THE **REGIONAL TRIBUNE**

Development of an Indigenous Scale to Measure Age Discrimination among Elders

Saima Riaz [1] **Umaira Hina** [2*] **Syeda Afifa Nadeem** [3] **Mubashra Sami Dar** [4]

[1] Assistant Professor, Department of Psychology, University of Gujrat, Gujrat, Punjab, Pakistan.
Email: saima.riaz@uog.edu.pk
[2] M.Phil., Department of Psychology, University of Gujrat, Gujrat, Punjab Pakistan.
Email: umairahina156@gmail.com
[3] M.Phil., Department of Psychology, University of Gujrat, Gujrat, Punjab, Pakistan.
Email: Afifasyed345@gmail.com
[4] M.Phil., Department of Psychology, University of Gujrat, Gujrat, Punjab, Pakistan.
Email: darhouse0333@gmail.com

ABSTRACT: Present study was designed to develop an indigenous scale on old age discrimination for elderly. A 100-item pool was created. Items that were culturally appropriate were developed. Additionally, the earlier measures of discrimination based on age were examined. Moreover, eight elderly individuals above the age of fifty participated in semi-structured interviews After expert evaluation item pool was reduced to 70. In the tryout phase the same was administered on 366 elderly people from villages and communities in Gujrat, Pakistan. Exploratory factor analysis was applied that produced a six-factor solution for 70 elements using Principal Component Analysis and Varimax Orthogonal Rotation. Later on, Confirmatory factor analysis confirmed a strong model fit for the last 20 items after 49 items were eliminated. The scale was named as Old Age Discrimination Scale for Elders (OADS-E). OADS-E has very good Cronbach's alpha reliability. Finally, a reliable and valid scale for assessment of old age discrimination in Pakistani culture was developed.

KEYWORDS: Ageism, Discrimination, Psychometrics, Scale Development

Introduction

Discrimination is unfair predispose treatment and behavior of people and groups based on quality such as gender, race, age, sexual intension. Age discrimination happens when people are treated with hostility and they were not given the same facility that other people are having in that same situation and they were considered to be old and retire and not having potential to work.

Age discrimination is a widespread social issue in the whole globe because it compromises the health and human rights of millions of elderly people all over the globe. This should thus be given more focus by national and international communities. The ageism in our country is widespread, and it is a combination of the psychosocial, economic, and cultural factors, impacting it such as the lack of economic ability, poverty, deprivation of authority and employment, physical incapacitation, the changes in social norms and values, the disappearance of the joint family system, neglect of the aged, individualism, and other factors. Age separation influences people across all financial gatherings, societies, races and identities.

Stereotyping and discriminating against older individuals are known as ageism. Similar to racism and sexism, ageism distinguishes people on the basis of stereotyping of a certain group as provided in the literature. Ironically, the understanding of ageism is a relatively new concept, but the studies focus largely and mainly on its negative sides. The ageism and ageism of pre-industrial societies can be seen in anthropological and gerontological research. In France's traditional culture, old age is not venerated; rather, according to Stearns & Ward (1984), "old people were a great nuisance and old age was a horror." According to the Fulani Society of Africa, elderly people appear to be socially dead. A person must live alone in one room of the house as he gets older. According to Leslie (1982) and Schaefer (1983), this location is regarded as the elderly person's graveyard.

Ageism has remained a major issue in developed and developing countries, and it serves as a predisposing factor of age discrimination. Traditional views indicate that aging has always been misconceived. Gruman (1966) has described three thematic myths about aging and death including the antediluvian, hyperbole and the rejuvenation myths. The myth of antediluvian is supported by Biblical allusions, specifically in Genesis where some ancient Hebrews are said to have existed, several centuries long, the myth of hyperbolean is developed on the notion that the longevity is a distant culture, and the myth of rejuvenation which Decker (1980) discusses is the pursuit of timeless youth.

