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Editor's Note/From Editorial Desk

Foundation University Islamabad's mission is to nurture creativity and promote research to develop personal and professional growth of its students. Issuance of the Foundation University Journal of Psychology (FUJP) is a step forward towards this direction. The journal accepts and publishes original articles, research papers and reviews of high quality.

Due to interdisciplinary nature of Psychology, it is related to various other fields of study including Sociology, Anthropology, Education, Gender Issues, Organizational Behaviour, Life Sciences and Psychiatry etc. Therefore, all contributions related to these fields of study are considered for publication. As an effective means of knowledge sharing, FUJP encourages articles on theoretical perspectives, grounded theories, innovative measurement tools and procedures.

We are looking forward to an enthusiastic response and active participation of not only students and teachers of Foundation University, but also of all the sister institutions to make this initiative a success.

Development and Validation of a Perceived Gender Discrimination Scale (PGDS) for Pakistani Women

Sadia Zaman¹, Irum Naqvi²

1. SWPS University of Humanities and Social Sciences Wroclaw, Poland.

2. National Institute of Psychology, Quaid-i-Azam University, Islamabad.

For Correspondence: Sadia Zaman. Email: sadiazaman.isb@gmail.com

Abstract

Objective. Gender discrimination and its perception have been always the cornerstone in gender psychology; however, the assessment encapsulates barriers concerning cultures. Perceived gender discrimination encapsulates the relative deprivation theory suggesting that it is generated through the pervasive relative comparison from the privileged gender. Relative deprivation theory provides the basis to assess the construct by the constituents of relative perception thus resulting in subsequent effort on a conceptual level. In this paper, we aimed to measure perceived gender discrimination among Pakistani women through the development of a new measure.

Method. Perceived Gender Discrimination Scale (PGDS) developed using the triangulation method has 56 items. Open-ended data was obtained through focus group discussion following the item generation and then procuring the expert opinion on themes. In the present research, an attempt was made to develop ($N = 300$) and validate ($N = 300$) such a measure for Pakistani adult women to measure their perception of gender discrimination. Independent sample sets for both studies comprised of working, non-working, married, and single adult women with an age ranging from 21 to 52 years. Data was collected through convenient purposive sampling and ethical requirements were met priorly to seek information on the subject matter.

Results. Exploratory factor analysis revealed an eight-factor solution accounting for 75.26 % cumulative variance with .84 alpha reliability and confirmatory factor analysis yielded acceptable model results, thus, providing stability to use the scale for assessment of women's gender discriminatory perception efficiently and effectively. Perceived Gender Discrimination Scale (PGDS) measures the unfair discrepancy results from recognition of an unfair discrepancy between women's situation in the eight domains of Education, Employment/Career, Familial Matters, Financial Matters, General Social Rights, Appreciation and Encouragement, Abuse and Violence, and Gender-Based Stereotyping in comparison with men.

Conclusion. Perceived Gender Discrimination Scale (PGDS) provides a detailed assessment of perception of gender discrimination among Pakistani women in their native language. It describes the relativity of the perception as compared to the absolute discrimination concept. Furthermore, this indigenously developed scale provides stable psychometric features to be utilized in future studies for measuring relative deprivation in terms of discrimination.

Keywords. *Gender discrimination, Pakistani women, perception of inequality, scale development.*



Introduction

Gender discrimination occurs when a human being belonging to either sex is not given the basic rights of making his/her own life decisions. Inequity based on gender exists to a varying extent in all societies and varies over time and across social and ethnic groups and the burden of hardship often falls disproportionately on women. Perceived gender discrimination among women is defined as the perception by an individual of particular events as disproportionately negatively affecting oneself as a woman in comparison with men across a variety of domains, including discrimination and oppression (Corning, 2000, 2002).

The population of Pakistan shows a bigger ratio by numbers for women, but by facilitation, this numerical figure has no meaning at all, as abundant and recent research work is still quoting the current status of women in which they are deprived affected in nearly all segments in Pakistan (Abrar-ul-haq et al., 2017; Ahmed et al., 2014; Ali et al., 2011, 2020; Asian Development Bank, 2000; Faridi & Rashid, 2014; Fatima, 2014; Galloway, 2014; Goujon & Wazir, 2019; Human Rights Commission of Pakistan, 2015; Mehdi, 2004; Morgan, 2014; National Education Management Information System (NEMIS), 2017; Nauman & Abbasi, 2014; Nawaz-ul-Huda & Burke, 2017; Nazli, 2004; Pakeeza, 2015; Rasul, 2014; Siddiqui & Hamid, 2003). Lack of access to education, poor health, non-existence of productive rights, lack of access to overall societal resources, and their exclusion in decision-making process and position at the family, community, and national level is common in all these countries, perhaps with the difference in degree.

Third-world women especially are hampered by the lack of equal opportunities, rights, and decision-making power (Abrar-ul-haq, et al., 2017; Faridi, & Rashid, 2017; Fatima, 2014). Further, not only have scientific and technological advances increased the gap between the so-called developed and the underdeveloped nations, but they have also increased the distance between men and women in the third world itself (Kalkowski & Fritz, 2004).

This construct has its distinct variations concerning collectivistic, Asian, and Islamic yet patriarchal cultural systems in Pakistan.

The present study was conducted to re-identify construct's indigenous meanings using an understanding of relative deprivation theory with respect to a sample that is comprised of urban and educated women of Islamabad and Rawalpindi. The approach was to see that in how many areas Pakistani women potentially perceive discriminatory issues. It is important to highlight the factor that gender discrimination being subtle and obvious on various levels of society, response to its exposure is relatively reported in terms of over or under-reporting by women. The stance of exploring this based on relative deprivation theory suggests the same as the perception of gender discrimination or lack of equality is always more or less than the actual situation being faced by the pertinent individual (Corning, 2000; Smith et al., 2012; Zoogah, 2010). This study addressed the objectives to develop the Perceived Gender Discrimination Scale for adult women and validate the factorial structure of measurement with the help of exploratory and confirmatory factor analysis and eventually establishing the psychometric properties of the assessment.

Method

To achieve the mentioned objectives present research was conducted in two main phases; Phase-I aimed at the development of the Perceived Gender Discrimination Scale (PGDS) and Phase-II aimed at establishing factorial validity of newly developed PGDS through Confirmatory Factor Analysis technique.

Phase-I: Development of Perceived Gender Discrimination Scale (PGDS). Employing the empirical approach for scale development (Cohen, 2013, 2018; Cohen & Swerdlik, 2001; Worthington & Whittaker, 2006) scale development was done through items pool generation, evaluation of items by experts for content validity, empirical evaluation through Exploratory Factor Analysis and finally examining the reliability of Perceived Gender Discrimination Scale. The item pool was generated through five focus group discussions with adult females. The categories identified were i.e., discrimination experienced in domains of (a) education, (b) employment/career, (c) familial matters, financial matters, (d) abuse and violence, (e) gender-based stereotyping, (f) appreciation and encouragement and (g) general social right.

Expert evaluation based on maximum frequency responses on every category and apparent face validity of item with respective category yielded 56 items. In this process, five Ph.D. experts of scale development and gender/social psychology were requested to review the items for further scrutiny. Later items were arranged on a 5-Likert type scale with the response categories *Strongly Disagree = 5 to Strongly Agree = 1*.

Selection of final items through exploratory factor analysis. A sample of 300 adult women was approached through a convenient sampling technique. The age range was from 21 to 52 years ($M = 30.29$; $SD = 5.86$).

Item pool for Perceived Gender Discrimination Scale used in this study was 5-point Likert type scale *Strongly Disagree = 5 to Strongly Agree = 1*, comprised of 56 items with both positively worded (item no 1 to 29 and 42 to 56) and negatively worded (item no 30 to 41) statements. Data were collected from adult females who were working in different organizations, studying in educational institutions, and were housewives. Participants were shared about the purpose of the study and assured about their confidentiality and anonymity on the responses. Item total correlation and psychometric properties through alpha reliability coefficient examined to screen for EFA and its prospective rotational method, results are as follows:

Table 1

Items total Correlation of Perceived Gender Discrimination scale (PDGS) (N = 300)

Item no.	<i>r</i>	Item no.	<i>r</i>	Item no.	<i>r</i>	Item no.	<i>r</i>	Item no.	<i>r</i>	Item no.	<i>r</i>
1	.75**	11	.73**	21	.64**	31	.65**	41	.54**	51	.57**
2	.63**	12	.70**	22	.70**	32	.66**	42	.64**	52	.53**
3	.65**	13	.76**	23	.71**	33	.59**	43	.69**	53	.54**
4	.67**	14	.65**	24	.75**	34	.58**	44	.69**	54	.41**
5	.76**	15	.62**	25	.78**	35	.48**	45	.69**	55	.46**
6	.72**	16	.61**	26	.75**	36	.64**	46	.69**	56	.39**
7	.78**	17	.63**	27	.75**	37	.61**	47	.55**		
8	.71**	18	.71**	28	.68**	38	.65**	48	.57**		
9	.79**	19	.73**	29	.76**	39	.60**	49	.57**		
10	.73**	20	.64**	30	.44**	40	.53**	50	.55**		

Note. ** $p < .01$

For 56 items, there have been significant positive correlation and internal consistency, thus referred to oblique rotation method (Costello & Osborne, 2019; Fabrigar et al., 1999; Fabrigar & Wegener, 2012) to run the EFA on the items for identifying factor structure. Perceived Gender Discrimination Scale' 56 items were analysed through Principal Axis Factoring (PAF) analysis (Tinsley & Tinsley, 1987). PAF being suggested as closer to reproducing the common variance and provide ease for interpretability of extracted factors (Costello & Osborne, 2019; Cudeck, 2000; de Winter & Dodou, 2012; Fabrigar & Wegener, 2012; Howard, 2016). Greater than .40 factorial loadings were used as the final selection criteria of an item. Data fitness with the help of Bartlett's Sphericity test 20997.983 (1540df) ($p < .000$) and the .92 value of KMO revealed the suitable initial statistics to run the analysis.

Table 2

Factor Loadings for Perceived Gender Discrimination Scale (PGDS) through Principal Axis Factoring Analysis by using Oblique's Promax Rotation Method (N = 300)

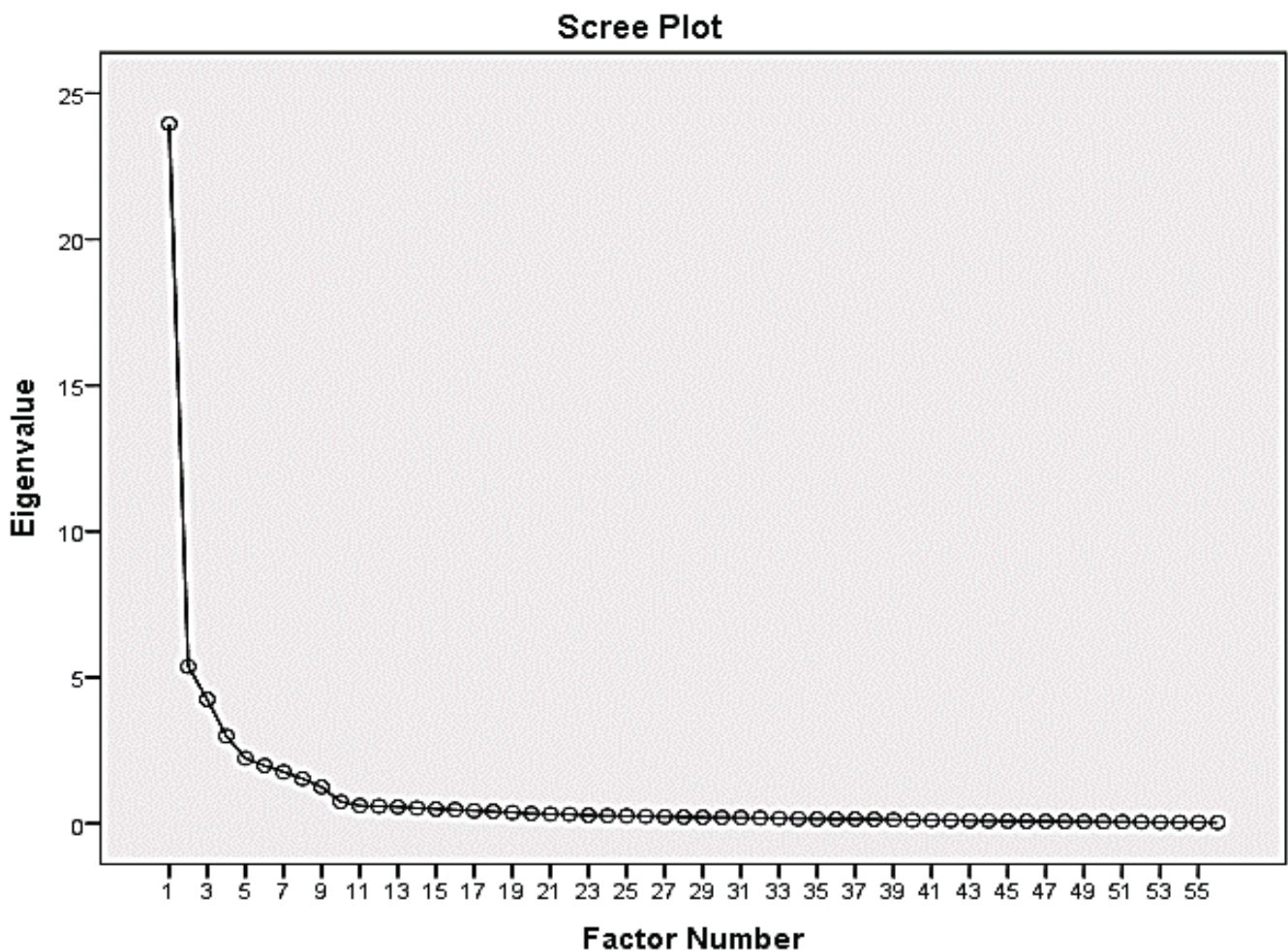
Sr. no.	IIF	F1	F2	F3	F4	F5	F6	F7	F8	h^2
1	51	.90	-.07	.00	-.02	.11	-.03	-.00	.01	.79
2	49	.89	.03	.05	-.05	.15	-.04	-.04	-.12	.79
3	48	.89	-.01	-.01	.00	.06	-.02	-.03	.00	.77
4	53	.93	.00	-.02	-.02	.04	.05	-.05	.00	.68
5	50	.82	.00	-.05	.05	-.09	.00	.05	.05	.71
6	52	.82	.04	-.00	-.05	-.05	.02	.08	-.05	.68
7	47	.79	.07	-.02	.01	.15	-.08	-.08	-.03	.66
8	55	.78	-.09	.02	.05	-.28	.04	.02	.16	.66
9	56	.73	-.06	.00	.06	-.25	-.01	.03	.10	.54
10	54	.69	.09	-.02	-.00	-.15	.08	.04	-.10	.48
11	8	-.03	.90	.01	.04	-.08	-.03	.01	.02	.76
12	10	-.03	.90	.03	.02	-.06	-.03	.00	.02	.79
13	9	.04	.88	.02	.01	.07	-.04	-.03	.00	.86
14	11	.04	.86	.00	-.05	-.03	.03	-.03	.05	.76
15	13	.03	.86	.04	-.06	.18	-.02	-.09	-.03	.83
16	12	.00	.86	-.03	-.03	-.06	.03	.05	.00	.71
17	7	.05	.77	.01	.03	.02	-.05	.04	.06	.80
18	15	-.05	.76	-.05	.02	-.02	.012	.05	-.06	.56
19	14	-.02	.74	-.04	.03	-.03	.06	.05	.01	.59
20	21	-.07	-.00	.91	.04	-.06	.00	-.04	.00	.74
21	23	.03	.04	.89	-.04	.07	.02	-.03	-.08	.82
22	19	.04	-.03	.89	-.01	.11	-.01	-.04	.00	.85
23	18	-.00	.02	.88	.02	.02	.02	-.05	-.00	.80
24	20	-.02	.02	.86	.03	-.01	.00	-.02	-.04	.70
25	17	-.05	-.01	.85	.00	-.24	.01	.13	.09	.72
26	16	-.04	-.01	.85	.00	-.16	-.01	.05	.09	.68
27	22	.10	-.03	.75	-.05	.23	-.03	.01	-.07	.73
28	41	-.06	-.00	-.03	.90	-.04	.03	.03	.00	.79
29	39	.02	-.04	-.00	.88	.03	-.05	-.00	.06	.77
30	37	.00	.00	.00	.85	.03	.00	.03	-.01	.78
31	40	-.00	-.01	-.04	.85	-.01	.02	.01	-.00	.71
32	38	.00	.10	.11	.84	-.01	-.03	-.03	-.02	.79
33	36	.10	-.00	.02	.78	.14	.04	-.03	-.07	.77
34	43	-.03	-.01	-.01	.00	.97	-.06	-.00	.04	.90
35	44	-.04	.00	-.03	.00	.92	.01	.00	.03	.86
36	45	-.02	.00	-.01	.00	.92	-.02	-.00	.04	.85
37	46	-.06	-.01	.02	.01	.85	.05	.02	.01	.80
38	42	-.10	-.02	-.06	.08	.85	.04	.01	.04	.77
39	34	-.02	.02	.01	-.02	-.03	.91	-.01	-.03	.77
40	35	-.02	.03	-.04	.03	-.05	.82	.00	-.02	.65
41	30	-.02	.02	.01	-.05	-.15	.82	.00	.05	.59
42	33	.04	.00	-.02	.03	.11	.77	-.01	-.01	.71
43	32	.05	-.02	.02	.09	.11	.74	-.00	.02	.79
44	31	.05	-.03	.07	-.01	.17	.70	.00	.01	.69
45	2	-.04	.06	-.01	-.00	-.09	-.01	.93	-.01	.79
46	3	-.02	.02	-.02	.03	-.08	-.00	.89	.02	.76
47	4	.03	-.06	-.00	.01	-.03	.03	.88	.04	.76
48	1	.04	.03	.02	-.01	.20	-.01	.71	-.02	.79
49	5	.06	.05	.05	-.02	.21	-.02	.68	-.01	.79
50	6	.00	.14	.07	-.01	.15	-.03	.64	-.04	.72
51	28	-.03	-.05	.01	.05	-.10	.03	.04	.91	.76
52	26	.00	.03	.00	-.01	.10	-.04	-.02	.87	.85
53	29	.02	.01	-.01	-.03	.06	.05	-.00	.84	.84
54	27	.04	.06	.03	-.03	.05	-.03	-.01	.81	.81
55	25	.00	.06	.04	-.00	.11	.00	.00	.74	.81
56	24	.02	.05	.01	-.00	.15	.01	-.00	.70	.75
Eigen values		23.7	5.08	3.99	2.74	2.01	1.73	1.52	1.31	
% of variance		42.3	9.08	7.12	4.90	3.60	3.10	2.72	2.33	
Cumulative %		42.3	51.4	58.5	63.4	67.1	70.2	72.9	75.2	
		F1	F2	F3	F4	F5	F6	F7	F8	h^2

Note. IIF - Items no in initial form.

Table 2 depicts the results of principal component analysis by using the oblique-Promax rotation method to determine the factor structure and construct validity of PGDS. Thompson (2004) as the more desirable oblique rotation choice recommends Promax. Promax as being created at primary oblique rotation provides an indirect merger of correlated factors rotation by enhancing their loadings and minimizing the issues of factor indeterminacy such as negative signs commonly observed in EFA analysis mainly because of direct-oblimin rotation (Cureton & Mulaik, 1975; Fabrigar & Wegener, 2012). All items have their unique representation in 8 different categories as initially constructed by qualitative exploration. Besides the factor loadings for these items suggests very strong construct uniqueness with no-overlapping at all. Items retained .5 communalities i.e. less specific within variable variance and total factorial variance as 75.26 considering eight factors as suitable factor solution (Field, 2009). A scree plot as discrete criteria was opted to see Eigenvalues greater than 1 with single-factor variance contribution as at least 5% as shown in Figure 1.

Results Phase I

Figure 1. Scree plot Showing Extraction of Factors of Perceived Gender Discrimination Scale



Final Perceived Gender Discrimination Scale.

Eight factors or subscales of the respective measurement have emerged from score range 56-280 on response options *Strongly Disagree* = 5 to *Strongly Agree* = 1. The higher score obtained by the subject indicates more perception of gender discriminatory experiences. Each factor/subscale has the following details:

F1: General social rights. Overall 10 items (47, 48, 49, 50, 51, 52, 53, 54, 55, and 56) were loaded on this factor. The score range of this subscale was from 10 to 50, and a higher score means experiencing discrimination in access to different social rights as compared to men. It covers the right to cast vote, use technology (personal phone, internet), approach and seek facilitation for personal health, has right to get access to leisure opportunities (movies, park, festivals, etc.), access to sources of basic rights, complaint cells, police, media, and legislative institutions, and equal and accurate representation on the course and syllabus and media platforms.

F2: Employment/career. Overall 9 items (7, 8, 9, 10, 11, 12, 13, 14, and 15) were loaded on this factor. The score range of this subscale was from 9 to 45, and a higher score means more discrimination perceived in employment and career relate to autonomy and decision making as compared to men. It covers the areas of right to make a career, employment in any profession, promotion inequality, evaluation based on eligibility and skills, unequal division of responsibilities, respect, compromises, multiple roles, and right to delay marriage for pursuing the job.

F3: Familial matters. Overall 8 items (16, 17, 18, 19, 20, 21, 22, and 23) were loaded on this factor. The score range of this subscale was from 8 to 40, and a higher score means more discrimination perceived in familial matters related to autonomy and decision making as compared to men. It covers the areas of right to choose the time and type of marriage, right to decide on the family system, and on the number of children, decision making about children and their future, compromise in with family/in-laws, inviting friends in the house, right to decide dowry and divorce-related matters.

F4: Gender-based stereotyping. Overall 6 items (36, 37, 38, 39, 40, and 41) were loaded on this factor. The score range of this subscale was from 6 to 30, and a higher score means relatively more discriminatory exposure to stereotypical judgments and attitudes on persona primarily because of the female gender as compared to the male gender. It covers exposure to an attitude of perceiving women as less intelligent, more emotional and dramatic, less trustworthy, less confident, more susceptible and responsible in case of mistakes, and given secondary status frequently in society.

F5: Appreciation and encouragement. Overall 5 items (42, 43, 44, 45, and 46) were loaded on this factor. The score range of this subscale was from 5 to 25, and a higher score means perception of relatively more discrimination while appreciating and encouraging women in different domains of life as compared to appreciation given to men in the same tasks. It covers the discrimination felt by women in appreciation and encouragement while performing well in education, having skills and talents, performing in career, taking care of family and children. Stance is that men get more credit while performing the above deeds as compared to women and that created relative deprivation among women.

F6: Abuse and violence. Overall 6 items (30, 31, 32, 33, 34, and 35) were loaded on this factor. The score range of this subscale was from 6 to 30, and a higher score means relatively more discriminatory exposure to abuse and harassment based on the physical appearance of females as gender as compared to the male gender. It covers exposure to sexual harassment in various settings, exposure to physical, mental, psychological, and verbal abuse, under the pressure of the need to be smart and slim, and judgment based on physical features as compared to skills and personality on different occasions such as marriage proposal.

F7: Education. Overall 6 items (1, 2, 3, 4, 5, and 6) were loaded on this factor. The score range of this subscale was from 6 to 30, and a higher score means more discrimination perceived in education relates to autonomy and decision making as compared to men. It covers the areas of right to seek higher education, education in other places, education of the desired subject, education from the male instructor, co-education, and right to delay marriage for education.

F8: Financial matters. Overall 6 items (24, 25, 26, 27, 28, and 29) were loaded on this factor. The score range of this subscale was from 6 to 30, and a higher score means more discrimination perceived in financial/monetary matters related to autonomy and decision making as compared to men. It covers the rights of spending money/salary/pocket money by personal choice, holding a

bank account, purchasing and selling domestic goods/grocery items, making significant financial decisions in the family, purchasing or selling property, and seeking/getting the inheritance from family.

Psychometric properties of Perceived Gender Discrimination Scale. To establish the psychometric properties of scale correlation coefficients were calculated:

Table 3

Mean, Standard Deviation, Cronbach Alpha and Correlation of Perceived Gender Discrimination Scale (PGDS) and its Subscales among Adult Women (N= 300)

Sr. No.	Variables	PGDS	1	2	3	4	5	6	7	8
	PGDS	-	.62**	.83**	.76**	.66**	.72**	.65**	.78**	.82**
1	GSR			.45**	.39**	.27**	.20**	.29**	.38**	.43**
2	EC				.55**	.44**	.58**	.40**	.67**	.65**
3	FAM					.41**	.50**	.41**	.58**	.59**
4	GBS						.48**	.60**	.40**	.44**
5	AE							.43**	.57**	.62**
6	AV								.37**	.49**
7	EDU									.63**
8	FIN									
	Number of items	56	10	9	8	6	5	6	6	6
	Cronbach Alpha	.84	.90	.91	.93	.93	.91	.93	.93	.93
	<i>M</i>	143.9	26.4	23.3	20.6	16.4	12.6	15.4	14.0	14.9
	<i>SD</i>	48.48	10.13	10.81	9.35	7.51	6.61	6.68	7.33	7.39

Note. GSR = General Social Rights; EC = Employment and Career; FAM = Familial Matters; GBS = Gender based Stereotyping; AE = Appreciation and Encouragement; AV = Abuse and Violence; EDU = Education; FIN = Financial Matters.

Table 3 indicates a positive correlation between subscales and their total insignificant proportion.

Phase-II: Factorial Validity of Perceived Gender Discrimination Scale through Confirmatory Factor Analysis. In this phase, to have a complete understanding of this construct, PGD has been also defined conceptually with operational definition.

Perceived Gender Discrimination. The perceived gender discrimination among women is grounded in the theoretical framework of relative deprivation theory states that discontent results from recognition of an unfair discrepancy between one's situation and that of others. A high level of PGD indicates that women are perceiving more unfair discrepancy between one's situation and that of men whereas a low level on the assessment measure of PGD indicates less perception of deprivation in the domains in comparison with men (Corning, 2000, 2002).

Instruments. Perceived Gender Discrimination Scale (PGDS) comprising 56 items on the 5-Likert rating has positively worded (item no 1 to 29 and 42 to 56) and negatively worded (item no 30 to 41) statements. A higher score means more perception of gender discrimination among women and a low score means women perceive more gender equality. The response options were *Strongly Disagree* = 5 to *Strongly Agree* = 1 with a possible score range on overall PGDS is 56-280. The underlying eight subscales in the PGDS with their items, numbers are as follows:

1. Discrimination in education: 6 items (1, 2, 3, 4, 5, and 6), score range from 6 to 30.
2. Discrimination in career: 9 items (7, 8, 9, 10, 11, 12, 13, 14, and 15), score range from 9 to 45.

3. Discrimination in familial matters: 8 items (16, 17, 18, 19, 20, 21, 22, and 23), score range from 8 to 40.
4. Discrimination in financial matters: 6 items (24, 25, 26, 27, 28, and 29) score range from 6 to 30.
5. Exposure to abuse and violence: 6 items (30, 31, 32, 33, 34, and 35) score range from 6 to 30.
6. Exposure to Stereotypical attitude towards personality: 6 items (36, 37, 38, 39, 40, and 41), score range from 6 to 30.
7. Discrimination in appreciation and encouragement: 5 items (42, 43, 44, 45, and 46), score range from 5 to 25.
8. Discriminatory access to general social rights: 10 items (47, 48, 49, 50, 51, 52, 53, 54, 55, and 56), score range from 10 to 50.

A sample of 300 adult women was approached through a convenient sampling technique and the age range was from 19 to 50 years ($M = 30.57$; $SD = 5.67$).

Data were collected from adult females who were working in different organizations, studying in educational institutions, and were housewives. Participants were shared about the purpose of the study and in the end, they were thanked for their participation with surety to maintain the confidentiality and anonymity of the information.

Confirmatory Factor Analysis. For establishing factorial validity of the Perceived Gender Discrimination Scale confirmatory factor analysis technique was applied. CFA is theory-driven therefore, the planning of the analysis is driven by theoretical relationships among the observed and unobserved variables.

Result Phase II. Descriptive analysis results were as $M = 160.52$, $SD = 47.37$ with Cronbach Alpha .90, potential and actual ranges 56-280 and 66-264 respectively. Based on these findings, confirmatory factor analysis was executed on the items as follows in table 4.

