#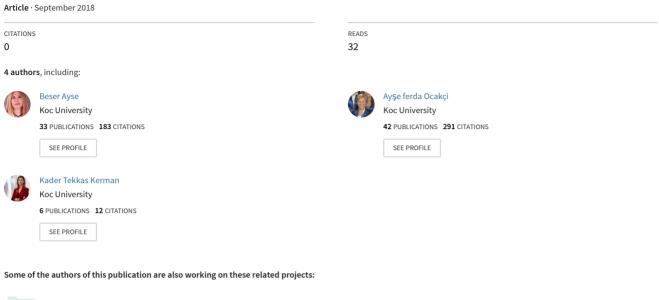 Turkish Society–Adapted Validity and Reliability: Examination of the Disability Social Relations Generalized Disability Scale

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Original Article

Turkish Society-Adapted Validity and Reliability: Examination of the Disability Social Relations Generalized Disability Scale

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Abstract

Background: Structured assessement of attitudes towards disabled people is essential to deal with stigma. Yet, the number of scales in Turkey evaluating attitudes towards disabled people are limited and the issue takes little attention.
Objective: This study aimed to investigate validity and reliability of the Turkish version of the Disability Social Relations Generalized Disability (DSRGD) scale.
Methodology: This study used methodological design. We recruited a total of 206 undergraduate students. The data of the study were collected through a socio-demographic information form and the DSRGD scale.
Results: In our item analysis, the item-total score correlation coefficients ranged from .23 to.65. The overall Cronbach Alpha -.81- of the DSRGD scale points a highly strong reliability level. Cronbach alpha value of the dating sub-scale was found out as .61, marriage sub-scale as .64 and work sub-scale as .61. After the psychometric evaluation, the DSRGD scale was determined as a valid and reliable instrument in Turkish language.
Conclusion: It is recommended that the DSRGD scale can be used in the evaluation of public attitudes towards disabled individuals in Turkish society. Prospective studies may contribute to the validation of the tool.

Key words: Disability, Social relations, Attitudes, Validity, and reliability

Introduction

Disabled people might encounter various attitudes and behaviours in the society they live. Even though development levels of countries vary, attitudes and behaviours against disabled people might reflect similarities. Most of disabled people in developing countries face different problems such as discrimination or being stigmatized. Disabled people cannot benefit from such social services as health care, education, transportation. Behaviours, perceptions and attitudes towards disabled people have a direct influence on relations between family members or social environment as well as benfiting from public services and opportunities. Individuals with different disabilities experience difficulties in being accepted by healthy individuals (Gannon et al,2009;Laws et al,2005;Yude et al,1998).

It is indicated that disabled individuals' acceptance by their peers and the rest of the society and their benefiting from public services is only possible by developing positive attitudes towards them. The most important factor for the development of positive attitudes towards disabled individuals is to ensure a consistent social interaction between disabled and non-disabled individuals (Barr et al,2012; Keith et

al,2015;Wong, 2008). However it is stated that disabled people and their families have a limited social interaction with their environment Sari et al, 2006).

Social attitudes towards disabled individuals might present differences due to not having appropriate understanding, fear of unknown or learning patterns from others via social learning Thompson et al,2003).

In studies on that issue it has been put forth that individuals with normal development present negative attitudes towards disabled ones. It has also been reported in studies conducted with university students that they have middle-level positive attitudes towards their disabled peers (Horner et al,2002; Nagata 2007).

In another study it is determined that students educated on health care have insufficient level of positive attitudes towards disabled people (Tervo et al,2004). It is absolutely crucial to have positive attitudes towards disabled individuals (Rosenbaum et al,1988). In order to develop positive attitudes, attitudes and perceptions of members of the society towards disabled individuals need to be assessed primarily.

The number of scales in Turkey evaluating attitudes towards disabled people are rather limited; the issue takes little attention. Nevertheless, disabled individuals are needed to be examined. As a result of this study a validated and reliable scale is going to be established so that attitudes towards disabled people are going to be assessed by implementing it in different groups.

Negative and positive attitudes obtained as the result of the study is going to provide a basis to generate a more susceptible population to disabled people. Thus, in this study it was aimed to examine Turkish Society adapted validity and reliability investigation of The Disability Social Relations Generalized Disability Scale for Turkish Society (Hergenrather & Rhodes, 2007).

Method

Study design

This study used methodological design.

Sampling and Setting

The study was conducted in Koç University .It is recommended that sample number should be 5 or 10 times more than the scale item number to perform the factor analysis for validity and

reliability of studies (Gable & Wolf 1993, Aksayan & Gozum 2003).

