Adaptation of the Dimension of Motivation Cues scale into Turkish

Ferhat KILIÇARSLAN Tebessüm AYYILDIZ DURHAN Mustafa İnan ÖZANT Gazi University

Abstract: The aim of this study is to adapt the Dimension of Motivation Cues developed by Kasim and Musa (2009) into Turkish and to obtain its validity and reliability. The scale, which was developed to determine the reasons for participating in recreational activities, was translated into Turkish and validity and reliability analyses were conducted. The original scale consists of 15 items and 4 sub-factors. Analyses were carried out with SPSS version 29.0 and AMOS 29.0 programs. As a result of the results obtained from the exploratory factor analysis results for the reliability test of the scale, it was determined that the 15 items and 4 sub-factors retained their form and data were collected again from the same sample group 3 weeks later. After the EFA analysis, item four was removed from the scale because it was identified in three different sub-dimensions and after the CFA analysis, item nine was removed from the scale because it had low factor loadings and the measurement tool was found as 13 items. When the CFA findings were examined, it was determined that it was a good fit according to the chi-square/sd (1.72) value, acceptable according to the RMSEA (.068) value, and good and acceptable fit in terms of GFI (.914), AGFI (.865), NFI (.925), RFI (.899), and CFI (.967) values. As a result of CFA, two items with low factor loadings (Items 1 and 9) were removed from the scale and the final version of the scale was given. When the AVE and CR values of the scale were analyzed, it was determined that the scale was reliable. In addition, the Cronbach's Alpha values of the scale ranged between .90 and .82. These results support the stability and reliability of the scale. As a result, within the framework of the findings obtained, it was determined that the Reasons for Participation in Recreational Activities Scale is a valid and reliable measurement tool.

Keywords: Dimension of Motivation Cues, Turkish Adaptation,

Received: May 25, 2024, Accepted: Jun 13, 2024, Published: Jun 26, 2024

INTRODUCTION

P articipation in activities is linked to motivation. Motivation is generally recognized as the primary cause of people's thoughts, feelings and actions. It refers to the active state within a person, the drives, desires and wishes that lead to goal-oriented behavior. Participation in recreational activities is associated with motivators such as the use of skills related to personal development, drives for rest, such as the search for relaxation and tranquility, and motivators for fun, such as having an enjoyable time with others (Ramey et al., 2016). Moreover, according to Iso-Ahola's (1982) study, recreational activities are often preferred because of their potential for intrinsic reward and escape from routine life.

In the original study, a measurement tool was developed to understand the motives of recreational activity participants. This measure was dimensioned in relation to emotional experiences and satisfaction (Kassim & Musa, 2009). In this framework, the original measure was examined to create and validate valid and reliable multidimensional measures in terms of the following dimensions: Intellectual motivation refers to individuals' engagement in recreation activities for the purpose of learning, exploring and acquiring knowledge. The social component refers to individuals' need to make friends and develop interpersonal relationships. Avoidance motivation refers to individuals participating in activities with the desire to showcase their abilities, challenge and compete. Competence mastery refers to individuals' need to escape from routine life and relax.

Although the measurement tool was developed for sports activities in the original study, the scale was adapted for use in all recreational activities with the idea that it would be strengthened both



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academically and practically while adapting it to Turkish. With this adaptation study, it is thought that it can be used as a data collection tool for research in different disciplines such as recreation and sport management, tourism, psychology, as well as organization owners to understand the motivation and emotional experiences of participants in recreational activities in Turkey.

In the light of this information, this study focuses on the adaptation of the "Dimension of Motivation Cues" scale developed by Kasim and Musa (2009) into Turkish and ensuring its validity and reliability. This scale aims to measure the motivation, emotions and satisfaction of individuals participating in recreational activities.

METHOD

In this study, it was attempted to obtain a measurement tool to measure the reasons for participating in recreational activities by conducting the adaptation study of the scale developed by Kasim and Musa (2009) and adapted into Turkish as the Reasons for Participating in Recreational Activities Scale (RPRAS, Rekreasyonel Aktivite Katılım Nedenleri Ölçeği-RAKNÖ). For this adaptation study, language validity was first ensured and then its validity was tested by applying EFA and CFA analyses. For reliability analysis, Cronbach's Alpha and AVE, CR values were analyzed.