Table 4
Factor loadings (Standardized Regression weights) for Eight Factors of PGDS (N= 300)

Sr.No.	No. of Items.	Factor loading	Sr.No.	No. of Items.	Factor loading	Sr.No.	No. of Items.	Factor loading	Sr.No.	No. of Items.	Factor loading
F7 – Education .62			F3 - Familial Matters .62			F6 - Abuse and Violence .62			F5 - Appreciation and Encouragement .62		
1	1	.96	16	1	.93	30	1	.86	42	1	.99
2	2	.95	17	2	.94	31	2	.94	43	2	.99
3	3	.95	18	3	.96	32	3	.96	44	3	.97
4	4	.96	19	4	.95	33	4	.94	45	4	.97
5	5	.98	20	5	.95	34	5	.93	46	5	.98
6	6	.96	21	6	.95	35	6	.91	F1 - General Social Rights.62		
F2 - Employment and Career .62			22	7	.93	F4 - Gender Based Stereotyping .62			47	1	.87
7	1	.93	23	8	.93	36	1	.93	48	2	.88
8	2	.94	F8 - Financial Matters .62			37	2	.96	49	3	.89
9	3	.95	24	1	.94	38	3	.96	50	4	.92
10	4	.95	25	2	.95	39	4	.96	51	5	.94
11	5	.96	26	3	.95	40	5	.96	52	6	.93
12	6	.95	27	4	.95	41	6	.95	53	7	.93
13	7	.95	28	5	.94				54	8	.91
14	8	.95	29	6	.95				55	9	.92
15	9	.94							56	10	.90

Table 4 showed the standardized regression weights of factor loadings for 56 items of PGD. As per results, factor loading is equal to or greater than .40 in each factor which was the selection criteria of items in the development of scales. Moreover, results confirmed the factor structure of PGDS developed in study II.

Results of the confirmatory analysis showed that first-order CFA for PGDS for 56 items yielded significant results, which represents the possible explanation of the rejection of the null hypothesis. Inclusion and reporting of multiple fit indices were viewed in some of the previously developed scales' guidelines (Jackson et al., 2009; Rafnsson et al., 2006). For first-order CFA of 56 items of PGD viewing its correlation within covariance of subscales i.e., $X^2(df = 1456) 3941.634$ at $p < .001$, $CMIN/df = 2.70$, Comparative Fit Index (CFI) = .92, Non-Normed Fit Index (NFI) = .88, Tucker Lewis index (TLI) = .92, and Root Mean Square Error of Approximation (RMSEA) = .07 indicated this as acceptable model. However, for testing the composite integrity of our scale, model of second-order CFA was tested providing acceptable figures of $X^2(df = 1491) 4291.25$ at $p < .001$, $CMIN/df = 2.87$, CFI = .91, NFI = .88, TLI = .91 and RMSEA = .07. These fit indices justified the factorial validity of PGDS as one construct having eight different and interlinked dimensions sufficient to be used to assess perceived gender discrimination among women (Barrett, 2007; Bentler, 2007; Boomsma, 2000; Chin, 1998; Hair et al., 2010; Hoyle & Panter, 1995; MacCallum & Austin, 2000; McDonald & Ho, 2002; Medsker et al., 1994; Raykov et al., 1991; Thompson, 2004).

Figure 2

Measurement Model of Perceived Gender Discrimination Scale with Eight Subscales (56 items)

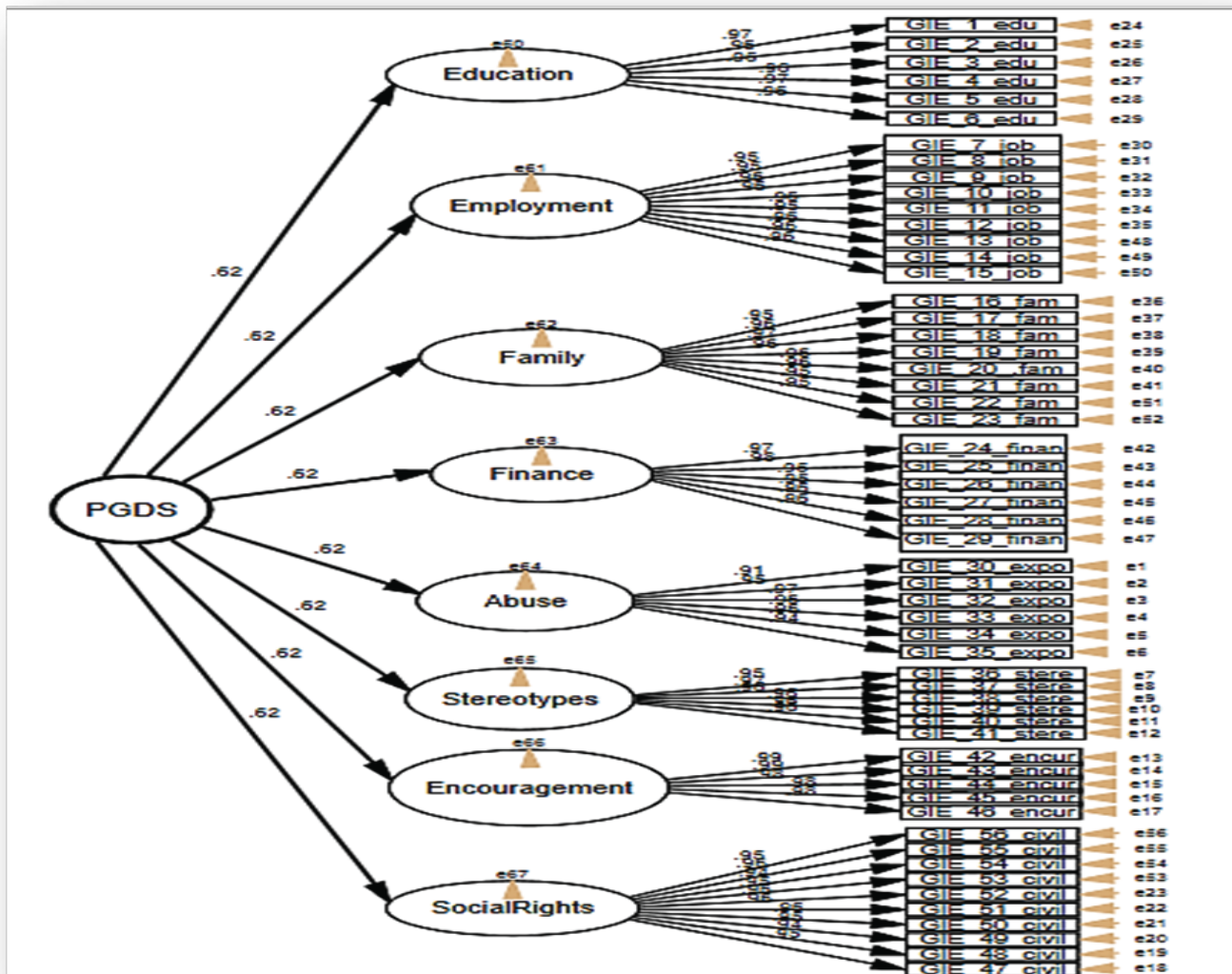


Figure 2 represents the graphical picture of the good fit model. It can be seen that all the items show factor loading > .40, providing evidence of a good fit measurement model.

Discussion

For perceived gender discrimination, the development of assessment measures usually revolved around qualitative exploration because of its utmost variation from culture to culture, religion and socio-economic practices, and legislative boundaries researchers. Previously, the focus of research on these themes was to see women's differential treatment in different situations, exploring the antecedents and consequents on the part of victims and perpetrators and measuring sexist attitudes and their types. Attitudinal research investigating the associates of keeping up negative suppositions about women has shown, for instance, that holding a more preservationist political viewpoint, being more engaged with religious exercises, being male, and having a subject of natural and mechanical sciences instead of humanities-related fields are fundamentally identified with keeping up women's traditional conventional perspectives (McEwen, 1990).

Research in the behavioral domain (Lott, 1995) on the other hand discovered oppressive conduct by men to appear as social separation and distancing from women over the assortment of circumstances and settings to maintain their men-like persona. Further examinations have demonstrated that men who hold more traditional perspectives will probably have executed serious sexual mishandle than the individuals who hold more liberal perspectives (Hull & Burke, 1991; Muehlenhard & Falcon, 1990; Osland et al., 1996). Another aspect of research for these domains are different scales developed over the years to assess this domain in different ways with different theoretical definitions (Fitzgerald et al., 1988; Spence et al., 1973, 1975; Stokes et al., 1995; Swim et al., 1995; Tougas et al., 1995). These all examine recommend that the universal dynamic of perceived gender discrimination among women is comparable and besides diverse regarding Pakistan.

Perceived gender discrimination as an overly studied phenomena across the globe still needs indigenous inspection. It was seen that the perception of gender discrimination and its reporting are different from person to person and domain to domain. Most importantly there have been found over or under-reporting with-in this context because of the theoretical support of relative deprivation theory (Corning, 2000; Smith et al., 2012). This study addressed the development of a perceived gender discrimination scale for the measurement of underlying construct among adult women.

Corning (2000, 2002) developed Perceived Social Inequity Scale (PSIS) for women on a similar theoretical framework, her findings on Principal Axis Factoring by using Oblique rotation as items were correlated yielded 6 factors with factor loading up to .90 for PSIS. A similar strategy was employed to develop PGDS for the present study because both scales have the same requirements and theoretical support except for the cultural differences and indigenous realities. EF analysis resulted in, 56 items being loaded on eight factors by the conclusion that perceived gender discrimination is a multidimensional construct. Overall, eight subscales regarding eight domains have emerged in this multifactor solution. This solution was keeping in view the Kim, (2013) guidelines for exploratory factorial solutions.

These eight factors were observant of different domains of PGD experienced by women. Discrimination in education means more discrimination perceived in education relates to autonomy and decision-making as compared to men. Discrimination in employment and career means more discrimination perceived in employment and career relate autonomy and decision making as compared to men. Discrimination in familial matters means more discrimination perceived in familial matters related to autonomy and decision-making as compared to men. Discrimination in financial matters means more discrimination perceived in financial/monetary matters related to autonomy and decision-making as compared to men. Exposure to abuse and violence means relatively more discriminatory exposure to violence, abuse, and harassment based on the physical appearance of females as gender as compared to the male gender. Gender-based stereotyping means relatively more discriminatory exposure to stereotypical judgments and attitudes on image primarily because of the female gender as compared to the male gender. Discrimination in appreciation and encouragement means perception of relatively more discrimination while appreciating and encouraging women in different domains of life as compared to appreciation given to men in the same tasks. Discriminatory access to general social rights means experiencing discrimination in assess to different social rights as compared to men.

The confirmatory factor of analysis was performed to endorse the eight-factorial solution as one construct having eight different domains in a statically testable model. For the present study, CFA was applied because of its excellent practice guidelines available for the development and validation of any instrument (Brown, 2006; Byrne, 2004, 2016; Kline, 2014; Thompson, 2004). Another aspect of model fit concerns whether a model modification is practiced. Ideally, researchers test several competing models so they are not in a position of having to modify a model to find an acceptable fit. It is often noted that post hoc modifications to models, such as those based on modification indices, should be done parsimoniously and only when the modifications are theoretically and practically plausible (e.g., MacCallum & Austin, 2000). Fortunately, for PGDS's error covariance was not employed at all because the chief aim was to retain the strength of scale on whatever findings we obtained from the sample.

Limitations and Future Recommendations.

Despite attempts to cover maximum through this study, due to resources and time-related constraints it yet bears the following gap to be addressed in the future:

1. Sample collection focus was on women who are educated and are residents of urban areas as a result illiterate and rural population has been unnoticed limiting research scope and applicability of findings to particular group's understanding and the existence of gender discrimination.
2. The ethnic and religious point of view regarding perceived gender discrimination is very important but unfortunately have not been incorporated. For future researches, the recommendation is to keep in mind these important facts.
3. Single-informant approach and only female gender were taken but using multi-informant approach can add a unique set of information and also contribute as endorsing factor because social desirability and under/over-reporting can be potential barriers to sketch an accurate picture for gender discrimination like constructs.
4. Validation of newly developed measures i.e., construct, convergent, discriminant, and differential group for perceived gender discrimination was not established. In the future, bearing in mind this as a requirement for scale development will help toward refining the distinct entity of measure and will help in the generalizability of findings.

Implications

Debate on gender is perhaps from the eons and eternity no matter how much and how many disciplines of life will try to encapsulate this dense concept it will remain a source of constant inquiry and search. A similar attempt was made through present research to see this broadly spread phenomenon in light of psychology along with the integration of sociological and economical perspectives. This research broadens understanding on domains of gender studies, gender development, and personal growth initiative adds the blend of positive psychology.

Coming to the fact that the concept of relative deprivation was taken to shed the impression that not only an absolute presence of discrimination and deprivation affects an individual but its sole perception, and relativity of its existence is a potential factor to be studied in this research concerning gender discrimination. An easy path is to simply paint a foreign impression on native conditions but this does not identify the true representation, therefore research was conducted to understand and explore gender discrimination along with its possible antecedents and precedents in Indigenous perspective enhancing the knowledge within ground realities of this region. It resulted in the conceptualization of a new validated measure of reflection and applicability for the native population, assessing the perception of gender discrimination among women.

Conclusion.

Findings presented in this paper are encouraging in terms of psychometric properties through exploratory and confirmatory factorial analyses, Cronbach alpha, and correlation coefficients of indigenously developed scale i.e., Perceived Gender Discrimination Scale. Perceived Gender Discrimination is multidimensional constructs as PGDS has eight subscales based on eight distinct domains i.e., discrimination experienced in domains of education, employment and career, familial matters, financial matters, abuse and violence, gender-based stereotyping, appreciation and encouragement, and general social rights. Inherent with indigenous insight and foundation on relative deprivation theoretical background, PGDS is comprehensive to have understanding and insight about gender discrimination, its existence, and perception among Pakistani women.

Declaration

Ethical Board Review. This study adheres to ethical considerations and follows the National Institute of Psychology's Ethical Review Board criteria.

Conflict of Interest. The authors declare no conflicts of interest associated with this manuscript.

Unpublished Originality. The authors declare that this submission contains original unpublished work and is not being submitted for publication elsewhere.

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Research Article

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Role of Perceived Ethical Leadership and Integrity in Willingness to Report Ethical Problems among Police Employees

Aisha Zubair¹, Arooj Mujeeb²

1,2. National Institute of Psychology, Quaid-i-Azam University, Islamabad.

Correspondence: Aisha Zubair. Email: aishazubair.nip.edu.pk

Abstract

Background. The present study aimed to investigate the relationship between perceived ethical leadership, integrity, and willingness to report ethical problems among police employees. It was also intended to determine the role of demographic factors (gender, education, and job experience) in relation to study variables.

Method. The sample comprised of 450 police personnel including both men and women with age range from 25-52 years. Measure of Ethical Leadership Scale (Brown, Trevino, & Harrison, 2005), Integrity and Code of Silence Questionnaire (Klockars, Ivkovich, & Haberfeld, 2007), and Willingness to Report Ethical Problems (Hassan, Wright, & Yukl, 2014) were used. Results showed that perceived ethical leadership and integrity positively predicted willingness to report ethical problems.

Results. Findings of multivariate analysis based on 2x2x3 MANOVA along gender, education, and experience indicated that women police personnel being highly educated, and having extended job experience indicated favorable perceptions of ethical leadership, higher level of integrity and more willingness to report ethical problems as compared to their counterparts. However, male police personnel with extended job experience reflected inverse relationship with study variables.

Implications. Findings of the present study might bear fundamental basis in augmenting understanding about ethical leadership practices in law enforcing personnel so as to maximize enhanced built-in checks for regulating malpractices in police system.

Keywords. *Ethical leadership, integrity, willingness to report ethical problems, police employees.*



Introduction

Leaders should act as a source of ethical guidance for employees, and set as role model for their followers. Ethical leadership is an emerging concept which place emphasizes on employee's honesty, uprightness and morale, which in turn, are imperative for the organizational effectiveness and efficiency (Brown et al., 2005). In addition, Engelbrecht, Van Aswegen, and Theron (2005) also declared that practicing ethics of the middle level managers tend to resolve moral issues in organization. Therefore, in the present study, it is attempted to determine the predictive role of perceived ethical leadership and personal values of integrity in determining the tendency to become a whistle blower and report ethical problems in one's organization.

Brown et al. (2005) conceptualization of ethical leadership has two main aspects: firstly, the moral manager component (e.g., rewarding, punishing, communicating, emphasizing, ethical standards, role modeling ethical behavior) and secondly, the moral person component (e.g., justice, integrity, concern for others, trustworthiness). In the broader climate literature (Caldwell, 2009; Goodwin, Costa, & Adonu, 2004; Tasdoven & Kaya, 2014), research indicates that leaders act as interpretive filters of organizational processes and policies for group members (Huberts, Six, & Lasthuizen, 2008). Engelbrecht et al. (2005) found that transformational leadership has a constructive relationship with ethical climate in organizations. The integrationist model of ethical decision making in organizations, proposed by Brown et al. (2005) suggests that ethical conclusions are the outcomes of the interaction of the individual's stage of cognitive moral development, involving individual and situational constituents.

The ethical leaders with clear vision provide all the clear descriptions to their employees or stakeholders. They also ensure the responsibility and they direct them so that they can better be able to response confidently (Fombrun & Van, 2004; Jenks, Johnson, & Matthews, 2012). The extent to which a person feels supported in an organization has a direct and positive effect on their self-esteem (Goodwin et al., 2004). Numerous studies (Petriglieri, & Stein, 2012; Twigg, Fuller, & Hester, 2008; Turner, Barling, Epitropaki, Butcher, & Milner, 2002) indicated that fair and a better personal relation with followers; surely enhances the credibility of leaders and the leader's moral authority by their followers. Moreover it would increase the self efficacy of followers in terms of their leaders' ethical behavior (Neubert, Carlson, Kacmar, Roberts, & Chonko, 2009).

Integrity means that a person's behavior is consistent with espoused values (Collison, 2020) and that the person is honest and loyal (Huberts et al., 2008). Organizational effectiveness and achievement increases with one of the most important value that is integrity which lies within an organization. To breach the integrity would also breach the rights and freedom of citizens, which, in turn, may have repercussions with all the strategies and particulars of organizational legitimacy (Collison, 2020; Kozodoy, 2021). The character can be tested through uprightness and integrity as these require a person always to do or say the correct thing no matter what the circumstances are or what others may think about it (Caldwell, 2009). As part of employee selection attributes of hostility, honesty, job commitment, moral reasoning, self-restraint, and proneness to violence, sociability, thrill seeking, vocational identity, and work ethics are equally desirable and appraised to build the individual's profile (Onyemah, 2008).

Huberts et al. (2008) identified that when there is integrity, moral values, honestly among individuals it is an exemplary behavior as it would be coherent with laws, rules and regulations. The delinquency, conflicts of interest, fraud, improper use of office may cause the violation of integrity (Cooper-Hakim & Viswesvaran, 2005). Mackey, McIntosh, and Phipps (2021) establish the nine types of integrity violations can be differentiated in the public sector. Not all integrity policies and practices target each type of violation as Kohan and Mazmanian (2003) found very different antecedents for every circumstances of violation (leadership styles, ethical climate, and moral awareness). Goldstein (as cited in Jenks et al., 2012) concluded that police have authorities and often they misuse and tend to corrupt for their personal gains.

When an individual feels and willing to say anything about the problems related to ethics in their particular organization (Miceli, Near, & Dworkin, 2013); however, individuals feels restrict or if they feel afraid to say anything about the problems related to ethics in their particular organization, then the ethical leadership may decrease their nervousness (Walumbwa et al., 2009). Employees working under the leader characterized as an affectionate, fair-minded, an honest and trustworthy are more likely to contemplate that the leader would approve with their possible solutions suggested by them.

In addition such leaders would appreciate their apprehensions and would also respond to them accordingly (Mackey et al., 2021; Neubert et al., 2009). Brown et al. (2005) originate that ethical leadership is significantly related to followers' acceptance to report problems and issues involved.

Den Hartog and De Hoogh (2009) asserted that there are two forms of ethical leadership which correlates (integrity, equality and empowering behavior) with subordinates' trust and commitment. In addition to this, perceived ethical leader behavior is positively associated with trust as well as affective and normative commitment and negatively to continuance commitment (Twigg et al., 2008). Perceived empowering behavior is also highly related to affective commitment than perceived fairness and integrity (Franklin, 2020).

Huberts et al. (2008) explored the link between three aspects of leadership that is role modeling, openness and rigidity and several types of integrity violations within the Dutch police force. Findings revealed that role modeling, rigidity, and openness of leaders influence the behavior of police officers, but the impact of the variables on the different types of integrity violations varies. Role modeling is significant in limiting unethical conduct in the context of interpersonal relationships; whereas, employees appear to follow the leader's integrity standards in their everyday interaction with each other. Moreover strictness is also important, but appears to be particularly effective in controlling delinquency, corruption and the misuse of resources.

Researches (Tasdoven & Kaya, 2014; Kozodoy, 2021) illustrated that there is a positive relation amid perceived ethical leadership and willingness to report ethical issues. Ethical leaders would report internally if the relationship with employees is open and ethically strong. This is also supported by social theory arguing that the information processing (Khan et al., 2012), when there is more uncertainty than individuals consult with external variables through which they determine the behavior. Furthermore as per the concept of whistle blowing (Miceli et al., 2013), employees perception of leaders with ethics and their reappraisals is correlated with their reports sent to higher authorities.

If there is an unethical behavior and it has been reported accurately then they would perceive their leaders as bursting with moral values and high on ethical considerations; however, another research (Malik & Qureshi,) depicted that employees do not acquire work related motivation from ethical leaders rather perceive them to be more rigid in implementing official rules and exhibit less flexibility in accommodating individual needs of the employees. Numerous studies indicate (Cooper-Hakim & Viswesvaran 2005; Goodwin et al., 2004; Hassan et al., 2014) that with higher morale given by leaders would decrease the turnover rate; and may increase the devotion towards organization; and also increases citizenship behavior and improve job performance. Further, Mackey et al. (2021) showed that ethical leadership increased employees concern against moral problems in work settings by increasing the perceptions of psychological safety.

Present study aims to determine the perception of ethical leadership, integrity, and willingness to report ethical problems experienced by police personnel particularly in the current scenario prevailing across the country. Pakistan has been facing turmoil and critical situation since the last decade. Such anti-state activities have been carried out by those persons who think against the state, which are actually working on their agendas and have their own vested interests in order to create chaos, disharmony, and demoralize the nation. Therefore, police work has been acknowledged as the most psychologically perilous profession in the world (Kohan & Mazmanian, 2003; Malik & Qureshi, 2020). Policemen are persistently exposed and vulnerable to various traumatic situations ranging from threats to themselves, their own lives and their fellow police officers to witnessing criminal tricks, riots, bribery, injury, bombing, violence, and often even killing people (Khalid, 2016). Therefore, the purpose of present study is three fold. Firstly, owing to the sensitivity of the very nature of police job, it is imperative to understand the functioning of more unconventional and innovative models of management such as ethical leadership and how perceptions of middle level police personnel would influence their own work related behaviors. Secondly, police department places high value on the integrity (both as a state and trait) of its employees; which in turn, determine most of the organizational outcomes.

However, there is scarcity of indigenous empirical studies about the possible role of integrity in controlling the occupational and professional behavioral manifestations especially in the wake of numerous native studies (Fasihuddin, 2013; Khan et al., 2012; Malik & Qureshi, 2020) highlighting the presence of corruption and sleazing practices in police management. Thirdly, on a global front, the ability to act as a whistle blower has been fairly under researched concept and existing literature is relatively silent about the major determinants that initiate and foster the courage in employees to express their concerns about organizational malpractices. Therefore, the present study attempted to explore the confluence of leadership style and personal attribute of integrity in determining the tendency to report ethical and moral problems existing in police force. Finally, current study also attempted to investigate the differential role of personal (gender & education) and work related (job experience) demographics in the backdrop of major constructs.

The objectives of present study were to investigate the relationship among perceived ethical leadership, integrity, and willingness to report ethical problems among police employees. It also attempted to determine the role of various demographics (gender, education, and job experience) in relation to study constructs among police employees.

Hypotheses

In the context of above mentioned objectives following hypotheses were outlined:

1. Perceived ethical leadership and integrity positively predict willingness to report ethical problems.
2. Female police employees are more likely to express favorable perceptions of perceived ethical leadership, and elevated levels of integrity and willingness to report ethical problems as compared to their male counterparts.
3. Police personnel with higher level of education would express favorable perceptions of ethical leadership, integrity, and willingness to report ethical problems.
4. Police personnel with extended job experience tend to have positive perceptions of ethical leadership, integrity, and willingness to report ethical problems.

Method

Sample

Primarily the present study employs co-relational research design and relies on cross sectional data. In the present study, convenient sampling technique was used to collect the data from police employees ($N = 450$) among both men ($n = 266$) and women ($n = 184$). Age of the respondents ranged from 25 to 52 years ($M = 32.30$, $SD = 7.44$); while, educational qualification of the respondents included 286 intermediate (women = 101 & men = 185) and 164 graduates (women = 83 & men = 81). Respondents were acquired from police stations located in Islamabad ($n = 69$), Rawalpindi ($n = 181$), and Lahore ($n = 200$). Overall job experience of the respondents ranged from minimum 1 year to maximum 18 years ($M = 10.43$, $SD = 8.50$); while job period of the respondents on the present work station ranged from minimum 6 months to maximum 3 years ($M = 2.24$, $SD = 1.31$), respectively. An inclusion criterion was based on job experience of at least one year in the police service.

Instruments

The following measures have been used to assess the construct of the study:

Ethical Leadership Scale. Ethical Leadership Scale (Brown et al., 2005) consisted of 10 items, and it was used to measure perceptions of ethical leadership among police personnel. It was self-report measure with all positively phrased items. Responses on the scale were acquired on 5-point Likert scale, ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Possible score range that could be attained on this scale was 10 – 50 with high score indicating favorable perceptions of ethical leadership. Alpha reliability of Ethical leadership Scale was .85 as reported by Brown et al. (2005); while in the present study internal consistency coefficient of .81 was achieved for this scale.

Integrity and Code of Silence Questionnaire. To assess honesty and truthfulness of police personnel, Integrity and Code of Silence Questionnaire (Klockars et al., 2007) was used. The scale consisted of 12 items and responses on the scale were acquired on 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Possible score range that could be allocated on this scale was 12 to 60 with high score indicated higher level of integrity. The reliability of Integrity and Code of Silence Questionnaire was .78 (Klockars et al., 2005) whereas in the present study alpha reliability of .75 was achieved for this scale.

Willingness to Report Ethical Problems Scale. A self-report measure of Willingness to Report Ethical Problems Scale (Hassan et al., 2014) consisting of 5 items was employed to assess the readiness of police personnel to report ethical problems. Responses on scale were acquired on 5-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). Possible score range that could be attained on this scale was 5 - 25 with higher score indicating more compliance to account ethical problems. Coefficient of internal consistency reported by original author was adequate (.79; Hassan & Wright, 2014); whereas, alpha coefficient of .77 was attained in the current study.

Procedure

Official permission was acquired from the administrative heads of particular police stations. Participants were individually approached and their informed consent was acquired. They were also assured about confidentiality of their personal data and information regarding official permission from their administrative heads was also shared with them. Initially, rapport was built with all respondents on individual basis so as to ease out their concerns and apprehensions relating to sharing their personal opinion. In addition, any particular queries of individual respondent was genuinely explained and answered by the researchers. Participants were also guaranteed that their replies do not influence their repute in their own department as all the information would be anonymous.

At times it was hard to collect data in one time; therefore, multiple visits were made to each police station to gather the required data. Afterwards, each respondent was graciously thanked for their cooperation and sharing of valuable information.

Results

To determine the association among perceived ethical leadership, integrity, and willingness to report ethical problems, Pearson Product Moment correlation was computed. In addition, multiple linear regression analysis was carried out to determine the variance in willingness to report ethical problems generated by predictors. Finally, group differences were tabulated to determine the role of demographics (gender, education, and job experience) in relation to study variables.

Results based on Pearson Product Moment Correlation indicate that ethical leadership is significantly positively aligned with integrity ($r = .47, p < .00$) and willingness to report ethical problems ($r = .34, p < .00$). Similarly integrity is also significantly positively related with willingness to report ethical problems ($r = .29, p < .01$).

In addition, Multiple Linear Regression is computed to determine the predictive role of ethical leadership and integrity in willingness to report ethical problems among police personnel (see Table 1).

Table 1

Multiple Linear Regression for Predictors of Willingness to Report Ethical Problems (N = 450)

Predictors	B	β	R ²	ΔR^2	Willingness To Report Ethical Problems			
					F	S.E	LL	UL
Step 1								
Constant	40.41					1.47	15.51	21.31
Ethical Leadership	.22	.36*	.19	.17	30.16*	0.02	2.04	7.12
Step 2								
Constant	24.71					1.37	-22.01	11.46
Ethical Leadership	.18	.31*				0.01	-3.03	-0.08
Integrity	.29	.43*	.23	.21	26.76*	0.04	-2.19	-0.15

* $p < .01$

Results presented in Table 1 show predictive role of perceived ethical leadership and integrity in explaining variance in willingness to report ethical problems. It has been found that perceptions of ethical leadership explained 17% variance in willingness to report ethical problems; while, integrity elicited 21% variance in the criterion variable; thereby rendering to be a stronger predictor of willingness to report ethical problems. These findings, hence; provide empirical support in favor of H1.