As there was 17 item in the DSRGD scale, a sample of between 85-170 participants were needed. Because of the high number of volunteer students, we were able to recruit a total of 206 student for this study. Being an undergraduate is the only criterion to participate in the study. A certain sample group was not selected; instead all the volunteer undergraduate students were included in the study.

Instrument

Socio-demographic characteristics

Socio-demographic Characteristics Information Form composed of 14 questions, including socio-demographic characteristics; age, gender, department, grade, number of siblings, having disablity or not, age and education of parents, the presence of a disabled individuals in his/her class, family, or group of friends.

The Disability Social Relations Generalized Disability Scale

The DSRGD scale was developed by Hergenrather & Rhodes (2007) . The scale consists of 17 items and 3 sub-scales. The first scale is Dating (six items), second scale is Marriage (six items), the third scale is Work (5 items). It is a 4 point Likert scale (4=strongly agree, 3=agree, 2=disagree, 1=strongly disagree). Cronbach's Alpha of the scale was noted for DSRGD:0.89, Dating scale: 0.92, for the Married scale: 0.83.

Dating Sub-Scale: It is a six-itemed scale assessing the attitudes towards disabled individuals in a social context like dating. The scale includes such issues as comfort during friendship or dating, anxiety of what others think about it, shame of being needy as someone else help his date, being eager to sexual intercourse and comfort during sexual intercourse.

Marriage Sub-Scale: It is a six-itemed scale assessing the attitudes towards disabled individuals in a social context like marriage. The content of the scale consists of idea of marriage, intention of marriage, faithfulness to the partner, comfort during sexual intercourse, ability of earning money and each of partners' taking responsibility as parents.

Work Sub-Scale: It is a five-itemed scale assessing the attitudes towards disabled individuals in a social context like workplace

environment. The scale includes such issues as colleague relations, need for accomodation, paying attention to the words uttered during a conversation, interaction with colleagues, socialization of colleagues, ability of dealing with the work.

Translation of The Disability Social Relations Generalized Disability Scale

For language validity of the DSRGD scale was translated from English into Turkish by the researchers and five linguists. The scale was mailed to five linguists for translation from English into Turkish. After that the translations of researchers were compared to those of linguists and decided on the final outline of the scale.

Data Collection

At the campus of Koç University, students were explained the purpose of the study and those students volunteer for the study were given sociodemographic questionnaire and DSRGD scale to fill out. The forms were taken back after filling them. Filling of questionnaires lasted approximately in 10 minutes.

Data Analysis

Descriptive statisticsand reliability and validity statistical   test was conducted using SPSS, Version 15.0 (SPSS Inc.Chicago,IL,USA).

Content Validity

In order to evaluate content validity of the scale, items adapted to Turkish Language 10 experts' opinions were asked. Evaluations of experts was assessed using Kendall W analysis.

Reliability Analysis

Cronbach's Alpha and Guttman Split-Half Coefficient were used to test the internal consistency of the instrument and for each of the factors resulting from the factor analysis. The item-total item correlations and mean inter item correlations were included in the analysis.

Ethical Consideration

Written permission to examine the reliability and validity of the Turkish version of DSRGD scale from Hergenrather & Rhodes (2007), who developed this scale, was received via e-mail. Ethical approval was obtained from Koç University Ethical Committee (2015.292.IRB3.165). Also the objective of the research was explained to the students and was received feedback.

Results

Results show that 64.6% of the participants were female, 59.0% of the participants' mothers and 67.0% of participants' fathers were university graduate, 13.1% of the participants had a disabled individual in their classes, 32.0% of them had a disabled in their neighborhood, and 25.0% of them had a disabled in their friend groups. (Table 1).

The mean score of the total scale 35.62 ± 6.21, dating subscale 12.62 ± 2.61, marriage subscale 13.53 ± 2.79, work subscale 9.46 ± 2.22 (Table 2).

When the participants' sociodemographic characterisitcs and The Disability Social Relations Generalized Disability Scale scores together with its sub-scales were compared, it was found out that there was not significant difference between dating, marriage and total scale scores whereas there was a statistically significant difference between among work sub-scale scores ($p<0.05$).

A statistically significant difference was not detected between disability and dating sub-scale scores ($p<0.05$). Scores of   non-disabled individuals were higher. Not any statistically significant difference occured between presence of disabled individuals in the class, family, neighbourhood or in friends group and total scale's and sub-scales' scores ($p>0.05$) (Table 3).

Cronbach Alpha of the scale rises from .81 to .82. The overall Cronbach Alpha -.81- of the The Disability Social Relations Generalized Disability Scale points a highly strong reliability level. Cronbach alpha value of the dating sub-scale was found out as .61, marriage sub-scale as .64 and work sub-scale as .61(Table 4).

