

Cross-Cultural Adaptation of Perceived Freedom in Leisure Scale

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Abstract: In order to measure the level of benefits obtained from participating in leisure activities, different scales were developed and some of them were adapted to Turkish culture. Perceived Freedom in Leisure (PFL) was one of the scales that was not yet developed or adopted for Turkish culture. The aim of the study is to adapt the original Short Form of PFL Scale developed by Witt and Ellis (1985) to Turkish culture. Participants were 500 students randomly selected from a population of 1652 students. Translation and back translation of the original English instrument, content validation through a commission of experts, parallel test validity of Turkish and English version of the scale was obtained. Item analysis was applied, internal consistency analysis was performed with Cronbach alpha, test re-test reliability was examined by correlation and paired t-test analyses and construct validity was tested by factor analysis. The original form of PFL scale had a positive and significant correlation with the Turkish scale. Test re-test reliability of the Turkish form was obtained. Acceptable levels of reliability and validity of the Turkish version of PFL Scale was reached. Still, for further validation, PFL scale should be conducted to different groups from Turkish population.

Key words: Leisure • Perceived Freedom • Validity • Reliability

INTRODUCTION

The relationship between leisure and freedom was first mentioned by Aristotle meaning “leisure is freedom from the necessity to labor at menial tasks”. This relationship was conceptualized in three different ways as spiritual, experiential and perceptual in conducted research. All of them consider freedom as a subjective, intrinsic and mental experience. According to this definition, freedom is founded to be in the ability of the individual to control his own perception, mental condition and thoughts, free from external effects. The freedom of the individual increases to the degree he banishes external effects [1]. Perception of freedom is seen as the basic characteristic of the leisure experience. According to Neulinger, perceived freedom was defined “as a state in which the person feels that what he/she is doing is done by choice and because one wants to do it.” [2]. The requirement of an effective leisure experience are perception of freedom and intrinsic motivation according to Iso-Aloha. Meanwhile for Witt and Ellis, in order to get the maximum benefit from leisure activities, individuals should have competence, and be in a state of controlling initiative and outputs of experiences and participating

activities with intrinsic desire rather than expectations of external awards [3]. Perceived freedom in leisure reflects the self assesment of abilities in leisure activities of participants, therefore it is affected by the events in their lives. Individuals who believe to have more freedom in leisure activities tend to express higher levels of competence, control focus, intrinsic motivation and playfulness [4]. According to Ellis and Witt, perceived freedom and learned helplessness are two opposite sides of a continuum. Individuals with low level of freedom are expected to have low level of satisfaction from leisure activities and will be dependent to others in order to have a satisfactory experience [5]. Perceived freedom in leisure is a cognitive motivational structure and competence, control, satisfaction of leisure needs and depth of involvement affects global life satisfaction. Related to attributional theory, perceived freedom in leisure defines a state of mind where voluntary activities are supported by individual perceptions of intrinsic motivation, competence and internal control. Attributional theory proposes that individuals assess leisure experiences by attributing internal and external, at the same time stable and instable causes and give decisions about participation. The freedom of participating and not

participating in leisure activities are related to successful and unsuccessful leisure experiences [6]. For the purpose of measuring perceived freedom in leisure, scales were developed by Ellis and Witt after 1984 at different times. They developed long forms in order to measure perceived freedom in leisure in different populations and produced short forms having items with high correlations from the long form. Perceived freedom in leisure (short form) was developed by Ellis and Witt in 1985 with 25 items which measures competence in leisure, control in leisure, leisure needs, depth of involvement and playfulness [7]. In literature, perceived freedom in leisure was studied in different groups. In 1985 perceived freedom in leisure was compared in stuttering and nonstuttering individuals and no significant differences were obtained [8]. In 1999 the effect of leisure education was measured in mentally retarded adolescents and statistically significant differences were observed in groups attending and not attending to the education. [9]. In a study conducted by Siegenthaler and O'Dell, the effect of family relations to leisure perceptions was inquired in college students and family members were found to have similar emotions of amusement and control although they had different interests and knowledge [2]. In 2003, the relationship between leisure motivation, leisure satisfaction, perceived freedom in leisure in young offenders in psychiatry hospital were studied and short form of perceived freedom in leisure was utilized [10]. Positive significant relations were obtained between perceived freedom and participation in leisure activities in a study conducted to Taiwan university students [11].