Group Differences

Initially independent sample t-test was used to determine gender and educational differences; while one way ANOVA was used to tabulate group differences across job experience of respondents. Findings revealed significant group differences along these demographics; therefore, it is more meaningful and parsimonious to tabulate multivariate analysis in order to establish the interplay of personal demographics. Multiple Analyses of Variance employing 2x2x3 model was carried out to determine the role of gender, education, and job experience across study variables. Gender included both men and women; while education of respondents included two categories (intermediate and graduation), and job experience comprised of three groups (1-6 years, 6.1 to 12 years, & 12.1 to 18 years).

Table 2

MANOVA for Gender, Education, and Job Experience Across Study Variables (N =450)

Variables	Women (n=184)						Men (n=266)					
	Intermediate (n=101)			Graduation (n=83)			Intermediate (n=185)			Graduation (n=81)		
	1-6 yrs (n=45)	6.1-12 yrs (n=34)	12.1-18 yrs (n=22)	1-6 yrs (n=37)	6.1-12 yrs (n=26)	12.1-18 yrs (n=20)	1-6 yrs (n=68)	6.1-12 yrs (n=74)	12.1-18 yrs (n=43)	1-6 yrs (n=31)	6.1-12 yrs (n=30)	12.1-18 yrs (n=20)
$\bar{x}(SD)$												
PEL	23.40 (6.18)	26.77 (7.01)	29.50 (5.47)	33.46 (6.52)	36.90 (5.71)	40.51 (8.66)	31.20 (7.00)	28.55 (7.47)	24.00 (9.55)	27.11 (8.46)	22.47 (7.11)	19.18 (8.53)
Integrity	28.00 (9.53)	31.82 (8.37)	34.43 (7.31)	30.41 (6.82)	33.15 (7.23)	37.56 (7.54)	32.57 (6.71)	30.14 (8.11)	26.80 (8.19)	27.84 (7.22)	23.58 (6.25)	20.61 (6.66)
WTREP	12.00 (5.09)	14.33 (5.30)	17.18 (6.33)	15.75 (6.44)	18.18 (4.16)	21.83 (5.90)	18.48 (6.20)	15.11 (6.45)	12.40 (5.61)	16.11 (4.33)	13.36 (5.90)	10.26 (4.80)

Note. Main Effect: $F = 127.33$ ($p < .001$); PEL = Perceived Ethical Leadership; WTREP = Willingness To Report Ethical Problems; Yrs. = Years

Results indicate a significant multivariate main effect for gender (Wilk's $\lambda = .877$, $F(2, 448) = 37.81$, $p < .001$); education (Wilk's $\lambda = .929$, $F(2, 448) = 44.27$, $p < .001$); and job experience (Wilk's $\lambda = .816$, $F(2, 448) = 29.80$, $p < .001$). All interaction effects were significant.

Results presented in Table 2 reveal that women police personnel having higher level of education and serving for longer period of time in police stations express favorable perceptions of ethical leadership, augmented level of integrity, and more willingness to report ethical problems. Conversely, male police employees exhibit quite different scenario depicting that with extended job experience in police department resulted in poor perceptions of ethical leadership, lower integrity and lesser willingness to report ethical problems. These findings offer partial support for H2, H3, and H4.

Discussion

The present study attempted to examine the relationship among perceived ethical leadership, integrity, and willingness to report ethical problems among police employees. It is also attempted to determine the role of various demographics (gender, education and job experience) in relation to study variables.

Findings of the study indicated that ethical leadership and integrity positively predicted the willingness to report ethical problems.

These findings can be best explained from the dual perspectives of social learning theory (Bandura as cited in Kalshoven & Den Hartog, 2009) and resource dependence theory (Davis & Cobb, 2010). Collinson, (2020) postulated that individual's learning is pretty much contingent upon the environment (constituting people and events) which serves as a reciprocal stimulus in shaping our cognitions and behaviors. Kozodoy (2021) further added through their resource dependence theory that leaders in organizational settings serve as major source of approval and controlling the outcomes of subordinates' behaviors.

In addition, perceptions of employees regarding the type of leadership prevailing in one's organizational context had great influence on the expression of truthful thoughts and behaviors (Petriglieri & Stein, 2012). Likewise, leaders serve as role models which further describes the idea that individuals can learn if pay close attention and then copy those attributes, principles plus performances of credible role models. Therefore, ethical leaders act more as a mentor because of their smart guidance and they also draws a great attention to their behavior which is perceives to be as a model for their followers (Miceli et al., 2013). In addition, derivations of empirical studies (Mackey et al., 2021; Kohan & Mazmanian, 2003) suggested that ethical leadership assist in reducing any kind of fear and hesitation of employees in their expression to say something about problems related to ethics in their particular organizations (Jenks et al., 2012). Tasdoven and Kaya (2014) inferred that there is always a positive alignment of effectiveness of perceived ethical leadership with the leader's morality including truth-telling, reliability in which leaders can be trusted or a component of integrity which is said to be a principled behavior. Furthermore, positive perceptions of ethical leadership in work settings are found to generate favorable behavioral manifestations of responsibility, integrity, trustworthiness and genuineness (Khalid, 2016; Williams & Jim, 2021). Similarly, Franklin (2020) asserted that ethical leaders tend to heighten the level of moral awareness, moral reasoning, and integrity among the followers.

Findings based on multivariate analysis showed that women police personnel with higher level of education and extended job experience exhibited favorable perceptions of ethical leadership, more integrity, and willingness to report ethical problems as compared to men. This pattern of gender differences are sufficiently established in earlier studies conducted in workplaces scenarios. For instance, Williams and Jim (2021) concluded on the basis of meta analysis of 34 studies that women workers tend to be higher on business and moral ethics, honesty, integrity, and truthfulness and less inclined to be indulged in white collar crimes. Hassan et al. (2014) further added that female workers tend to report positive perceptions of morality in their immediate person in charge and augmented experiences of morality, integrity, and genuineness as personal dispositions.

Similarly, Tasdoven and Kaya (2014) inferred that female operators tend to point out moral and ethical problems and constraints at workplace as compared to their male counterparts. Franklin (2020) illustrated that female managers are more likely to choose to speak to the boss and express discomfort, and proportionally almost twice as many females as males signaled they would speak to the organization's ethics officer.

A handful set of studies (Caldwell, 2009; Engelbrecht et al., 2005; Twigg et al., 2008) illustrated that women with elevated levels of academic and professional education are inclined to be more conscious of ethical dilemmas and constraints in their vocational setups and are likely to be more expressive about such issues. Huberts et al. (2008) also demonstrated that women employees in banking sector with enhanced academic and occupational skills are inclined to report favorable perceptions of authentic leadership, psychological ownership, and morality in their work behaviors. Numerous studies (Collinson, 2020; Fasihuddin, 2013; Petriglieri, G., & Stein, 2012) revealed that experienced female employees acted more morally and with integrity as compared to men with lesser work experience. Trevino (as cited in Mackey et al., 2021) explains that scholastic and vocational training coupled with extended work experience sharpens the managerial skills and moral reasoning of front line female managers as compared to male employees. A more detailed elaboration is given by Miceli et al. (2013) inferring that women opted more rigorous strategies in determining their judgment and how they reason about moral dilemmas which subsequently determine their moral actions. Various occupational factors such as type of leadership, work experience, and managerial post also assert differential influence in male and female workers. Kozodoy (2020) pointed out that education, itself, is essentially a moral undertaking more education among women staff leads towards better perception of principled leadership, veracity, honor, and readiness to report moral problems to higher officials.

Results of the present study also revealed that men with higher education and more work experience tend to exhibit negative perceptions of ethical leadership, lower integrity, and less willingness to report ethical problems.

A much similar finding has been reported by Onyemah (2008) declaring that male police officers with more years of job experience have been found to be indulged in immoral work behaviors and were found guilty of ethical misconduct. A probable reason offered in a very recently indigenous study (Malik & Qureshi, 2020) deliberated that police system prevailing in our society has its own social and cultural pitfalls which essentially engulf the officials as a subsystem of organization-fit. Fasihuddin (2013) further added that it may not be the matter of personal choice rather the existing organizational practices and ever increasing political influence in law enforcing agencies which serve as a pulling factor and push the police officers to indulge in certain organizational practices in order to reflect their organizational commitment. Khalid (2016) explain that police personnel with extended job experience are more aware of the loopholes of the police and judicial system and hence, are inclined to exhibit negative perceptions of authenticity and morality of their leaders and tend to be low on the indicators of honesty, integrity, and truthfulness.

Limitations and Suggestions

The present study bears few potential drawbacks which highlight the need to interpret the findings with caution. Firstly this study uses correlation design, with limiting the ability to draw inferences on more sustainable basis. Hence, the use of longitudinal research design in upcoming empirical investigations may broaden the understanding related to personal and organizational factors in relation to study constructs. Secondly, the use of self report measures may carry the element of social desirability; therefore, future studies may make use of qualitative assessment so as to enhance the deeper understanding of the study variables. Thirdly, though the sample was taken from different cities but yet it is not sufficiently large enough to be generalized on the larger population; hence, inclusion of more diverse and larger sample would increase the generalization potential of the results. Finally, target sample of the employees was consisted of single occupational group, that is police sector. The future endeavors may take contrasted comparison across various occupational groups so as to capture the diversity of phenomenon across various professional settings.

Implications

There are some notably sound implications which can be derived from the findings of the current study. Firstly, there is dire need to develop customized leadership training programs which specifically focus the explicit needs of the police personnel in order to enhance ethical awareness among them. Secondly, intervention modules can be developed that foster the positive, yet, malleable desired attributes in police personnel such as honesty, integrity, discipline, and sanctity of work values. Thirdly, young police officers newly joining the force must be given orientation of soft skills encompassing good communication proficiency, interpersonal skills, and courage to come forward when experiencing organizational misconduct. Fourth, there is an equally important need to design trainings and workshop programmes for better induction and adjustment to ever increasing challenges of their real work related problems. Finally, it's a wakeup call for policy makers and higher management to introduce long term reforms inclusive of revised monetary packages so as to culminate the problems of integrity. For better integrity employees social skills can affect the good will of organization and there will be better perception of general population towards police employees. Promotion criteria for police personnel should emphasize personal dispositions of integrity, motivation, and commitment towards their work.

Conclusion

The results of study have indicated an important and significant positive role of the employee's perception of ethical leadership in integrity and willingness to report ethical problems. It has been concluded that perceived ethical leadership and integrity are the basic components for any organization to make it successful and better. In order to make organization sustainable, the organizations should focus on their employee's integrity to make them more competent. Trainings and workshops should be organized in the organization by the human resource management department with collaboration of I/O psychologist to enhance the perception of ethical leadership.

Declaration

Ethics approval and consent to participate.

Formal official permission has been acquired from respective heads of the stations. Afterwards, individual informed consent had been attained from each respondent prior to data collection.

Consent for publication. Consent approved by the authors.

Availability of data and materials. Not Applicable

Competing Interests. The authors are well informed and declared no competing interests.

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Authors' contribution. Aisha Zubair conceptualized the idea, contributed to study design, completed the entire article, including introduction, literature, discussion, and conclusion. Aisha Zubair also edited the original manuscript before submission. Arooj Mujeeb conceptualized the idea, contributed to study design, completed the entire article, including introduction, literature, discussion, and conclusion. Arooj Mujeeb also edited the original manuscript before submission.

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Research Article

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Reliability and Validity Estimation of Job Stressor Measures: Interpersonal Conflict at Work Scale, Quantitative Workload Inventory and Organizational Constraints Scale in Urdu Language

Faiza Rasul¹, Sobia Masood²

1, 2. National Institute of Psychology, Quaid-i-Azam University Islamabad.

For correspondence: Sobia Masood. Email: s.masood@nip.edu.pk

Abstract

Background and Objective. The major objective of the present research study was to translate, reliability and validity estimation of three self-report measures of job stressor in Urdu language, namely, the Interpersonal Conflict at Work Scale (ICAWS), the Organizational Constraints Scale (OCS) and the Quantitative Workload Inventory (QWI) (Spector & Jex, 1998).

Method. This process was completed in three phases. Phase-I comprised of the translation of measures through forward-backward translation method. To establish the cross-language validity, Urdu translated versions and the English versions were administered on bilingual respondents ($N = 100$) (men = 74 and women = 26). In Phase-II, reliability estimation of ICAWS, OCS and QWI including Chronbach's alpha reliability and test-retest reliability was done. In Phase-III, validity estimation of ICAWS, OCS and QWI was done. Analysis were carried on the sample of 546 employees (men = 334 and women = 212) of public service sector organizations (WAPDA, NADRA, Sui Gas, PIA, Railways, PTCL, OPF and Postal Services) of Pakistan, taken from Rawalpindi and Islamabad with age range of 22 to 60 years.

Results. All indexes calculated were found to be significant. The one-dimensional structure of three measures was confirmed. The three scales have acceptable fit to the data. The one-factor structures and other psychometric properties of the Urdu version of the scales seem to be similar to those found in the US version of the original scales.

Conclusion. The translated Urdu versions of the scales are reliable instruments that can be used in Pakistani organizational settings to measure job stress.

Keywords. *Job stressor measures; interpersonal conflict; organizational constraints; quantitative workload; reliability and validity estimation.*



Introduction

For over past 60 years, researcher has been devoted continuously to study job stress and its related variables. This is possibly brought out by the outcomes of researches highlighting that the work stress is the significant work risk issue. Researches done by the European Foundation for the Improvement of Living and Working Conditions in European Union (EU) countries specified that employees are experiencing severe job stress, around 28% of workers suffer from job stress and observe its disparaging effects due to their negative working conditions (Parent-Thirion et al., 2017). Succeeding most significant health problem after back ache is the job stress among active workers. Recent researches in recent times are focusing that the drift is mounting (Hellgren et al., 2008). Job stress could have a substantial negative consequences on job performance and job turnover (Ajayi, 2018; Nisar & Rasheed, 2020); poor job commitment (Amin, 2018; Motamedzade, 2019); high level of work exhaustion (Alonso et al., 2020; Elshaer et al., 2018); more absenteeism (Khan et al., 2015; Peart, 2019); and more involvement in deviant work behaviors (Ma & Li, 2019; Mahdi et al., 2018). Nine EU countries have acknowledged psycho-social working conditions as a priority (Parent-Thirion et al., 2017). The negative consequences of job stress in working environments led to enormous studies devoted to establish stress measurement methods and to develop work stress measurement tools to be used in diverse cultures.

European Framework for Psychosocial Risk Management (PRIMA-EF) has identified different sources of work-related hazards in 10 fields (Leka, & Cox, 2008), including (a) work requirements (e.g., underutilization of workers' abilities), (b) job pace and work burden (e.g., more workload and low working pace), (c) job scheme (e.g., flexible job hours), (d) job command (e.g., little job authority), (e) work settings and work appliances (e.g., insufficient instruments availability), (f) workplace culture (e.g., meagre communiqué among workers and administration), (g) interpersonal conflicts at workplace (e.g., relationship among employees), (h) role ambiguity (e.g., vagueness in work role), (i) vocational development (e.g., occupational insecurity) and (j) work-home interconnection (e.g., higher rate of work-home conflicts). Few of the above mentioned job stressors have been studied in Pakistani organizational settings, both by using translated/adapted questionnaires and developed questionnaires by some Pakistani researchers, e.g., job performance (Nargis, 2007), job stress (Rauf & Farooq,

2014), organizational commitment (Abbas & Khanam, 2013), counter productive work behavior (Rauf & Farooq, 2014), psycho-social work environment, which evaluates work demands and work resources (Laila & Hanif, 2018). Interpersonal conflicts at work, organizational constraints and quantitative workload are another group of jobs stressors that have rarely been studied in indigenous Pakistani organizational researches, possibly because of unavailability of reliable measurement instruments.

Considering the instruments shortcoming in Pakistani organizational settings, the present research aimed to overcome the concerning issues by translating and validating three short self-report measures of job stressors in Pakistani organizational settings. Paul Spector and Steve Jex (1998) North American psychologists—developed these measures for assessment of three major forms of work stressors that take place commonly at the working environments. The Interpersonal Conflict at Work Scale (ICAWS) was anticipated to assessen counters and disagreements with other colleagues and people at workplace, the Organizational Constraints Scale (OCS) was envisioned to assess restraints on job performance at workplace and the Quantitative Workload Inventory (QWI) was anticipated to evaluate the quantity of job hours, work load and work pace. Number of western researches have been conducted on work stress outcomes using these well-known instruments (Fox et al., 2001). The project of Cooperative International Study on Managerial Stress (CISMS-2) started by Spector et al. (2007) was carried out using the above-mentioned job stress scales. Nevertheless, while exploring the literature review, as far as we are aware of, the psychometric properties of the above-mentioned instruments have certainly not been carried out on the indigenous Pakistani organizational population measuring specific cultural perspectives/values. The present research is an attempt to fill up the existing literature gap.

Numerous empirical evidences have highlighted taking into account the role of social factors to a greater extent when investigating the sources of occupational stress (Jex & Britt, 2014) which characterizes characteristics of the working environments having to do with interpersonal relationships with other people as working individuals spend half of their lifetime at the job (Bhayo et al., 2017; Bruk-Lee & Spector, 2011). Past researches elucidated that disparaging interpersonal relationships at the work place can harm the physical health of employees in the similar manner

as caused by the physical workplace stressors (e.g., under privileged working environments, noise etc) and the organizational job stressors (e.g., overload of work) (Hauge et al., 2010).

Interpersonal conflict is one of the social stressors at work place and is defined as exactly how fine an employee gets along with other employees in their working environment (e.g., how one behaves, cooperates, have fights, and other related interpersonal behaviors that affect his/her relationship with other co-workers) (Spector & Jex, 1998). It is defined as a destructive interpersonal confront specified by an argumentative conversation, antagonism or violence. This can be an episode of isolated event or recurrent and continue incidents which can be demonstrations of harassment. The severity of work place interpersonal conflict can vary from minor differences to multiple physical fights between colleagues and co-workers (Bruk-Le & Spector, 2011). These conflicts can be explicit (e.g., being impolite and bad mannered to colleagues) or implicit (e.g., disseminating rumors, propaganda, and lying about colleagues' misconduct).

Keenan and Newton (1985) used an open-ended method, The Stress Incident Report (SIR), to assemble events of stressful work place incidents, indicating that of the 74% stated work place accidents were instigated chiefly by social encounters with authorities, colleagues, or juniors. Few past researches indicated that interpersonal conflicts occurring at workplace are significantly positively correlated with workers' resentment, apprehension, hostility, rage, emotional fatigue, job exhaustion and despair (Inoue & Kawakami, 2010). However, the effects of these conflicts are very different from conflicts with higher authorities than conflict with colleagues (Frone, 2000). The conflicts with supervisors can have organizational consequences (e.g., lack of work motivation, poor work performance and low job commitment). The conflicts with colleagues can lead to personal consequences (e.g., distress, and poor self-esteem). Across different cross-cultural studies, there is an evidence of a high prevalence of interpersonal work-place conflict as a noteworthy cause of stress among the employees in every type of organization (Liu et al., 2008). A study by Narayanan et al. (1999) identified 11 types of major stressor categories in North American and Indian lower staff workers. Results among these cross-cultural samples indicated that interpersonal conflict occur at workplace was amongst the third most prevailing cause of job stress in American population, and was the fourth most prevailing cause of job stress in Indian population.

Organizational constraints affects the employees' job performance. These are the working situations or conditions that hinder the use of employees' full capabilities and skills into effective efforts that will help in the enhancement of overall productivity of the organization (Spector & Jex, 1998). These organizational constraints can be divided into two major categories, namely, interpersonal constraints (e.g., contradictory orders of individual's supervisors) and work place constraints (e.g., insufficient resources and insufficient training) (Liu et al., 2010). 11 causes of work place constraints acknowledged by Peters and O'Connor (1988) are: work-related miscommunication, biases in budget distribution, lack of sustainability, biases in material distribution, lack of work support from leadership and other workers, miscommunication in task training, limited time for deadlines, poor working surroundings, poor task schedules, unavailability of transport, and authoritative administrative style. Employees' job performance at work place can be subdued owing to the mixture of unapproachability of recourses, reduced quality, and inadequate working environment (Nisar & Rasheed, 2020; Vijayan, 2017). Several cross-cultural examinations considered the organizational constraints as an influencing factor that affects the mental and physical health of the employees across Chinese, Indian, and North American study participants (Liu et al., 2010). Cultural differences were also evident across these countries, as American workers experienced considerably more interpersonal constraints as compared to Chinese workers. As for work place restraints, there found no noteworthy differences among North American workers and Chinese workers. The higher level of work place constraints lead to negative and adverse emotions (e.g., nervousness, aggression, frustration and anger), lack of occupational contentment, poor work task commitment and deviant behaviors in the working environment (Fox et al., 2001).

The construct of workload is generally scrutinized in two sub-dimensions. The one dimension studied is quantitative (quantifiable) work load, the other dimension being studied is qualitative (unquantifiable) workload (Liu et al., 2007). A quantitative (quantifiable) workload is the job load of the individual in the organization. Qualitative (unquantifiable) workload represents the unsuitability amongst the potentials and capabilities required to accomplish the work and the individual to do the work (Liu & Lo, 2018). Substantial qualitative workload means that the employee does not have the potentials and capabilities to execute his or her work.

Because work is too much for an employee that he/she cannot complete that work. Too much workload may cause many physiological and psychological damaging consequences in employees (Çelik, 2016). The results of the study done by Karasek, Gardell, and Lindell (1987) showed that excessive workload leads to despair, distress, fatigue and heart problems. These negative psychological and physiological consequences causes poor productivity and low job performance of workers at their work place. This condition is appraised as a cost element in organizational terms. For that reason, the results of the above mentioned study uncovered the significance of negative consequences, both at individual and at organizational level, caused by the quantitative workload in organizational life. Therefore, it is envisioned that the construct of quantitative workload will be investigated extensively in the nearby future.

Another variable that commonly adds up to the most recurrent causes of work stress is workload (Bruk-Lee & Spector, 2011). The workload is calculated by the quantity of working or job hours, higher expectations of productivity in less time, mental and physical demands of perfectionat work, the level of job performance and the mental pressure generated due to work. In the present research, the workload is figured out by the quantity of work/job that the workers are enforced to accomplish in a provided period of time (Spector & Jex, 1998). However, the shorter formula of quantitative workload inventory (QWI) can be used with other research instruments concurrently. Some past empirical evidences have found that quantitative workload increases work burnout, job stress, hopelessness, physical negative consequences, and decreased job contentment (Brunner et al., 2019; Kasi-Raman & Geetha 2017; Khan et al., 2015; Peart, 2019).

To assess job stressors of employees can be a helping resource to address the factors that decrease the level of employees' performance in organization (Ismail et al., 2015). The need is to have tools to assess various factors and job related aspects not only to evaluate the employees periodically but also to have valid research work in the field. Lack of indigenous measures and resources to develop these measures make this task hard and challenging. There is a dire need to fill the gap by either translating or adapting already available tools or to construct some new culture free measures.

The culturally suitable measures to assess job stressors are also not available. To address this need instruments can be developed or validated into local language. Method of translation and validation of scale is less economically than test development but similar in benefits. For this purpose, in current study three self-report measures of job stressor, namely, the Interpersonal Conflict at Work Scale (ICAWS), the Organizational Constraints Scale (OCS) and the Quantitative Workload Inventory (QWI: Spector & Jex, 1998) were chosen for cultural validation to assess employees' level of job stress. In current study, ICAWS, OCS and QWI were translated and validated into national language of Pakistan (Urdu). Further more, this will provide a foundation and facility to develop new measures as well as researchers' interest in this area. In addition, ICAWS, OCS and QWI translated in local language would help to collect in-depth information about this construct in Pakistani organizational settings.

The main objectives of the present research were to translate and to validate ICAWS, OCS and QWI into Urdu language considering its significance and the dire need to assess the construct of job stress with the help of culturally reliable tool.

Objectives

Objectives of the present study are as follows

1. To translate ICAWS, OCS and QWI (Spector & Jex, 1998) into Urdu language.
2. To establish reliability and validity estimation of Urdu versions of ICAWS, OCS and QWI through Chronbach's alpha reliability, test-retest reliability and cross-language validity.
3. To establish factorial validity of Urdu versions of ICAWS, OCS and QWI.

Method

The present research study was completed in three phases. Phase-I, comprised of translation and cross-language validation of Urdu versions of ICAWS, OCS and QWI. In Phase-II, reliability estimation was established by using Cronbach's alpha reliability and test-re-test reliability. Phase-III was completed with validity estimation of Urdu versions of ICAWS, OCS and QWI.

Instruments

The questionnaire booklet, which was used as a data collection tool in the research, consisted of two sections. The first section included demographics designed to collect the demographic information of respondents. The second section contained ICAWS, OCS and QWI.

Job Stressor Measures. Developed by North American psychologists – Paul Spector and Steve Jex (1998) – these measures were designed to assess three types of general job stressors that occur in the work environment. The Interpersonal Conflict at Work Scale (ICAWS) was intended to measure conflicts and arguments with other people at work, the Organizational Constraints Scale (OCS) was intended to measure constraints on performance at work and the Quantitative Workload Inventory (QWI) was intended to assess the amount of work and work pace.

Interpersonal Conflict at Work Scale (ICAWS). Interpersonal Conflict at Work Scale (ICAWS) was used to measure interpersonal conflict. The ICAWS includes four items referring to the frequency of arguments or conflicts in the workplace and the rude behaviour of co-workers (e.g., ‘How often do other people yell at you at work?’). The ICAWS has no reverse coded items. The instrument has a 5-point response scale ranging from 1 = *less than once a month or never* to 5 = *several times a day* with score range of 1-20. High scores represent a high level of interpersonal conflict at work place. In the study on the validation of the US version of the scales, the reliability coefficients for the individual scales were $\alpha = 0.74$ for the ICAWS (Spector, & Jex, 1998).

Organizational Constraints Scale (OCS). Organizational Constraints Scale (OCS) was used to measure organizational constraints. The OCS includes 11 items referring to a variety of constraints in the workplace, related to poor equipment, organizational rules and procedures, other employees, supervisors, lack of training and incorrect instructions (e.g., ‘How often do you find it difficult or impossible to do your job because of poor equipment or supplies?’). This summated rating scale is based on the constraint areas identified by Peters and O'Connor (1988). Participants are asked to indicate how often they find it difficult or impossible to do their job because of each constraint. The OCS has no reverse coded items. The instrument has a 5-point response scale ranging from 1 = *less than once a month or never* to 5 = *several times a day* with score range of 1-55.

High scores represent a high level of organizational constraints at work place. In the study on the validation of the US version of the scales, the reliability coefficients for the individual scales were $\alpha = 0.85$ for the OCS (Spector, & Jex, 1998).

Quantitative Workload Inventory (QWI). Quantitative Workload Inventory (QWI) was used to measure workload quantitatively. The QWI consists of five items referring to the quantity of job tasks, the effort required to perform them and the time assigned for task completion (e.g., ‘How often does your job leave you with little time to get things done?’). This summated rating scale assesses respondents’ perceptions of work in terms of volume and pace. The QWI has no reverse coded items. The instrument has a 5-point response scale ranging from 1 = *less than once a month or never* to 5 = *several times a day* with score range of 1-25. High scores represent a high level of quantitative workload at work place. In the study on the validation of the US version of the scales, the reliability coefficients for the individual scales were $\alpha = 0.82$ for the QWI (Spector, & Jex, 1998).

Phase I: Translation and Cross-Language Validation of Urdu Versions of ICAWS, OCS and QWI.

Permissions for the use of instruments in the present study were taken from the authors through e-mail. The three job stressor instruments were translated in this study after taking permission from the respective authors. The main focus during this part of the study was on cross-cultural sameness and conceptual equivalence instead of linguistic similarities.

A well familiar and competently prevalent procedure to attain conceptually equivalent translation, forward and back-translations method was used (Brislin, 1976; Van de Vijver & Hambleton, 1996). Initially, the authors of the measures were asked for their permission to translate the scales. After getting permission, the scale was translated into the target language i.e Urdu from the source language i.e English. To achieve this objective, five bi-lingual professional having good reading proficiency and writing proficiency in both the languages of Urdu and English were provided with original scales to translate them in Urdu language. Three of the translators were related to academic field and two were language experts with ample competency and command on language.