Study Group

In total, 200 questionnaires were distributed and 157 of them were returned as completed in accordance with the research and met the research requirements. Accordingly, the sample of the study consisted of 157 (mean age=21.51) university students (101 female (64.3%) and 56 male (35.7%)) studying at Gazi University. The majority of the participants stated that they had an average income level (79.0%) and that they mostly participated in recreational activities less than 5 times a month (41.4%).

Data Collection Tool

During the data collection process, data were collected through questionnaires using face-to-face methods. The questionnaires used in data collection consisted of demographic information section including gender, perceived income level, participation in recreational activities variables as well as questions about the Reasons for Participation in Recreational Activities Scale.

Reasons for Participating in Recreational Activities Scale (RPRAS) (Dimension of Motivation Cues)

It was developed by Kasim and Musa (2009) to understand the motives of recreational activity participants. While the original measurement tool consists of 15 items and 4 sub-dimensions, the adaptation of the scale consists of 13 items and 4 sub-dimensions (Intellectual Motivation, Social Component, Avoidance Motivation and Competence Dominance). Items 1 and 9 in the original measurement tool were removed from the scale due to low factor loadings. The scale is a 7-point Likert-type scale (1 equals strongly disagree, 7 equals strongly agree). There are no reverse coded items in the scale. The higher mean scores of the sub-factors of the scale mean that the participant has a reason to participate in more recreational activities for that sub-factor. For example, the fact that the social component sub-dimension corresponds to higher averages than the other dimensions means that participants participate in recreational activities with the need to socialize more.

Language Validity

In the adaptation process of the scale, the necessity of adaptation was first evaluated. In this step, it was examined whether adaptation was necessary and how appropriate it was for the purpose of the scale. In the translation stage, the original scale was translated by at least two independent translators whose native language was the target language and these translations were compared to create a common text. In the expert panel evaluation stage, the translation was evaluated for semantic, idiomatic, empirical and conceptual equivalence and necessary corrections were made. In the back translation stage, the scale passed by the expert panel was back-translated by an independent translator and the back-translation was checked for consistency by comparing it with the original scale. At this stage, the measurement tool was tested with a sample group of 30 participants. After it was determined that the participants clearly understood the questions, the data were collected with the measurement tool created.

Data Analysis

Within the scope of validity and reliability analyses, first construct validity and internal consistency analyses were conducted. Exploratory Factor Analysis (EFA) and Confirmatory Factor

Analysis (CFA) were applied for construct validity. Internal consistency was assessed using Cronbach's Alpha and Composite Reliability (CR) values (Nunnally & Bernstein, 1994; Fabrigar & Wegener, 2012; Kline, 2015; DeVellis & Thorpe, 2021). Structural Equation Modeling with maximum likelihood estimation was used to analyze the constructs (Chi-square, CFI, RMSEA).

FINDINGS

In this section, the findings of the Exploratory Factor Analysis (EFA) for construct validity, the findings of the Confirmatory Factor Analysis (CFA) to test the validity of the construct, and the findings of the AVE and CR and Cronbach's Alpha values to determine the reliability of the scale are presented.

 Table 1. Kaiser-Meyer-Olkin and Bartlett's test results of the Reasons for Participation in Recreational

 Activities Scale

| Ten vities Seale | | |
|--------------------------|-------|----------|
| Kaiser-Meyer-Olkin (KMO) | | 0,851 |
| | x^2 | 1385,612 |
| Bartlett's | sd | 91 |
| | р | 0,001 |
| | | |

As seen in Table 1, the Kaiser-Meyer-Olkin value of the Reasons for Participation in Recreational Activities Scale= .851 and Bartlett's test value was 1385,612 (p<.001). Since the KMO value is above 0.80, it can be said that the data obtained from the sample is sufficient. The fact that Bartlett's test result is less than .05 indicates that the relationship between the scale items is suitable for factor analysis.