MATERIALS AND METHODS

The aim of the study was to culturally adopt the "Short Form Version A- Perceived Freedom in Leisure" scale developed by Witt and Ellis in 1985 to Turkish language. The study had a methodological research design.

Sample and Settings: The population of the study consists of Akdeniz University students in Antalya, who were studying 1st grade in 10 faculties, 3 schools, 3 vocational schools and 1 conservatory and taking elective physical education courses in 2010-2011 academic year. Sport branches taken by the population were badminton, basketball, football, body building, mountaineering, table tennis, tennis, volleyball and folk dances. Population were consisted of 428 women and 1224 men, totalling 1652 students. According to sample size formula ($n = Nt^2pq$

$/[d^2(N-1) + t^2pq]$) the adequate sample size was 311. When p and q is not identified, they are assumed to be 0.5 according scientific method [12]. 30% of the population was taken randomly to the sample and 500 students were taken into the sample randomly. The sample consisted of 387 males ($M_{age}=19.82\pm1.39$) and 113 females ($M_{age}=20.13\pm2.58$) making a total of 500 ($M_{age}=19.89\pm1.73$) students. Students participated in the study voluntarily and necessary information concerning the procedures were given to the participants. It took 10-15 minutes for the students to fill the questionnaire.

Instrumentation: In this study "Perceived Freedom in Leisure (Short Form)" scale was utilized as data collection tool. The scale was developed in 1985 by Witt and Ellis and the items were gathered from Leisure Diagnostic Battery [13]. Objective of the measurement tool is to measure perceived competence, control and intrinsic motivation. The items were 5th Likert type which were Strongly Agree = 5, Agree = 4, Neither = 3, Disagree = 2 and Strongly Disagree = 1. The numbers for each 25 items were added to obtain a Perceived Freedom in Leisure Score for each subject. The item total correlations were calculated to be $>.45$ and alpha reliability of the scale varied between .83 and .94. Predictive, content, and construct validity have been examined using several sets of data generated in the development process of the scales, as well as data gathered by users after the scales were developed [14].

Translation and Adaptation Procedures: In order to provide equivalency of meanings, two-way translations of the scale was performed during translation and adaptation procedures [15].

Permission from the Authors of the Scale: Before adaptation procedures, Prof. Witt was referred, the proposal of the adaptation study was submitted and necessary permission was obtained.

Initial Translation to Turkish Language: Translation of the Perceived Freedom in Leisure Scale was carried out by two Turkish academics working in Recreation area and having university education in English language. Assessment of the translation was performed by two different academics from Recreation area and two experts of Linguistics.

English Version: After necessary adjustments, the initial Turkish translation was back translated into English by three different linguistic experts. Neither of these experts

participated in the initial phase of the study. The translation phase had the purpose of checking for discrepancies between content and meaning of the original version of the scale and translated form.

Content Validity: The original form and re-translated English form were submitted to the assessment of a commission consisting the authors of this study and eight academics working in Recreation area with the required competence in English language and familiar with the literature (2 from different universities). After the evaluation the commission decided that the contents of the both original and re-translated English forms were the same.

In order to test that the original English form and Turkish form have parallel test validity, 21 individuals who are academics and graduate students in recreation and sport sciences were applied both forms. According to the validity analyses, the correlation between the scores obtained from two forms were significant ($r=0.93$, $p<0.05$). Also paired t test was applied in order to find out if mean of the scores got from the Turkish scale was the same with the mean of the scores got from the original scale. According to the results, the Turkish version was found to be adequate to be used in place of the original form ($p>0.05$).

Pilot Study: The last step was to apply The Turkish version of the Perceived Freedom in Leisure (PFL) Scale was to a group of 35 students from Recreation Department in order to perform the pilot study.