Forward translations of ICAWS, OCS and QWI were assessed in a committee approach. After reviewing all translations carefully, members of the committee selected and finalized the most appropriate translation for each item of all the scales. Recommended suggestions were considered and changes were made accordingly.

In the next step, backward translation of the scales from Urdu into the source language that is, English was done. For this process, another set of five independent bilingual translators were approached and asked to translate the Urdu version of ICAWS, OCS and QWI back into English. Back translations of the scale which were later assessed in another committee approach.

Committee members were approached to complete the process of translation. This time, the committee approach aimed to check the similarity of the newly translated English items with the original items of ICAWS, OCS and QWI. The committee reviewed the translations and checked the semantic equivalence of the back translations with the original statements. Most closely related items with original version were selected. Finally, instructions of the scales were added and settled by the committee members and Urdu version of ICAWS, OCS and QWI was finalized.

To establish the cross language validity of the translated scales concerning original English version, sample was drawn, details are given below:

Sample. 100 employees (men = 74 and women = 26) of public service sector organizations (WAPDA, NADRA, Sui Gas, PIA, Railways, PTCL, OPF and Postal Services) of Pakistan, having bilingual comprehension skills, were approached through purposive and convenient sampling from Rawalpindi and Islamabad. Those public sector organizations of Pakistan were identified in which public/human interaction is a dominant part of their work and the organizations which provide services to the public.

Figure 1. Diagrammatic representation of the distribution of total sample into four groups for test-retest reliability.

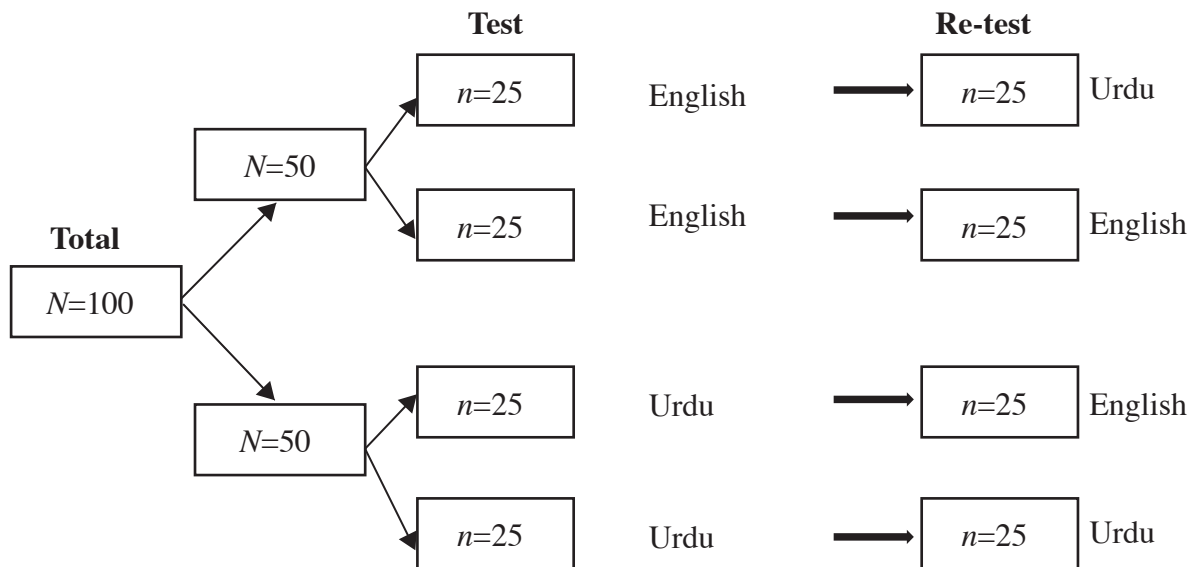


Figure 1 shows details about sample division and provision of original and translated scales to participants. They were requested to fill ICAWS, OCS and QWI with assurity to maintain their anonymity. All ethical considerations were taken in mind. Two-week gap between test and then re-test administration was made to control learning effect and previous experiential impact.

Procedure. Four groups of the sample were made and in Trail-1 two groups having 25 employees each were requested to respond on English version original scale. The remaining two groups were instructed and requested to respond to Urdu ICAWS, OCS and QWI that is translated version. Similarly other two groups of 25 employees were given translated version of ICAWS, OCS and QWI. After two weeks, these employees were again approached for Trail-2. Here first group of 25 employees (earlier got English versions) this time was given Urdu version and other 25 employees were again provided with same English version of scales.

Likewise, to last two groups (earlier got Urdu versions), first group was provided with English scales and second group got translated version as depicted in Figure 1 as well. To identify any discrepancy and to examine equivalency in both versions and with-in same version application, this exercise was particularized.

Results Phase I

Correlation coefficients between all four groups were configured in Trial 1 and Trail 2 for original and translated versions of ICAWS, OCS and QWI. Results are given below.

Table 1

Test-Retest Reliabilities of Urdu and English Versions of ICAWS, OCS and QWI(N=100)

Sr. No.	Scales	Groups			
		UU (n = 25)	UE (n = 25)	EU (n = 25)	EE (n = 25)
1	Interpersonal Conflict at Work Scale (ICAWS)	.89**	.87**	.86**	.84**
2	Organizational Constraints Scale (OCS)	.90**	.86**	.85**	.82**
3	Quantitative Workload Inventory (QWI)	.88**	.85**	.83**	.81**

Note.UU = Urdu-Urdu; UE = Urdu-English; EU = English-Urdu; EE = English-English. ** $p < .01$.

Table 1 shows test-retest correlations of all four groups on the scales. These were found positive and significant. This indicates the stability of scales in different groups ($p < .01$). Results of the between-groups correlation shows that the test-retest correlations Urdu-Urdu group is greater than the other three groups possibly because of practice effects due to repeated administration of a scale in native language that is Urdu.

Phase II: Reliability Estimation of Urdu Versions of ICAWS, OCS and QWI.

In Phase-II, reliability estimation of Urdu Versions of ICAWS, OCS and QWI was established through Cronbach's alpha reliability and test-re-test reliability.

Sample. The sample comprised of 546 employees of public service sector organizations (WAPDA, NADRA, Sui Gas, PIA, Railways, PTCL, OPF and Postal Services) of Pakistan, who were approached through purposive and convenient sampling from Rawalpindi and Islamabad. Sample comprised of 334 (61.2%) men and 212 (38.8%) women.

The age of the participants ranged from 22-60 years ($M = 40.35$, $SD = 9.22$). Potential participants got a booklet of the scales/instruments in addition to a letter clarifying the objectives of the research. Complete privacy of attained data and secrecy of participants were guaranteed. All ethical considerations were taken in mind. Furthermore, data for the test-retest reliability of Urdu Versions of ICAWS, OCS and QWI was collected. For this purpose total 50 employees including 32 (64%) men and 18 (36%) women were approached.

Procedure. In order to complete the second phase of the study, heads of the public sector organizations of Pakistan were approached and clarified about the objectives of the research and permissions were taken from them for the collection of data. This time translated versions of ICAWS, OCS and QWI were administered over the target samples. Instruction were given to the participants and they were asked, to tell or comment at the end of the administration regarding any kind of difficulty, item unclarity or ambiguity. Data was collected and respondents were thanked for their cooperation. During this phase, data for the test-retest reliability of Urdu Versions of ICAWS, OCS and QWI was also collected. In test-retest procedure, translated version was administered over same 50 participants with two-week interval.

Results

The results of Phase II are given below:
Internal consistency reliability of the scales were computed using Cronbach's Alpha.

Cronbach's alpha for the scales was found to be .84, .93 and .76 for ICAWS, OCS and QWI respectively. This indicates that internal consistency reliability of the scales are high, as Cronbach's Alpha range is between 0 - 1.00 and value near to 1.00 shows greater internal consistency reliability of the scale (Wells & Wollack, 2003).

Table 2 shows psychometric properties of the study variables. The values of Skewness show that the shapes of the curves of test scores across the scales are skewed. Furthermore, negative value of Kurtosis are showing that the distribution of scores across the QWI scale are flat, less peaked and has thin tail. The scores are not in constellation around the mean value. Significant positive correlations were found between the three self-report measures of job stressor, namely, the ICAWS, OCS and the QWI.

Table 2

Psychometric Properties of the Study Variables (N = 546)

Sr. No.	Variable	No. of Items	α	$M(S.D)$	Skew	Kurt	1	2	4
1	Interpersonal Conflict at Work Scale (ICAWS)	4	.84	7.95(3.71)	1.04	.47	-	.57**	.27**
2	Organizational Constraints Scale (OCS)	11	.93	21.59(10.92)	1.11	.30	-		.41**
3	Quantitative Workload Inventory (QWI)	5	.76	14.64(5.03)	.009	-.95			-

Note. Skew = Skewness; Kurt = Kurtosis.

** $p < .01$

Three self-report measures of job stressor, namely, the ICAWS, OCS and the QWI are found to be significantly and positively correlated with each other.

Item-total correlations were computed for Urdu Versions of ICAWS, OCS and QWI.

Table 3*Item Total Correlations of Urdu Version of ICAWS, OCS and QWI (N = 546)*

Interpersonal Conflict at Work Scale (ICAWS)		Organizational Constraints Scale (OCS)		Quantitative Workload Inventory (QWI)	
Item No.	<i>r</i>	Item No.	<i>r</i>	Item No.	<i>r</i>
1	.77**	1	.61**	1	.75**
2	.77**	2	.74**	2	.75**
3	.73**	3	.74**	3	.73**
4	.68**	4	.76**	4	.69**
		5	.64**	5	.79**
		6	.70**		
		7	.70**		
		8	.74**		
		9	.71**		
		10	.75**		
		11	.73**		

*Note: **p<.01*

Table 3 shows corrected item total correlation of all the scale. Results revealed that the corrected item-total correlations for Urdu Versions of ICAWS, OCS and QWI were above the acceptable threshold (i.e., $r \geq .30$; Ferketich, 1991), showing significant relationships between items in the scales. For example, item total correlation for items of Interpersonal Conflict at Work Scale (ICAWS) ranged from .68 - .77, for Organizational Constraints Scale (OCS) this correlation ranged from .61 to .76 and for Quantitative Workload Inventory (QWI) item total correlation ranged from .69 to .79 for.

In next step, test re-test reliabilities of the scales were estimated. Correlation coefficient statistics was applied to investigate the findings of test re-test reliabilities of ICAWS, OCS and QWI.

Findings reported high correlations on first and second administration of the scales; such as .89 for ICAWS, .90 for OCS and .88 for QWI. These findings are in line with earlier study (Anastasi, 1954) that indicated the utmost apparent technique for finding the reliability of an instrument/measure total sum is by replicating the same instrument/measure on a second juncture. The obtained reliability coefficient of the instrument/measure in this situation is the correlation amongst the scores attained by the identical individual on the two administrations of the same instrument/measure.

Table 4*Test-Retest Reliability of ICAWS, OCS and QWI (N = 50)*

Sr. No.	Scales	Test-retest Reliability
1	Interpersonal Conflict at Work Scale (ICAWS)	.89**
2	Organizational Constraints Scale (OCS)	.90**
3	Quantitative Workload Inventory (QWI)	.88**

*Note: **p<.01.*

Phase III: Validity Estimation of Urdu Versions of ICAWS, OCS and QWI.

In this phase, Confirmatory Factor Analysis (CFA) was conducted to establish the construct validity of Urdu Versions of ICAWS, OCS and QWI. The Confirmatory Factor Analysis were run because confirmatory analytical techniques provided more scrupulous procedure than exploratory analytical techniques and also because the structural models for the self-report measures of job stressor, namely, the ICAWS, OCS and the QWI were a priori hypothesized. The construct validity of Urdu version of ICAWS, OCS and QWI was entrenched by running CFA with estimation method of maximum likelihood in Amos-21. Uni-factor model was tested.

Findings revealed a good model fit for the model. To signify the likelihood that individual items influence this model fit, individual item properties were also being examined. It was observed that factor loadings of all Items were above the acceptable value of $\lambda = .30$ (Field, 2009).

The good fit of the uni-factor model supports the idea of the uni-dimensional nature of the three self-report measures of job stressor, i.e, the ICAWS, OCS and QWI. Results of the analysis are given in Table 5.

Table 5

Confirmatory Factor Analysis of Urdu Versions of ICAWS, OCS and QWI (N = 546)

Model	χ^2	df	χ^2/df	<i>P</i>	GFI	IFI	CFI	SRMR	RMSEA
ICAWS									
M	1.86	2	0.93	.000	.99	.98	.97	.03	.05
OCS									
M	118.629	35	3.38	.000	.96	.97	.97	.02	.04
QWI									
M	9.461	3	3.15	.000	.99	.99	.99	.02	.04

Note. ICAWS = Interpersonal Conflict at Work Scale; OCS = Organizational Constraints Scale; QWI= Quantitative Workload Inventory; χ^2 = chi-square; χ^2/df = relative/normed chi-square; GFI = goodness of fit index; IFI = incremental fit index; CFI = comparative fit index; SRMR = standardized root mean square residual; RMSEA = root mean square error of approximation.

Findings reveal that values of χ^2/df , SRMR, and RMSEA lie in acceptable ranges. Other fit indices are also in acceptable range. The inferences of the confirmatory analyses indicated that the one-factor structure solution is acceptable for all these three scales. Standardized factor loadings were taken according to the similar criterion of EFA that is equal to and above than .40 suggested by Robitschek et al. (2012). Factor loadings for Urdu Versions of ICAWS, OCS and QWI are given in Table 6.

Table 6

Factor Loadings for Urdu Versions of ICAWS, OCS and QWI (N = 546)

Interpersonal Conflict at Work Scale (ICAWS)		Organizational Constraints Scale (OCS)		Quantitative Workload Inventory (QWI)	
Item No.	λ	Item No.	λ	Item No.	λ
1	.62	1	.61	1	.69
2	.87	2	.88	2	.71
3	.84	3	.77	3	.62
4	.75	4	.80	4	.60
		5	.63	5	.64
		6	.71		
		7	.72		
		8	.74		
		9	.76		
		10	.80		
		11	.76		

Table 6 shows factor loadings of items in Urdu Versions of ICAWS, OCS and QWI lie in acceptable range ($\lambda = .60 - .87$), that is, $\geq .30$ (Field, 2009; Floyd & Widaman, 1995).

Discussion

This research study was aimed to translate and validate three short self-report job stressor measures i.e ICAWS, OCS and QWI in Pakistani organizational settings. The objective of the study carried out through standard and extensive procedures of scale translation and validation comprised of three phases.

Phase-I completed with translation and linguistic equivalence estimation of Urdu Versions of ICAWS, OCS and QWI; Phase II completed with reliability estimation through Cronbach's alpha reliability and test-re-test reliability and Phase-III was completed with validity estimation of Urdu versions of job stressor measures.

Scale linguistic equivalence estimation was completed through forward and backward translations. First, all the items ICAWS, OCS and QWI were translated according to standard procedures of scale translation. Findings supported the translated versions of ICAWS, OCS and QWI as homogeneous measures with original version. This can be seen through significant positive correlations between translated and original version of the job stressor measures. Further, item total correlations also indicates high internal consistency showing significant relationships between items in the scales. This shows that each item is measuring the particular content, which is intended to measure (Johansone & Malik, 2008).

In next step, scale reliability estimation was carried out. Cronbach's Alpha indexes of Urdu Versions of ICAWS, OCS and QWI was found significantly high and this indicates higher test temporal stability (Wells & Wollack, 2003). Moreover, significant positive correlation values of test-retest reliabilities of Urdu Versions of ICAWS, OCS and QWI indicates self-report job stressor measures are highly reliable and consistent. Hence, both Cronbach's α coefficients and the test-retest reliability technique with two weeks' sequele established the reliability of the scales/instruments. Significant positive correlations were found between the three measures of job stressor which shows that these measures are positively and significantly related with each other. The factor analyses of the Urdu versionsof the scales/instruments approved their suitable factor structure, internal consistency, reliability and validity. Each item of the ICAWS (4 items), the OCS (11 items) and the QWI (5 items) formed a single latent factor with significant factor loadings in CFAs.

As hypothesized, the CFA results were consistent with the one-factor models of the three scales. The ICAWS, OCS and QWI have acceptable fit in the CFA and have good fit to the data. Given these results, it can be assumed that the three scales have one-dimensional structures and contain all the items from their original versions. Moreover, the one-factor structures and other psychometric properties of the Urdu version of these scales seem to be similar to those found in the original version of the scales (Spector & Jex, 1998). The mean values for the Urdu version of the scales were comparable to the US ones.

Both the interpersonal conflict and organizational constraints are, to a larger extent, psychosocial stressors, mounting entirely or partially from interpersonal encounters with other people at work place. Workload, contrarily, assesses about job tasks more than other people at work place. Moreover, only having a enormous quantity of job to do does not necessarily causes job stress in the similar manner as organizational constraints or interpersonal conflict may cause. Numerous individuals mayrelish doing work and may not find it unpleasant to do a lot of work at their work place. Hence, it is anticipated that the correlation amongst workload and work stress would be weaker than the correlation amongst the other two work stressors. The three job stressors turned out to be significantly positively correlated to each other, i.e. $r = 0.27$ for interpersonal conflict and quantitative workload to $r = 0.57$ for interpersonal conflict and organizational constraints and $r = 0.41$ for quantitative workload and organizational constraints. Spector and Jex (1998) obtained quite comparable correlation coefficients from $r = 0.20$ for interpersonal conflict and quantitative workload to $r = 0.44$ for interpersonal conflict and organizational constraints and $r = 0.43$ for quantitative workload and organizational constraints.

The potential worth of three short self-report job stressor measures i.e the Interpersonal Conflict at Work Scale (ICAWS), the Organizational Constraints Scale (OCS) and the Quantitative Workload Inventory (QWI)(Spector &Jex, 1998) can contribute remarkably in the field of organizational psychology. The significance of job stressors were observed when numerous organizational experts turned their attention toward organizational factors of employee's turnover and absenteeism as well as poor productivity and efficiency.

These issues can be identified through job stressor measures. Job stressors are few of the significant factors that may affect organizational outcomes and performance. To highlight these issues self-report job stressor measures i.e ICAWS, OCS and QWI can be very suitable tools to be used. The results of the reliability and validity analysis showed that these measures are reliable and valid instruments and can be used in measuring the perceptions of job stressors in Pakistani organizational settings.

Limitations and Future recommendations

The current research seems to have some limitations. The sample of the current research comprised of employees from different public sector organizations only, however sample from forces and industrial workers that experience more work stress were not included. Therefore, future researches should take into account of more organizations with miscellaneous job-related groups with different working hazards. Further more, most of the sample consisted of male employees, an increase in the female employees sample can identify gender roles and its effect on job stress. Another limitation of the study is stress measurement method, one of the most repeatedly debated matters in job stress research among the employees. Only self-report instruments were employed, in the current research, to analyze the level of stress among the employees. The items of the instruments assess only the occurrence/frequency of stressful incidents in daily work hassles. Hence these job stress measures can be used primarily in investigations of enduring work place stressors, frequently recurring and in one way or another engraved in work characteristics. The benefit of self-report job stress scales/instruments is such that the evaluation of a job stressor is done via the individual straightly being afflicted. However, the shortcoming is that the evaluation is directly and greatly affected by presently prompted emotional states and cognitive configurations.

Moreover, in the course of the assessment of personal and subjective feelings associated with stressful work related factors, the relation amongst the job stressor and the behavioral reaction to that are distorted because those components are managed as attached to each other (Dohrenwend, & Shrout, 1985).

To the best of our knowledge, there is scarce of literature available that examined the linkage amongst the three job stressor scales and the impartial considerations of job stress assessed by physiological responses (e.g., diastolic and systolic blood pressure and cardiac functioning) and by knowledgeable experts (e.g., supervisors and colleagues) who having the chances of observing an employee in one and many job associated conditions. This kind of research would be exclusively suggested in the way of future inquiries of the self-report job stressor measures.

Implications

The present study translated the self-report job stressor measures for the first time in Pakistan to provide an Urdu version of the instruments. The study also reported the psychometric properties of the Urdu version of the instruments, thus establishing the construct validity of these instruments in Pakistan. Further, this work implies that the construct job stressor works some how similarly in Pakistani culture as compared to the Western culture, where this variable has been conceptualized. Therefore the present research suggests that the construct of job stressor and its nature needs to be further explored in Pakistani organizational context, and how this construct is perceived by the working individuals in Pakistani culture.

Conclusion

The construct of job stressor is worth studying because it is an important variable that leads to various work related outcomes at work. Considering this, present study attempted to translate and validate job stressor measures which are widely used instruments to measure perceived job stressors. The Urdu translated version of job stressor measures i.e the Interpersonal Conflict at Work Scale (ICAWS), the Organizational Constraints Scale (OCS) and the Quantitative Workload Inventory (QWI) showed adequate construct validity and reliability.

Declaration

Ethical Approval. Formal permission was acquired from institutional Ethical board to conduct research.

Availability of data and materials. Not Applicable.

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Research Article

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Moderating Role of Physical Activity for the Psychological Determinants of Eating Behaviors Affecting BMI

Syeda Rabia Shaheen¹, Jamil A Malik², Saba Zer Naz Hafsa³

1, 2. National Institute of Psychology, Quaid-i-Azam University, Islamabad, Pakistan.

3. Riphah International University.

For Correspondence: Saba Zer Naz Hafsa. Email: saba.hafsa@riphah.edu.pk

Abstract

Purpose. The study is aimed to investigate relationship between psychological factors, eating habits and BMI and to examine the moderating role of physical activity affecting BMI among young adolescents.

Method. The sample of 366 young adults between the age ranges of 18-25 recruited from colleges and universities of Rawalpindi and Islamabad. Data was collected on Three Factor Eating Questionnaire (TEFQ), Depression Anxiety Stress Scale (DASS), and International Physical Activity Questionnaire (IPAQ). BMI values are estimated by given heights and weights of individuals.

Results. Results revealed a positive relationship between BMI positively relates with depression, anxiety, stress, uncontrolled eating, emotional eating cognitive restraint and sitting whereas it negatively relates with walk vigorous activity, moderate activity and total Physical activity. Results also revealed that depression, anxiety and stress total score significantly and positively relates with uncontrolled eating, emotional eating cognitive restraint, sitting whereas negatively and significantly relate with walk, moderate activity and total physical activity. Results revealed that sitting moderates relationship between emotional eating and BMI, cognitive restraint and BMI and uncontrolled eating and BMI. Results indicated that vigorous activity moderates relationship between emotional eating and BMI.

Conclusion. Present study highlights the importance of physical activity and psychological factors which directly or indirectly affects eating behaviors and BMI.

Keywords. *Physical activity, vigorous activity, moderate activity, bmi, cognitive restraint.*



Introduction

Recently we have witnessed the common belief around us that one can diet or skip food to incorporate weight loss but we cannot deny the importance of certain other important psychosocial factors which have an impact on one's eating behavior and on overall body weight. It is a simple fact that our eating behavior is being directly or indirectly affected by psychosocial factors which as an end result affect our BMI. One important idea in this whole understanding of BMI, eating habits and psychosocial factors is physical activity which we cannot overlook as in present study it serves a role of moderating variable.

On daily basis we witness number of people who eat abundantly but they do not put on much weight because they exercise to stay fit. Whereas there are other individuals who do not consume much food but find hard to put off weight this is simply because they are not involved in any kind of physically activity which we consider very much important in maintain healthy BMI. We can pretty much conclude from abovementioned statement that BMI can be influenced by number of genetic, behavioral and psychosocial factors.

In the flourishing field of health psychology and for the betterment of general population too eating behaviors and its outcomes (one of them is BMI) have always been a very important issue. It has always been observed that BMI is commonly associated with genetic factors. Even eating healthy has been completely overruled by this logic.

The current study tries to surface psychical and psychosocial factors which directly or indirectly affect BMI. Lately eating behavior has gained so much attention of researchers but there is still so much to do in this particular area. The present study tries to find out the effects of psychosocial factors on eating behavior and ultimately on BMI, while Physical activity playing a moderating role.

Literature on relationship between physical activity and BMI suggested that moderate level of physical activity has a positive relationship in maintain BMI. Calories are burnt with the help of physical activity which also increase one's metabolic rate during exercise as well as some period after (Thompson et al., 1982). Literature also suggested that relationship between physical activity and BMI is not always this much simple and in expected direction (Rosehil, 2009).

Some of the studies reported no significant relationship between physical activity and BMI, and also no relationship was found between different levels of physical activity (mild, moderate & vigorous) and BMI. Study conducted by Sabiston on young teens in 2008 and he reported that there exist no significant relationship between physical activity and BMI. These exceptional findings can be a resultant of indirect role of certain psychosocial factors which directly affect one's eating habits and indirectly affect body mass index. The present study is an effort to inspect the effect of these psychosocial factors which are directly affecting eating behavior and indirectly affecting body mass index.

Literature indicated that there exist a negative relationship between physical activity and stress. Physical activity is also considered as a source of minimizing risk of depression (Teychenne et al., 2008) and as a treatment (e.g., Craft & Perna, 2004; Lawlor & Hopker, 2001). For so many people one of the major symptoms of being stressed is increase in eating behavior, stress appears to be positively linked with body mass index (Slochower et al., 1981).

Set point theory maintains that an internal homeostatic mechanism regulates body weight so it remains near a certain predetermined level (Bernett & Gurin, 1982; Keeseey, 1980; Nisbet, 1972). Some people's set point is higher or lower than what is considered normal by an individual or society (Kolata, 1985). Theoretically in order to maintain the set point, the brain monitors the fat stores, appetite, and activity level, increasing or decreasing them accordingly (Kessey, 1975; Powley, 1986).

The set point model did not highlight the socio-economic or the environmental factors that may take part in causing obesity. This model considers emphasized the role of physiological factors, which is improbable (Symonds et al., 2011). James Hill, for the first time, proposed the Settling Point Theory. He belonged to the University of Colorado. He proposed this theory in order to explain the reasons of obesity not being only a metabolic problem (Hill et al., 1994). He gave an idea that it is not the metabolic processes that causes obesity; rather it is the type of diet an individual follows and the type of physical activity that a person gets involved in. The type of diet and the physical activity then set the habits of the individuals. The habits are also determined by the genetic outlook the person may have, his leanings and the type of environment that he lives in.

Any phenomenon which the set point model has failed to explain, the settling point model can provide a logical and convincing explanation to that. The settling point model explains the causes for obesity to be greater exposure to the food and the greater availability of the food. The settling point model also holds the phenomenon of lower physical activity to be responsible for obesity. Anyone of the following environmental factors may result in the greater intake of food: an increase in portion sizes (Rolls et al., 2007), increased exposure to high energy density foods (Hetherington & Rolls, 2008; Rolls, 2010), an increase in the variety of foods offered (Rolls & Hetherington, 1989), a greater tendency to eat outside the home (Thornton et al., 2010) where portion sizes are larger (Piernas & Popkin, 2011; Duffey & Popkin, 2011) and where eating behavior is increased by eating with others (Hetherington et al., 2006), or other concurrent activities such as eating while watching television (Epstein et al., 1992; Epstein et al., 1997; Wansink, 2004; Temple et al., 2007). These factors interact with psychological (and probably genetic) factors in given individuals (Westerterp-Plantenga et al., 1996; Vogels & Westerterp-Plantenga, 2005; Vogels et al., 2005).

The settling point model tried to overcome the shortcomings of the set point model or set point theory though great research work is yet to be done on current issue. Hypothesized conceptual model of psychosocial factors affecting eating behavior, where physical activity level serves as moderator between eating behavior and BMI.

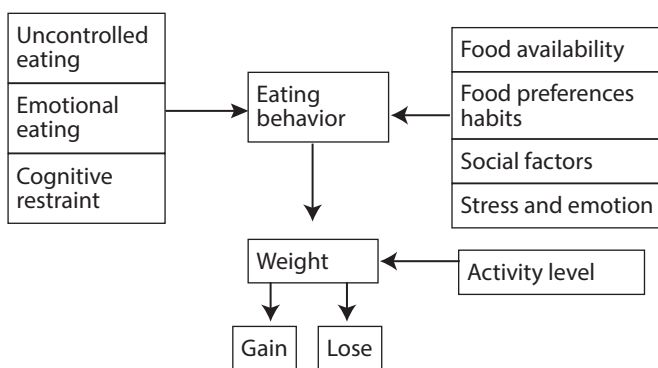


Figure 1. Model explaining effects of psychosocial factors, eating habits and activity level on BMI (Bernard & Krupat, 1994).

This model explains the significant importance of factors that influence eating behavior. These factors are physiological as well as psychological. These unavoidable features include food availability, food preferences habits, social factors, stress and emotion.

