developed by Gulick et al. (3) to provide the possibility of patients tracking their health status by themselves. The 26-item tool contains four subscales that evaluate physical health (10 items), relationships (8 items), energy (3 items), and cognitive/mental functions (5 items). The minimum score that could be obtained from the scale is 26 and the maximum is 104. Higher scores show the satisfaction of patients with their status and functions. Expanded Disability Status Scale (EDSS) (20), Mini Mental State Examination (MMSE) (21), and Hospital Anxiety and Depression Scale (HADS) (22) were used to investigate correlations with MMMS. In addition, to study concurrent validity, the Multiple Sclerosis Quality of Life-54 (MSQL-54) instrument, which was developed by Vickrey et al. (23) and adapted for the Turkish population, was used (2,24).

Linguistic Validity
The linguistic validity of the tool was tested by following steps stated in the literature. 1) The scale was translated separately from English into Turkish by two individuals. 2) These two translations were reviewed by two other MS experts and combined into one scale by consensus. 3) The combined translation was translated back into English by a (25,26). 4) The back-translated scale was compared with the original English scale, the Turkish version was discussed, and final changes were made. Afterward, the scale was reviewed by an MS expert panel. The content validity index of the tool was calculated to be 0.95. The scale was applied to a group of 20 people following the recommendations made by experts (Supplementary file-1). No changes were necessary in the scale, as each item was found to be clearly understandable in the pilot study (19,27).

Statistical Analysis
Statistical Package for the Social Sciences version 21.0 (IBM SPSS Statistics; New York, USA) and the LISREL 8.5 program were used for statistical analysis of the data obtained from the study. The normality of the distribution for the tests used in comparison was determined using the Kolmogorov–Smirnov Test. Parametric tests were chosen as the distribution was defined as being normal. Descriptive variables, values of Cronbach’s alpha coefficient, Pearson correlation analysis, confirmatory factor analysis, goodness-of-fit indices, and t-tests on independent samples were used for statistical analysis.

RESULTS
We included 140 patients in the study. The mean age of the patients was 35.4±10.5 (mean±standard deviation, range 18–62), 72.9% (n=102) being females and 62.1% (n=87) having high school or higher educational status. Approximately half of the patients were housewives and most of the patients were married (Table 1).

The mean duration of disease since diagnosis was 7.6±6.04 years and the most common (75.7%) subtype of MS was relapsing–remitting MS (RRMS). Most of the patients (72.9%) were on a disease-modifying therapy (DMT). The functional status of the patients was evaluated and most of them were ambulatory; one-quarter (25.7%) were anxious and around half (44.3%) were depressive (Table 2).

Confirmatory factor analysis was performed to determine the construct validity of the Turkish version of MMMS. Goodness-of-fit indices including the Goodness of Fit Index, Root Mean Square Error of Approximation (RMSEA), and Standardized Root Mean Square Residual (S-RMR) were examined. The RMSEA value of the model was found to be 0.077. The chi-square values were statistically significant (χ²=529, n=140, sd=289, χ²/df=1.83, p=0.000). The value of χ²/sd (529/289=1.83) was less than 2 and was therefore accepted as being between good fitting limits. In this context, factor analysis confirmed the structure of the Turkish scale. The factor loadings of the Turkish MMMS are shown in Table 3.

To test the reliability of the scale, test–retest correlations and values of Cronbach’s alpha coefficient were calculated (Table 4). For test–retest analysis, Pearson product–moment correlation coefficients were calculated and determined to be between 0.61 and 0.84. These results support the stability of the scale over time. Cronbach’s alpha coefficient was calculated to evaluate internal consistency and was found to be between 0.643 and 0.891 (Table 4). The mean MMMS score of the patients was 70.5±12.6 (range: 30–99), and the highest scores were obtained from the relationships subscale. The item–subscale score correlations of the scale were found to be between 0.60 and 0.81 and the item–total score correlations were in the range of 0.47–0.75 (p<0.001).