Gerontophobia, or a general dislike or fear of old age that is related to ageism, is another theme that has been prevalent throughout a significant portion of human history. Older people were portrayed as socially isolated and passive in English Victorian literature. The following statements about the elderly, developed by Palmore (1971), are generally acknowledged to be accurate:

1. The majority of elderly people have no desire for or capacity for sexual activity
2. Most elderly folks individuals are stuck in a rut and unfit to change
3. The majority of elderly people experience loneliness and social isolation
4. The majority of senior citizens live below the poverty line

The purpose of developing an ageism scale is to list existing instruments and critically review the literature paying attention to methodological issues. The focus of most of the standardized scale of ageism has been on the attitudes and beliefs of younger adults against older adults, although there are theories and scales that specifically focus on old-age discrimination.

Regarding Pakistan, there are limited scales developed on old age discrimination. Although significant efforts have been made to define the various dimensions and constructs of ageism, there is still no universal agreement regarding ageism's characteristics. Absence of agreement, thus, makes it harder to foster a normalized scale.

Palmore (2001) scale created to assess individuals' perception about ageism. The 20 items have a three-point scale (Never 0) and only include negative aspects of ageism. The measurement instruments of ageism normally involve more than one dimension since the 1990s. The Fraboni Scale of Ageism (FSA) was constructed to measure different elements of ageism especially the affective aspect of the same (Fraboni et al., 1990). It conceptualizes three conceptual prejudices of Allport (1954) including discrimination, avoidance, and antilocution, into a 29-item Likert scale that produced a Cronbach alpha of 0.86, which reflects a high level of internal consistency. Another scale that are developed on the rising of old age discrimination in Pakistan by Ashiq & Asad (2017) which published in journal of the research society Pakistan. They worked on the different aspects to learn the problems that old aged people are facing in Pakistan. They found that old people in Pakistan facing poverty and less pension to fulfil their basic needs so that Pakistani government should increase the pay and pensions of old aged people and take care of their needs. But conclusion of their study is that the old age population is increasing, and poverty is also increasing and abuse of

their families, lack of social support and health problems are contributed to their problems and these issues were used to be resolved.

This segment surveys the examination utilizing normalized ageism scales. Estimation properties, for example, legitimacy and unwavering quality are basically evaluated and contrasted with distinguish estimation instruments that require further approval The scale with the highest acclaim of a content validity is the Kogan (1961a) that became widely used. Its conciseness has been used to translate it into. Overpowered Scale has been utilized in measuring the attitudes of youths towards older adults in different populations such as undergraduate nursing students and moderately aged adults (Gallagher et al., 2006).

Persuading proof regarding the scale's build legitimacy was shown, and its unwavering quality has been consistently tried over the long run. Researchers generally agree that the OP scale has a moderately high level of reliability. According to Kalavar (2001), the FSA has been extensively used to measure the attitudes of young adults towards older adults such as surveys of students, healthcare professionals (Kabátová et al., 2015). Moreover, Ageism scale by Hyun Kang utilized 15 items among the respondents between the age of 49 and 92, and the inter-individual variation of the scale among older adults was more, and the interclass reliability was good between 0.66 and 0.83. Products that measured negative ageism had more reliability as compared to those that measured positive ageism. High inter-rater and internal consistency reliability were found in the majority of FSA-based studies.

The objectives of developing the scale on old age discrimination is to know how ageism emerges when age is utilized to classify and partition individuals in manners that lead to mischief, hindrance, and foul play. It can take many structures including biased mentalities, oppressive demonstrations, and institutional strategies and practices that propagate cliché convictions. Age-based prejudice and stereotyping are commonplace in the daily lives of older persons. It is unknown if this type of ordinary ageism has a detrimental effect on their health and well-being, in part because there are no validated instruments that fully measure this phenomenon and differentiate it from other sources of everyday discrimination.

Method
The current research was done in two stages. Phase I entailed an elaborate procedure of designing the indigenous old age discrimination instrument (OAD-O). Phase II reliability of new OADS-E. was established.