Eating behavior determines whether a person loses or gain weight, whereas weight is also being affected by physical activity level is carried out with respect to need of the situation. Literature also suggests that stress appears to have positive relationship with unhealthy eating habits and which in turn have a positive relationship with body mass index. In the lights of all the above mentioned empirical evidences the current study tries to investigate the direct or indirect relationship between physical activity and BMI and also to investigate the role of psychosocial factors and eating behaviors on BMI.

Method

Sample and procedure. The current study was conducted in two phases. Phase I was pilot testing phase. In phase II hypotheses testing was done. Sample of the pilot testing was 75 educated individuals between the age ranges of (18-25). Test retest reliability for International Physical Activity Questionnaire was also established in pilot study. Same participants were approached and requested to fill physical activity questionnaire again 65 participants were included out of 75 individuals. Test retest reliability was established on 65 participants by correlating scores from first administration with second administration. Only 65 participants were considered for establishing test retest reliability because unfilled questionnaires were discarded. It has been observed that there was no need to modify protocol after pilot testing. For main study 366 educated university and colleges participants were approached. Sample size was calculated through G Power.

Demographic information was taken from subjects on demographic form and it was followed by administration of Three Factor Eating Questionnaire, Depression Anxiety Stress Scale and International Physical Activity Questionnaire.

Instruments. Following instruments used to fulfill the purpose of study.

Three Factor Eating Questionnaire. Eating behavior was measured by using three factor eating questionnaire (TEFQ). The questionnaire measures 3 different aspects of eating behavior: restrained eating (conscious restriction of food intake in order to control body weight or to promote weight loss), uncontrolled eating (tendency to eat more than usual due to a loss of control over intake accompanied by subjective feelings of hunger), and emotional eating (inability to resist emotional cues).

The instrument is a shortened and revised version of the original 51-item TFEQ. The TFEQ-R18 consists of 18 items on a 4-point response scale (definitely true/mostly true/mostly false/definitely false). Responses to each of the 18 items are given a score between 1 and 4 and item scores are summated into scale scores for cognitive restraint, uncontrolled eating, and emotional eating. The 1–2 scores were coded 1; 3–4 scores were coded 2; 5–6 scores were coded 3; 7–8 scores were coded 4. The cognitive restraint scale was composed of items 2, 11, 12, 15, 16, and 18. The uncontrolled eating scale was composed of items 1, 4, 5, 7, 8, 9, 13, 14, and 17. The emotional eating scale was composed of items 3, 6, and 10. Higher scores in the respective scales are indicative of greater cognitive restraint, uncontrolled, or emotional eating. Cronbach's alphas of these three scales were high: 0.75 for cognitive restraint, 0.85 for uncontrolled eating, and 0.87 for emotional eating.

Physical Activity Questionnaire. International Physical Activity Questionnaire – Long Form (IPAQ-Long) was used for measuring physical activity it is a 27-item self-completion or telephone-administered recall questionnaire. Craig et al (2003) established its psychometrics properties. Target group is 15–69 year olds. It measures Walking, moderate intensity and vigorous intensity activities taken in each of the four domains: leisure-time physical activity; domestic and gardening activities; work-related physical activity and transport-related physical activity.

It also includes questions on sitting activities such as reading, television viewing and sitting at a desk, although this is not included as part of the summary score of physical activity. It has acceptable reliability and criterion validity.

Depression, Anxiety and Stress Scale. (DASS) Depression, stress and anxiety scale is a 21 items self report measure of anxiety, depression, and stress developed by Lovibond and Lovibond (1995) which is increasingly used in diverse settings. Each DASS contains 7 items. Item no 3, 5, 10, 13, 16, 17, 21 measures depression. Cronbach's alpha for depression scale is 0.94. Item no 2,4,7,9,15,19,20 measures anxiety. Cronbach's alpha is 0.88. Item no 1, 6,8,11,12,14,18 measures stress. Chronbach's alpha for stress scale is 0.93. Urdu short and long version of DASS is also available but in the present study English version was used.

Results

Preliminary analysis revealed that all study variables are normally distributed i.e., skewness ≤ 2 except physical activity, the data of physical activity which is not normally distributed i.e., skewness > 2 . The data of physical activity is positively skewed which means that physical activity is not normally distributed among population less people involve in physical activity. Mean differences on study variables across gender revealed that women and men significantly differs on study variables, i.e. cognitive restraint, emotional eating, uncontrolled eating, BMI and vigorous activity.

Table 1
Correlation Matrix of Study Variables (N= 366).

Variables	M	SD	α	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Body Mass Index	23.54	1.68	-	-	.23*	.24**	.32**	.42**	.32**	.24**	.42**	-.32**	-.23**	-.61**	.25**	-.57**
2. Depression	8.10	4.61	.75	-	.77**	.82**	.61**	.21	.32**	.24**	-.35*	-.26**	-.35**	.07	-.43**	
3. Anxiety	8.82	4.38	.67	-	.74**	.48**	.29**	.37**	.11**	-.25*	-.24**	-.30*	.13*	-.32**		
4. Stress	8.88	4.69	.68	-	.53**	.11	.43**	.12*	-.23	-.32**	-.26*	.10	-.33**			
5. DASS	16.63	6.54	.87	-	.29*	.16	.32**	-.12*	-.43**	-.13*	.09	-.19*				
6. Uncontrolled eating	21.57	4.62	.73	-	.32**	.21**	-.06	-.12	-.013	.08	-.05					
7. Emotional eating	5.55	2.18	.73	-	.25**	-.03	-.11	-.06	.10	-.08						
8. Cognitive restraint	15.24	3.62	.67	-	-.00	-.02	-.04	.14	.12							
9. Walking	744.36	145.50	-	-	.17**	.32*	-.22**	.54**								
10. Vigorous	492.09	110.21	-	-	.43**	-.15*	.39**									
11. Moderate	733.69	285.22	-	-	-.03	.74**										
12. Sitting	1200.95	220.55	-	-	-.21**											
13. PACT	1418.81	250.13	-	-	-											

Note: * $p < .05$; ** $p < .01$

Table 1 shows Mean, Standard Deviation, Alpha Reliability and Correlation for body mass index, depression, anxiety, stress, uncontrolled eating, emotional eating, cognitive restraint, walk, vigorous activity, moderate activity sitting. Result indicates that alpha reliability ranges from .67 to .87 which shows that all variables have satisfactory internal consistency. The significant relationship between all the subscales of DASS, TFEQ and Physical activity questionnaire shows high construct validity. Pearson correlation indicates that BMI positively relates with depression, ($r=.27, p <.01$) anxiety, ($r=.23, p <.01$) stress, ($r=.27, p <.01$) DASS total, ($r=.34, p <.01$) uncontrolled eating, ($r=.19, p <.01$) emotional eating, ($r=.43, p <.01$) cognitive restraint ($r=.32, p <.01$) and sitting ($r=.24, p <.01$) whereas it negatively relates with walk, ($r= -.34, p <.01$) vigorous activity, ($r= -.25, p <.01$) moderate activity($r= -.32, p <.01$) and total Physical activity. ($r= -.42, p <.01$) Depression, anxiety and stress total score significantly and positively relates with uncontrolled eating, ($r=.32, p <.01$) emotional eating, ($r=.26, p <.01$) cognitive restraint, ($r=.21, p <.01$) sitting ($r=.32, p <.01$) whereas negatively and significantly relate with walk, ($r= -.14, p <.01$) moderate activity($r= -.15, p <.01$) and total physical activity. ($r= -.20, p <.01$). All the subscales of physical activity positively and significantly relates with PA total except sitting it negatively relates with PA total.

Table 2

Moderating Effect of Sitting in Relationship with Uncontrolled Eating and BMI (N=366).

Variable	BMI		CI 95 %	
	B	p	LL	UL
Constant	.00	.00	.10	.12
Sitting	.18	.00	.08	.23
Uncontrolled eating	.21	.00	.11	.31
Interaction	.16	.00	.04	.27
R ²	.08			
F	11.85			
Δ R ²	.02			

Table 2 shows Moderating effect of sitting in relationship with uncontrolled eating and BMI. Moderation analysis revealed that effect of uncontrolled eating is significantly moderated by sitting behavior on BMI ($\beta=.15, p<.00$). Effect of emotional eating is significantly moderated by sitting behavior on BMI ($\beta=.12, p<.00$). Effect of cognitive restraint is significantly moderated by sitting behavior on BMI ($\beta=.15, p<.00$). Following mod graph further explains the interaction effect on BMI. Effect of uncontrolled eating is significantly moderated by sitting behavior on BMI ($\beta= -.08, p<.05$).

Following Mode graph further explains the interaction effect on BMI.



Figure 2. Moderating effect of sitting in relationship with uncontrolled eating and BMI.

Table 3*Moderating Effect of Sitting in Relationship with Emotional Eating and BMI (N=366).*

Variable	BMI			
	β	<i>p</i>	CI 95 % LL	UL
Constant	.00	.00	.10	.10
Sitting	.16	.00	.06	.24
Emotional eating	.14	.00	.04	.24
Interaction	.13	.00	.03	.22
R ²	.07			
F	9.48			
ΔR^2	.02			

Table 3 shows Moderating effect of sitting in relationship with emotional eating and BMI. It shows that effect of emotional eating is significantly moderated by sitting behavior on BMI ($\beta=.12, p<.00$).

Following Mode graph further explains the interaction effect on BMI.

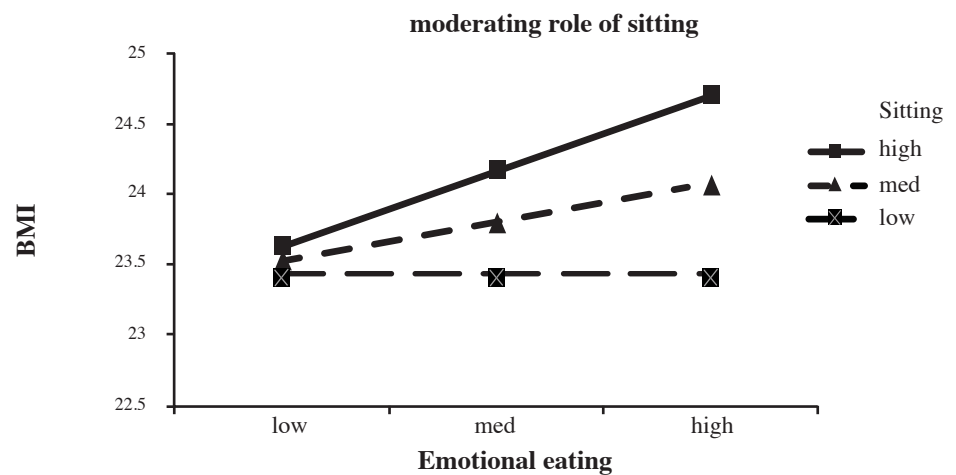


Figure 3. Moderating effect of sitting in relationship with emotional eating and BMI.

Table 4*Moderating Effect of Sitting in Relationship with Cognitive Restraint and BMI (N=366).*

Variable	BMI			
	β	<i>p</i>	CI 95 % LL	UL
Constant	.01	.00	.11	.09
Sitting	.16	.00	.06	.26
Cognitive restraint	.08	.10	-.02	.18
Interaction	.16	.00	.06	.26
R ²	.06			
F	8.85			
ΔR^2	.02			

Table 4 shows Moderating effect of sitting in relationship with cognitive restraint and BMI. It shows that effect of cognitive restraint is significantly moderated by sitting behavior on BMI ($\beta=.15, p<.00$).

Following Mode graph further explains the interaction effect on BMI

Figure 4. Moderating effect of sitting in relationship with cognitive restraint and BMI.

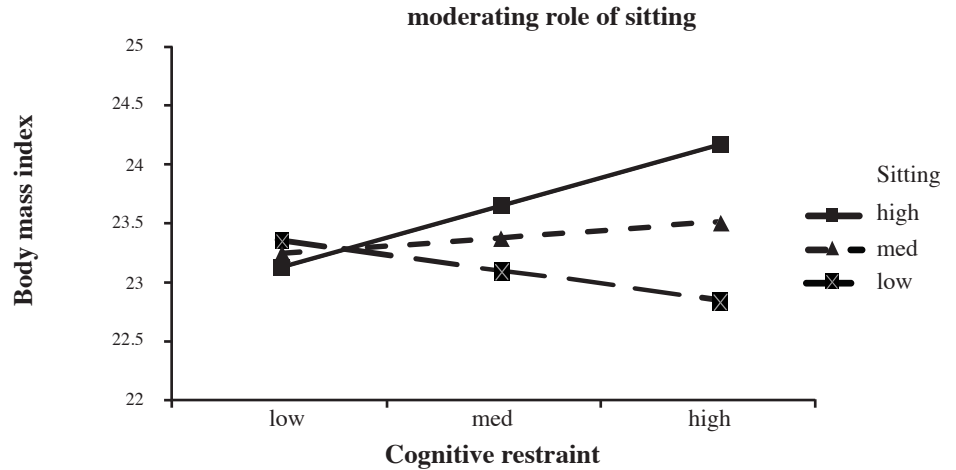


Table 5

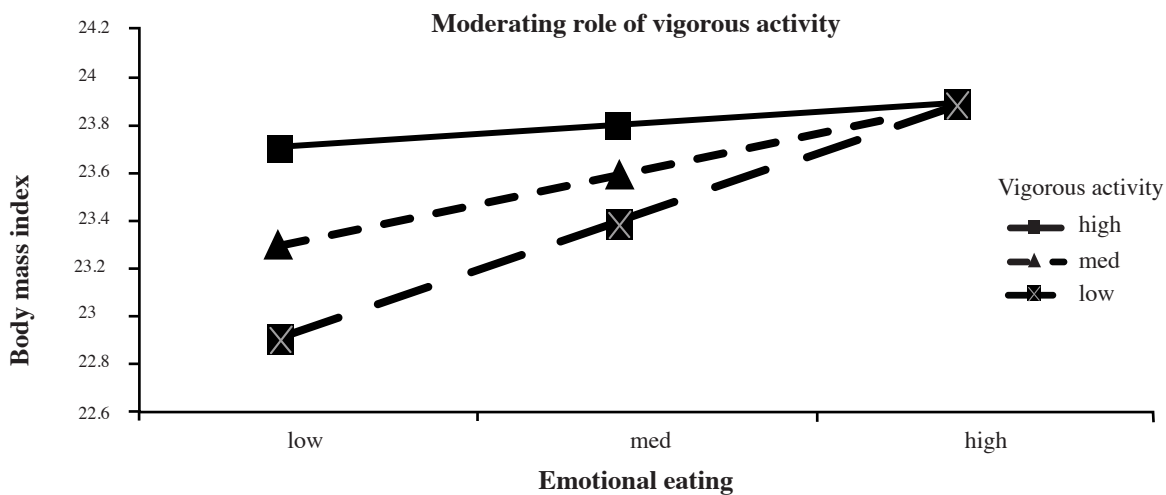
Moderating Effect of Vigorous Activity in Relationship with Emotional Eating and BMI (N=366).

Variable	BMI		CI 95 %	
	β	<i>p</i>	LL	UL
Constant	.01	.00	.09	.11
Vigorous	.00	.17	-.04	.22
Emotional eating	.13	.01	.03	.24
Interaction	-.08	.05	-.17	.00
R2	.02			
F	3.5			
ΔR^2	.01			

Table 5 shows Moderating effect of vigorous activity in relationship with emotional eating and BMI. It shows that effect of uncontrolled eating is significantly moderated by sitting behavior on BMI ($\beta = -.08, p < .05$).

Following Mode graph further explains the interaction effect on BMI

Figure 5. Moderating effect of vigorous activity in relationship with emotional eating and BMI.



Discussion

The current study was an effort to investigate the relationship between physical activity, eating habits, psychosocial factors and BMI among population. Preliminary analysis was carried out and results revealed no issues in data. Results indicated negative relationship between depression, anxiety, stress and physical activity. These findings can be explained by this belief that when one feels low and depressed in turn the physical activity also decreases and it can also be used as a treatment to reduce stress and depression. Physicians always suggest physical activity and staying active to improve one's physical conditions as well as fighting diseases.

Results showed positive relationship between depression, anxiety, stress and BMI, these findings can be backed up with the logic that while depressed we search for sugary food to lighten up our mood, which in turn cause increase in one's BMI. Work of researchers (Garg et al., 2007) back up our current findings their study revealed that people who are happy consider sugary treats like buttered popcorn and chocolate as mood spoiler and try to avoid them whereas people who are sad try to make themselves feel good and use sweets and sugary products to uplift their mood.

Study by Tice et al. (2001) revealed that people try to overcome stress by consuming fatty and sugary food. Another study conducted by (Wansink et al., 2008) suggested that people who are feeling happy try to extend this feeling of happiness and involve in healthy eating and consume nutritious food, whereas people feeling sad try to get out of that phase and in trying to overcome their gloom they indulge in nice tasting snacks, and sugary foods.

These researches support the idea that eating behavior is immensely effected by mood. Another study by (Davis et al., 1988) revealed in bulimics low mood results in binge eating. People having no eating disorder showed the same pattern. Studies have revealed that body weights mostly over weight and underweight people have depressive tendencies (Hou et al., 2013; Linde et al., 2004).

Results revealed a positive relation between depression, anxiety, stress and unhealthy eating habits (uncontrolled eating, emotional eating, and cognitive restraint). If a person is experiencing depression or low mood it is more likely that his eating behavior because of low mood is going to affect.

People having depression, anxiety and stress experience unhealthy eating behavior. Depression is considered as appetite enhancer but not in a healthy manner.

Results also revealed that BMI is positively related with unhealthy eating behaviors (uncontrolled eating, emotional eating and cognitive restraint). Past researches and work has shown that unhealthy eating habits always results in either weight loss or weight gain. Higher BMI is always a resultant of uncontrolled and emotional eating whereas fewer researches suggest that cognitive restraint helps in lowering the BMI, cognitive restraint theory and many past researches tell us that when a person practice restrained eating that person tries to overdo it and always end having weight gain.

Research conducted by Ogden (2003) revealed that people always end up overdoing something from which they try to restrain themselves. Results indicated that sitting behavior behave as a moderating factor in relationship between BMI and uncontrolled eating. When more sitting behavior is observed this relationship tends to be higher. The relationship seems to decrease when medium sitting behavior is observed whereas there appears no relationship between BMI and uncontrolled eating when low sitting behavior was observed.

Sitting also act as a moderator in the relationship between BMI and cognitive restraint. When sitting is higher this relationship tends to be higher whereas no relationship was detected between BMI and cognitive restraint when medium level of sitting behavior was reported, when sitting behavior is low there exist a negative relationship between cognitive restraint and BMI. Results also indicated that vigorous activity served as a moderator in relationship between emotional eating and BMI. When vigorous activity is high this relationship tends to decrease, when vigorous activity is medium this relationship increases and when vigorous activity is low the relationship between BMI and emotional eating tends to increase, so for the weight gain through emotional eating vigorous activity is considered as an effective treatment plan.

Conclusion

Present study was an attempt to know about the relationship between physical activity eating behaviors distress (depression, anxiety, and stress) and BMI. Study tried to study the indirect effects and indirect relations among variables used in the study. With the help of current study's findings some sort of interventions can be designed to be implemented at college and university levels since physical activity is considered very much important in maintaining healthy BMI and at the same time there are certain eating patterns which are considered risky and dangerous in the longer run. The present study also tried to shed some light on the negative role of sitting behavior. College and university level students should be provided with healthy opportunities to take part in co-curricular activities on regular basis.

Limitations and Suggestions

Even though the current study aimed at understanding physical activity, psychological factors, eating habits among common population researcher came across a number of difficulties and obstacles during carrying out that research. The most tough part was data collection since individuals were requested to provide their weight and height measures to calculate their BMI, they did feel hesitant in revealing such details to a stranger. The current study provides an understanding of relationship between physical activity, eating behaviors and distress still a lot can be done in this area since there are many other issues like extraneous variables affecting BMI. The sample used in current study was 366, if the sample size could be enhanced or be more representative of the population the generalizability of the findings can be increased.

Declaration

Ethical Approval. The study was approved by ethics committee and follow the National Institute of Psychology ethical review board criteria.

Conflict of Interest. The authors declared no conflict of interest associated with this manuscript.

Availability of Data and Materials. Contact corresponding author.

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Research Article

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Effect of Sexual Harassment on Suicidal Ideation: Moderating role of Interpersonal Support and Resilience

Mussarat Jabeen Khan¹, Fauzia Batool², Amal Mukhtar³, Hira Amjad⁴, Mehmoona Naseer⁵, Sana Naz⁶

1-6. International Islamic University Islamabad.

For correspondence: Dr Mussarat Jabeen. Email: mussarat.jabeen@iiu.edu.pk

Abstract

Background. Recently, there has been numerous cases of sexual harassment reported by Pakistani female university students. Among the consequences of harassment, suicidal ideation is the most prominent one. However, interpersonal support or resilience among the survivors might act as protective factors against suicidal ideation. This study examines the effect of sexual harassment on suicidal ideation and role of interpersonal support and resilience as moderators among female university students of Pakistan.

Method. This study is a cross-sectional correlational research. A convenient sample of 180 female university students who scored high on sexual harassment are selected from different institutions of Pakistan. Sexual Experiences Questionnaire, Interpersonal Support Evaluation List-12, Brief Resilience Scale, and Suicidal Ideation Scale are used to assess sexual harassment, suicidal ideation, interpersonal support, and resilience.

Results. Inter-correlations provided significant relationships between the study variables. Sexual harassment predicted suicidal ideation. While, regression analysis proved that both interpersonal support and resilience did not act as moderators between sexual harassment and suicidal ideation.

Conclusions. Findings of this study underscores the importance of conducting more researches on harassment and suicidal behaviors in order to predict both protective and risk factors.

Keywords. *Female university students, interpersonal support, resilience, sexual harassment, suicidal ideation.*



Introduction

Sexual harassment has been very common in Pakistan. At least 50 % of the Pakistani women interviewed in a study were sexually harassed (Ashfaq, 2020) and one of the common consequences of sexual harassment is suicidal behavior (Alvarez-Alonso et al., 2016). Particularly in educational institutes of Pakistan harassment of female students has been frequently reported (Yousafzai, 2020). Interpersonal support or resilience among such survivors may act as protective factors against suicidal thoughts (Nrugham et al., 2010; Trujillo et al., 2017).

Equal Employment Opportunity Commission (2020) defined sexual harassment as; unwelcome lewd gestures, demands for sexual courtesies, and other vocal or physical behavior of a sexual kind creates harassment; 1. When in employment's contract compliance to such behavior is made necessary, 2. Complying or dismissing of such behavior is utilized as a reason for work choices influencing such individual, and/or 3. Such behavior has the reason or impact of nonsensically meddling with a person's work execution or making a threatening, or hostile workplace environment. A study was conducted on Hispanic working women in America. The results showed that the association between sexual harassment and job satisfaction was moderated by interpersonal support (Cortina, 2004).

According to Luiselli et al. (2008) interpersonal support is a type of care that an individual receives from family, friends, teachers, and members of his/her community, which consequently increases his or her relational skills for interactions with other people. He et al., (2018) found in a study on cancer patients that higher resilience and interpersonal support predicted low level of anxiety and depression among them.

Resilience according to the American Psychological Association (2012) is the way toward adjusting admirably notwithstanding difficulty, injury, misfortune, dangers or even noteworthy sources of stress. A study conducted by Cleverley and Kidd (2010) demonstrated that perceived resilience indicated lower level of suicidal ideation among homeless youth.

The term suicide refers to deliberate self-destruction by an individual to such an extent that their bodies cease to function, resulting in death.

It is the action of finishing one's life and is characterized as being the only solution in times of despair, nevertheless, it may be attributed to various underlying reasons (Hawton & Heeringen, 2009). A number of researches have reported the relationship between sexual harassment and suicidal ideation in different population including adolescents and young adult students (Frank et al., 2006; Goodemann et al., 2012). Students who have been harassed sexually are significantly more likely to have increased rate of hopelessness, isolation, and suicidal ideation (deLara, 2012; MacKusick & Minick, 2010). Likewise, females with sexual abuse history are more vulnerable to have suicidal thoughts (Martin et al., 2004). Similarly, Frank et al. (2006) explained how medical students who have been sexually harassed were more prone to suicide attempts. The sample of the study was total 2316 students. These students were harassed by their professors, patients, residents and fellow students.

Social or interpersonal support have been found to play an important role in moderating psychological issues caused by harassment, violence or discrimination (Trujillo et al., 2017). As indicated by a study, interpersonal support was reported to be of great importance to suicidal attempts and ideations in individuals with sexual harassment and abuse history. The sample of the study was juvenile delinquent. Regression analysis showed that interpersonal support moderated the suicidal behavior whereas childhood exposure to sexual violence predicted the tendencies towards suicidal behavior (Esposito & Clum, 2002).

Similarly, in a study to find the association between sexual harassment and problematic consequences such as drinking and suicidal behavior among adolescents; a total of 42,568 pupils were part of the study. Both girls and boys were studied individually. The findings showed that increased interpersonal support from family, most importantly parents, reduced the problematic behaviors; drinking and suicidal attempts. Therefore, interpersonal support from the parents of such adolescents moderated the effect of sexual violence on suicidal ideation and binge drinking (Luster et al., 2002).

Opposite to low interpersonal support, Coker et al. (2002) conducted a study that showed; greater the interpersonal support provided to the sexually, physically, and psychologically abused women lower the suicidal actions would be present in them.

Correspondingly, Chioqueta and Stiles (2007) in a study of 314 university students including 243 female students and 71 male students examined how in order to minimize the ideas relating to suicide perceived interpersonal support is important.

Likewise, sexually harassed pupils have low chances to receive emotional support from family, friends, significant other, and relatives (Golding et al., 2002). Hence less social support predicts greater risk of suicidal attempts and thoughts (Arria et al., 2009).

Just like interpersonal support, several studies have found the role of resilience as a moderator in relation to sexual harassment and suicidal ideation (Yoon et al., 2014; Youssef et al. 2013). A longitudinal study was conducted in early adulthood of adolescents who were victims and witnesses of violence to check their resilience level and suicidal attempts. It was reported that presence of low resilience in these victims was directly related to suicidal ideations (Nrugham et al., 2010).

Another study was conducted among veterans and military persons to check the consequences of trauma exposure and how resilience performs its role in suicidal behavior and depression. The results found that resilience as a moderator was negatively correlated with suicidal behavior (Youssef et al., 2013).

Correspondingly, a study was conducted on depressed patients; sexual harassment, decrease level of resilience, and increased level of depression and anxiety directly related to suicidal ideation were the variables of the study. The result reported that greater resilience predicted to be protective against mild to severe level of suicidal ideation. It was mentioned that peril of depression/anxiety on suicide was controlled by resilience (Yoon et al., 2014).

In another exploratory research conducted in Dhaka, Bangladesh; adolescent homeless girls' experience of sexual violence and the presence of resilience was assessed in order to find out their perception of life and their future. The study was concluded by stating that most of these girls experienced sexual violence but still had hope for a good life. Hence, presence of resilience predicted to be a protective factor against limited reasons for living or hopeless life (Kaiser & Sinanan, 2019).

In Pakistan, there has been increased harassment cases recently in several universities among female students (Bukhari, 2020; Gabol, 2020; Sultan, 2020; Yousafzai, 2020). Harassment in university can be experienced from several individual such as class fellows, professors, other officials etc (Gabol, 2020). Therefore, the sample of female university students was selected from co-universities to explore this area in our study.

Interpersonal support was taken as a moderator as it is said that only few survivors of sexual harassment receive it in Pakistani society depending upon their cultural background (Anwar et al., 2019). Most of the girls are asked to stay quiet and not to talk about it, hence the role of interpersonal support on sexual harassment and suicidal ideation is an important part of our study.

Resilience as a moderator was very less explored in female Pakistani students with respect to sexual harassment and suicidal ideation. Thus, this study is basically an effort to find out the role of resilience on association of sexual harassment and suicidal ideation.

Therefore, the present study was conducted to examine the effect of harassment on suicidal ideation and moderating role of interpersonal support and resilience among female university students of Pakistan. As, to the best of our knowledge, there was a limited literature available on the variables and sample of the study in Pakistani context i.e., published research on the study variables, of the current research, were not really found in Pakistani setting. Therefore, this study tried to investigate the relationship between the study variables specific to the Pakistani culture.

Lastly, it can contribute in the field of abnormal psychology in understanding the risk of deviant behaviors and the preceding steps towards more perilous conditions like suicide. It can also help in the field of positive psychology in strengthening the positive aspects of personality that is resilience and support: playing the preventive role in suicide. Additionally, it will provide assistance in future studies on sexual harassment with respect to suicidal ideation, resilience and interpersonal support in different cultural contexts.