Reliability and Validity Analyses

Reliability: In order to test reliability, internal consistency, item analysis and test re-test reliability analyses were conducted. For internal consistency and homogeneity Cronbach alpha was calculated. The aim was to inquire if the 25 questions in the scale was explaining a homogenous construct as a whole. The next step was examining the contributions of the items to the scale. In item analyses, item-total correlation, alpha if item deleted, squared multiple correlation were checked.

The stability of the scale was established by test re-test reliability. For this purpose 80 students from the university were applied the Turkish version of Perceived Freedom in Leisure Scale two times with an interval of 20 days. Correlation coefficient and paired t-test was calculated.

Construct Validity: In order to test the construct validity, factor analysis was conducted. First the adequacy of the

sample size was tested by Kaiser-Meyer-Olkin (KMO) and Barlett tests. Then, principal component with varimax rotation was applied in order to see how groupings of items measure the same concept and test whether the scale was measuring the expected structure [16].

RESULTS

Content Validity: The translated Turkish version of the scale was checked by a comission consisting of the authors of the study and six academics working in Recreation area with the required competence in English language and familiarity with the literature. According to the assessment of the comission the translated Turkish form was fulfilling content validity criteria.

In order to test that the original English form and Turkish form have parallel test validity, 21 individuals who are academics and graduate students in recreation and sport sciences were applied both forms. According to the validity analyses, the correlation between the scores obtained from two forms were significant ($r=0.93$, $p<0.05$). Also paired t test was applied in order to find out if mean of the scores got from the Turkish scale was the same with the mean of the scores got from the original scale. According to the results, the Turkish version was found to be adequate to be used in place of the original form ($p>0.05$). This result supports the conclusion that the Turkish form could be used in place of the original form.

Test Re-Test Reliability: The stability of the scale was established by test re-test reliability. For this purpose 80 students from the university were applied the Turkish version of Perceived Freedom in Leisure Scale two times with an interval of 20 days. Correlation coefficient and paired t-test was calculated. According to the results in Table 1, there is a significant positive correlation between two measurements ($r=0.897$ $p<0.001$) and there is no difference between the means of two sessions ($p>0.05$).

Table 1 Test-retest reliability between the two measurement sessions

	First Session	Second Session
n	80	80
M	97.412	98.375
SD	10.075	9.453
t		-1.922
p		0.058>0.05
R		0.897
p		0.00<0.001

Table 2 Item analysis

Item	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Squared Multiple Correlation Cronbach's Alpha ² if Item Deleted	Item Deleted
1	95.5400	117.026	.483	.327	.916
2	95.9500	113.783	.548	.370	.915
3	95.9720	113.883	.582	.434	.915
4	95.9520	112.815	.590	.468	.915
5	95.7520	115.233	.466	.257	.917
6	95.8520	115.293	.514	.344	.916
7	95.9640	113.694	.564	.382	.915
8	95.5580	115.918	.481	.308	.917
9	95.7400	113.812	.587	.478	.915
10	95.8940	113.257	.614	.496	.914
11	95.8200	116.152	.433	.228	.917
12	95.7760	115.088	.545	.365	.915
13	96.0200	113.675	.570	.418	.915
14	95.9380	114.627	.592	.490	.915
15	96.0040	114.024	.581	.450	.915
16	95.8840	114.804	.522	.373	.916
17	96.2580	114.741	.467	.312	.917
18	95.7600	114.411	.602	.439	.915
19	95.7420	114.072	.579	.389	.915
20	95.8500	114.853	.607	.469	.915
21	95.6420	116.699	.489	.336	.916
22	95.8780	114.316	.587	.415	.915
23	95.7620	116.370	.427	.275	.917
24	96.0120	114.325	.477	.334	.917
25	95.4960	116.230	.507	.378	.916

