

Summary

Turkish Version of Short-version Revised Restoration Scale

Emin Serin
Berlin School of
Mind and Brain

Ece Önder
İstanbul Bilgi
University

Aslı D. Şenol
Anglia Ruskin
University

Burak Erdeniz
İzmir Economy
University

In today's world, individuals who particularly live in urban environment have still been exposed to many hassles that have an impact on individuals' mental and physical state. Such hassles lead people to be anxious and stressful especially in traffic, crowded places, noisy and intense stimulation. The greater part of previous studies have indicated that restorative experience or environment have a tremendous effect on people's attention. According to Attention Restoration Theory (ART), individuals need to maintain their attention to perform effectively in their daily activities. Kaplan & Kaplan (1990) and Ulrich (1993) state that environments with restorative characteristics have a facilitative impact on reducing stress levels of individuals. Based on the attention restoration theories previously developed, Han (2003) constructed Short-version Revised Restoration Scale (SRRS). The purpose of this study is to examine the validity and reliability of the Turkish short version of SRRS.

Study I

The main purpose of the first study is to adapt Short-version Revised Restoration Scale (Han, 2003) into Turkish language.

Participants

The sample consists of 118 undergraduate students (69 females and 49 males; Mage = 21.73) in the city of Izmir.

Short-version Revised Restoration Scale (SRRS)

The SSRS was designed to determine the most common manifestations of being in restorative environment which were originally proposed by both Kaplan & Kaplan's (1989) and Ulrich's (1983) theories of attention restoration. SSRS consists of 8 items which grouped into four dimensions that are cognitive, physiological, emotional, and behavioral (two items for each dimension).

Photographs

Based on the original study of Han (2003), 48 colored slides were categorized into six major different biomes; desert, tundra, tropic forest, coniferous forest, deciduous forest and grassland to conduct our study.

Results

Principal Component Analyses within and across biomes. The sampling adequacy of the dataset was examined using Kaiser-Meyer-Olkin test for each biome. Results indicated that sample size of current study was high enough (average $KMO = .82$) for performing reliable Principal Component Analyses (PCA) as a following step. PCAs were performed for the six biomes (deciduous forest, tropic forest, tundra, grassland, coniferous forest, and desert), and overall dataset, and revealed two different factors solution to SSRS respectively explaining 82 %, 83 %, 78 %, 80 %, 82 %, 76 %, and 79 % of total variances (see *Table 1.*). The biome-averaged factor loadings of the variables in psycho-behavioral and physiological restoration dimensions were strong with value of .88 and .93, respectively. There is no significant correlation between two factors as a result of exploratory analysis, with biome-averaged value of .15, $p > .05$.

Reliability. The reliability of the factors in the SRRS was examined using Cronbach's Alpha. Results indicated that reliability of first and second factors were high and moderate with biome-averaged value of .94, and .86, respectively.

Biomes Comparison. Biomes were compared for two reasons: (1) to see whether participants' responses differentiated depending on biome types. (2) to specify most restorative biome to be used in further studies. The results indicated both first factor ($F(5, 585) = 141.18, p < .01, \eta^2 = .55$) (see *Figure 1.*) and second factor scores ($F(5, 585) = 4.95, p < .01, \eta^2 = .04$) (see *Figure 2.*) differentiated depending on biome types. The following

pairwise comparisons indicated that coniferous is most psychologically restorative, whereas grassland is most physiologically restorative for participants.

Study II

The main objective of the second study is to evaluate ecological validity of the Turkish-version of SRRS by testing the scale on different sample using set of landscape photos from Turkey.

Participants

The sample consisted of 145 individuals (88 female, 57 male, $M_{age} = 22.3$) who lived in Izmir.

Stimulus

The 14 pictures of flora landscapes and 14 pictures of water landscapes from Turkey Ecological Photograph Stimulus Set (Turkiye Ekolojik Fotoğraf Uyaran Seti, TEFUS) were used in the second study. The photographs in the stimulus set were collected from various locations around Turkey.

Procedure

Turkish version of SSRS (Zindeleşme Ölçeği in Turkish) were administered after presentation of each landscape picture (28 in total).

Results

Validity. PCA revealed a two-factor solution for Turkish version of SSRS explaining 81% and 86% of total variance for each nature categories (water and flora respectively).

Reliability. The psycho-behavioral and physiological restoration dimensions were found to be reliable for flora (.96 and .85) and water (.92 and .75) nature categories respectively.

Discussion

Despite the sample sizes of current study do not meet Hutcheson and Sofroniou's (1999) rule of 150, subjects-per-variables ratio satisfactorily meet the rule of 10 (Nunnally, 1978). Landscape slides which were used in the original study of Han might still not represent the whole natural environments.

Exploratory analysis revealed two factors solution (physiological, psychological) for SRRS, which is not consistent with 4 factors solution of previous study conducted by Han (2003). There might be two reasons of such differences; (a) Participants' prior experience and cultural differences (b) The meaning of the statements

might not be distinctive in Turkish as in English. Current exploratory analysis revealed that cognitive, emotional, and behavioral statements were clustered into one factor. Considering the structure of the psychological factor, the findings might support the Kaplan's perspective for ART (1990). The study revealed that there was a low correlation between two factors, which might be contradicted with view of Ulrich (1993) claiming restoration occurs in both psychological, and physiological ways. Focusing on the presented findings, physiological statements of restoration scale, and Ulrich's physiological point of view to attention restoration theory should be analyzed by comparing participants' physiological responses to different sets of environments (e.g. urban, rural, natural) in further studies.

The second study were conducted in order to test ecological validity of the results the first study. The results of the principle component analysis performed on different dataset in the second study support the findings of the first study providing two-factor solution for the Turkish version of SSRS.

This study has several implications: (1) provides reliable scale to researchers for developing their own databases of restorative pictures. (2) Raises architects' awareness in order to design an office, building or dormitory.