Table 1. Sociodemographic characteristics of participans

Characteristic	n	%
Age (mean) 20.73±1.87		
Gender		
Female	133	64.6
Male	73	35.4
Departments		
College of Administrative Sciences and Economics (CASE)	54	26.1
College of Sciences (CS)	10	4.8
College of Engineering (CE)	50	24.2
College of Social Sciences & Humanities (CSSH)	13	6.3
Health Sciences (HS)	62	30.0
Law School	18	8.7
Disability Condition		
Yes	4	1.9
No	202	98.1
Type of Disability		
Hearing Loss	0	0
Physical	2	1.0
Vision Loss	1	0.5
Mental	0	0.0
Others	1	0.5
Education of the Mother		
Non-literal	2	1.0
Primary School	34	16.6
Elementary school	9	4.4
High school	39	19.0
University	121	59.0
Education of the Father		
Non-literal	1	0.5
Primary School	17	8.3
Elementary school	11	5.3
High school	39	18.9
University	138	67.0
Disabled individual in the class		
Yes	27	13.1
No	179	86.9
Disabled individual in the family		
Yes	23	11.2
No	183	88.8
Disabled individual in the neighbourhood		
Yes	66	32.0
No	140	68.0
Disabled individual in the friends group		
Yes	52	25.2
No	154	74.8
Total	206	100.0

Table 2.The Disability Social Relations Generalized Disability Scale Scores (n=206)

Scale and subscale	X+SD
Dating	12.62+2.61
Marriage	13.53+2.79
Work	9.46+2.22
Total scale	35.62+6.21

Table 3. Comparison of Sociodemographic Characteristics with The Disability Social Relations Generalized Disability Scale Scores.

	Dating X+SD	Marriage X+SD	Work X+SD	Total X+SD
Gender Female Male t p	12.63+2.59 12.54+2.66 0.23 0.81	13.37+2.77 13.76+2.76 0.96 0.33	9.14+2.30 9.97+1.88 2.63 **0.009**	35.15+6.17 36.28+6.11 1.26 0.20
Disability Condition Yes No U p	9.50+3.10 12.66+2.57 171.00 **0.04**	11.50+4.12 13.55+2.74 283.00 0.30	9.00+1.82 9.44+2.20 353.00 0.66	30.00+8.60 35.66+6.08 238.00 0.15
Disabled individual in the class Yes No U p	11.88+2.37 12.71+2.63 1985.00 0.13	12.92+2.92 13.60+2.75 2192.00 0.43	9.25+1.81 9.46+2.24 2331.00 0.76	34.07+6.15 35.78+6.15 2174.00 0.40
Disabled individual in the family Yes No U p	12.39+2.67 12.63+2.60 2024.50 0.76	13.91+2.93 13.46+2.76 1797.50 0.25	9.21+1.27 9.46+2.28 1923.50 0.49	35.52+5.75 35.56+6.22 2021.50 0.75
Disabled individual in the neighbourhood Yes No t p	12.43+2.45 12.68+2.68 0.63 0.52	13.51+2.79 13.51+2.78 0.00 0.99	9.39+1.89 9.45+2.32 0.19 0.84	35.34+6.03 35.65+6.24 0.33 0.73
Disabled individual in the friends group Yes No t P	12.53+2.39 12.62+2.68 0.21 0.82	13.51+2.57 13.51+2.85 0.01 0.98	9.28+2.26 9.48+2.17 0.56 0.57	35.34+6.02 35.62+6.22 0.28 0.77

Table 4. Reliability Results of The Disability Social Relations Generalized Disability Scale

Item	Scale Items	Item-total correlation	Cronbach Alpha if item deleted	Cronbach Alpha
Factor 1:Dating				
1	I can be just a friend with a disabled person	.235	.838	
2	I would not disturbed by the glances of others if I dated someone disabled.	.527	.783	
3	I would not be cared about what others think if I dated someone disabled.	.598	.778	
4	If I dated someone disabled, I would not be shamed helping him eating before the public.	.518	.785	**.61**
5	If I dated someone disabled, I would be eager to have sexual itercourse with him/her.	.520	.784	
6	If I dated someone disabled, ıı would not be embrassed contacting him physically or having sexual intercourse.	.648	.776	
Factor 2:Marriage				
7	When I intented to marry, I would not exclude someone disabled.	.650	.774	
8	If I love a disabled person, I can marry him/her.	.566	.781	
9	A disabled spouse would not be too dependent to me.	.346	.796	**.64**
10	If I marry someone disabled, I feel in comfort during sexual intercourse.	.591	.778	
11	When I marry someone disabled, my spouse can earn enough money.	.471	.787	
12	One of the spouses can take all the responsibility of being parents even if I marry someone disabled.	.001	.821	
Factor 3:Work				
13	I would be a close friend with my disabled colleague in the workplace.	.387	.793	
14	I do not think my disabled colleague need an extra help or care as interfering regular activities in the workplace.	.350	.795	
15	I feel comfort eating with a disabled colleague in the workplace.	.386	.793	
16	I feel comfort in social relations with my disabled colleague in the workplace.	.460	.788	**.62**
17	I am surprised my disabled colleague's not completing her duties.	.233	.804	
Total Cronbach Alpha .81 **Guttman Split-Half : .73** **Total Explained Variance: (%) 49.63**				