 Table 2. Eigenvalues and variance percentages explained by the sub-dimensions of the Reasons for

 Participating in Recreational Activities Scale

| Factor | Eigenvalue | Variance | Cumulative |
|--------|------------|----------|------------|
| 1 | 6,277 | 44,835 | 44,835 |
| 2 | 1,860 | 13,286 | 58,122 |
| 3 | 1,455 | 10,396 | 68,517 |
| 4 | 1,002 | 7,160 | 75,677 |

According to Table 2, four factors explain 75.00% of the total variance. The first factor explains 44.83% of the total variance, the second factor explains 13.28%, the third factor explains 10.39% and the fourth factor explains 7.16%.

| Table 3. Load va | alues of the iten | s in the sub-dime | nsions of the I | Reasons for Partici | pating in Recreational |
|------------------|-------------------|-------------------|-----------------|---------------------|------------------------|
| | | | | | |

| | E 1 | | E () | D () |
|--|---|----------------------------------|--------------------------------------|--------------------------------------|
| Item | Factor 1: Intellectual Motivation | Factor 2: Social Component | Factor 3: Avoidance Motivation | Factor 4: Competency Dominance |
| Item 1: To find out about the event | | | | 0,857 |
| Item 2: To explore my knowledge | | | | 0,841 |
| Item 3: To discover my talent | | | | 0,621 |
| Item 4: To use my imagination | 0,394 | 0,399 | | 0,431 |
| Item 5: To spend quality time with others | 0,825 | | | |
| Item 6: To make friends with others | 0,826 | | | |
| Item 7: To be with friends | 0,748 | | | |
| Item 8: To develop close friendships | 0,797 | | | |
| Item 9: To seek/contemplate peace | | 0,494 | | |
| Item 10: To test my skills | | | 0,766 | |
| Item 11: To deepen my knowledge on the subject | | | 0,762 | |
| Item 12: To use my skills in this activity | | | 0,865 | |
| Item 13: To relax myself | | 0,890 | | |
| Item 14: For physical relaxation | | 0,887 | | |
| Item 15: To refresh my mind | | 0,848 | | |

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According to Table 3, the first factor item loadings of the scale ranged between .82 and .74, the second factor between .89 and .49, the third factor between .86 and .76, and the fourth factor between .85 and .62. Item 4 "To use my imagination" in the original measurement tool was removed from the scale as it was placed under both the first, second and fourth factors as a result of the rotation component matrix. By analyzing the items under the factors, the first factor covering the tendencies was named as "intellectual motivation", the second factor as "social component", the third factor as "avoidance motivation" and the fourth factor as "competence dominance".

| | 1 0 | | | | | | |
|-----------------------------|---------|----------|------|------|----------|----------|------|
| | N=157 | | | | | | |
| Factor | Minimum | Maksimum | Ā | S. | Skewness | Kurtosis | α |
| RPRAS Total | 1,00 | 7,00 | 5,52 | 1,21 | -0,886 | 0,793 | 0,90 |
| Intellectual Motivation | 1,00 | 7,00 | 5,47 | 1,64 | -1,151 | 0,529 | 0,86 |
| Social Component | 1,00 | 7,00 | 5,78 | 1,45 | -1,380 | 1,518 | 0,87 |
| Avoidance Motivation | 1,00 | 7,00 | 5,31 | 1,60 | -0,659 | -0,567 | 0,82 |
| Competency Dominance | 1,00 | 7,00 | 5,47 | 1,55 | -0,839 | 0,041 | 0,84 |

Table 4. Minimum, maximum, mean, standard deviation, skewness, kurtosis and internal reliability

 values for total and sub-dimension scores of the Reasons for Participating in Recreational Activities Scale

For confirmatory factor analysis, it was first checked whether the data met the assumptions. Accordingly, no significant outliers were detected in the data and skewness and kurtosis values were checked to test the normal distribution parameters of the data. It can be mentioned that the data are within the normal distribution values (Tabachnick & Fidell, 2013). Also, when the average scores of the participants for the measurement tool were examined, it was determined that the average scores were high for all dimensions and the highest average scores were obtained in the social component sub-dimension. Accordingly, it can be said that the participants mostly participate in recreational activities due to socialization. Cronbach's alpha internal reliability was found to be .90 for the total mean scores and .86, .87, .82 and .84 for the sub-dimensions, respectively.