Table 3: Principal component analysis with varimax rotation

Component	Initial Eigen values			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.765	39.796	39.796	4.195	24.679	24.679
2	1.231	7.243	47.040	3.801	22.361	47.040
3	.905	5.324	52.364			
4	.875	5.149	57.512			
5	.825	4.853	62.366			
6	.739	4.348	66.714			
7	.718	4.221	70.935			
8	.652	3.833	74.768			
9	.593	3.491	78.259			
10	.583	3.427	81.686			
11	.562	3.303	84.990			
12	.542	3.187	88.177			
13	.452	2.660	90.837			
14	.435	2.561	93.397			
15	.423	2.487	95.884			
16	.363	2.136	98.020			
17	.337	1.980	100.000			

Table 4 Factor loadings for the two extracted factors after varimax rotation

Scale	Factor loading	Variance	α
Factor 1		24.679	.853
Item 4 - I am good enough to do all the recreation activities I want to	.749		
Item 14-I can be creative in the recreation activities I do	.711		
Item-3 I can do things to improve the skills of the people I do recreation activities with	.677		
Item 13 I am good at almost all the recreation activities I do	.663		
Item 2 I know a lot of fun recreation activities	.608		
Item 6 It is easy for me to pick a recreation activity to do	.582		
Item 12 I am good at the activities I do with other people	.563		
Item 20 I can make good things happen when I do recreation activities	.531		
Item 7 I can do things during recreation activities that will make other people like me more	.498		
Factor 2		22.361	.836
Item 18 I can make almost any activity fun for me	.706		
Item 25 I usually have fun when I do recreation activities	.705		
Item 19 I do recreation activities which help me make new friends	.636		
Item 9 I can make a recreation activity as fun as I want it to be	.631		
Item 10 I can do things during an activity that will make everyone have more fun	.610		
Item 16 During my recreation activities there are often moments when everything goes right and I am very excited	.581		
Item 22 I can do things to make other people enjoy doing activities with me	.574		
Item 15 I can make recreation activities fun for everyone.	.527		
Total		47.040	.904

Internal Consistency: The Turkish version of the form had an overall coefficient alpha of 0.915 for 25 items. After item analysis (Table 2), 8 items (items 1., 5., 8., 11., 17., 21., 23., 24) having squared multiple correlation less than .35 were removed while checking for "Cronbach alpha if item deleted". Overall Cronbach alpha was 0.904 after deleting all the 8 items, and it was 0.853 and 0.836 respectively for the first and second factors obtained from Factor Analysis (Table 4). The levels of Cronbach alpha for the whole scale and the factors were in acceptable levels when compared with the other reliability and validity studies concerning "Perceived Freedom in Leisure" scale [17, 18].

Construct Validity: In order to see the factor structure of the adapted scale, principal component analysis with a varimax rotation was applied. Kaiser-Meyer-Olkin (KMO) and Bartlett's Test of Sphericity was checked for assumptions of factor analysis. KMO was 0.938 indicating that the sample was large enough for performing a satisfactory factor analysis. Bartlett's Test of Sphericity was found to be 4325.530 and significant ($p < 0.05$) which means that the correlation matrix was convenient for factor analysis.

Factor analysis procedure was initiated by 25 items as it was in the original form. The 25 items had 5 factors having explained variance between 34.4% and 4%. The total variance explained by the 5 factors was 52.95. Although the 5 factors were having eigenvalues more

than 1, these factors did not lead to meaningful factor names as the original scale was developed as a scale having a single factor where all items loaded [17]. The results of the item analysis were examined and 8 items (items 1., 5., 8., 11., 17., 21., 23., 24.) having squared multiple correlation less than .35 were removed while checking for "Cronbach alpha if item deleted" (Table 2).

The remaining 17 items were subjected to a new principal components analysis with varimax rotation. After the examination of the Scree plot (Figure 1) and Table 3, the scale was found to have two factors explaining 47% of the total variance. The first factor explained 24.67% and the second factor explained 22.36% of the variance (Table 3).

