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ORIGINAL RESEARCH

Turkish Validity and Reliability Study of Maladaptive Daydreaming Scale

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Abstract

Objective: Daydreaming is a common act in everyday life. Although daydreaming is not pathological, excessive, compulsive daydreaming, disturbing activities of daily living is considered pathological and is called maladaptive daydreaming. It has been shown that maladaptive daydreaming accompanies many disorders, such as depression and Attention-Deficit/Hyperactivity Disorder. This study aimed to adapt Maladaptive Daydreaming Scale (MDS-16) to Turkish.

Methods: The study was conducted with 377 volunteers who were university students or had more advanced education. The scales for depression, attention deficit and hyperactivity and dissociative experiences were filled in addition to the scale of maladaptive daydreaming.

Results: The analysis shows that the reliability of the scale is high. The factor structure of the Maladaptive Daydreaming Scale was similar to its adaptations to other languages. The scale scores have shown significant correlations with scales of depression, attention-deficit/hyperactivity, and dissociative experiences.

Conclusion: These findings show that reliability, content, and convergent validity of the scale are sufficient. It was concluded that the Maladaptive Daydreaming Scale is suitable for use in the population of Turkey.

Keywords: Maladaptive Daydreaming, Mind-Wandering, Reliability, Validity

INTRODUCTION

Daydreaming consisting of inner conversations, images, and thoughts that come to life in our minds, occupies almost half of our waking lives[1-2] and almost everyone state that he/she experiences some kind of daydreaming almost daily.[3] However, there is no consensus in academic world about the role of the imagination in terms of emotional health.[4] On the one hand, there are studies indicating the positive contribution of daydreaming in getting away from the boredom of daily life, coping with stress, reducing physical pain, and increasing the speed of recovery.[5-6-7-8-9] Research also suggests that MD may be considered as a defense mechanism of the organism against stress so that it is triggered under stressful conditions. In that sense nonpathological daydreaming can be viewed as a fantasy formation defense mechanism or a kind of self-medication behavior employed during times of increased stress.[10] On the other hand, there are authors stating that when excessive and uncontrollable daydreaming (i.e. maladaptive daydreaming, MD) is associated with psychological distress.[11] The definition of MD was first made by Somer as: It is a lively, comprehensive and long-lasting daydreaming activity that neglects the real-life relationships and responsibilities of people, causing clinical distress and deterioration in functionality.[12]

Somer et al. reported that MD was found in patients with a wide range of DSM-5 disorders, including attention deficit hyperactivity disorder, anxiety disorder, depression, obsessive-compulsive disorder, and related disorders.[13] It is possible that people suffering from these disorders may appeal to MD to cope with excessive stress. It is also possible that MD and other neuropsychological disorders are frequently comorbid, and they are more likely be seen together

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in same individuals. Another important issue is that to date no study examined the neural mechanism of MD. Many studies show that the brain correlate of ordinary daydreaming is the “default mode network” area of the brain during daydreaming. Neuroimaging studies show that the default mode network is activated during nonpathological daydreaming, with the medial prefrontal cortex being dominant.[14] On the other hand neural alterations in people with MD remains to be elucidated.

In this study, validity, and reliability analysis of Turkish form of Maladaptive Daydreaming Scale (MDS) was performed. By adapting this scale to Turkish language we aimed to provide clinicians a tool to identify individuals with MD. The scale in Turkish language may also trigger further research in MD that will provide important data to understand prevalence, severity and associated factors.

METHODS

Study Population

This study was conducted with 377 volunteer university students between the ages of 18-34 who were studying in Istanbul between October 2018 and December 2018. The students were recruited via advertising within campuses. 288 of the participants were female and 89 were male. The average age of the study group is 21.84 and their ages range between 18 and 34. The students in the study group voluntarily participated in the research, gave written informed consent

Data Collection Tools

In this study, Sociodemographic Information Form, the 16-item Maladaptive Daydreaming Scale, Beck Depression Scale, Dissociative Experiences Scale, and Attention Deficit and Hyperactivity DSM Scale were used. The psychometric properties of the scales are listed below.

The 16-item Maladaptive Daydreaming Scale (MDS-16): The scale was developed by Somer et al. in 2016 and is a self-assessment scale consisting of 16 items.[15] In the study, the Cronbach Alpha value of the scale was found to be .95. For each question, the participant puts a mark on the diagram that is ranked 10 points from zero to a hundred under the question and indicates how often that experience is (between 0% – 100% of the time). The scale score is obtained by taking the average of the 16 questions. The scale 4 different sub-factors indicating Yearning, Kinesthesia, Impairment, and Music degrees in addition to the total scores.[16] In the Arabic version of the scale, it was found that the scale has two factors namely, immerse daydreaming and distress.[17] In the Italian version, two different structures were identified: interference with life and sensory-motor retreat.[18] Until recently, there were no valid scales for measuring the features of MD in Turkish language. Some examples from the scale with Turkish and English versions of the items are presented in Table 1.