Validity Analysis

Scores of the ten experts were evaluated using the Kendall W analysis, and no statistically significant difference was found among the scores (Kendall W= 0.16, p=0.06).

In our item analysis the item-total score correlation coefficients ranged from .23 to.65. However, item-total score correlation of the 12th item was determined as .001. If the item was removed

Discussion

The mean score for "marriage" was the highest, suggesting that undergraduates have positive attitudes towards persons with disabilities.Dating had the second highest mean score. In the former studies, "work" sub-sclae had the first and "marriage" sub-scale had the second place (Akgul, 2005; Gable & Wolf, et al,1993; Gordon et al,1990; Hergenrather & Rhodes, 2007). The reason for the "work" sub-scale had the first place in regard to social context is social relation ships with a person with a disabiliity in the workplace are less intimate than the relationship within the context of dating or marriage.

In the "marriage" sub-scale of this study; *the items were evaluated as follows "When I intented to marry, I would not exclude someone disabled" agree (46.9%); "If I love a disabled person, I can marry him/her" Agree (51.2%) and "When I marry someone disabled, my spouse can earn enough money" Strongly Agree (25.6%).* In our study, prominence of "marriage" and "dating" sub-scales might be a cultural reflection of Turkish Society.

Whereas there was not a significant difference in the attitudess related with dating and marriage sub-scales, mean scores of males were significantly higher than that of females in the "work" sub-scale. Unlike to that result, some other studies presented that females present more positive attitudes than males (Akgul, 2005; Gable & Wolf, et al,1993; Gordon et al,1990; Hergenrather & Rhodes, 2007). The result of our study might stem from males have more rooms in work environments and they have show more emphaty towards their disabled colleagues.

While there was not a significant difference in total scores and mean scores of marriage and work sub-scales between disabled and non-disabled individuals, there happened a significant

difference in dating sub-scale scores. Non-disabled people have more positive perception about dating than disabled ones.

If a scale were to be used in a different language, it must be display the same reliability and validity characteristics as in its original form. Thus, the validity and reliability of the "Disability Social Relations Generalized Disability Scale" needed to be evaluated if it were to be used in a Turkish sample. The outcomes of our study clarify that the Disability Social Relations Generalized Disability Scale is a reliable and validated tool to identify attitudes towards disabled individuals within Turkish society.

The Disability Social Relations Generalized Disability Scale translated from English into Turkish was mailed to ten experts to ensure content validity and its fit-gap analysis was made using Kendall W analysis. It was deduced that there was not any difference between the opininons of experts for the scale, translated from English into Turkish, items' comprehensibility (Kendall W= 0.16, p=0.06).

In this study, the scale demonstrated acceptable internal consistency. One of the methods used to evaluate the internal consistency in the adapted scales in terms of reliability is item analysis. In item-total analysis, the acceptable coefficient in item selection should be higher than .20 or .25 (Aksayan,2003). In our item analysis the item-total score correlation coefficients ranged from .23 to.65. However, item-total score correlation of the 12th item was determined as .001. If the item was removed Cronbach Alpha of the scale rises from .81 to .82. So 12th item was decided to be removed from the scale

One of the methods for evaluating the internal consistency is the Cronbach Alpha reliability coefficient. If it is between .60- and .79 the measurement tool is considered relatively reliable, if it is between .80- and 1, the tool is considered highly reliable (Akgul,2005). The overall Cronbach Alpha -.81- of the The Disability Social Relations Generalized Disability Scale points a highly strong reliability level. It is .89 in the original scale (Hergenrather et al,2007). Cronbach alpha value of the dating sub-scale was found out as .61, marriage sub-scale as .64 and work sub-scale as .61. Those values are .83 and .81 in the original scale respectively.   Even though Cronbach alpha

values obtained from sub-scales of this study are lower than the original ones, it is still have a strong-acceptable reliability level (Akgul,2005).

To conclude, the Disability Social Relations Generalized Disability Scale adapted from the original scale into Turkish Language is a reliable and a validated tool for Turkish Society to evaluate public attitudes towards disabled individuals. Prospective studies may contribute to the validation of the tool.

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