Objectives

1. To investigate the relationship between sexual harassment, interpersonal support, resilience, and suicidal ideation among female university students.
2. To explore the moderating role of resilience and interpersonal support on the relationship between sexual harassment and suicidal ideation among female university students.
3. To examine the effect of demographic variables: age, marital status and education on the study variables among female university students.

Hypotheses

1. Sexual harassment and suicidal ideation are positively correlated among female university students.
2. Resilience is negatively correlated with suicidal ideation among female university students.
3. Interpersonal support is negatively correlated with suicidal ideation among female university students.
4. Resilience acts as a moderator between sexual harassment and suicidal ideation among female university students.
5. Interpersonal support acts as a moderator between sexual harassment and suicidal ideation among female university students.
6. There is a difference between undergraduate and graduate female university students on sexual harassment, interpersonal support, resilience, and suicidal ideation.
7. There is a difference between single and married female university students on sexual harassment, interpersonal support, resilience, and suicidal ideation.

Method

Research Design. This study was a cross-sectional correlational research design. The data was collected from several educational institutions to identify and investigate the correlations among the study variables of the sample.

Participants. A sample of ($N=180$) female university students was selected for the current study. The participants' age ranged from 18 to 27 years. The sample was selected through the technique of convenient sampling and no distinctions were made on the basis of participants' socioeconomic status, religious affiliations, educational institutes, and regional classification.

Assessment Measures

Demographic Sheet. The demographic information including age, name of institute, qualification, city, and marital status was obtained with the help of a demographic sheet.

Sexual Experiences Questionnaire (SEQ). To assess Sexual harassment among students, SEQ was used. This scale was developed by Fitzgerald et al. (1988). This revised instrument consists of 19 items, 18 of which are from the subscales Gender harassment, Unwanted Sexual attention, and Sexual coercion. The items are answered on a 5-item Likert scale ranging from "never" to "most of the time". The last item "have you ever been sexually harassed" is a criterion item which is not scored rather it is used to measure the perception of the subject. The minimum score on scale is 18 whereas the maximum score is 90. High sexual harassment rate is indicated by high scores on scale and vice versa. The total α reliability of the scale is 0.89.

Interpersonal Support Evaluation List- 12 (ISEL-12). In order to measure the interpersonal support; ISEL-12 was used. This scale is a shortened version of the original ISEL (40 items; Cohen & Hoberman, 1983). It has three subscales that measures three dimensions of perceived social support; Appraisal support, belonging support, Tangible support. These dimensions are measured by 4 items each on a 4-point scale ranging from "Definitely true" to "Definitely false". Item 1, 2, 7, 8, 11, 12 are reverse scored. The minimum score is 12 while the maximum score is 48. The high score on this scale would indicate high interpersonal support and vice versa. The total α reliability of the scale is 0.77.

Brief Resilience Scale (BRS). The participants' resilience was measured using BRS. It has 6 items. These 6 items are measured on a 5 Likert scale; 1 indicates "strongly disagree" while 5 indicates "strongly agree". Items 2, 4, and 6 are scored reversely. Score ranges from 6-30. The internal consistency of BRS ranges from 0.80 to 0.91 (Smith et al., 2008).

Suicidal Ideation Scale (SIS). Suicidal ideation was assessed through SIS developed by Rudd (1989). It is a self-report questionnaire that has 10 items. Each item is gauged on a 5-point Likert scale where 1 denotes “Never” and 5 denotes “Always”. The score ranges from 10-50. The total α reliability of the scale is .86. Items are scored in positive direction where high scores specify greater indication of presence of suicidal thoughts.

Procedure

This research was carried out on a convenient sample of 180 female university students having age range between 18-27 years from different universities of Pakistan. Sexual Harassment, Interpersonal support, Resilience and Suicidal ideation were used as variables in the present study for the proposed sample.

The instruments were administered in the form of booklets and Google form. After taking the consent and establishing rapport, participants were assured that the information provided by them would be kept confidential and would be used for research purposes only. They were asked to read each statement carefully and then respond according to the written instruction on each scale. There was no time limit and the subjects were given maximum time to fill out the questionnaire without any pressure although the average time taken by the respondent was 10 to 15 minutes. After the completion of questionnaires, participants were thanked for their participation and cooperation.

Results

Table 1

Percentages and Frequencies of Demographic Variables of the Study (N=180).

Variables		Frequency (f)	%
Education	Undergraduate	155	86.1
	Postgraduate	25	13.9
Age	18 -22	136	75.6
	23 -27	44	24.4
Marital Status	Single	163	90.6
	Married	17	9.4

Table 1 shows the sample of (N=180) of female students. Among these female students 86.1% belonged to undergraduate programs and 13.9% were from non-medical programs. The focused age ranges were from 18-27 years where the majority falls in 18-22 age group i.e., 75.6% while 24.4% belonged to 23-27 category. The sample consisted of a vast majority of single individuals i.e., 90.6% and just a few of them i.e., 9.4% were married.

Table 2

Descriptive Statistics, and Psychometric Properties of the Scales of Study (N=180)

Scales	k	M	SD	α	Range		Skewness	Kurtosis
					Potential	Actual		
Sexual Harassment	18	36.60	8.04	0.73	18 -90	23 -69	1.32	1.98
Interpersonal Support	12	32.58	6.10	0.73	12 -48	15 -48	0.16	0.08
Resilience	06	17.77	3.73	0.75	6-30	6-30	0.08	1.73
Suicidal Ideation	10	15.90	5.80	0.93	10 -50	10 -34	1.15	0.60

Table 2 shows the psychometric properties of the variables of study. The measure of each variable on specific scales show high sexual harassment and interpersonal support, and less resilience and suicidal ideation on average. The alpha reliability of each individual scale was satisfactory as calculated by analysis of data. The data is moderately skewed, which means that the sample is representative of the entire population.

Table 3*Inter-correlations among Study Variables (N=180)*

Variables	1	2	3	4
1 Sexual Harassment	-	-.14	-.06	.29**
2 Interpersonal Support	-	-	.15*	-.21**
3 Resilience	-	-	-	-.35**
4 Suicidal Ideation	-	-	-	-

Note: * $p < .05$. ** $p < .01$.

In table 3, Inter-correlations among study variables show that there is a significant positive correlation between sexual harassment and suicidal ideation ($r = .29$) and a non-significant negative correlation of sexual harassment with interpersonal support ($r = -.14$) and resilience ($r = -.06$). Interpersonal support also has a significant positive correlation with resilience ($r = .15$) and is significantly negatively correlated with suicidal ideation ($r = -.21$). Moreover, resilience has a significant negative correlation with suicidal ideation ($r = -.35$). The sexually harassed female students having less interpersonal support and resilience are more inclined towards having suicidal ideations and behavior.

Table 4*Moderating Effect of Interpersonal Support on Relationship between Sexual Harassment and Suicidal Ideation (N=180).*

	R ²	ΔR ²	B	B	t	P
1 Constant			8.06		4.16	.00
Sexual harassment	.09	.08	.21	.29	4.15	.00
2 Constant			13.88		4.44	.00
Sexual Harassment	.12	.11	.19	.27	3.84	.00
Interpersonal support			-.16	-.17	-2.36	.00
3 Constant			14.15		4.39	.00
Sexual harassment			.19	.27	3.73	.00
Interpersonal support			-.17	-.17	2.37	.02
Sexual harassment * Interpersonal support	.12	.10	-.17	-.03	.37	.04

Table 4 indicates regression analysis showing moderating effect of interpersonal support between sexual harassment and suicidal ideation. The R² value of moderation interaction is .12 which explains 12% variance brought by the moderating role of interpersonal support between sexual harassment and suicidal ideation. There is positive relationship between sexual harassment and suicidal ideation ($B = .29$) and interpersonal support is negatively correlated with suicidal ideation ($B = -.17$).

Figure 1. Mod-Graph with Moderating Effect of Interpersonal Support between Sexual Harassment and Suicidal Ideation

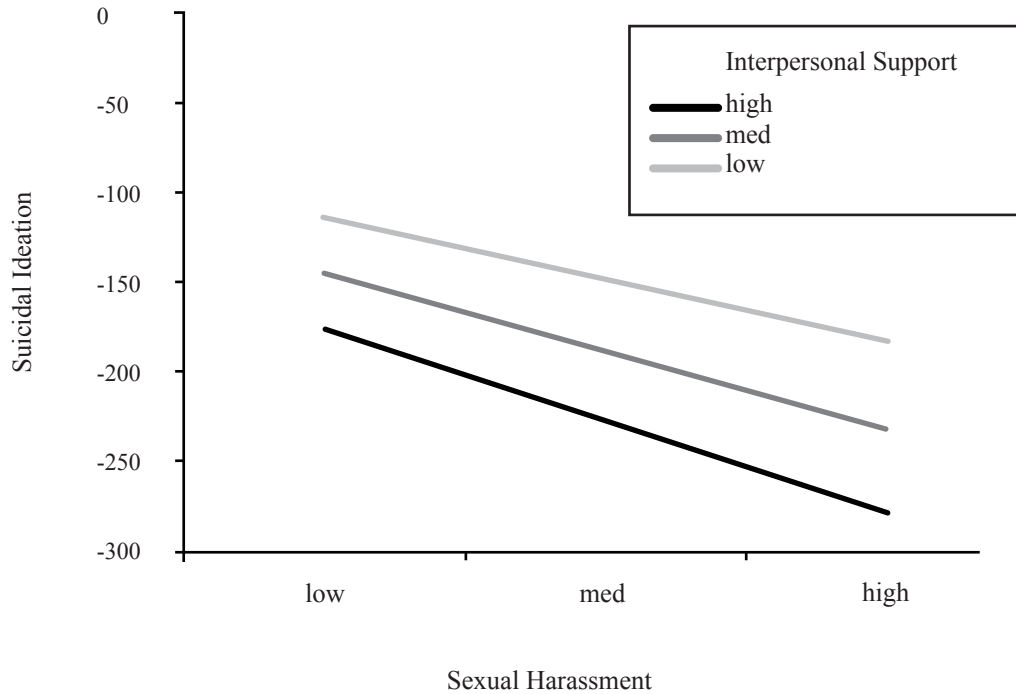


Table 5

Moderating Effect of Resilience on Relationship between Sexual Harassment and Suicidal Ideation (N=180).

		R ²	ΔR ²	B	B	t	P
1	Constant			8.06		4.16	.00
	Sexual Harassment	.09	.08	.21	.29	4.15	.00
2	Constant			17.89		6.70	.00
	Sexual Harassment	.20	.19	.20	.28	4.13	.00
	Resilience			-.53	-.34	-5.02	.00
3	Constant			5.56		.67	.51
	Sexual harassment			.55	.77	2.40	.02
	Resilience			.18	.12	.40	.01
	Sexual harassment *	.21	.20	-.02	-.66	-1.56	.01
	Resilience						

Table 5 indicates regression analysis showing moderating effect of resilience between sexual harassment and suicidal ideation. The R² value of moderation interaction is .21 which explains 21% variance brought by the moderating role of resilience between sexual harassment and suicidal ideation. There is positive relationship between sexual harassment and suicidal ideation (B=.29) and resilience is negatively correlated with suicidal ideation (B= -.34).

Figure 2. Mod-Graph with Moderating Effect of Resilience between Sexual Harassment and Suicidal Ideation.

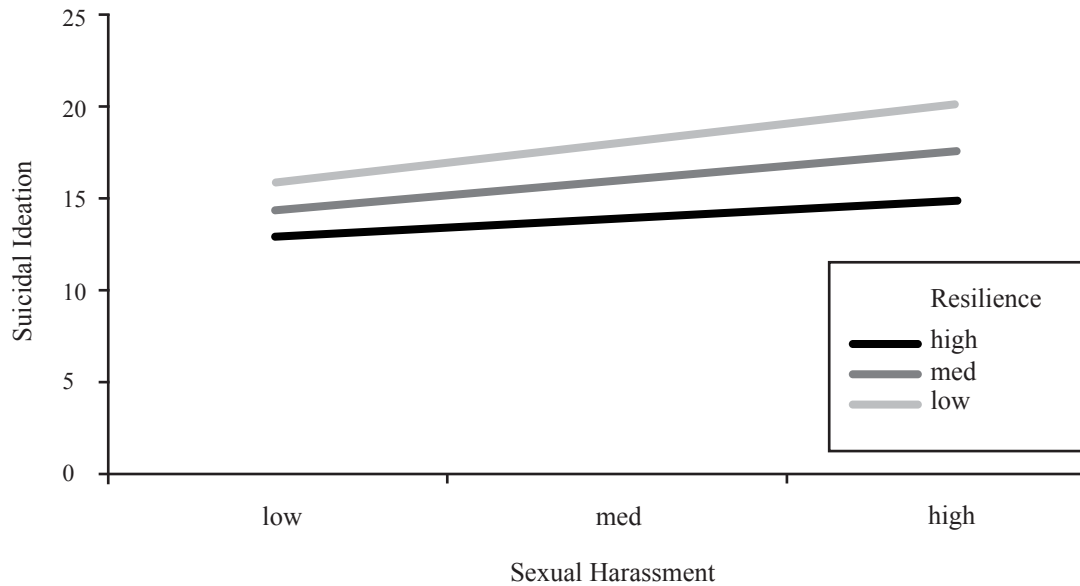


Table 6

Means, Standard Deviations and *t* Values for Undergraduate and Postgraduate Female Students among Study Variables (*N*=180).

Variables	Undergraduate <i>n</i> (=155)		Postgraduate <i>n</i> (=25)		<i>t</i> (178)	<i>P</i>	95% of CI		Cohen's <i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			<i>LL</i>	<i>UL</i>	
Sexual Harassment	36.30	7.96	38.48	8.43	1.25	.21	-5.59	1.23	0.26
Interpersonal Support	32.58	6.30	32.60	4.86	.15	.98	-2.62	2.58	0.00
Resilience	17.72	3.87	18.12	2.74	.49	.62	-1.99	1.19	0.11
Suicidal Ideation	15.88	5.80	16.04	5.88	.12	.90	-2.63	2.31	0.02

Table 6 shows the non-significance differences between undergraduate and postgraduate female students on sexual harassment, interpersonal support, resilience, and suicidal ideation.

Table 7

Means, Standard Deviations and *t* Values for Single and Married Female Students among Study Variables (*N*=180).

Variables	Single <i>n</i> (=163)		Married <i>n</i> (=17)		<i>t</i> (178)	<i>P</i>	95% of CI		Cohen's <i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			<i>LL</i>	<i>UL</i>	
Sexual Harassment	36.33	8.01	39.17	8.12	1.38	.16	-6.87	1.19	0.35
Interpersonal Support	32.46	6.03	33.76	6.90	.83	.40	-4.38	1.77	0.20
Resilience	17.77	3.65	17.76	4.54	.02	.98	-1.87	1.89	0.00
Suicidal Ideation	15.67	5.68	18.11	6.61	1.66	.09	-5.34	.46	0.39

Table 7 shows the non-significance differences between single and married female university students on sexual harassment, interpersonal support, resilience, and suicidal ideation.

Discussion

The present study examined the relationship between sexual harassment and suicidal ideation and the moderating role of interpersonal support and resilience. The sample of ($N=180$) female university students was used to assess the degree of relationship among study variables. Regression analysis did not prove the moderating role of interpersonal support and resilience. Moreover, no such significant differences were observed among the demographic variables of the study such as age, marital status, and education.

The results of the research are consistent with the first hypothesis that is sexual harassment is positively correlated with suicidal ideation among female university students (Table 3). The results are supported by a research conducted by Ullman and Brecklin (2005) where sexually harassed women were more inclined towards suicidal behaviors hence creating a positive correlation between the two. Another study found out that sexual harassment experienced by females in working environment was positively related with suicidal behavior i.e., both suicide and suicidal attempts (Hanson, 2020).

In accordance with second hypothesis, the present study suggested that there exists a negative relationship of resilience with suicidal ideation (Table 3). Zhang et al., (2020) found that resilience correlated negatively with suicidal ideation in association with loneliness among senior home residents. Another research conducted by Ariapooran et al. (2018) concluded that women who experienced loss of death were less prone to suicidal behavior if they received resilient based therapies. Therefore, stating that resilience buffers against suicidal attempts.

Third hypothesis of the study is supported by the analysis of the data that interpersonal support is negatively correlated with suicidal ideation (Table 3). The result of this current study supports the previous literature as Zhang et al. (2020) when conducted a research on residents of assistance home in China found that social support clearly lessened the suicidal thoughts and behaviors in the residents. Ariapooran et al. (2018) also concluded in their research how interpersonal support provided by family, friends, and others was negatively associated with suicidal ideation among bereaved women.

Contrary to the fourth hypothesis, the present study did not explore the moderating role of interpersonal support between sexual harassment and suicidal ideation (Table 4). Interpersonal support did not seem to moderate the relationship between sexual harassment and suicidal ideation. The results can be justified by analyzing the results. One of the reasons can be that social support might not have been perceived as a coping strategy by the participants of the study as explained by Bal et al. (2003) in their comparative study on both sexually abused and non-abused adolescents. They found that the abused adolescents were more prone to adverse life events symptoms such as PTSD and suicidal ideation compared to other adolescents as the abused ones tried to use avoidance strategy rather than perceiving and utilizing social support as coping technique.

As the sample consisted of university students, the reasons of interpersonal support not acting as moderator between the study variables could be due to the presence of several other extraneous variables such as educational stress, difficulty in managing social, personal, and academic life (Osama et al., 2014). Small sample size, specific age group, and similar life stressors can also affect the moderating role of interpersonal support between sexual harassment and suicidal ideation (Quin et al., 2003).

The results of the current research did not come in accordance with the fifth hypothesis that is the moderating role of resilience between sexual harassment and suicidal ideation (Table 5). Resilience did not act as a moderator in this study as supported by Fedina et al., they explored the role of resilience as moderator in sexual violence and its mental health outcomes such as suicidal ideation in a cross-sectional study using women as sample. Their study concluded that resilience significantly did not moderate the association between violence and suicidal thoughts. Cultural and ethnic differences can also be taken in to consideration in order to justify the results as the same variable might act as a moderator in a specific culture (Low et al., 2017). Nevertheless it did not act like one in Pakistani culture.

Several Other reasons can justify the findings, such as the sampling technique. Convenient sampling technique was employed in the research which might not have represent the whole population. Also, the findings could be validated due to somewhat same life issues experienced by the subjects of the study, definite age ranges, and small sample size (Qin et al., 2003).

Current pandemic situation has also affected the mental health of people causing their resilience to deteriorate all around the world which could also rationalize the results of the present study where resilience significantly did not seem to moderate the relationship of harassment and suicidal behavior (Ho et al., 2020).

The sixth hypothesis of the research that stated that there is a significant difference between undergraduate and postgraduate female university students among the study variables was not in line with the results (Table 6). Several reasons can justify the results such as current pandemic, difference between the two groups, small sample size, sampling technique etc (Ho et al., 2020; Qin et al., 2003). Hypothesis seventh of the study which stated that there exists a significant difference between single and married female university students among study variables was not validated by the findings of the research (Table 7). Possible reasons include difference between the two groups as both groups were not equal in quantity. Small sample size could also influence the findings (Qin et al., 2003).

Limitations and Suggestions

Convenient sampling was used to gather the data which might not be representative of the whole population. Random sampling may overcome this limitation. Data was gathered mostly online due to COVID-19 pandemic which as a result may not provide the certainty of the true responses. Sample size was relatively small and was focused only on female university students. A larger sample with face to face administration method and diverse population can overcome the limitations of this study. Hence, making the future researches more generalizable and representative of the population.

Implications

This study is a literature contribution in the field of abnormal, clinical, cognitive and social psychology as the study variables (sexual harassment, interpersonal support, resilience, and suicidal ideation) to some extent touch the premises of all such fields of psychology.

This study also highlights the effect of sexual harassment, risk factors of suicide, and to some extent entails interpersonal support and resilience's relation with suicide. Hence it can be of great assistance in arranging and organizing awareness campaigns, seminars and conferences to help people specifically women understand the perils of harassment and the protective factors required to overcome them.

In clinical field clinicians, counsellors, psychologists, psychiatrist, and even doctors can get awareness regarding the variables of the study in order to formulate appropriate interventions, treatment and techniques to help people enhance their coping strategies and move on with their life in an optimistic way.

Lastly, this study's findings can assist future researchers to study harassment and suicide with other protective and risk factor therefore aiding in the treatment and awareness process. Moreover, it opens the door for more researches to be conducted on this topic as harassment and its perils have been making rounds in Pakistan as well as all around the world.

Conclusion

The current study provides the evidence of a significantly positive relationship between sexual harassment and suicidal ideation among female university students. Interpersonal support and resilience were studied as moderators between the two. However, they were not validated as moderators but still found to have significantly negative correlation with both sexual harassment and suicidal ideation. All in all, the research has explored the study variables in the university student population specifically female university students of Pakistan.

Declaration

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Research Article

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Moderating Impact of Leader's Role in Promoting Islamic Work Ethics between the Relationship of Procedural and Distributive Justice on Employee Commitment

Fozia Malik¹, Ajmal Waheed²

1.Fatima Jinnah Women University, Rawalpindi.

2.Foundation University Islamabad, Rawalpindi Campus.

For correspondence: Fozia Malik. Email. drfmalik@fjwu.edu.pk

Abstract

Objective. The basic objective of this research is to study the moderating impact of leader's role in promoting Islamic work ethics between the relationship of procedural and distributive justice on employee commitment.

Method. For this purpose, employees of hospitality industry was selected as a targeted population. The survey was administered by distributing 300 questionnaires among the employees by using convenience sampling technique, 268 questionnaires were returned out of which 11 questionnaires were not properly filled, so the sample size for this research was 257 which is showing 85% response rate. For moderation analysis Preacher and Hayes method was used through Process Macros.

Result. The findings have shown that these relations outcome was only originated among those with strong implementation of leader's role in promoting Islamic work ethics. Hence, leader's role in promoting Islamic work ethics strengthen the relationship among procedural and distributive justice on employee commitment. Results of this study opened novel, innovative and practical approach into the current debate of the leader's role in promoting Islamic work ethics.

Implications. The originality of current work is that the concept of Islamic work ethics is studied many time previously but the leader's role in promoting Islamic work ethics is a new phenomenon. As being of Muslims the leaders must promote Islamic work ethics at their work life. Therefore, from the avenue of present research future researchers can gain new insight.

Keywords. *Leader's role, islamic work ethics, distributive justice, procedural justice, employee commitment.*



Introduction

What are Justice, Islamic work ethics, and commitment? Why there is a need of justice? Why Islamic ethics are important? How leaders can play important role in promoting Islamic work ethics? Why we require employee's commitment? These are the questions which still need further attention even after many researchers conducted on organization justice, Islamic work ethics & leader's role. Therefore, the main objective of this research to high light the role of leaders in promoting Islamic work ethics. Pakistan is an Islamic republic country situated in Asia with the Islamic traditions, Islamic religious values, and Islamic patterns followed by Muslims in their personal or a professional life. Pakistan is a different from rest of the Muslim countries in Asia as it has a well-established and strong Islamic identity. The leader's role in promoting Islamic work ethics cannot be neglected in Islamic countries like Pakistan. Most of the human resource terminologies used by western world in their human resource practices and researches used are derived from Islamic work ethics. Few of these are; "Ijma" (consensus), "Qiyas" (analogical human reasoning), and "Ijtihad" (exercise of opinion in questions of law), "Birr" (righteousness), "Qist" (equity) and most importantly "Insaaf" and "Adal" (Justice). These practices are translated into Islamic work ethics and if leaders would follow these Islamic practices they can be role model for their followers. Organizational justice (procedural and distributive justice) and Islamic work ethics are closely related to each other as in Islamic work ethics the focus is on "Insaaf" and "Adal" (Justice) and "Qist" (equity) which means in perspective of dealing with others there should be justice and equity, we can say that Islamic work ethics and organizational justice are two sides of same coin which ultimately resulted in employee commitment. But the main objective is who is going to follow these Islamic practices, how strongly these practices should be implemented in an organization. So the main objective is to find out the leader's role in promoting Islamic work ethics as if leader would promote Islamic work ethics there would be more justice in work setting. It has been stressed the importance of organizational justice in understanding employee behavior in the workplace. It's important because it contributes to greater employee well-being and mental health, which leads to better employee performance and income created by a company (Wang et al., 2010). The majority of the researchers (O'Connor & Crowley-Henry, 2019; Sarti, 2019; Kaltiainen et al., 2018; Kim & Park, 2017; Haynie et al., 2016; Biswas et al., 2013; Saks, 2006) have focused on distributive and procedural justice.

The justice construct has been found to have an impact on a range of organizational outcomes, including employee commitment, organizational performance, and employee motivation, according to empirical studies (Nadiri & Tanova, 2010; Wang et al., 2010). Organizations with high organizational justice (procedural justice, distributive justice, & interactional justice) have a favorable effect on their employees' work-related attitudes and actions, according to previous research (Colquitt et al., 2005). From different researches (Zang, Nie, & Luo, 2009; Nirmala & Akhilesh, 2006; Jawahar & Stone, 2011; Farndale, Hope-Hailey & Kelliher, 2011; Erturk, 2007; Till & Karren, 2011; McCain, Tsai, & Bellino, 2010; Wang, Liao, Xia & Chang, 2010) it has analyzed that most of the scholars have done a broad study of organizational impartiality i.e. procedural and distributive justice, on the ways to retain the employees and reduces turnover, they suggested organizational justice can create the behavior and attitude of job satisfaction, and producing the organizational citizenship behavior and increase employee commitment but less emphasize is placed on studying the said phenomenon with in perspective of leader's role in promoting Islamic work ethics. So this study is contributing in the body of knowledge by discussing that leader's role in promoting Islamic work ethics in strengthening the relationship between procedural and distributive justice for increasing employee commitment.

In today's market the major challenging task for human resource managers is developing and retaining the talented workforce. In this difficult period of increasing turnover rates, the senior human resource managers must work together with all departments, to correct the corporate policies that results in employee commitment so that they can retain more employees. The motivation of this study is to enhance the value of Islamic work ethics in organizational policies and procedures. If we follow the rules of Quran and Practices of our Prophet Mohammed (PBUH) in our practical life we can avoid unjust behavior. Although, Islamic work ethics is studied many times in previous research (e.g., Javed et al., 2017; Ahmed et al., 2019) but the leader's role in promoting Islamic work ethics in rarely studied. Therefore, the main contribution of this research is that leader's role in promoting Islamic work ethics is studied in relation with analyzing the impact of procedural and distributive justice on employee commitment. As promotion of Islamic work ethics by leaders is a phenomenon studies very rarely and there is a need to inculcate Islamic work ethics among employees.

These are the leaders who can influence employees to practice Islamic work ethics among employees. Such gaps are needed to fill in literature in order to highlight new insights in research domain.

Technical fairness is regarded as individual's expectation regarding the justice of proper process and measures regulating the decision involving their treatment and benefits. This fair treatment will reflect the individual reaction about decision and both of these impacts on his behavior (Bakhshi et al., 2009). Procedural Justice focuses on structural elements, such as process control as principal assurance of equality insight. Fair dealing augments from how equality affects the attitudes of different level people towards decision making. The lower order attitude refers to self-esteem, communal individualism and team potency whereas higher order attitude refers to commitment, trust and social harmony towards group, sub units and institution. Justice is sometimes taken as what we ethically owe each other where this is a matter of regarding each person's right. This is in simple words related to fairness and justice that what is due as an issue of human rights and give them respect and dignity (Klein & Azzi, 2004).

Procedural Justice. In most system the actual power has in the hand of some people whose decision affect the large number of people. People are conscious about fairness of their outcomes and process of decision making. Procedural justice means fairness or justice in process and procedure in decision making regarding the outcomes. The important factor in procedural justice is the fair comparison of each individual. Authority can provide the control over the distribution of material, resources and outcomes. This control can be a motivational instrument to employees and authority. Another important factor is rational behavior, the fair behavior realize the people that the authority is trustworthy, neutral and have a high moral status self-respect (Klein & Azzi, 2001).

Distributive Justice. Distribution of scarce resources is a problem affecting the society at micro and macro level. Scarce resources distributed not only in a family but also in context of work, sports, relationship, and public and government organization. Another area of research in distributive justice ask to subject that evaluate the fairness in combination of input and outcomes (Kickul et al., 2005). Distributive justice is concern about fair distribution of outcomes and burden such as income, bonuses, compensation, taxes.

A particular type of distribution of outcomes and burden take place between two generations. Scarce resources can be distributed in material resources like money and goods and immaterial resources like respect and attention (Tornblom & Vermunt, 1999). It refers to the fairness of distribution of resources between people, for distribution of resources three main allocation rules are to be followed, equity, equality and need (Dulebohn & Martocchio, 1998). Distributive justice has one main determinant that is, how sensibly employees are pleased while there are five factors of procedural justice that are to be precise, justice, communication, faith in supervisor, transparency of expectations and understanding of performance appraisal process (Fatt, Khin, & Heng, 2010). Theorists find that there are three primary rules of distribution (a) equity or performance base allocation (b) equality or equal distribution of resources between employees instead of performance and desire (c) need or distribution of resources on the bases of what person greatly need should receive more outcomes (Dulebohn & Martocchio, 1998).