Scale scores were evaluated according to sociodemographic and MS-related characteristics to further support the construct validity. There was no difference between MMMS subscale scores of participants with respect to sociodemographics. There was one exception: the energy subscale displayed differences with respect to sex and marital status. On the energy subscale, female participants had significantly lower scores than males (2.3±0.6 vs. 2.6±0.6, t=2.019, p=0.045), and married participants had significantly lower

There are many scales that have been developed to evaluate the health needs of MS patients. However, existing assessment measures either do not include a number of functional areas important to patients or are not practical to use because they are time-consuming. Therefore, the International Organization of Multiple Sclerosis Nurses (IOMSN) decided to develop a reliable, user-friendly, and valid self-administered measure that included often-neglected areas of MS symptoms. Thus, Gulick et al. (3) developed a self-assessment scale for patients that could help them to monitor their physical condition and evaluate the outcomes of healthcare (Monitoring My MS Scale [MMMS]). The aim of this study is to adapt this scale to Turkish and examine its psychometric properties in Turkish MS patients.
The relationship between MMMS and functional status was evaluated and statistically significant correlations were found between MMMS and EDSS, MMSE, and HADS. A moderately strong correlation was found between MMMS and MSQL-54, which was the scale used for concurrent validity (Table 5).

DISCUSSION

The aim of this study was to translate MMMS from English into Turkish and evaluate its psychometric properties. MMMS is a scale developed by Gulick et al. (3) on behalf of IOMSN in 2011 to assess the health status of MS patients. After linguistic validity, which was tested by the use of a forward–backward translation method, confirmatory factor analysis was performed to investigate the construct validity of the scale and to examine the representations of items on defined subscales. Items were grouped into four factors with factor loadings of between 0.49 and 0.79, and the scale was found to have a four-factor structure comprising physical health, relationships, energy, and mental/cognitive functions, as in the original version. The model was seen to be between acceptable limits according to goodness-of-fit indices (chi-square, RMSEA, S-RMR, Akaike information criterion, consistent Akaike information criterion, and expected cross-validation index). On the basis of these results, the Turkish version of MMMS was accepted as a valid scale and reliability analyses of the scale were performed.

To test the reliability of the item–subscale score correlations of the scale, Cronbach's alpha coefficient, test–retest correlations, and concurrent validity methods were used. Item–subscale score and item–total score correlations were calculated to inspect the relationship between scale items and subscales. Although there is no consistency regarding the threshold of the item–total score correlation coefficient in the literature, in general, the lowest level is accepted as being 0.20. Items with correlation coefficients between 0.30 and 0.40 are reported as “good” and those above 0.40 as “very good” (27). The item–total score correlations of the 26 items in this study were investigated; the correlation coefficients of the items were found to be between 0.47 and 0.75 and the item–subscale score correlation coefficients were between 0.60 and 0.81 and were statistically significant. The contributions of each individual item to the subgroup score and total score and the contribution of each subgroup to the total score were found to be sufficient. Another method recommended for evaluation of the reliability of Likert-type scales is Cronbach’s alpha reliability coefficient (19). In a study conducted by Gulick et al. (3). Cronbach’s alpha coefficient was between 0.67 and 0.85 for the subgroups and 0.90 for the total scale. In our study, Cronbach's alpha coefficient was found to be high for the total scale (0.94) and between highly reliable limits for all the subgroups (0.64–0.89). In our study, although our test–retest correlations were lower than those of the original scale (0.61–0.84 vs. 0.87–0.96), they can still be considered as acceptable, which means that the scale has the ability to
provide similar results with repeated measurements. Another way to determine the validity of the scale is to compare it with an equivalent scale. The MSQL-54 scale was used for this purpose. Significant and strong correlations were found between MMMS total score and MSQL-54 physical composite score \((r=0.71, p<0.001)\) and mental health composite score \((r=0.65, p<0.001)\). Therefore, the construct validity of MMMS for our sample was confirmed.

