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Dr. Mutaz Duheilan Al-Dalaeen
Ph.D. (Doctoral Fellow),
Faculty of Social Science,
Department of Psychology,
Aligarh Muslim University,
Aligarh, Uttar Pradesh, India

Conceptual definition and standardization of the resilience scale

Dr. Mutaz Duheilan Al-Dalaeen

Abstract

The present investigation was undertaken to examine and assess the resilience scale among old age population. The sample consisted of the Resilience scale is based on Four hundred participants (200 males, 200 females) were taken in this study where 100 participants suffering from hypertension (50 male and 50 female), 100 participants suffering from rheumatoid arthritis (50 male and 50 female), 100 participants suffering from both hypertension and rheumatoid arthritis (50 male and 50 female) and 100 participants were taken as a control group. Participants' ages ranged from 45 to 65 year old. The exploratory factor analysis and a confirmatory analysis were performed to test the factorial structure of the RS12 and the internal consistency of the scale was studied. All 25 items were taken from the original scale. 13 items were discarded and only 12 items were selected on the basis of factor loading i.e., above .40. A unifactorial structure was obtained consisting of 12 items. The obtained Cronbach's alpha revealed excellent internal consistency, with a value of .861. Based on the psychometric properties obtained, it is inferred that RS12, the short version is a reliable measure to assess the resilience of the old age population.

Keywords: resilience, positive psychology, questionnaire

Introduction

The resilience: Meaning and definitions

The focus on the conceptualization of resilience forms a major part of the discussion. While definitions describe the meaning of a term, a concept is an abstract notion that is derived from a combination of personal intuition and consistent evidence. The concept of resilience was therefore applied in the field of positive psychology, which proposed the spread of positivity through behaviour modification and debated the idealism of behaviour. Researchers have recently conducted concept-based analyses to elucidate the backgrounds, consequences, and essential attributes of psychological resilience (Earvolino-Ramirez, 2007; Windle, 2011) [2, 13]. The main background of resilience is deemed to be adversity and the main consequence is considered to be a positive adaptation to stressful issues and health-related problems.

Resilience is generally used to describe personal hardiness, defined as an ability to achieve personal growth in the face of adversity. Resilience is also defined as the capability to bounce back to a level of functioning that is equal to or greater than before a crisis (Boss, 2006: 47) [1]. From a social science perspective, Masten *et al.* (1990) [5] defined resilience as "the process of, capacity for, or outcome of successful adaptation despite challenging or threatening circumstances" (p. 426).

Mental researches in the Middle- East, in accordance with restorative inconveniences and their results, has experienced numerous advances. In the event of Jordan, it could be watched that before there were no mental points of view of a medicinal issue, stress, mental difficulties in the recovering procedure of a restorative condition. The present investigation would endeavor to research the connection between flexibility; prospering and life fulfillment among moderately aged patients of rheumatoid joint inflammation and hypertension arranged in Jordan and would additionally investigate regardless of whether there are any impacts in life fulfillment and strength of such patient (Torgerson, Dowling & Abo-Shehada, 2001) [9].

Correspondence

Dr. Mutaz Duheilan Al-Dalaeen
Ph.D. (Doctoral Fellow),
Faculty of Social Science,
Department of Psychology,
Aligarh Muslim University,
Aligarh, Uttar Pradesh, India

Statement of the problem

The purpose of the present research is to explore the resilience among participants suffering from rheumatoid arthritis and hypertension.

Development of the test

About resilience scale

The term Resilience is an individual's ability to overcome, with success, adverse conditions or capability to recover in difficult situations that involve risk to their well-being, development and mental health (Reppold, Mayer, Almeida and Hutz, 2012)^[7]. It is a transactional process mediated by the interaction between the individual and the environment (Reppold *et al.*, 2012)^[7] that ranges throughout life, since an individual who is resilient in a difficult situation, may not be in another situation (Windle, 2010)^[12].

The Resilience Scale (RS-25) is an instrument developed by Wagnild and Young (1990)^[11] to assess resilience levels in adults. In Portugal, the RS-25 was studied in adolescent samples by Felgueiras, Festas and Vieira (2010)^[3] that performed its translation and adaptation and obtained inconsistently results relating the replication of the original unifactorial structure of the scale suggested by Wagnild e Young (2009a).