Phase I: Development of OADS-E
In this phase, four consecutive steps were used including conceptualization of the test, generation of item pool, consultant opinion, trial, and analysis of the items.

Stage 1: Conceptualization Test
The old-age discrimination was defined as the discrimination a person- applicant or employee face because of his/her age. On the other hand, treated by family members as though they are invisible, unintelligent, or dispensable based on their age.

Stage 2: Generation of Item Pool
Using a logical technique, a pool of 100 items was created. Items that were culturally appropriate were developed. Additionally, the earlier measures of discrimination based on age were examined. Additionally, eight elderly individuals (four male and four female) above the age of fifty participated in semi-structured interviews (Peng et al.,

2022). Matriculation was the interviewees' minimal level of schooling. In accordance with our indigenous culture, participants were asked to provide behavioral demonstrations of six processes of old age discrimination.

Stage 3: Experts' Evaluation

The item pool written in Urdu was content-validated by five professionals having experience in scale development and the construct of old-age discrimination. The process of evaluation aimed at eliminating repetitive, double-barrel, overloaded, long, poorly phraseology and conceptually incoherent questions. At the end of these stage 70 items were finalized.

Stage 4: Try-out

A sample of 366 elderly people (246 men and 120 women) from the elderly population of Gujrat, Pakistan, were given a set of 70 items evaluating old age discrimination. The method of convenient sampling was employed. People 50 years of age and older who were literate enough to read and comprehend the test items were contacted to be included in the sample. The sample comprised elderly residents of the Gujrat district. The sample consisted of elderly individuals who were willing to participate and had stable mental health. The goal was to find out how well test takers understood the concepts and phrases asked in their native Urdu. It took participants between thirty and fifty minutes to complete the scale.

Procedure

For the purpose of data collection, formal authorization was obtained from higher educational institution authorities. A convenient sampling method was used to personally approach participants. Participants were provided with clear explanations of the test's objectives and instructions. For genuine responses, the participants' confidentiality was guaranteed, and they were thanked for participating. Later on, Exploratory Factor Analysis was applied.

Exploratory Factor Analysis (EFA)

Table 1

Demographic Characteristics of the Exploratory Factor Analysis Sample (N = 366)

Variables	Category	n	%
Gender	Men	246	67.2%
	Women	120	32.8%
	50-65	126	34.5%
	66-75	175	47.8%
	76-85	51	14.3%
	86-94	14	3.8%

IBM SPSS Statistics-24, version 24 of the Statistical Package for the Social Sciences, was used to examine the factor structure of 70 items from the original form of OAD-0. The appropriateness of the data for EFA was evaluated using the Kaiser-Meyer-Olkin measure of sampling adequacy of.870, which is greater than the suggested acceptable value of.60 for a sample to be pronounced adequate (Pallant, 2013).Various EFA requirements were also carried out, such as identifying missing attributes and anomalies by information screening methods and evaluating boxplot independently (Hair, Dark, Babin, and Anderson, 2013). In terms of the score distribution, the mean and median values were almost the same. As a result, EFA resulted in six factors with a variance of 38.16 percent and a factor loading value greater than.5.

Table 2

Factor Loadings for Exploratory Factor Analysis with Varimax Rotation of 70 Items on OAD-O (N=366)

S. No	Item No	SD	DD	RD	WD	SD	PD
1	35	.670					
2	36	.747					
3	37	.795					
4	38	.790					
5	39	.755					
6	40	.689					
7	41	.640					
8	01		.892				
9	02		.898				
10	03		.912				
11	04		.854				
12	05		.784				
13	06		.598				
14	42			.570			
15	43			.712			
16	44			.763			
17	45			.777			
18	46			.734			
19	47			.689			
20	48			.518			
21	10				.516		
22	11				.747		
23	12				.839		
24	13				.848		
25	14				.780		
26	65				.689		
27	66				.740		
28	67				.791		
29	68				.795		
30	69				.734		
31	70				.577		
32	48					.522	
33	49					.772	
34	50					.879	
35	51					.838	
36	52					.632	
37	60					.746	
38	61					.867	
39	62					.866	
40	63					.	.786