To support the construct validity, MMMS scores were evaluated according to sociodemographic and MS-related characteristics. The sample displayed typical characteristics of MS (young age, female dominance, RRMS) (28,29,30). Most of the patients were ambulatory because the study was conducted in an outpatient clinic. Lower scores on the energy subscale in female and married patients were expected, as these groups have more responsibilities in daily life. Higher scores on all subscales of MMMS in the educated and working groups is a result comparable to those reported in many studies of quality of life (2,31,32). Lower mean MMMS scores for participants with secondary progressive MS (SPMS) in comparison to participants with RRMS further supports the construct validity of MMMS. As expected, patients with RRMS reported better health status than did those with SPMS.

The relationship of MMMS with functional scales (EDSS, MMSE, and HADS) was analyzed to support the construct validity. Strong negative correlations were found between EDSS and MMMS; the strongest correlation was obtained from the physical health subscale, as expected. Similar results were reported in the original study of the scale (3). Among the three function scales the weakest correlations were obtained for MMSE. Correlations between MMMS and MMSE scores were found to be significant but weak. A weak negative correlation was found between

### Table 3. Factor loadings: Monitoring My Multiple Sclerosis Scale (n=140)

<table>
<thead>
<tr>
<th>Item</th>
<th>Physical</th>
<th>Relationships</th>
<th>Energy</th>
<th>Cognitive/Mental</th>
</tr>
</thead>
<tbody>
<tr>
<td>I believe my health is</td>
<td>0.59</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I feel the current status of my MS is</td>
<td>0.66</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>My mobility is</td>
<td>0.74</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>My bladder functioning is</td>
<td>0.62</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>My bowel functioning is</td>
<td>0.52</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>My sexuality and intimate relationship is</td>
<td>0.66</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Management of my personal care is</td>
<td>0.72</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>My ability to work or do things I need to do</td>
<td>0.79</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Satisfaction with my level of physical activity is</td>
<td>0.72</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I can do anything I set my mind to do</td>
<td>0.64</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>My communication to others is</td>
<td>0.73</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The living situation where I live is</td>
<td>0.70</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>My relationships with family members are</td>
<td>0.65</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>My relationship with my spouse or significant other is</td>
<td>0.53</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>My current relationship with friends is</td>
<td>0.64</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>My ability to do things for fun that I enjoy is</td>
<td>0.65</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>My current financial situation is</td>
<td>0.65</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am looking forward to the future</td>
<td>0.64</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Most of the time my energy level is</td>
<td>0.78</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Generally, my mood and spirits are</td>
<td>0.57</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How rested do you feel after sleeping</td>
<td>0.52</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>My ability to cope with pain is</td>
<td>0.49</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The adequacy of my diet is</td>
<td>0.63</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>My thinking and memory are</td>
<td>0.54</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>My life as a whole is</td>
<td>0.77</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>My spiritual well-being is</td>
<td>0.74</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Table 4. Descriptive and Cronbach Alpha Values and Test-Retest Correlations of Monitoring My Multiple Sclerosis Scale and (n=140)

<table>
<thead>
<tr>
<th>Subgroup</th>
<th>Mean±SD</th>
<th>Cronbach’s α</th>
<th>r</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical</td>
<td>2.5±0.5</td>
<td>0.891</td>
<td>0.941</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Relationships</td>
<td>2.9±0.5</td>
<td>0.855</td>
<td>0.945</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Energy</td>
<td>2.4±0.6</td>
<td>0.643</td>
<td>0.841</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Cognitive/Mental</td>
<td>2.6±0.5</td>
<td>0.761</td>
<td>0.888</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Total</td>
<td>70.5±12.6</td>
<td>0.940</td>
<td>0.963</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

SD: standard deviation

(3) Polat et al. Turkish Version of Monitoring My Multiple Sclerosis Scale Arch Neuropsychiatr 2017
MMMS and HADS anxiety scores and a moderately strong correlation was found with depression scores. Close relationships between quality of life or self-assessed health status and anxiety and depression have been shown in many studies (1,2,31).

Some limitations of this study should be considered when its results are interpreted. The study being conducted in an outpatient clinic and most of the patients being ambulatory were limitations of the study. However, in relation to other aspects, the sample group displayed the typical characteristics of MS.