We analyzed a study of the review of literature; we can affirm that resilience is a term that has been explored in various areas, although in the area of psychology, its use is still recent. Moreover, its conceptualization has not been clear and has created some controversy (Pesce *et al.*, 2005)^[6]. Rutter (1987)^[8] suggests that resilience arises from many processes of interaction, including interpersonal relationships and social support that go beyond individual characteristics. Literature has shown that it is important to develop reliable and valid measures able to assess this construct (Windle, Bennett and Noyes, 2011)^[13], in different age groups and contexts (Felgueiras, Festas, and Vieira, 2010)^[3].

Al Dala`een and Fatma, (2018) redefined some items of the scale and studied the construct validity of RS (Resilience scale) for the old age population. Creating the English and Arabic version (25 items translated in both languages) then, all the translations of every item were given to 4 experts in the area of clinical psychology, knowledgeable in both languages. The most correct translation with moderate modifications as suggested by them was selected as the final translation. The exploratory factor analysis and a confirmatory analysis were performed to test the factorial structure of the RS-25 and the internal consistency of the scale was studied. A unidimensional structure was obtained consisting of 25 items. The obtained Cronbach's alpha revealed that excellent internal consistency, with a value of 0.86, it is inferred that RS 25, long version, is a reliable measure to assess the resilience of the ages ranged from 45 to 65 year old.

Reliability analysis and Inter correlation matrix were examined in order to overcome the existence of

multicollinearity and singularity in the scale. After analysis, 3 items having the multi-collinearity and singularity were rejected and the final scale comprised 12 items. The principal component analysis was applied in the present study. All 25 items were taken from the original scale. 13 items were discarded and only 12 items were selected on the basis of factor loading .i.e., above .40.

Objective

1. This study comes integrated entitled "The resilience scale among old age population: moderately aged patients of rheumatoid joint inflammation and hypertension in Jordan.
2. The present research aims to explore the factorial structure of RS25 from an Exploratory Factor Analysis (EFA). The aim is to present study the dimensionality and reliability of the scale.

Method

Participants

The aim of present research was to study resilience among patients of rheumatoid arthritis and hypertension. The demographic variables: socio-economic status, gender, age, religion, general health, and educational qualification etc. The Resilience scale is based on Four hundred participants (200 males, 200 females) were taken in this study where 100 participants suffering from hypertension (50 male and 50 female), 100 participants suffering from rheumatoid arthritis (50 male and 50 female), 100 participants suffering from both hypertension and rheumatoid arthritis (50 male and 50 female) and 100 participants were taken as control group. Participants' ages ranged from 45 to 65 years.

Measures and scoring

The resilience scale is rated on a 5-point Likert scale; the score of 1 will be given to strongly disagree, 2 to disagree, 3 to neutral, 4 to agree, and 5 to strongly agree to the item. The all score range between 30 to 180 points and then scores considerable 160 appearing a very high range of resilience, among 145-155 a high range of resilience, between 130-140, a fair range of resilience, between 120-130, a low range of resilience, and 100 appeared a very low range of resilience. Resilience is a magnitude of both rheumatoid arthritis and hypertension; therefore, that process of socialization, self-confidence, negative emotion, perceived intensity, chronic family and work stress, personality traits, and emotional responses in difficult situations may very potentially significantly across different lifestyle and cultures.

Data analysis

Data were analyzed by descriptive statistics and Cronbach's Alpha.

Item/ statistical analysis

Table 1: Descriptive Statistics of items scale and Cronbach's Alpha

Descriptive Statistics for items					Descriptive statistics for scale		
Item no.	Range	Mean	SD	Variance	Scale Mean if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
RS-1	4	4.12	1.034	1.069	43.40	.596	.846
RS-2	4	4.03	.881	.776	43.48	.477	.854
RS-3	4	4.13	1.056	1.116	43.38	.590	.847

RS-4	4	4.02	.901	.812	43.50	.409	.858
RS-5	4	4.08	1.006	1.011	43.43	.579	.848
RS-6	4	4.01	.984	.967	43.50	.401	.859
RS-7	4	3.97	.862	.743	43.55	.411	.858
RS-8	4	3.78	.986	.973	43.73	.594	.847
RS-9	4	3.72	1.046	1.093	43.79	.595	.846
RS-10	4	3.74	1.019	1.039	43.77	.581	.848
RS-11	4	4.22	.993	.986	43.30	.627	.844
RS-12	4	3.71	1.066	1.136	43.81	.586	.847

Table 2: Reliability of the resilience scale on three dimensions

Dimensions	Items	No.	Cronbach α
1. Self- adjustment	8, 9, 10, 12	04	.974
2. Self – determination	1, 3, 5, 6, 11	05	.865
3. Self – confidence	2, 4, 7	03	.833
Total		12	.861