S. No	Item No	SD	DD	RD	WD	SD	PD	
41	53						.781	
42	54						.855	
43	55						.820	
44	56						.746	
45	16						.753	
46	17						.853	
47	18						.832	
48	19						.654	
49	23							.713
50	24							.844
51	25							.837
52	26							.703
53	07							.709
54	08							.776
55	09							.709
56	10							.626
57	27							.720
58	28							.813
59	29							.798
60	30							.634
61	31							.635
62	32							.802
63	33							.831
64	34						.	.728
65	57							.759
66	58							.860
67	59							.761
68	20							.773
69	21							.842
70	22						.	.760

Confirmatory Factor Analysis (CFA)

CFA was led by utilizing AMOS Graphic (24) to affirm the six-component construction of OAD-O
shaped because of EFA. Comparative Fit Index (CFI) was found to be unacceptable in the initial CFA result. Covariance and regression weights (Reise, Waller, & Comrey, 2000) were used to increase the value of the CFI. This resulted in 20 items in the final OAD-O with perfect model fit indices values.

Table 3
Model Fit Summary of Confirmatory Factor Analysis for MDS-A (N=366)

P Value	CMIN/DF	GFI	AGFI	TLI	IFI	CFI	RMESA
0.00	2.192	.911	`882	.947	.956	.956	.05

Reliability for OAD-O

Cronbach's alpha was exceptionally high (α = .956)

Discussion

The main purpose of this study, therefore, was to provide a parsimonious and psychometrically sound measure of old-age discrimination in Pakistani seniors in Urdu, an indigenous language.

Age-based discrimination and inequality can be addressed and human rights can be safeguarded by law and policy. Instructive exercises can improve compassion, disperse misinterpretations about various age gatherings and diminish bias by giving exact data and counter-cliché models. Prejudice and stereotypes about other groups can be lessened through intergenerational interventions that bring people of different generations together.

Accepting the truth is the first step in combating ageism. You are, in fact, getting older, which can bring about some changes. It's possible that your body isn't working as well as it used to. It's possible that your hearing is getting worse or that your eyesight isn't as sharp as it used to be. You might also notice that your face is getting more and more wrinkled. Try to keep everything in perspective, though. You still have a lot of life left in you and plenty of opportunities in front of you, despite what ageist messages might say. In addition, you have a lot to offer those around you—love, support, or wisdom. To confront ageism, both internally and externally, make use of the suggestions below.

As a result, the development of an indigenous Urdu-language parsimonious and psychometrically sound measure of old age discrimination for Pakistani seniors was the primary objective of this study.

First, a pool of 100 items was produced. A sizable item pool was established to satisfy the requirement for content redundancy, producing an internally consistent and trustworthy measurement. Furthermore, DeVellis, (2017) recommended three to four times more items per the final scale. In line with this, the current item pool was 100 items whereas the established OAD-O was 20 items, hence comply with these recommendations. Morgado, et al., (2018) also noted that the item pool must be examined strictly.

A panel of five psychologists with expertise in scale construction and the subject at hand critically evaluated the generated item pool.

The objective of EFA was to identify a number of underlying factors (Pallant, 2013). Morgado et al. (2018) suggests employing EFA to identify the factors formed by analyzing the underlying structure and pattern while reducing the data. Several assumptions of factor analysis, and specifically EFA, were examined prior to EFA. The sample size of 366 elderly people was sufficient for EFA (Costello & Osborne, 2005;). For factor analysis, it also exceeded Tabachnick & Fidell's, (2013) ideal requirement of at least 300 respondents. In the current study, the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and the Bartlett test of sphericity were used to determine whether or not the data are sufficient for reduction (Tabachnick & Fidell, 2013). The obtained KMO value was.870, which is higher than the recommended acceptable value of.60 for declaring the sample adequate (Pallant, 2013). The current KMO value is amazing because it is the same as 0.90. This value was good because it was higher than the KMO value of 0.8. Bartlett's sphericity test has a chi-square value that is extremely significant (p =.000). Cases of missing values and outliers resulting from improper data entry were already eliminated during the data screening procedure after data collection in order to prepare the data for factor analysis.