 Table 5. Tolerance and VIF values of the sub-dimensions of the Reasons for Participation in Recreational

 Activities Scale

| Factor | Tolerance | VIF |
|-------------------------|-----------|-------|
| Intellectual Motivation | 0,701 | 1,426 |
| Social Component | 0,611 | 1,637 |
| Avoidance Motivation | 0,607 | 1,648 |
| Competency Dominance | 0,570 | 1,755 |

In the present study, whether there is multicollinearity among the sub-dimensions was checked with VIF and tolerance values. A VIF value less than 10 and a tolerance value greater than 0.1 indicate that there is no multicollinearity. Accordingly, it was determined that all sub-dimensions of the scale were in compliance with these parameters. These results show that there is no multicollinearity among the sub-dimensions.

| Table 6. Pearson Correlation test findings to determine the relationship between the sub-dimensions of |
|--|
| the Reasons for Participating in Recreational Activities Scale |

| Intellectual Motivation | 1 | | | |
|--------------------------------|---------|---------|---------|---|
| Social Component | 0,507** | 1 | | |
| Avoidance Motivation | 0,332** | 0,478** | 1 | |
| Competency Dominance | 0,428** | 0,493** | 0,589** | 1 |

**p<0.001

According to the Pearson correlation test findings in Table 6, low and moderate positive relationships were found between the sub-dimensions of the measurement tool.

Table 7. Fit index values of the path analysis model

| Fit Index Value Obtained Comment | | | | |
|--|-------|-------------------|--|--|
| Kikare/Sd | 1,727 | Good fit = <3 | | |
| GFI | 0,914 | Good fit $=$ >,90 | | |
| AGFI | 0,865 | Good fit $=$ >,85 | | |

| NFI | 0,925 | Acceptable fit $=$ >,95 |
|-------|-------|-------------------------|
| RFI | 0,899 | Good fit $=$ >,90 |
| CFI | 0,967 | Good fit $=>,95$ |
| RMSEA | 0,068 | Good fit = $<,08$ |

In Table 7, the model fit indices obtained as a result of confirmatory factor analysis (CFA) are given in Table 4. Accordingly, it can be said that the fit indices of the tested model have quite high values. According to the values in Table 7, it is possible to mention that the fit indices of the tested model are good according to the value of Chi-square/sd (1.72), good according to the value of RMSEA (.068), good and acceptable in terms of GFI (.914), AGFI (.865), NFI (.925), RFI (.899), CFI (.967) values. According to these results, it can be said that the hypothesized model is compatible with the data.

| Table 8. Sub-factor loading values of the scale items | | | | |
|---|--|--------------------|--|--|
| | Item | Factor Load Values | | |
| Easter 1. | Item 5: To spend quality time with others | ,852 | | |
| ractor 1: | Item 7: To be with friends | ,803 | | |
| Motivation | Item 6: To make friends with others | ,745 | | |
| | Item 8: To develop close friendships | ,739 | | |
| Fastar 2. Sasial | Item 14: For physical relaxation | ,943 | | |
| Factor 2: Social | Item 13: To relax myself | ,903 | | |
| Component | Item 15: To refresh my mind | ,855 | | |
| Factor 3: | Item 12: To use my skills in this activity | ,859 | | |
| Avoidance | Item 11: To deepen my knowledge on the subject | ,751 | | |
| Motivation | Item 10: To test my skills | ,749 | | |
| Factor 4: | Item 3: To discover my talent | ,926 | | |
| Competency | Item 2: To explore my knowledge | ,742 | | |
| Dominance | Item 1: To find out about the event | ,600 | | |
| Removed Item | Item 9: To seek/contemplate peace | ,577 | | |

According to the values in Table 8, it was concluded that the factor loadings of all items in the four sub-dimensions were above the lower limit of .60. In the results of the analysis conducted to determine the factor loadings, it was determined that item 9 "To seek/think about peace" were not compatible with the measurement tool. Accordingly, these items were removed from the scale. According to these results, it can be said that the Reasons for Participation in Recreational Activities Scale exhibits a structure compatible with the original.