Table 1. Example items from the Turkish version of MDS-16 and their English versions

Item	Turkish	English
1	Bazı insanlar belli türden müziklerin hayal kurmayı tetiklediğini farkederler. Müzik sizin hayal kurmanızı ne ölçüde tetikler?	Some people notice that certain music can trigger their daydreaming. To what extent does music activate your daydreaming?
4	Gerçek yaşam yükümlülüklerinizi yerine getirmeniz sebebiyle hayal kuracak vakit bulamazsanız, hayal kurmak için zaman bulamamanız size ne kadar sıkıntı verir?	If you go through a period of time when you are not able to daydream as much as usual due to real world obligations, how distressed are you by your inability to find time to daydream?
7	Dikkat etmeniz veya bitirmeniz gereken zorlu ya da önemli bir iş olduğunda, işinizi hayal kurmadan tamamlamanız sizin için ne kadar zordur?	When you know you have had something important or challenging to pay attention to or finish, how difficult was it for you to stay on task and complete the goal without daydreaming?
9	Bazı insanlar hayal kurmalarını kontrol etmekte ya da hayal kurmalarına limit koymakta zorlanırlar. Hayal kurmanızı kontrol altında tutmak sizin için ne kadar zor olmaktadır?	Some people experience difficulties in controlling or limiting their daydreaming. How difficult has it been for you to keep your daydreaming under control?

Translation

In order to study the validity and reliability of these scale, the first translation study was carried out. The Standard translation-back translation method was used in the translation process of the questionnaire. After two researchers who were proficient in English performed the Turkish translation of the scale independently from each other, the researchers agreed on a common text in terms of the Turkish appropriateness and comprehensibility of the translations. This text was translated back into English by two researchers who did not know the original form. It was determined that there was no meaning change in the expressions of the scales that were translated back, and they were administered to 30 students who were like the sample group characteristics

to test whether the expressions in the items of the scale were understandable. These students did not report any ambiguity in the meanings of the items.

Procedure

The scales were administered to volunteers. Participants were first informed about the purpose of the research and about the information that will be asked. They then gave written informed consent. The administration of the scales took approximately 30-35 minutes.

Other Scales

Beck Depression Scale (BDS): In order to measure the level of depressive symptoms in individuals, BDSis a self-rating scale was used. Turkish validity and reliability study Hisli (1989) indicated a cutoff score of 17 points.[19] The highest score that can be obtained from the scale is 63. The Cronbach alpha value of the scale is 0.80.

Dissociative Experiences Scale (DES): It is used to screen dissociative experiences and disorders and measure their severity. It is a self-rating scale. It can be applied to psychiatric patients, people with traumatic experiences, and non-clinical populations for screening purposes. The scale contains a total of 28 questions. Subjects mark their response scores between 0 and 100 for each item. The scale evaluates ongoing symptoms rather than situational. The scale was translated into Turkish by Yargıç, Tutkun and Şar[20], and the validity and reliability of the Turkish version of the scale have been demonstrated in various studies using non-clinical and clinical populations including university students in late adolescence. The Cronbach alpha value of the scale is 0.93.

Attention Deficit and Hyperactivity DSM Scale: The Attention Deficit and Hyperactivity DSM scale is a 23-item scale developed by Kooij et al. in 2005.[21] In the scale, 18 DSM symptoms in adult life are questioned one by one. For each symptom, Likert-type responses are made as 0 = never or rarely, 1 = sometimes, 2 = frequent and 3 = very often. [22] The Turkish validity and reliability of the form were made by Metin et al[22], and the total Cronbach alpha value of the scale was found to be 0.9. The Cronbach alpha value of the attention deficit sub-dimension was 0.89, and this value was 0.84 for the hyperactivity/impulsivity sub-dimension.

Statistical Analysis

Cronbach alpha coefficients were calculated to determine the reliability of the scale. In the validity analysis, first, the factor structure of the scales was investigated using the exploratory factor analysis method. In order to determine the convergent validity of the scale, the Pearson correlations of the scales with the scores obtained from the depression, dissociative experiences, attention deficit, and hyperactivity scales were calculated. IBM SPSS version 24 was used for all analyzes.

RESULTS

The mean scores and standard deviations of the volunteers participating in the study are given in Table 2 below.

Table 2. Descriptive statistics of the scores obtained from the scales and scale items

(a)

Scale	Average	Standard deviation	Min-maks
MDS	31	15	0-98
ADHD(A)	7.74	4.88	0-29
ADHD(H)	10.63	5.28	0-29
BDS	11.58	9.49	0-46
DES	19	15	0-76

(b)

Items	Average	Standard deviation	Min-Maks
MD1	63	26	0-100
MD2	48	26	0-100
MD3	46	28	0-100
MD4	32	26	0-100
MD5	18	22	0-100
MD6	17	22	0-100
MD7	24	24	0-100
MD8	14	20	0-100
MD9	20	23	0-100
MD0	32	27	0-100
MD11	14	20	0-100
MD12	22	25	0-100
MD13	21	33	0-100
MD14	22	26	0-100
MD15	62	28	0-100
MD16	38	31	0-100

MD: Maladaptive Daydreaming, AD: Attention Deficit, H: Hyperactivity, BDS: Beck Depression Scale, DES: Dissociative Experiences Scale

Reliability Values of MDS-16

Cronbach alpha values were calculated for reliability analysis. The alpha value of the MDS was calculated as 0.89. When item-total correlation analysis was performed, it was observed that the correlations for the MDS scale varied between 0.45 and 0.70.