CFA produced highly acceptable and good model fit indices. Kline (2015) states that the CMIN/DF ratio should be less than or equal to 3 for an adequate model fit. In contrast, Hooper et al., (2008) emphasize a strict model

fitness criterion with CMIN/DF 2. The CMIN/DF ratio was taken into consideration rather than the chi-square value because the chi-square test, which is highly sensitive to large sample sizes, rejects an adequate model (Hooper et al., 2008). With a value less than 2, the current model's CMIN/DF ratio meets both requirements (Hooper et al., 2008; Kline, 2015). For a good fit of the model, the GFI value was.911, and the AGFI value was .882 (Hooper et al., 2008). The current CFI value satisfies Kline (2005)'s recommendation for a good model fit of equal to or greater than.95, indicating a nearly perfect model. A good model match was evident in the TLI value, which was very close to the cut-off value of.95 (Hooper et al., 2008 (All, Mahdi, & Isaksson, 2013, 2008) According to Hu & Bentler (1998), There was strong evidence of a good model fit because the RMSEA value was less than.05 and the PCLOSE was not significant (Hoope et al., 2008). As a result, all model fit indices showed that the OADS-E model fit well with six subscales, supporting the ageism theory as a whole, with a few adjustments for Pakistani culture at the present time.

An additional set of reliability tests was performed on a sample of 366 elderly people. Cronbach's alpha unwavering quality for OADS-E was exceptionally high (α = .956) viewed as great dependability for the scale.

Limitations and Suggestions

It is necessary to develop our indigenous model of age and ageism, which could precisely explain this cultural construct in Pakistan. Future examinations are prescribed to broaden the generalizability of OAD-O to different regions and territories of Pakistan.

Implications

Because it is general, OAD-O can be used to measure age discrimination in any context and across a large sample of people over 50. It also opens the door to the development of new old age discrimination scales that are tailored to the population and the context. It can be used to identify problems and assess age discrimination in clinical, counseling, and workplace settings.

Conclusion

Overall, the present research made it possible to develop an indigenous, parsimonious, valid, and reliable OAD -O designed to be used in cultures of Pakistan to measure old-age discrimination in older adults.

References

Allport, G. W. (1954). *The nature of prejudice*. Reading, MA: Addison-Wesley.

Ashiq, U., & Asad, A. Z. (2017). The rising old age problem in Pakistan. *Journal of the Research Society of Pakistan, 54*(2), 325–333 https://pu.edu.pk/images/journal/history/PDF-FILES/23-Paper_54_2_17.pdf

Costello, A. B., & Osborne, J. W. (2005). Best practices in exploratory factor analysis: Four recommendations for getting the most from your analysis. *Practical Assessment, Research & Evaluation, 10*(7). https://doi.org/10.7275/jyj1-4868

Decker, D. L. (1980). *Social gerontology: An introduction to the social aspects of aging*. Boston, MA: Little, Brown

DeVellis, R. F. (2017). *Scale Development: Theory and Applications (4th ed.)*. Thousand Oaks, CA: Sage.

Fraboni, M., Saltstone, S., & Hughes, M. (1990). The Fraboni Scale of Ageism (FSA): An attempt at a more precise measure of ageism. *Canadian Journal on Aging, 9*(1), 56–66. https://doi.org/10.1017/S0714980800016093

Gallagher, S., Bennett, K. M., & Halford, J. C. (2006). A comparison of acute and long-term health-care personnel's attitudes towards older adults. *International Journal of Nursing Practice*, *12*(5), 273-279. https://doi.org/10.1111/j.1440-172x.2006.00582.x

Gruman, G. J. (1966). A history of ideas about the prolongation of life: The evolution of Prolongevity hypotheses to 1800. *Transactions of the American Philosophical Society*, *56*(9), 1. https://doi.org/10.2307/1006096

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2013). *Multivariate data analysis* (7th ed.). Pearson Education Limited.