What is the currency of justice? What kind of goods or benefits is concern with justice? Some main contents are quality of life, opportunity of wellbeing or make your life better, primary goods, capabilities, social status, self-respect, freedom etc. the issue of distribution of currency of justice is commonly discuss by researchers and is quiet general (Yang, 2008). This justice is relevant to distribution of goods other than well-being. It means that individual should be accountable for his/her choices. Justice requires equality on initial opportunity bases for well-being rather than equality of well-being at each point in time. Distributive justice is concern with the allocation of social primary supplies like opportunity, income and wealth which every rational individual wants more.

Employee Commitment. Commitment has the possibility to manipulate the firm's efficiency and workers welfare. It is a process to identify the organizational goals and it is also a physiological state of employees, those employees having high organizational commitment in result they enjoy citizenship actions and elevated work performance which is productive for the firm. Employee continuous involvement in the organizational work, discontinuing the involvement will be the opportunity cost; this is regarded as continuance commitment.

Whereas adoption of certain behaviors by employees as they consider it the best thing to do that fulfills the moral obligation as well is called normative commitment (Pare & Trembley, 2004). Affective commitment defines employee's level of involvement and emotional attachment with the organization. Commitment also refers to in the form of individual intent to stay or leave the organization; it can be through better opportunity given by other companies and other factors to stay within the organization (Hassan, 2002). To correlate more strongly with any specified outcome due to the strong affiliation with the organization, is termed as affective commitment. The employee committed to stay within an organization because of feelings of obligation. These feelings may be comes from many sources e.g. organization may have investment to employee training and employee feel that he should put more effort on the job and remain a member of the organization to "repay the debt" (Muthuveloo & Rose, 2005). Employee commitment towards organization can be enhanced by using several procedures that might be already present in the organization. For this purpose the relationship between employee and his head should be of affective commitment, second the degree of perceptions of one's instant work group can affect the affective commitment and third way is broad organizational support and organizational justice can increase affective commitment (Andrews et al., 2008). Those employees who have a strong affective commitment will enhance their feelings of belonging to their respected organization and more psychologically attached to it (Hooker, 2010).

Normative Commitment. Normative commitment is defined as a sense of obligation to remain with a member of particular organization. This sense of obligation will result a loyalty and commitment with the specific organization (Ugboro, 2006). Normative commitment describe as feelings of obligation of an employee to remain or stay within organization. Normative commitment is regarded as workers satisfaction level, their bond with the organization, their promise to stay there and interest in achieving firm's stated goals. Employees can repay their organization through behavior modification and by adopting organizational citizenship. Employees who are extremely devoted to their organization often perceived their job role further broadly and a magnification of role definition tends to increase employee's motivation (Pare & Trembley, 2004).

Normative commitment is sense of responsibility in an employee develops to sustain the organization and its activities. Employees working together have sense of dedication and commitment and these normative signs lead to normative commitment. Organizations that foster reliability, dedication and participation in their employees, are the ones who fulfilling their moral obligations (Fatt, Khin, & Heng, 2010).

Continuous Commitment. Continuous commitment refers to willingness to remain a part of specific organization because of employee personal investment and that investment he cannot transfer to another organization such as close relationship with staff and supervisor, retirement benefits, career grooming, seek knowledge and skill from a particular organization and years of employment are some of nontransferable investment which make a job more costly to an employee and change his intention to leave the organization (Ugboro, 2006). Commitment is regarded as employee moral obligation towards an organization, and his willingness to stay with the organization as there is always an opportunity cost associated if they plan to leave the organization. If organization commitment continuous for long period of time, it depends on the extent and quantity of individual outputs and the shortage of other available alternatives. Level of employees commitment towards an organization increases if cannot obtain same benefits from any other organization.

Procedural Justice and Employee Commitment. Affective commitment refers to the employee's emotional attachment to, identification with, and involvement in the organization. If they want to continue the employment with the organization it means they really want to be remaining in that organization and wants to work in it. Affective commitment is also related to both demographic and work experience which can be related to performance. Procedural justice is concerned with judgment about the process or means by which the allocation of decision is made (Bakhshi et al., 2009). As far as procedural justice is concerned with that of affective commitment, Procedural justice refers to individual's thoughts about the fairness of formal procedures that rules the decisions as a result it effects the commitment, fair treatment tends to develop the commitment.

The formal rules and procedures are evaluated just to know how the decisions are made. But formal rules doesn't specify the decision making process for all situations (Blader & Tyler, 2004). Procedural fairness is actually the level of inputs or participation. Employees are more concerned about the procedures of the organization because they consider it as an important part as far as their outcomes are concerned, their positive perception about fairness will allow them to work even harder and more they will participate in their work to give the best result. Procedural justice is closely related to affective commitment in a way that in this article procedural justice is considered as relational in nature, like status recognition, trust in benevolence of authorities and neutrality. When these things are present than it creates an affection commitment with the organization as we know that in procedural justice we talk about fairness of procedures and rules, but authorities that develops these rules, are neglected. Their roles are not focused. They are the backbone of these rules, and play a pivot role in the fairness process (Andrews et al, 2008).

When the procedures and the policies in an organization are fair and give the deserving employee a chance to flourish, by giving them training and awareness about the technology. The commitment arouses when both the parties are sincere and wants to work for the betterment. If the employee is committed he will perform his duty and meet customers' needs more efficiently and will be highly motivated to work to the best of their ability (Fatt et al., 2008). Sometimes the policies and procedures of an organization are so fair that an employee feels a high degree of loss by leaving that organization. Not all organization follows the same justice, so the employee even though, not paid fairly, not treated with dignity, still wants to be in that organization. The reason being all the organizations do not show justice in their procedures, and if some organization is following it the employee economically and socially will cost high. In some organization the social environment persuade to leave the organization, even though they are paying very high (Bakhshi et al., 2009). It means that money is not the only motivator, the social environment matters a lot. For an organization employees have always been the key asset, and when they leaves the organization it adversely effect on the implementation on the plans of business, and results in the declination in the productivity, so the retention of best employees ensures effective success and company's stability (Muthuveloo & Rose, 2005).

Therefore, in past studies, for instance, (Malik & Alvi, 2018; Bakhshi et al., 2009; Lambert et al., 2005; Masterson et al., 2000), it was noticed that relationship between procedural justice and employee commitment has a positive and significant impact. From the above literature, it can be hypothesizing that: H1: Procedural Justice has a positive and significant impact on employee commitment.

Distributive Justice and Employee Commitment.

An individual who is affectively committed to the organization is more willing to pursue the goals of organization and more likely to perform good behavior. This element of commitment has been more frequently examine in organizational justice. Employee's commitment towards the organization leads them towards the feelings of fair treatment for all. On the other hand an individual stated demand or duty is the cause of normative or continuous commitment (Andrews et al., 2008). Distributive justice and procedural justice are one of the same thing as said earlier, that when the resources are fairly distributed and employees perception about fairness is positive than it's natural that an individual will be emotionally attached to the organization.

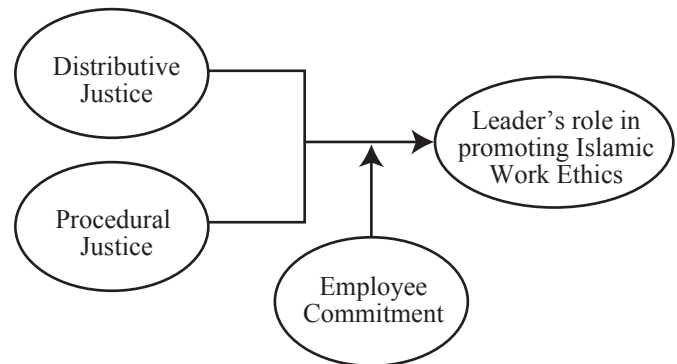
It shows that for an attachment and to create loyalty in an employee organization has to distribute the resources very fairly in all aspect. As said earlier that money is not the only motivator fair dealings, respect dignity matters a lot for an employee procedures and distribution when runs side by side fairly, eventually it generates commitment which is affective. It is clear that distributive justice is when there is fairness in pay distribution, promotion, communication, and performance appraisal (Blader & Tyler, 2004). Employees are more attracted towards personal investment it can be the close working relations retirement investment and career investment years of employment in a particular organization and other benefits that are too costly and when employee realizes it feels that they are fool to leave the organization and seek this type of employment anywhere else (Fatt et al., 2008). Hence from the above literature and based on previous research (Malik & Alvi, 2018; Bakhshi et al., 2009; Lambert et al., 2005; Masterson et al., 2000), it can be hypothesizing that: H2: Distributive Justice has a positive and significant impact on employee commitment.

Moderating the Leadership's Role in Promoting Islamic Work Ethics. Islamic workplace ethics has its origin from Quran, the sayings and teachings of our last prophet who insist humans to gain skills and technology, and highly praises those who struggle in order to live through (Shamsudin et al., 2010). Our last Prophet (PBHU) was the leader who had charismatic personality and He had played very important role in promoting Islamic work ethics. It's referred as art of integration and compromise (Shaikh, 1988). In Islam, ones dedication towards work is regarded as his supreme quality. One should put his maximum efforts in his work so as to prove him capable. Work cooperation, collaboration and teamwork are considered important integrals of Islamic work place ethics which also facilitates in avoiding mistakes (Yousaf, 2000, 2001). According to Islam, ethics has a dominating role to play, not the economics (Rice, 1999). Through the implementation of organizational ethics employee commitment is established which leads toward organizational change.

It also helps to change employee attitude towards work and provide assurance for quality work being done (Yousaf, 2000). It's regarded as an ethics of justice that places a premium on individual autonomous choice and equality (French & Weis, 2000). Lead to the formation of groups and teams whose individuals are more committed and motivated. Islamic work ethic has positive effects on both job satisfaction and organizational commitment. Employee's satisfaction level and their commitment towards the job increase when they follow and belief in Islamic workplace rules and laws. Consequently, they will have low intention to leave the organization (Rokhman, 2010). Organizations who follow ethical laws, they inculcate the sense of fair treatment to all in their employees, which in return increases their trust and commitment in the organization (Koh & Boo, 2004). Leader job is to implement Islamic values e.g. trust, honesty, integrity, patience, kindness, forgiveness, and fair treatment to employees. Leaders are role model, they can set examples for their followers by their behavior and attitude, if leaders would follow and promote Islamic work ethics then justice would prevail in organization's procedures and while distributing resources & reward system in an organization they would give equal treatment to their employees.

The third and fourth hypotheses are: H3: Leader's role in promoting Islamic work ethics moderates the relationship between procedural justice and employee commitment; and H4: Leader's role in promoting Islamic work ethics moderates the relationship between distributive justice and employee commitment. From the above literature review, the theoretical framework lining procedural & distributed justice with employee commitment moderated by leader's role in promoting Islamic work ethics is presented in Fig 1.

Figure 1. Theoretical Framework of Study



Method

Data Collection Procedure. The purpose of this study is to empirically test hypotheses related to the organizational justice, employee commitment and leader's role in promoting Islamic work ethics in hospitality industry of Pakistan. The reason of selecting hospitality industry is that tourists stays in hotels while visiting tourist places of Pakistan. Leaders of this industry must inculcate Islamic values to their employees. The survey was administered by distributing 300 questionnaires to employees working in five star hotels in Pakistan using convenience sampling technique, 268 questionnaires were returned out of which 11 questionnaires were not properly filled, so the sample size for this research was 257 which is showing 85% response rate.

Measurement. The instrument for employee commitment was adapted by Mayer and Allen (1997) with 19 items, for example, *I would be very happy to spend the rest of my career with this organization, it would be very hard for me to leave my organization right now even if I wanted to, I was taught to believe in the value of remaining loyal to one organization etc.* One item was added in Mayer and Allen (1997) scale that is *I am committed towards my organization as I feel that my leader promote Islamic work values.*

The items of distributive justice with 5 items for example my work schedule is fair, I consider my work load to be quite fair, overall the rewards I receive here quite fair etc. was adopted from Moorman (1991). Procedural justice items were also adapted from Moorman (1991) which include, my manager makes sure that all employee concerns are heard before Job decisions are made, employees are allowed to challenge or appeal job decisions made by their managers etc. Finally the items of leader's role in promoting Islamic work ethics were adapted from Rokhman (2010) with items following item examples, my leader promotes that dedication

to work is a virtue, my leader promote that one should constantly work hard to meet responsibilities etc.

Analysis Methods. The data was analyzed using demographic analysis to describe the demographic characteristics of 257 study sample, correlation analysis is carried out to study the relationship between study variables. Moreover, the moderating regression analysis was used to test the study hypotheses based on Model 1 of Preacher and Hayes method.

Table 1
Demographic Characteristics of the Participants (N=257).

Demographic Variables	Classes	Frequency	Percentage
Gender	Male	226	87.9%
	Female	31	12.1%
Age	25 -30	31	12.1
	31 -35	67	26.1
	36 -40	57	22.2
	41 -45	50	19.5
	46 -50	36	14.0
	Above 50 years	16	6.2
Education	Bachelors	54	21
	Masters	143	55.6
	MS/MPhil	49	19.1
	PhD	11	4.3
Tenure	Less than 1 year	9	3.5
	1 -5	69	26.8
	6 -10	88	34.2
	11 -15	53	20.6
	Above 16 Years	38	14.8

Table 1 of the current study is representing the demographic variables of the study which include gender, age, education and tenure of the employees working in hospitality industry of Pakistan. According to the values of Gender, the 87.9% of the respondents are males while only 12.1% composed of females. As in Pakistani culture males are the bread earners of their family and very less ratio of females work in such sector. The age demographics are showing that most of the respondents lie between 31 to 45 years of age in hospitality sector of Pakistan. 143 respondents of the study hold Master degree which is showing that respondents are well educated and were able to easily understand the perspective of the study. Otherwise, it is very difficult to get the respondents understanding about an idea of the study if they are not well educated. Tenure of the respondents in their particular organization is also showing that most of the respondents are well experienced and seasoned as most of the respondents have 6 to 15 years of working experience in their organization.

Results and Discussion

The basic aim of this research was to analyze the moderating impact of leader's role in promoting Islamic work ethics at workplace in the relationship between distributive as well as procedural justice and employee commitment. Therefore, data was collected from the employees working in hospitality sector through a convenience sampling technique. From the collected data of current, the following results are analyzed;

Table 2
Relationship among Study Variables (N=257)

Variable	M	SD	1	2	3	4
1. Employee Commitment	3.96	.56	(0.92)			
2. Procedural Justice	3.84	.78	.41**	(.80)		
3. Distributive Justice	3.75	.74	.43**	.66**	(.74)	
4. Leader's role in promoting Islamic work ethics	3.80	.73	.43**	.73**	.58**	(.89)

Correlation is significant at the 0.01 level (2-tailed); Reliability Values are in parenthesis on the diagonal

The table 2 indicates means, standard deviations, correlations and reliability values for the study variables. The correlation coefficient between procedural justice and employee commitment is 0.417 which is significant at 0.01 level, the correlation between distributive justice and employee commitment is 0.430 significant at 0.01 level, and finally the correlation between leader's role in promoting Islamic work ethics and employee commitment is 0.430 which is significant at 0.01 level. The results indicate that the correlation values of all variables are positive. The reliability values are also showing that all study items are meeting the reliability criteria.

Table 3
Regression Analysis (N=257)

	B	t	p
Constant		14.55	.00
PJ	.23	3.18	.00
DJ	.27	3.70	.00

Dependent Variable: EC; R Square=.216; Adjusted R Square=.210; 35.074; p=0.000

Linear regression analysis was carried out to test the hypothesis 1 and 2 of the current study which is depicted in Table 3. Hypothesis 1 of the study was "Procedural Justice has a positive and significant impact on employee commitment", the results indicate that beta value is .236, t=3.183 and significance level is .002, hence the positive values of beta and t as well as significant p values are showing that hypothesis 1 of the study is approved. Hypothesis 2 of the study was "Distributive Justice has a positive and significant impact on employee commitment", the beta value=.274, t value=3.703 and .000 significance level approves the hypothesis 2 of the study. Therefore, the direct relationship of hypothesis 1 and 2 both are approved from the current results.

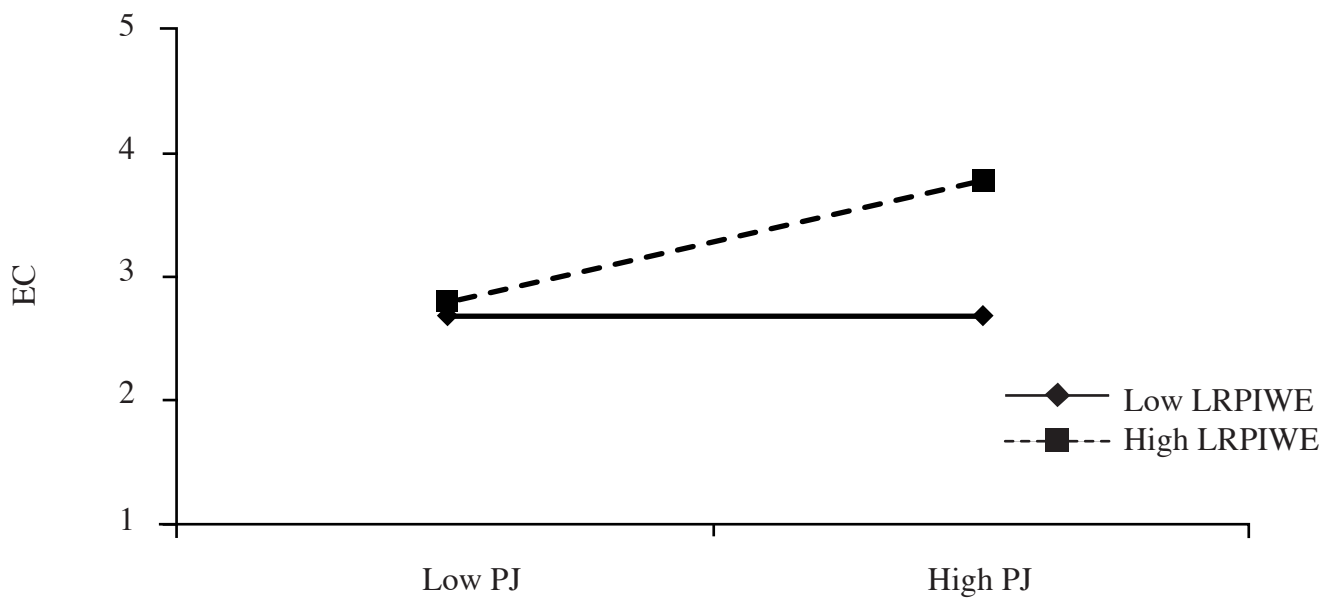
Table 4
Moderation Analysis 1 (N=257)

Model Summary							
	<i>R</i>	<i>R-sq.</i>	<i>MSE</i>	<i>F</i>	<i>df1</i>	<i>df2</i>	<i>p</i>
	.540	.292	.227	21.410	3.000	253.000	.000
Model	<i>coeff</i>	<i>se</i>	<i>t</i>	<i>p</i>	<i>LLCI</i>	<i>ULCI</i>	
constant	3.861	.038	101.022	.000	3.786	3.937	
LRPIWE	.304	.093	3.254	.001	.120	.487	
PJ	.245	.080	3.042	.003	.086	.403	
int_1	.246	.052	4.766	.000	.144	.347	
R-square increase due to interaction(s):							
	<i>R² change</i>	<i>F</i>	<i>df1</i>	<i>df2</i>	<i>p</i>		
int_1	.084	22.713	1.000	253.000	.000		

n=257, DV=EC, IV=PJ, MV=LRPIWE

The main objective of this study was to test the moderating impact of leader’s role in promoting Islamic work ethics. For achieving this objective, Preacher and Hayes process was carried out by using Model 1. In Table 4, the result of moderation analysis are represented which indicates that PJ is significant at 0.003 level, LRPIWE a moderating variable between PJ and EC is also significant $p=0.001$ and interaction variable i.e., PJ x LRPIWE is also significant $p=0.000$, upper and lower limits are also in same direction. This shows that moderation effect exists in this study. There is also an increase in R-Square due to moderating impact. Therefore, hypothesis 3 “Leader’s role in promoting Islamic work ethics moderates the relationship between procedural justice and employee commitment” is also approved.

Figure 2 Moderating Analysis Graph PJ, EC & LRPIWE



The moderation graph is also showing that Leader’s role in promoting Islamic work ethics is high during procedural justice which is increasing the employee commitment in hospitality sector of Pakistan. The dotted line in a graph is showing high values of moderating variable.

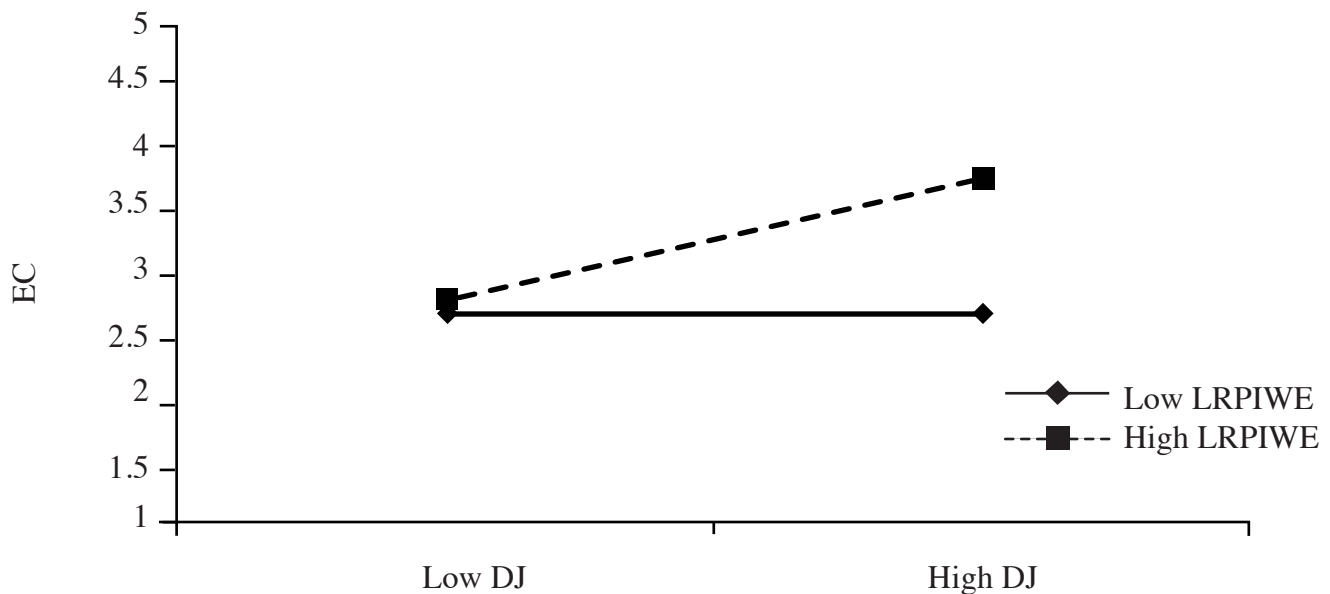
Table 5
Moderation Analysis 2 (N=257)

Model Summary							
	R	R-sq.	MSE	F	df1	df2	p
	.524	.275	.233	25.111	3.000	253.000	.000
Model							
	coeff	se	t	p	LLCI	ULCI	
constant	3.901	.039	98.996	.000	3.823	3.978	
LRPIWE	.263	.076	3.473	.001	114	.412	
DJ	.227	.071	3.191	.002	.087	.366	
int_1	.202	.069	2.906	.004	.065	.339	
R-square increase due to interaction(s):							
	R ² -chng	F	df1	df2	p		
int_1	.040	8.444	1.000	253.000	.004		

n=257, DV=EC, IV=DJ, MV=LRPIWE

The result of moderation analysis in Table 5 indicates that DJ is significant at 0.002 level, LRPIWE is also significant at $p=0.001$ and interaction variable i.e., DJ x LRPIWE is also significant $p=0.005$. Therefore, the results are leading towards approval of hypothesis 4 i.e., “Leader’s role in promoting Islamic work ethics moderates the relationship between distributive justice and employee commitment”.

Figure 3 Moderating Analysis Graph DJ, EC & LRPIWE



The moderation graph is also showing that Leader’s role in promoting Islamic work ethics is high during distributive justice which is increasing the employee commitment in hospitality sector of Pakistan. The dotted line in a graph is showing high values of moderating variable. The results of the study are showing the model fitness of current research which indicated that moderating role of leader’s in promoting Islamic work ethics is approved in the relationship between procedural and distributive justice on employee commitment.

Although, the findings of current research (see Table 2 to 5) that the impact of procedural and distributive justice on organizational commitment are consistent with the results of past studies (for example see, Malik & Alvi, 2018; Bakhshi et al., 2009; Lambert et al., 2005; Masterson et al., 2000) which is depicting the impact of procedural and distributive justice on employee commitment. However, the leader's role in promoting Islamic work ethics as a moderating variable is not studied before as is incorporated in this study, the findings of current research of moderating variable can provide new insight for future researchers.

The organizational justice is most dominating field in human resource management. Many researchers studied its impact on organizational commitment, however, the uniqueness of this study is that moderating impact of leader's role in promoting Islamic work ethics is analyzed. The Islamic work ethic emphasizes cooperation in work, and consultation is seen as a way of overcoming obstacles and avoiding mistakes (Yousaf, 2000), and leaders play significant role in promoting Islamic work ethics. In Islam, it is ethics that dominates economics and not the other way around (Rice, 1999). Islamic workplace ethics may be defined as the set of moral values that distinguish what is right from what is wrong in the Islamic perspective (Beacon, 1996). In Islamic workplace ethics work is measured to be a cause of independence and a means of nurturing personal development, self-respect, satisfaction and self-fulfillment. Hard work is seen as an asset, and those who endeavor are further likely to get ahead in life. In short the Islamic work ethic argues that life without work has no meaning, and engagement in economic actions is a commitment (Chen & Choi, 2005). Islam often goes further and has the advantage of clearer codification of ethical standards as well as a set of explicit enforcement mechanisms (Williams & Zink in, 2010). Workplace ethics has great role to play in today's business world, private as well as the government sector. It maintains justice so that so that a balance is created (Shaikh, 1988) and this balance can be created if leaders promote Islamic ethics at workplace. Through the implementation of organizational ethics employee commitment is established which leads toward organizational change. It also helps to change employee attitude towards work and provide assurance for quality work being done (Yousef, 2000). It's regarded as an ethics of justice that places a premium on individual autonomous choice and equality (French & Weis, 2000).

If leaders follow Islamic work ethics e.g. fairness in distributing resources among employees, justice in the work place, dedication to work, justice and fairness in procedures, then there would be more employee commitment. In this research it is analyzed that the interaction between both between procedural and distributive justice is most likely observed when leaders play important role in promoting Islamic work ethics is being practiced in an organization. Therefore, leader's role in promoting Islamic work ethics moderates the impact in such a way that it is strengthening the relationship between procedural and distributive justice on employee commitment.

Conclusion

The present study is defining the moderating effect of leader's role in promoting Islamic work ethics on procedural and distributive justice. The results indicate that leader's role in promoting Islamic work ethics strengthen the relationship of procedural and distributive justice on employee commitment. The study provides new and empirical insight into the ongoing debate of the leader's role in promoting Islamic work ethics on procedural and distributive justice for enhancing employee commitment. Procedural and distributive justice in any organization is only possible for Islamic countries if they are following Islamic ethical values in their personal and promotional life. The Holy book Quran gives insight to Muslims to spend their life according to the Quranic rules, regulations, and principles and to live our life according to the preaching of our beloved last Prophet. Leader's role is very crucial in promoting Islamic work ethics in an organization which is most diverse in nature. Leader's role in promoting Islamic work ethic has positive effects on procedural, distributive justice, and employee commitment. So, it is recommended to leaders to follow and promote Islamic work ethics in their distribution of resources among employees and in their processes and procedures to get the long term return in the form of employee commitment and the return in the world hereafter. So, being Muslims leaders should follow and promote Islamic work ethics which strengthen procedural and distributive justice to enhance employee commitment.

Implications of the Study

This research provides vital managerial implications to incorporate leader's role in promoting Islamic work ethics in their human resource policies and procedures e.g. in order to increase employee commitment leaders should follow Islamic guidelines and Islamic patterns, leaders need to promote Islamic work ethics in their workplace environment. Leaders should ensure that Islamic work ethics are being applied in order to provide equal rights to employees in the organization.