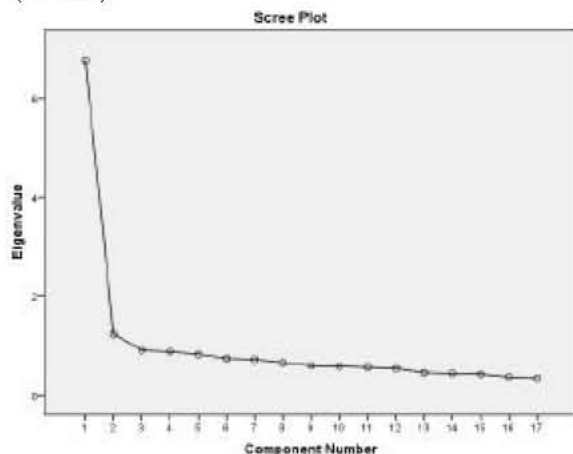


Fig. 1: Scree plot

In Figure 1, a refraction was observed after the second factor. The factors on the horizontal part of the graph indicate that the contribution of the factors explaining the variance were similar. Statistics obtained from the analysis also support the results observed from the figure.

In Table 4, all items were given according to their factors and factor loadings. It is observed that factor loadings were between 0.498-0.749.

CONCLUSION

Many research is being conducted for individuals that participate in leisure activities for refreshing mentally or physically, socializing, getting away from the stress of routine working life and life conditions. The need of a scale in Turkish culture for measuring the emotion of freedom in leisure activities led the authors of the study to search for reliable and valid scales produced in different cultures. After getting the necessary permission from Prof. Witt, the adaptation of Perceived Freedom in Leisure (PFL) scale developed by Witt and Ellis in 1985 to Turkish culture was realized following the generally accepted methodological procedures. The results of the current study show that the adapted version of Perceived Freedom in Leisure scale is promising for Turkish culture.

According to the review of the commission concerning the content of Turkish version of the PFL scale, there was no need to modify its translation and content. The original form of PFL scale in English had a positive and significant correlation ($r=0.93$, $p<0.05$) with the adapted form in Turkish which indicates that the two forms have validity of parallel tests. The mean scores obtained from the Turkish forms did not have any significant difference from the mean scores of the original form expressing that the Turkish form could be used in place of the English form. The test re-test reliability showed that within a time interval, the results obtained from the Turkish version did not differ significantly ($p>0.05$) and the results showed positive significant correlation ($r=0.897$, $p<0.05$). The Turkish version of the form had an overall coefficient alpha of 0.915 for 25 items. After item analysis 8 items having squared multiple correlation less than .35 were removed while checking for "Cronbach alpha if item deleted". Overall Cronbach alpha was 0.904 after deleting all the 8 items, and it was 0.853 and 0.836 respectively for the first and second factors obtained from Factor Analysis. The levels of Cronbach alpha for the whole scale and the factors were unacceptable levels when compared with the other reliability and validity studies concerning "Perceived Freedom in Leisure" scale [17, 18].

For construct validity a principal component analysis with varimax rotation was applied. The assumptions of the factor analysis were fulfilled and in the first application of factor analysis with 25 items 5 factors with eigenvalues more than 1 were obtained. After an item analysis, 8 items with low squared multiple correlation were excluded from the analysis and the factor analysis was repeated. In the next factor analysis with 17 items, 2 factors with eigenvalues more than 1 were found. The overall explained variance of the scale was 47%. Several steps were taken in order to name the two factors obtained from the factor analysis. First the commission of 8 academics were referred for checking the meanings of the items distributed to each factors. Second the Leisure Diagnostic Battery (LDB) and literature related with it was referred as the short form was obtained from the LDB. Third validity and reliability studies were checked for factor analysis results. After this inquiry, the first factor (items 2, 3, 4, 6, 7, 12, 13, 14, 20) was named as "Knowledge and Skills", the second factor (items 9, 10, 15, 16, 18, 19, 22, 25) was named as "Excitement and Amusement". The difference in factor structure between the original form and Turkish version might result from the cultural difference in response patterns [19]. In order to increase further the validity of this study, more applications of PFL scale should be conducted to different groups with different social, cultural and physiological characteristics from Turkish population.

A recommendation for academics from different cultures is to conduct the same adaptation procedures in order to make intercultural comparisons. For Turkish academics the development of a new Perceived Freedom in Leisure Scale in Turkish and making a parallel test validation of the scale with original Perceived Freedom in Leisure might be a good challenge.

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