| correlations between constructs | | | | | | | |
|-----------------------------------|---------|-------|-----------------|------------|---------|-------|--|
| Factor | Items | FY | FY ² | $1 - FY^2$ | AVE | CR | |
| Factor 1: Intellectual Motivation | Item 5 | 0,852 | 0,726 | 0,274 | 0.619 | 0.977 | |
| | Item 7 | 0,803 | 0,645 | 0,355 | | | |
| | Item 6 | 0,745 | 0,555 | 0,445 | - 0,018 | 0,800 | |
| | Item 8 | 0,739 | 0,546 | 0,454 | - | | |
| Factor 2: Social Component | Item 14 | 0,943 | 0,889 | 0,111 | | | |
| | Item 13 | 0,903 | 0,815 | 0,185 | 0,812 | 0,933 | |
| - | Item 15 | 0,855 | 0,731 | 0,269 | | | |
| | Item 12 | 0,859 | 0,738 | 0,262 | | 0,853 | |
| Factor 3: Avoidance Motivation | Item 11 | 0,751 | 0,564 | 0,436 | 0,622 | | |
| | Item 10 | 0,749 | 0,561 | 0,439 | - | | |
| Factor 4: Competency Dominance | Item 3 | 0,926 | 0,857 | 0,143 | | | |
| | Item 2 | 0,742 | 0,551 | 0,449 | 0,643 | 0,842 | |
| | Item 1 | 0,600 | 0,360 | 0,640 | | | |

Table 9. Composite reliability (CR), calculated root mean square error of variance (AVE) and correlations between constructs

According to the information in Table 9, when the AVE values are analyzed, it is concluded that the values are greater than 0.5. Accordingly, it is possible to say that the reliability is high for the subdimensions of the scale. When the CR values were analyzed, it was also found that the values were greater than 0.6. Since these results are greater than 0.6, it can be said that the scale has composite reliability. In addition, positive and moderate relationships were found between the sub-dimensions of the scale.



Figure 1. Load values for the items of the Reasons for Participating in Recreational Activities Scale and correlation values between sub-dimensions

DISCUSSION

Adapting scales to different cultures is important for maintaining good internal consistency and validating their use in a systemic approach (Lattke et al., 2022). In the current study, the scale developed to determine the reasons for participation in recreational activities was translated into Turkish and validity and reliability analyses were conducted. According to the findings, it was found that RPRAS can be used as a valid and reliable measurement tool to measure the reasons for participation in recreational activities of recreational activity participants.

Exploratory factor analysis (EFA) is a widely used procedure in the social and behavioral sciences (Izquierdo et al., 2014) and is a complex statistical method used in many research areas, involving decisions about sample size, factor analysis, principal component analysis, data extraction, and factor rotation (Gaskin & Happell, 2014). In order to apply such statistics, EFA was first applied to the adapted measurement tool in the current study for validity tests. According to the EFA analysis, the measurement tool was divided into 4 different sub-factors as in the original measurement tool. There were 4 items in the first factor, 4 items in the second factor, 3 items in the third factor and 3 items in the fourth factor. After the EFA analysis, the fourth item was removed from the scale because it was included under three factors.

According to the Pearson correlation test conducted to determine the relationship between the factors of the scale, positive relationships were found between the sub-factors at appropriate levels. In this case, the measurement tool met the appropriate conditions for CFA analyses. Data were collected and analyzed again for CFA analyses. Confirmatory factor analysis (CFA) is a method used to determine the most appropriate models for executive function measurement (Karr et al., 2018). When the fit indices were checked, the fit of the scale to Turkish was mostly at the good fit level. When the factor loadings of all items were examined, it was determined that the factor loadings of item 9 were low and it was removed from the scale and composite reliability (CR) tests were performed by finalizing the scale. According to the findings obtained as a result of the CFA test, it is possible to mention that the fit indices of the model are good according to the Chi-square/sd value (1.72), good according to the RMSEA (.068) value, good and acceptable in terms of GFI (.914), AGFI (.865), NFI (.925), RFI (.899), CFI (.967) values. According to these results, it is concluded that the hypothesized model is compatible with the data. It can be mentioned that these results are similar to the study conducted by Kassim and Musa (2009).