Explanatory Factor Analysis of MDS Scale

For the suitability of scale for factor analysis, Kaiser Meyer-Olkin (KMO) test and Bartlett Sphericity test were applied. KMO value for the MDS scale was calculated as 0.92 and the Barlett test significance value was calculated as <0.001. These findings suggest that the MDS-16 is a suitable scale for factor analysis.

In the factor analysis of the MDS scale, it was seen that the eigenvalue of 2 factors was greater than 1. These 2 factors accounted for 49.6% of the total variance of the scale. When the pattern matrix is examined, the first factor was related to items 5,6,7,8,9,11 and the 2nd factor to items 1,2,3,4, 10, 12,13,14,15,16. This factor structure largely overlapped with the factor structures that emerged in the Arabic and Italian validity and reliability studies of the scale.[15-16] Similar to Abu-Rayya's Arabic adaptation study, it was thought that the first factor was related to the Dreaming Degree and the second factor was related to the Distress and Disruption experienced (Table 3).

Table 3. Pattern matrix showing the MDS scale factor structure

Item	Factor 1	Factor 2
M1	-.244	.719
M2	.070	.656
M3	.009	.681
M4	.270	.504
M5	.782	.001
M6	.701	.032
M7	.567	.187
M8	.895	-.110
M9	.690	.172
M10	.335	.483
M11	.823	-.090
M12	.340	.452
M13	.241	.51
M14	.314	.445
M15	-.143	.789
M16	.102	.482

The Correlation of MDS-16 with Other Measures of Psychopathology

Correlation analysis was performed for the external validity of the scale. In this analysis, it was found that the scale sores were highly positively correlated with other scales. The correlations for ADHD (Attention deficit), ADHD (Hyperactivity), BDS and DES were 0.36, 0.37, 0.39, 0.56, respectively (p values <0.001).

DISCUSSION

MD is an emerging clinical construct and future studies may lead to its recognition as a separate disorder. Previously there was no scale in Turkish language to measure MD. In this study we aimed to fill that gap. As a result of our study, it was concluded that the Turkish version of the scale is suitable for use in Turkish language. The Cronbach alpha level and item-total correlations which shows the reliability level, were high enough to suggest sufficient measurement accuracy. Its factor structure was similar to findings in adaptation studies to other languages. As in Italian and Arabic adaptations we identified loading mainly on two factors one related to severity of MD and the other representing distress. For future studies it may be important to identify how individuals differ between severity of MD and level of perceived stress. The factor structure and correlations with depression dissociation and ADHD scales suggest that the Turkish MDS-16 convergent and content validity.

One important point to discuss further is that the scale scores found to be associated with depression, dissociative experiences, and ADHD symptom scores. This finding is consistent with previous studies in that depression, anxiety, obsessive-compulsive disorder, ADHD are highly comorbid to MD.[13] In addition to these disorders, increased MD is also observed in individuals who have been sexually abused in childhood.[23] One explanation for this phenomenon is that psychiatric disorders such as depression might lead to increased daydreaming. Interestingly our recent study indicated that perceived stress mediates the path between history of depression and MD.[24] Another explanation could be that MD is often perceived as compulsive by those who suffer from it. Compulsion itself may result in frustration, depressive symptoms, and anxiety. The relationship with MD and comorbidities could be disentangled in longitudinal studies.

The most important limitation of our study is it was not conducted with a clinical population. For the validity and reliability analysis of the scales, a group of university students whose clinical features are not fully defined was studied. Another limitation of our study, other than the absence of clinical groups, is that no clinical interview was used, and data were collected with self-report scales since it is a scale validity and reliability study. Therefore, it cannot be said exactly how many of the participants have depression, ADHD, and anxiety disorders. The use of structured clinical interviews in future studies may reveal the frequency of daydreaming in individuals with

these diagnoses. Another limitation was the age range of the study population. Future studies could use MDS-16 for individuals above 34. Currently there is no scale for pediatric population.

Although MD is not currently considered a separate disorder, it is clear that this condition accompanies many psychiatric disorders as a symptom. The strengths of the current study are using a large sample size to determine reliability and validity in addition to using well validated scales in Turkish language to examine correlations of the MDS-16 scale. MD is becoming increasingly known internationally and more research is being conducted to determine its prevalence and association with other disorders. Detecting MD both when isolated and when comorbid with other disorders are important. In our clinical practice we observe most individuals with MD complain that their condition is not recognized, and they cannot discuss this important problem with the health care workers. Detection and understanding of MD in psychiatric patients may increase patient satisfaction and feeling of being understood. Although there is no established treatment for MD for now, future studies may provide treatment alternatives for example, mindfulness-based psychotherapies that reduce MD can be used more frequently in treatment[25]. The effect of current pharmacological approaches on daydreaming is another area that needs to be investigated.

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