In conclusion, the Turkish version of MMMS exhibited adequate validity and reliability for assessing the impact of MS on quality of life and health status from patients’ perspectives. By covering all essential aspects of quality of life in a user-friendly format, MMMS may be useful, especially in time-limited settings. Self-monitoring by patients using this scale can promote partnership between MS patients and their healthcare providers. Further research on a larger sample and further psychometric testing using sample groups with various MS types are recommended.

**Ethics Committee Approval:** Ethics committee approval was received for this study from the ethics committee of İstanbul University İstanbul School of Medicine (No: 2012/1717-1277).

**Informed Consent:** Written informed consent was obtained from patients who participated in this study.

**Peer-review:** Externally peer-reviewed.


**Conflict of Interest:** No conflict of interest was declared by the authors.

**Financial Disclosure:** The authors declared that this study has received no financial support.

**REFERENCES**


2. Tülek Z. Düzenli sağlık kontrolü alınan multi sklerozu hastalara yaşam kalitesinin belirlenmesi (Determination of Quality of Life In Multiple Sclerosis Patients). İstanbul Üniversitesi Sağlık Bilimleri Enstitüsü Hemşirelik Doktora Tezi (İstanbul University Institute of Health Sciences, Doctoral Thesis), 2006, Istanbul.


17. Taborzi FM, Radfar M, Fatigue, Sleep Quality, and Disability in Relation to Quality of Life in Multiple Sclerosis. Int J MS Care 2015; 17:268-274.


**Table 5. Correlations of MMMS Scores with EDSS, MMSE, HADS and MSQL-54 (n=140)**

<table>
<thead>
<tr>
<th>Scales</th>
<th>Physical</th>
<th>Relationships</th>
<th>Cognitive /Mental</th>
<th>Energy</th>
<th>MMSS Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>MMSE</td>
<td>0.32</td>
<td>&lt;0.001</td>
<td>0.20</td>
<td>0.018</td>
<td>0.18</td>
</tr>
<tr>
<td>EDSS</td>
<td>-0.56</td>
<td>&lt;0.001</td>
<td>-0.25</td>
<td>0.002</td>
<td>-0.19</td>
</tr>
<tr>
<td>HADS-A</td>
<td>-0.37</td>
<td>&lt;0.001</td>
<td>-0.45</td>
<td>&lt;0.001</td>
<td>-0.46</td>
</tr>
<tr>
<td>HADS-D</td>
<td>-0.59</td>
<td>&lt;0.001</td>
<td>-0.53</td>
<td>&lt;0.001</td>
<td>-0.48</td>
</tr>
<tr>
<td>MSQL-54 PHC</td>
<td>0.74</td>
<td>&lt;0.001</td>
<td>0.54</td>
<td>&lt;0.001</td>
<td>0.57</td>
</tr>
<tr>
<td>MSQL-54 MHC</td>
<td>0.61</td>
<td>&lt;0.001</td>
<td>0.57</td>
<td>&lt;0.001</td>
<td>0.51</td>
</tr>
</tbody>
</table>

HADS-A: Hospital Anxiety and Depression Scale- Anxiety; HADS-D: Hospital Anxiety and Depression Scale- Depression; MSQL-54 PHC: Multiple Sclerosis Quality of Life Scale-54 Physical health composite; MSQL-54 MHC: Multiple Sclerosis Quality of Life Scale-54 Mental health composite
SUPPLEMENTARY FILE:

Multipl Skleroz İzlem Ölçeği (Turkish Version of Monitoring My Multiple Sclerosis Scale)

Yönerge:
Aşağıda multipl sklerozun (MS) fiziksel sağlık, enerji, aile, maddi durum, ruh hali ve yaşamla mücadele üzerindeki etkileri hakkında bazı ifadeler ve sorular yer almaktadır.

Lütfen son üç aylık deneyimini göz önüne alarak, her cümle ya da soruyu dört seçenek arasında en uygun olanını (X) işareti ile işaretleyerek cevaplayıniz. Her soru için yalnızca bir seçenek işaretleyiniz.