In the last stage of the study, the reliability of the scale, which was adapted and translated, was tested. According to the analyses conducted in this direction, Cronbach's Alpha internal consistency coefficient was found to be .90 for the total scores of the scale and .86, .87, .82 and .84 for the subdimensions, respectively. Cronbach's alpha is a statistic used to show the fitness for purpose of tests and scales created for research projects and is generally a measure of reliability (Taber, 2017). It is stated that a Cronbach's alpha (α) reliability coefficient of the scales above .70 is appropriate and acceptable (George & Mallery, 2019). In addition, Composite reliability (CR) values were determined as .86 for the first factor, .93 for the second factor, .85 for the third factor and .84 for the fourth factor. The composite reliability value is expected to be greater than 0.70 (Fornell & Larcker, 1981). Accordingly, it is possible to say that the measurement tool is reliable.

It can be said that the average scores of the participants who participated in the study from the measurement tool are at high levels both in total scores and sub-scores. It was determined that the participants received the highest average scores from the social component sub-dimension. According to this, it can be said that the participants in the study participated in the recreational activities they participated in their free time mostly to meet their socialization needs. When the literature is examined, there are studies that support the current study and conclude that one of the most sought-after features in recreational activity participation is socialization and social components (Davidson et al., 2001; Petryshen et al., 2001; Cradock et al., 2009; Decloe et al., 2009).

RESULTS

In the present study, it was aimed to adapt the scale for determining the reasons for participating in recreational activities into Turkish and to conduct validity and reliability analyses. The findings showed that the scale can be used as a valid and reliable measurement tool. As a result of the exploratory factor analysis (EFA), it was determined that the scale was grouped under four sub-factors as in the original scale. Confirmatory factor analysis (CFA) results revealed that the model was compatible with the data and the fit indices were at a good level.

In the light of these findings, it can be said that the Turkish adaptation of the scale is a valid and reliable tool for measuring the reasons for participation in recreational activities. The Cronbach's Alpha and composite reliability (CR) values obtained as a result of the reliability analysis of the scale are at acceptable levels, indicating that the internal consistency of the scale is high.

RECOMMENDATIONS

After the current study, the researchers' suggestions for future studies are as follows;

- This scale adapted into Turkish has a wide range of applications to determine the motivation of recreational activity participants. It can be used especially in researches conducted in the fields of sports, health and social sciences.
- Comparative studies in different cultural contexts can be conducted using the present scale. In this direction, it can be examined whether the reasons for participation in recreational activities show cultural differences.
- The data obtained can be used in the development of recreational programs and policies. In particular, the creation of programs aimed at meeting socialization needs can increase the satisfaction of participants.

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ANNEX 1

Turkish version of the measurement tool

| Rekreasyonel Aktivite Katılma Nedenleri Ölçeği (RAKNÖ) Reasons for Participating in Recreational Activities Scale (RPRAS) | Kesinlikle Katılmıyorum | Katılmıyorum | Biraz Katılmıyorum | Kararsızım | Biraz Katılıyorum | Katılıyorum | Kesinlikle Katılıyorum |
|--|-------------------------|--------------|--------------------|------------|-------------------|-------------|------------------------|
| Yetkinlik Hakimiyeti | | | | | | | |
| Madde 1: Etkinlik hakkında bilgi edinmek için | | | | | | | |
| Madde 2: Bilgimi keşfetmek için | | | | | | | |
| Madde 3: Yeteneğimi keşfetmek için | | | | | | | |
| Entelektüel Motivasyon | | | | | | | |
| Madde 5: Başkalarıyla kaliteli zaman geçirmek için | | | | | | | |
| Madde 6: Başkalarıyla arkadaş olmak için | | | | | | | |
| Madde 7: Arkadaşlarla birlikte olmak için | | | | | | | |
| Madde 8: Yakın arkadaşlıklar geliştirmek için | | | | | | | |
| Kaçınma Motivasyonu | | | | | | | |
| Madde 10: Becerilerimi test etmek için | | | | | | | |
| Madde 11: Konu hakkındaki bilgimi derinleştirmek | | | | | | | |
| Madde 12: Bu faaliyette becerilerimi kullanmak için | | | | | | | |
| Sosyal Bileşen | | | | | | | |
| Madde 13: Kendimi rahatlatmak için | | | | | | | |
| Madde 14: Fiziksel rahatlama için | | | | | | | |
| Madde 15: Zihnimi tazelemek için | | | | | | | |

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