Hooper, D., Coughlan, J., & Mullen, M. R. (2008). Structural equation modelling: Guidelines for determining model fit. *Electronic Journal of Business Research Methods, 6*(1), 53–60.

Hu, L. T., & Bentler, P. M. (1998). Fit indices in covariance structure modeling: Sensitivity to under-parameterized model misspecification. *Psychological Methods, 3*(4), 424–453. https://doi.org/10.1037/1082-989X.3.4.424

Hu, L., & Bentler, P. M. (1998). Fit indices in covariance structure modeling: Sensitivity to underparameterized model misspecification. *Psychological Methods*, *3*(4), 424-453. https://doi.org/10.1037//1082-989x.3.4.424

Kabátová, O., Botíková, A., Uríčková, A., & Slaný, J. (2015). Difference in the level of ageist attitudes of nurses and nursing students. *Kontakt, 17*(3), e138-e141. https://doi.org/10.1016/j.kontakt.2015.08.001

Kalavar, J. M. (2001). Examining ageism: Do male and female college students differ? *Educational Gerontology*, *27*(6), 507-513. https://doi.org/10.1080/036012701316894199

Kang, H., & Kim, H. (2022). Ageism and psychological well-being among older adults: A systematic review. *Gerontology and Geriatric Medicine*, *8*. https://doi.org/10.1177/23337214221087023

Kline, R. B. (2005). *Principles and Practice of Structural Equation Modeling (2nd ed.)*. New York, NY: The Guilford Press.

Kogan, N. (1961). Attitudes toward old people: The development of a scale and an examination of correlates. *The Journal of Abnormal and Social Psychology*, *62*(1), 44-54. https://doi.org/10.1037/h0048053

Leslie, R. F. (1982). *Aging and human development: A life-span perspective*. New York, NY: Macmillan.

Morgado, F. F., Meireles, J. F., Neves, C. M., Amaral, A. C., & Ferreira, M. E. (2017). Scale development: Ten main limitations and recommendations to improve future research practices. *Psicologia: Reflexão e Crítica*, *30*(1). https://doi.org/10.1186/s41155-016-0057-1

Pallant, J. (2013). *SPSS Survival Manual: A Step-by-Step Guide to Data Analysis Using IBM SPSS (5th ed.)*. Maidenhead, UK: Open University Press.

Palmore, E. (2001). The ageism survey. *The Gerontologist*, *41*(5), 572-575. https://doi.org/10.1093/geront/41.5.572

Palmore, E. B. (1971). *The facts on aging quiz: A review of findings*. The Gerontologist, 11(4), 315–320.

Peng, Y., Min, H., Rosenblatt, A., & Zhang, W. (2022). Psychometric evaluation of age discrimination measures using classic test and item response theories. *Work, Aging and Retirement*, *9*(1), 118-135. https://doi.org/10.1093/workar/waac013

Polit, D. F. (2010). Assessing measurement in health: Beyond reliability and validity. *International Journal of Nursing Studies, 47*(11), 1451–1458. https://doi.org/10.1016/j.ijnurstu.2010.03.015

Reise, S. P., Waller, N. G., & Comrey, A. L. (2000). Factor analysis and scale revision. *Psychological Assessment, 12*(3), 287–297. https://doi.org/10.1037/1040-3590.12.3.287

Schaefer, R. T. (1983). *Sociology and the aging experience*. Boston, MA: Houghton Mifflin.

Stearns, S. C., & Ward, R. D. (1984). The effects of parental age on offspring fitness. *Evolution, 38*(2), 282–287. https://doi.org/10.2307/2408497

Tabachnick, B. G., & Fidell, L. S. (2013). *Using Multivariate Statistics (6th ed.).* Boston, MA: Pearson.