Table 3: Descriptive Statistics of Scale and Reliability (Cronbach’s Alpha)

Mean	Variance	Std. Deviation	Cronbach’s alpha	No. of Items
47.51	55.654	7.460	.861	12

Validity

Content Validity (Face and logical) validity of the scale was verified by ten experts. There are various methods to establish the construct validity of the tool. Factor analysis with varimax rotation was used to establish the construct validity of the tool. Data screening was carried out in order to overcome the existence of multicollinearity and singularity in the scale. For testing multi-collinearity and singularity ‘Determinant’ of R-matrix was estimated and it was greater than 0.00001. The KMO of the present sample

was found to be 0.794 which is also significant at 0.001 levels. Sampling adequacy was also carried out and found to be greater than 0.40 as required in both cases.

Inter-factorial validity

The inter-factorial validity of the scale was calculated to confirm all factors as correlated to each other and measuring the same construct. The factorial validity of the scale is very high and clearly established.

Table 4: Inter-factorial Validity

Dimensions	Self-Adjustment	Self-Determination	Self-Confidence
Self-Adjustment	1		
Self- Determination	.237**	1	
Self-Confidence	.128*	.423**	1

** Correlation of coefficient is significant at the 0.001 level (2-tailed)

Inter-factorial correlations indicate that all the factors are significantly correlated with each other and measuring the same construct.

Table 5: Factor Structure of the Resilience Scale (RS)

Item no.	Resilience Dimensions	Factor 1	Factor 2	Factor 3
RS9	Self-Adjustment	.965		
RS8		.963		
RS12		.953		
RS10		.938		
RS5	Self- Determination		.896	
RS1			.874	
RS3			.869	
RS11			.768	
RS6			.483	
RS2	Self-Confidence			.889
RS4				.831
RS7				.796
Percent of variance		39.893	25.239	12.684
Cum.percent of variance		39.893	65.132	77.816

Using a more structured method, principal component factor analysis was carried out and three factors emerged in the analysis. The item having factor loading greater or equal to 0.40 were selected. Since loadings above .40 may be considered “more significant” and .50 may be considered “very significant” (Hair, Anderson, Tatham, & Black, 1998).

The percent of the variance accounted by factors varies from 12.684 to 39.893%. In summing up all three factors explained 77.816% of the total number of variance. The factor loadings, percent of the variance and cumulative percent of the variance for each dimension are also shown.

Results and Discussion

The quantitative interpretation of the resilience scale score is

a highly indexed score. To classify a person as hypertensive and suffering from rheumatoid arthritis must have greater than or equal to a lower range of resilience scale. The all score range between 30 to 180 points and then scores considerable 160 appearing a very high range of resilience, among 145-155 a high range of resilience, between 130-140, a fair range of resilience, between 120-130, a low range of resilience, and 100 appeared a very low range of resilience. This classification of resilience scale keeping in view is not quite essential as a risk factor. Instead, the nature of social inhibition, social avoidance, negative emotional responses, anxiety, stress, and negative affectivity should be considered. A high score on the resilience scale in itself may be associated with disease seriousness.

The way of socialization is to play a very vital role in the

development of cognitive functioning, beliefs, personality, and attitude. These factors: emotional isolation from community, negative emotion, perceived intensity, chronic family and work stress, personality traits, fear of failure, and social withdrawal. These factors should be considered along with the high to low range of resilience. Resilience is that overwhelming quality that allows some people to be knocked down by life and come back stronger than ever. Rather than letting failure overcome them and drain their resolve, they find a way to rise from the dark. The factors that make someone resilient are the positive attitude, optimism, the ability to regulate emotions, and the ability to see failure as a form of helpful feedback.

Implication

1. Improving the psychological well-being of people with RA and hypertension can be enhanced by choosing a new goal in life, exposing themselves to new educational experience and learning novel skills to enhance a good satisfaction with life, happiness, sense of self-efficacy and feeling of engaging more in their lives. Topics that could have a positive impact are hypertension management skills and problem solving of an individual.
2. Connecting through positive social relationships with others, in which other people are found to be supportive and encouraging to increase a personal feeling of being important and find a sense of meaning in life.
3. Conducting intervention programmed to develop and enhance positive illness perceptions through reducing the potential impact of these diseases. People with RA and hypertension need to learn to cope with distressing circumstances and being uncertain about their illness, so they need to feel they can control the negative impact of RA and hypertension when control is not fully possible.

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