1. Sağlık durumum…………………. olduğuna inanırım
   ◐ Kötü    ◐ Orta    ◐ İyi    ◐ Mükemmel

2. Genel olarak, şu anda MS’ imin……….……. durumda olduğunu düşünürüm
   ◐ Kötü    ◐ Orta    ◐ İyi    ◐ Mükemmel

3. Çoğu zaman enerji düzeyim
   ◐ Kötü    ◐ Orta    ◐ İyi    ◐ Mükemmel

4. Genel olarak, ruh halim ve moralim
   ◐ Kötü    ◐ Orta    ◐ İyi    ◐ Mükemmel

5. Hareket kabiliyetim
   ◐ Kötü    ◐ Orta    ◐ İyi    ◐ Mükemmel

6. Ağrıyla baş etme yeterliliğim
   ◐ Kötü    ◐ Orta    ◐ İyi    ◐ Mükemmel

7. Mesane (ıdrar yapma/tutma) fonksiyonum
   ◐ Kötü    ◐ Orta    ◐ İyi    ◐ Mükemmel

8. Barsak (dişkılama) fonksiyonum
   ◐ Kötü    ◐ Orta    ◐ İyi    ◐ Mükemmel

9. Cinsel yaşamım ve karşı cinsle olan ilişkim
   ◐ Kötü    ◐ Orta    ◐ İyi    ◐ Mükemmel

10. Kişisel bakımım (giyinme, yıkanma, yemek yeme)
    ◐ Kötü    ◐ Orta    ◐ İyi    ◐ Mükemmel

11. Diğer kişiler ile iletişimim (kendimi ifade etmem)
    ◐ Kötü    ◐ Orta    ◐ İyi    ◐ Mükemmel

12. Beslenmemin (sebze, meyve, tahıl, et/balık, süt/peynir ve sıvılar) yeterliliği
    ◐ Kötü    ◐ Orta    ◐ İyi    ◐ Mükemmel

13. Yaşadığım yerdeki yaşam koşulları
    ◐ Kötü    ◐ Orta    ◐ İyi    ◐ Mükemmel

14. Düşünme ve hafıza (bellek) fonksiyonum
    ◐ Kötü    ◐ Orta    ◐ İyi    ◐ Mükemmel
15. Aile üyeleriyle ilişkilerim
- Kötü
- Orta
- İyi
- Mükemmel

16. Eşimle veya benim için özel olan insanla ilişkin ilişkilerim
- Kötü
- Orta
- İyi
- Mükemmel

17. Arkadaşlarıyla şu anki ilişkilerim
- Kötü
- Orta
- İyi
- Mükemmel

18. İş veya yapmam gereken diğer şeyler yapan yeterlilikim
- Kötü
- Orta
- İyi
- Mükemmel

19. Zevk aldığım şeyler yapabilme yeterlilikim
- Kötü
- Orta
- İyi
- Mükemmel

20. Şu anki maddi durumum (ılaçları ve faturaları ödeyebilme durumum)
- Kötü
- Orta
- İyi
- Mükemmel

21. Bir bütün olarak yaşamım
- Kötü
- Orta
- İyi
- Mükemmel

22. Manevi açıdan kendimi hissediyorum
- Kötü
- Orta
- İyi
- Mükemmel

23. Uykudan kalktığınızda kendinizi ne kadar dinlenmiş hissediyorsunuz?
- Hiç
- Çok az
- Biraz
- Tamamen

24. Fiziksel aktivite düzeyinize ne kadar memnuniyet duyar? 
- Hiç
- Biraz
- Çoğunlukla
- Büyük ölçüde

25. MS olmama rağmen, aklıma koyduğum her şeyi yapabilirim
- Hiç
- Biraz
- Çoğunlukla
- Büyük ölçüde

26. Geleceğe ümitle bakıyorum
- Hiç
- Biraz
- Çoğunlukla
- Büyük ölçüde