Further Islamic morality and Islamic values should emphasize in each and every action of a leader. Leaders should implement principles derived from the Holy Quran and sayings of our last prophet at their work place such as hard work, truthfulness and justice in trade, an equitable and fair distribution of resources among employees, encouraging humans to acquire skills and technology, dedication to work as virtue, stresses creative work as a source of happiness and accomplishment, providing equal rights to employees, paying them their appropriate and timely wages, providing them good working conditions. If leader will promote Islamic work ethics then employee commitment will enhance and they can better serve their tourists in respective hotel.

Limitations and Future Research

The present study is describing the moderating impact of leader's role in promoting Islamic work ethics on procedural and distributive justice with its true spirit. However, the research is not without limitations. In present research the cross sectional data was collected, in future research longitudinal studies can be carried out. Further, in current research only procedural and distributive justice was measured, in future research can be analyzed its impact on interactional justice as well to identify whether leaders are following Islamic work ethics in interaction with followers at workplace and what outcomes can be achieved if Islamic work ethics are being followed in interacting with employees, customers, or business partners by leaders. In future sample size can also be increased and multiple sectors can be studied to make comparisons in order to find the leader's role in promoting Islamic work ethics.

Declaration

Ethical Consideration. In questionnaire confidentiality statement was mentioned to clarify respondents that their response will be kept confidential and will be used for data analysis purpose without mentioning their organization name.

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Authors' contributions. Both authors equally contributed in this research. There is not any conflict of interest among research authors about contribution of this work.

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Research Article

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Successful Aging Scale: Urdu Translation and Validation Study on Older Adults

Mubeen Anwar¹, Sobia Masood²

1, 2. National Institute of Psychology, Quaid-i-Azam University Islamabad.

For correspondence. Sobia Masood. Email. s.masood@nip.edu.pk

Abstract

Background. Despite the recent work on successful aging, there are few valid and reliable measures available for capturing this construct.

Objective. One of the widely used measure is Successful Aging Scale (SAS; Reker, 2009) and the present study aimed to translate and validate this scale for using it with the Pakistani older population.

Method. This study consisted of two parts. Part 1 dealt with the translation of the scale following Brislin's (1970) guidelines while in Part 2 validity was established. Part 2 consisted of two phases: In Phase I, cross-language validation was determined on a sample of 60 older adults and the findings of the test-retest conditions over a two-week time period showed that the Urdu version of SAS has better comprehension properties as compared to the English original version. In Phase II of the Part 2, construct validity was established on a sample of 300 older adults (150 men, 150 women) with age ranging from 50 to 87 ($M = 58.71$, $SD = 6.91$).

Results. Findings of confirmatory factor analysis showed that after removing two items from SAS, the model best fit the data. Alpha coefficient Correlation between age-related stereotype and successful aging provided evidence for the convergent validity of SAS. Implications. Overall, the Urdu version of SAS appeared to be a reliable and valid measure for the use among the Pakistani population.

Keywords. Successful aging, indigenous, confirmatory factor analyses, construct validity.



Introduction

The elder population in Pakistan and around the world is occupying a higher proportion due to increasing life expectancy with increased medical technology and social progress. In the past, stigma associated with the older adults has led to them as a burden in society because they cannot be useful members in society. In recent years the concept of successful aging is an important research subject in the field of gerontology (Farooq, 2018; Ginsburg et al., 2017). It reflects the growing need to change the views on aging. In the past, most of the research focused on the negative aspects of aging (Row & Kahn, 1997). Though in this regard research on successful aging are considering the functional level and contributions of the older adults in the society (Guo et al., 2015; Shafiq, 2015).

However there has been lack of consensus on the successful aging definition and instruments (Bowling & Iliffe, 2006; Cosco et al., 2014; Depp, & Jeste, 2006). Similarly, many gerontologists and theorists have not come to an agreement about SA indicators (subjective, objective, or both), and measurement instruments for them (Pruchno, 2015). In the present study, a definition by Reker (2009) is used that describes the multiple indicators of successful aging. Reker (2009) defined successful aging as having three factors: (a) healthy lifestyle (b) adaptive coping (c) engagement with life. Healthy lifestyles include the components that an older individual can make choices. They engage themselves in good and healthy routines. Adaptive coping strategies in successful aging are confronting difficulties directly, construction of realistic assessments of problems, identifying and altering unhealthy emotional responses, and trying to stop adversative effects on the body. Active engagement with life comprises daily routine activities.

Next important issue is to measure successful aging with the measure that best describes it and measure its dimensions. Previously many instruments had been used to measure the successful aging. But to measure the subjective successful aging is by the using of the validated self-assessment scales that incorporates the multiple indicators as described by the Reker (2009). Successful Aging Questionnaire (Tate et al., 2003), Successful Aging Questionnaire (Phelan et al., 2004), the Life Satisfaction Index for the Third Age (Barrett & Murk, 2006), Successful Aging Inventory (Troutman et al., 2011) are the instruments used previously.

Successful Aging Scale (Reker, 2009) has been used in Turkish and Brazile research (Chaves, 2009; Hazer & Ozsungur, 2007; Salamene et al., 2021). Reker (2009) developed Successful Aging Scale based on the four theoretical frameworks including the Rowe and Kahn (1997) model; the SOC model by Baltes and Baltes (1990); the Psychological Well-being Model by Ryff (1989); and the Life Span Model of SA by Schulz and Heckhausen (1996). These models despite the limitation have made huge contributions in conceptualizing the successful aging concept.

Successful aging original version includes the 14 items contributing to assess the successful aging among older adults. It comprises of the three subscales or dimensions measuring different attitudes. Previously successful Aging Scale has been translated into Turkish (Hazer & Özsungur, 2017), and Brazilian (Salamene et al., 2020), however, as per the researcher's knowledge it has not been translated into the Urdu language in Pakistan.

Successful aging scale convergent validity was explored by using Image of Aging Stereotypes scale (Levy et al., 2004) Older adults practice more healthy lifestyles and significantly more preventive health behaviors, they have better longevity, recovery from the trauma and good functional health when they have positive self-perception or positive aging stereotypes as compared to the negative self-perception (Levy et al., 2016). In a subsequent study Scheierl (2009) reviewed that age-related prejudices are significant predictors for the well-being of the older individuals. He demonstrated that positive and negative stereotypes are activated automatically, and negative stereotypes decrease the memory of performance, self-efficacy, willpower, and while positive stereotypes enhanced these factors. Research has shown that successful agers high in emotional intelligence (ability to and communicate emotions and to recognize the emotions in other people), and aging stereotypes (Levy et al., 2019; Levy et al., 2004; Schulz & Heckhausen, 1996), good physical and mental health (Palmore, 1979). Thus, a valid measure of successful aging is predicted to correlate significantly with measures of stereotypes, which is self-rated physical health.

In Pakistan the population of older adults is increasing as elsewhere around the world (Ashiq & Asad, 2017). There are many other challenges associated with older age.

Firstly, geriatrics health continues worsening because of the chronic illnesses in this stage. They are more prone to chronic illnesses because of is the decreased level of the immunity in the geriatric populations. This population spends a big amount of the medical expenditure on themselves (Saqlain, 2019). Increased number of hospitalizations creating challenges for countries like Pakistan that is lacking resources. Secondly, an increased nuclear family systems, privacy issues, and space issues in families have come to marginalize the older population to live alone. Except for a few people, most of the older adults lack pension benefits that lead to dependence for financial assistance. Thirdly, numbers of old age homes are increasing doubtfully. Because availing an old age home is not according to our cultural norm. Fourthly, Pakistan is the country that is offering very less social security protection programs or employees old age benefits for older adults, but most of the elderly are ineligible to claim these benefits. Lastly, their psychosocial needs are not encountered in this age because of all these factors.

The aim of this study was to translate and to report the psychometric properties of the first translation and cross-cultural adaptation of Successful Aging Scale in Pakistani culture. This will be beneficial to know the successful aging among older adults across the globe as Pakistani are living all around the globe, secondly this scale will measure the multiple indicators of successful aging in older adults. The indigenous translation of the scale is needed because the interview guide takes a lot of time of the older adults in qualitative interviews. This research had been done in the pandemic year, in which older adults were restricted to their homes. They were approached in their home to translate the scale and later on these scales were received by them.

The Urdu translated version of scales measuring successful aging will be convenient to use with future studies. Because language restrictions create problems with indigenous population and the older population is not having a higher level of education. Urdu speaking community is living all over the globe, it will be beneficial to use Urdu measures for their better understanding.

Method

Instruments. Following instruments were used in the present study:

Successful Aging Scale (SAS). Successful Aging Scale was a 14 items scale developed by Reker (2009).

It consists of the three subscales Healthy Lifestyle (1,7,8, & 13), Adaptive Coping (2, 3, 12, & 14), and Engagement with Life (4, 5, 6,9, 10 & 11). This scale was rated on seven-point Likert type response categories ranging from 1 as strongly disagree and 7 as strongly agree. High scores on each dimension indicated the presence of that successful aging experience of the older adults in the community. Satisfactory alpha coefficients have been reported by previous research (Hazer & Ozsungur, 2017). This scale was translated into Urdu language and validated in the Study 1 of the research.

Image of Aging. Levy et al. (2004) developed this scale to measure the aging stereotypes about older adults. It consists of the 2 subscales, positive stereotypes, and negative stereotypes. Participants rated to what extent they endorsed 9 Positive Stereotypes (item no. 1, 3, 5, 7, 9, 11, 14, 16, & 18) and 9 Negative Stereotypes (item no. 2, 4, 6, 8, 10, 12, 13, 15, & 17). This scale was rated on seven-point Likert type response categories ranging from 0 as does not match my image to 6 completely match my image. The score range of the positive and the negative age-stereotypes components is from 0 to 54 of each dimension. There were no reverse items. Cronbach's alpha reliability of the positive stereotype is .84 and negative stereotype is .82. High scores on each dimension indicate the presence of that aging stereotype in older adults. This study was completed in two Parts: Part 1 dealt with the translation of the scale while in Part 2 validity was established. Part 2 consisted of two phases: In Phase I, cross-language validation was determined while in Phase II of the Part 2, construct validity was established. Sample and procedure to conduct the research has been discussed separately in each Phase. Following are the details of each part.

Part 1: Translation and Validation of Measures

The instruments used in the present study were available in Urdu language except Successful Aging Scale. Therefore, Successful Aging Scale was translated and adapted into Urdu language as it had not been previously translated in the Pakistani population.

Objectives. The main objective of this study was to translate and validate Successful Aging Scale,

Translation of Study Instruments. The instruments used in this study were in Urdu language to make them easily understood and comprehend by the elderly sample.

All study instruments except Successful Aging Scale (SAS) were available in Urdu language. Hence, this part dealt with the translation of the scales. For translation, guidelines provided by Brislin (1970) were followed. Translation was carried out into the following steps:

Step I: Acquiring permission from the authors

Step II: Forward translation

Step III: Selection of the most suitable items through committee approach

Step IV: Back translation into the source language

Step V: Committee approach for comparing the best translation.

Step I: Acquiring permission from the authors.

The original authors of respective scales were approached for the permission to translate and use SAS.

Step II: Forward translation.

In this step the successful aging scale translation was done from the source language, English, into Urdu. Translation was carried out by the bilinguals. Five participants participated in the forward translation process all having psychology background. All five participants were fluent in reading, speaking, and writing in source and target language. During translation, there was no replacement or deletion of any items and maximum similarity of the source and target language was maintained.

Step III: Committee approach for selecting the best translation.

After receiving the five translations back from the participants of each of the scales in a committee approach, the best translations were picked up from all five translations. Committee consisted of three members including two experts in psychology from faculty at the National Institute of the Psychology (NIP), Quaid-i-Azam University, Islamabad, and the researcher herself. Every item of the scale was thoroughly examined by the committee, and out of the five translations, one that carried exact and closest meaning to the original text was retained and selected. During committee approach it was made sure that none of the items contain hard or difficult meanings of the source that would not be comprehend from the sample. Translated versions were evaluated based on the context and grammatical accuracy, while emphasizing on the equivalence between original text and translation.

Step IV: Back translation.

In this step all the selected items from committee members were given to another set of bilingual experts for back translation into the source language. Source language was English. Five of each of the experts were approached for the back translation of two scales and they were completely unaware of the original scale items in English language. All the experts were fluency in English writing, reading, and speaking. Before giving the back translation all were instructed to translate the items into English by keeping their original meaning the same and do not change the context and meaning. They translated and kept the content equivalent with Urdu versions.

Step V: Committee approach for comparing the best translation.

Successful Aging Scale was taken back to committee for their reviews again and for the final selection of the items. Committee was consisted of three members including two faculty members having sound background in psychometrics and the researcher herself. In the committee, each item was assessed, and they sought the concordance between the original scale and translated English version. With the mutual decision of the committee, all those items were retained which conveyed the same meaning as that of the original scale. Little modifications were done with it, to make it more understandable. Some of the words were written into the parenthesis to convey their better insight. Otherwise, participants commented that they did not have difficulty in understanding they could easily understand the translated version of the instruments. When translation was finalized, translated version with back translations were emailed to the original authors for their reviews.

Part 2: Cross Language Validation

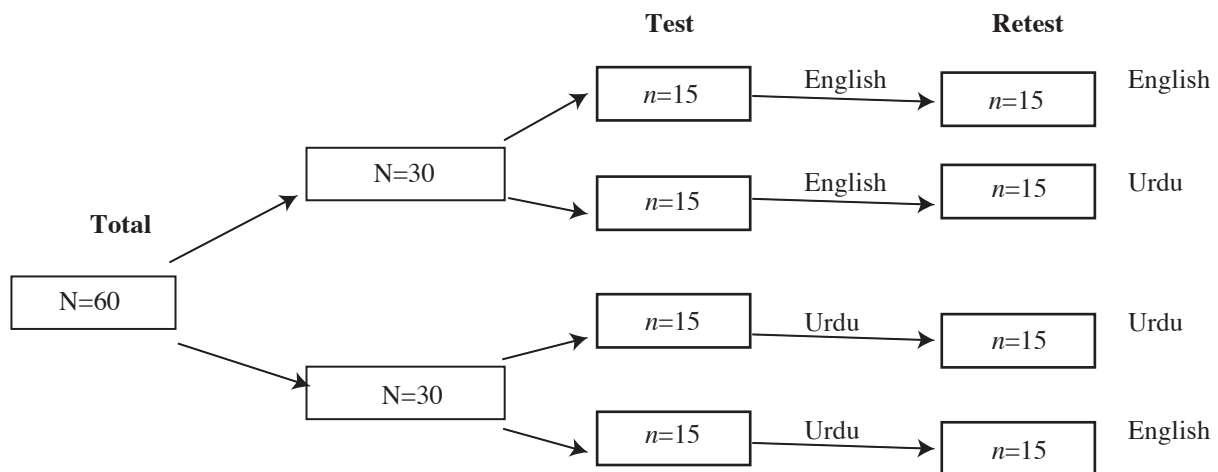
Phase I: Cross Language Validation. This phase was designed to establish the cross-language validation of the translated versions of Successful Aging Scale.

Sample. The cross-language validation sample consisted of the 60 older adults (men = 30, women = 30) from Islamabad and Rawalpindi. Participants' age ranged from 52 to 80 years ($M = 58.71$, $SD = 6.91$). Procedure. Participants were approached directly from their homes based on convenience. All participants were briefed about the nature, purpose, and implications of the study before filling the forms. Sample was distributed into four equal groups of 15 people. Each group was named as English-English, English-Urdu, Urdu-English and Urdu-Urdu on test-retest conditions.

Two weeks' time interval between test-retest conditions was used. Test was administered that way in English- English test- retest administration ($n = 15$) participants were administered the original version of the instrument and after the 15 days of gap the same participants were administered the original version of scale. In the second group ($n = 15$) participants were administered English-Urdu, in which participants were firstly administered the original instrument and after the gap of 15 days the same participants were administered the translated version (Urdu) of the instrument.

In Urdu-English test-retest conditions ($n = 15$) were administered a translated version of the scale and in the second attempt after 15 days they were administered the original version of the instrument in English. In the last group ($n = 15$) Urdu-Urdu test-retest condition participants were administered a translated version of the instrument in the Urdu and after the interval of 15 days again administered Urdu version of the instrument.

Figure 1. Representation of sample distribution for test-retest reliability ($N = 60$)



Results. All the data collected from the older adults by the procedure described above was used to establish test-retest reliabilities of the translated (Urdu) version of the research instrument. Results are described below obtained from data.

Table 1

Test-retest Reliabilities of Translated Successful Aging Scale Among Older Adults ($N = 60$)

Scale	GP. I (EE) ($n=15$)	GP. II (EU) ($n=15$)	GP. III (UE) ($n=15$)	GP. IV (UU) ($n=15$)	Reliability by Original Author
Successful Aging Scale	.86 *	.52 *	.57 *	.92 *	.84
Healthy lifestyle	.70 *	.48 *	.65 *	.79 *	.72
Adaptive coping	.76 *	.53 *	.59 *	.78 *	.73
Engagement with life	.71 *	.44 *	.61 *	.74 *	.75

Note. GP. I = Group 1; GP. II = Group II; GP. III = Group III; GP. IV = Group IV; (EE) = English to English; (EU) = English to Urdu; (UE) = Urdu to English; (UU) = Urdu to Urdu

Table 1 shows correlation between two administrations of scale for four groups. Significant correlations indicate high temporal validity of the scale among older adults. Correlation coefficient for the Urdu-Urdu was higher than the English-English group. Which means that the Urdu version of the scale has better understanding, and comprehension as compared to the original version. These findings support cross-language value validation of the translated scale among older adults.

Phase II: Construct Validation of Instruments.

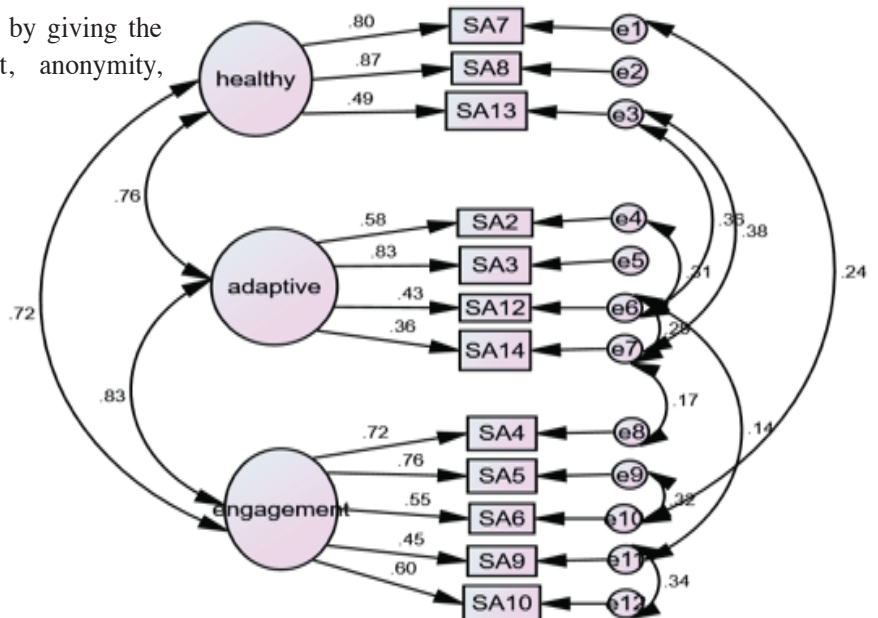
Since the Successful Aging Scale was translated into Urdu language, it was needed to establish its construct validity as well. The other measures used in the present study were already present in Urdu to be more comprehensive for the older adults to answer. Therefore, to validate the structure of Successful Aging Scale, confirmatory factor analysis was done. Results demonstrated that this scale is a valid measure of successful aging among older adults.

Sample. Sample consisted of 300 older adults (men = 150, women = 150) with their age ranging from 50 to 87 years ($M = 58.71$, $SD = 6.91$). In the present study a convenient sampling method was used for data collection ($N = 300$). All data was collected from different cities of Pakistan e.g., Islamabad, Rawalpindi, and Gujranwala. It was ensured that for being included in the sample, participant's age must be above 50 years old. Exclusion criteria was, participants having, a) any terminal diseases, b) disability, c) having any clinically proven cognitive and psychological impairment. Participants having terminal disease and disabilities were removed from the research.

Procedure

Older adults were approached directly in their homes from different cities of Pakistan including Islamabad, Rawalpindi, Gujranwala, and Lahore. All participants were briefed about the nature, purpose, and implications of the study before filling the forms, and their consent to fill the form was taken from them. Data was collected through questionnaires given to the participants and it was sure that none of the question remain unanswered. Ethical protocol was followed by giving the participants voluntary participation right, anonymity, confidentiality, right to quit any time.

Figure 2. CFA model of three factor successful aging scale



Results. Amos version 22 was used to establish the construct validity of the instrument through Confirmatory Factors Analysis (CFA). It was one of the objectives to establish the psychometric validity of the translated instrument. These instruments are used in Western and Central Asian cultural with different population and different cultures across literature, therefore, it was mandatory to confirm the construct validity of the translated instruments in present data. CFA was conducted on the measure as follows:

1. Successful Aging Scale (SAS). For the structural validity of instruments, several fit indices were estimated to see the overall fit model for the measures through structural equation modelling. Chi-Square (χ^2), Incremental Fit Index (IFI), Normed Fit Index (NFI), Tucker-Lewis Index (TLI), Comparative Fit Index (CFI), Root Mean Square Error of Approximation (RMSE), and were included into the model fit. According to the Brown (2006), chi-square model is used to evaluate whether the model exactly holds on the population, and nonsignificant results suggest good model fit.

Confirmatory factor analysis for the Successful Aging Scale (SAS). Successful Aging Scale (Reker, 2009) was translated into Pakistani culture and to confirm its factor structure on the adult's population CFA is performed. Successful Aging Scale had been investigated as three factor structure as well as composite scores. Visual presentation of the model with its factor loading and model fit Table 2 is given below:

Figure 2 indicates that factor loading of the Successful Aging Scale ranges from $\lambda = .36, \lambda = .87$. All items' factor loading is more than .60 which are in good range (Field, 2009) and they were retained except item 1, 11 which were showing very low factor loading, that was aligned with original author's scale loading. So, they were removed from the study variables.

Table 2

Confirmatory Factor Analysis of Successful Aging Scale for Three Factor Structure (N = 300)

	Model	χ^2 (df)	NFI	IFI	TLI	CFI	RMSE	$\Delta\chi^2$ (Δ df)
Successful Aging Scale	Model 1	304.261(74)	.76	.80	.75	.81	.11	
	Model 2	95.69 (42)	.93	.96	.94	.96	.06	208.57(32)

Note. Incremental Fit Index = IFI, Normed Fit Index = NFI, Tucker-Lewis Index = TLI, Comparative Fit Index = CFI, Root Mean Square Error of Approximation = RMSEA, and Chi-Square = χ^2

Model 1 = Default Model of CFA, Model 2 = M 1 after adding error variances.

Table 2 shows model fit indices of the Successful Aging Scales' dimension. It shows that Model 1 fit $\chi^2 = 304.261$, has values of NFI = .76, IFI = .80, TLI = .75, CFI = .81, and RMSEA = .11 the value of the RMSEA is higher than acceptable range and values of the NFI, IFI, TLI, CFI, and RMSEA are lower, so in order to get the better fit, error covariance has been added on the basis of the content overlapping. The value of the RMSEA has been improved in the second model after adding error variance, now its value is .06, and values of the NFI, IFI, TLI, CFI have been also increased to make it a good fit. Therefore, Model 2 well fits the data of this study.

Figure 3. CFA model of composite successful aging scale



Figure 3 indicates that factor loading of composites of the Successful Aging Scale range from $\lambda = .39, \lambda = .90$. All items factor loading more than .60 are in good range (Field, 2009) they were retained except item 1, 11 which were showing very low factor loading, that was aligned with the original author's scale loading. So, they were removed from the study variables.

Table 3*Confirmatory Factor Analysis of Successful Aging Scale as Composite Scale (N = 300)*

	Model	χ^2 (df)	NFI	IFI	TLI	CFI	RMSEA	$\Delta\chi^2$ (Δdf)
Successful Aging for Composite Score 12 items	Model 1	493.23(52)	.65	.68	.59	.68	.16	
	Model 2	76.26 (37)	.94	.97	.95	.97	.06	416.97(15)

Note. Incremental Fit Index = IFI, Normed Fit Index = NFI, Tucker-Lewis Index = TLI, Comparative Fit Index = CFI, Root Mean Square Error of Approximation = RMSE, and Chi-Square = χ^2

Model 1 = Default Model of CFA

Model 2 = M 1 after adding error variances.

Table 3 shows model fit indices of the Successful Aging Scales' composite score. It shows that Model 1 fit $\chi^2 = 493.23$, has values of NFI = .65, IFI = .68, TLI = .59, CFI = .68, and RMSEA = .16. the value of the RMSEA is higher than acceptable range and values of the NFI, IFI, TLI, CFI, and RMSEA are lower, so to get the better fit, error covariance has been added based on the content overlapping. The value of the RMSEA has been improved in the second model after adding error variance, now its value is .06, and values of the NFI, IFI, TLI, CFI have been also increased to make it a good fit. Therefore, Model 2 well fits the data of this study.

Phase III: Convergent validity

Sample. In the present study convenient sampling method was used for data collection. All data was collected from the different cities of Pakistan e.g., Islamabad, Rawalpindi, Lahore, and Gujranwala. It was assured that for being included in the sample, participant's age must be above 50 years old. Exclusion criteria was, participants having, a) any terminal diseases, b) disability, c) having any clinical proven cognitive and psychological impairment. Sample was comprised of the (men = 150, women = 150) taken from different cities including Islamabad, Rawalpindi, and Gujranwala. The age range of the sample is from 50 to 87 years ($M=58.71$, $SD = 6.91$).

Procedure. The present research study was cross sectional research design and quantitative approach was used. A convenient sampling method was used for data collection.

Older adults were approached directly from the different cities of Pakistan e.g., Islamabad, Rawalpindi, Gujranwala, and Lahore. Participants were approached in their houses to fill the survey forms. All participants were briefed about the nature, purpose, and implications of the study before filling the forms, and their consent to fill the form was taken from them. Ethical protocol was followed by giving the participants voluntary participation right, anonymity, confidentiality, right to quit any time. Correlation between the successful aging and image of aging scale is given below.

Results

Correlation Analysis. Bivariate correlation was to assess the association between study variables used in the main study to see the construct validity. Results are described in Table 4:

Table 4*Pearson Correlation Between Study Variables for Main Study (N = 300)*

Sr.No	Variable	1	2	3	4	5	6
1	SA	-	.81 **	.83 **	.86 **	.46 **	-.21 **
2	HLS		-	.60 **	.56 **	.32 **	-.21 **
3	AC			-	.51 **	.43 **	-.62 **
4	EL				-	.40 **	-.61 **
5	PS					-	-.31 **
6	NS						-

Note. SA = Successful Aging, HLS = Healthy Lifestyle, AC = Adaptive Coping, EL= Engagement With Life, PS = Positive aging Stereotypes, NS = Negative aging Stereotypes. ** $p < .01$

Table 4 shows that all the relationships are significant in the proposed direction moderately to highly correlated with each other. Scale and Subscales of the successful aging scale are positively correlated with each other showing evidence for the construct validity. Successful aging is also positively correlated with Positive stereotypes while it is negatively correlated with the negative stereotypes.

Discussion

The objective of this study was to translate, validate and explore convergent validity of the successful aging scale among older adults. The current research was divided into two parts. Part 1 dealt with translation of Successful Aging Scale (Reker, 2009). Thus, it provided the temporal validity of these scales. As it possessed the external consistency of because it provided the consistency of the scores over the time interval. Sample comprised an equal number of the women and men. Results further indicated that Urdu-Urdu test-retest reliabilities are better than the English-English test-retest reliabilities. This provides the support for the cross-language validations of the scales. Part 2 further consisted of three phases. In Phase 1 cross-language validation was determined on a sample of ($N = 60$). Findings revealed that measure has satisfactory consistency over time and alpha coefficients of cross-language administrations provided the evidence for the validity of the translated measures. In Phase II of Part 2, construct validity was established through confirmatory factor analysis on a sample of ($N = 300$) older adults.

Results obtained from CFA of Successful Aging Scale three factor structure indicated that item 1 and item 11 had low factor loading. Descriptive analysis of these items showed that participants scored low on these items. These items were not according to the Pakistani cultural norms. Item 1 is “I am unable to make choices about things that affect how I age, like my diet, exercise and smoking.” Item 11 “I feel that I am not in control of my immediate environment.” In Pakistani culture parent’s major focus is their children. They keep themselves in the least priorities. And due to the equal representation of the women in the research, a lot of variability was seen among the data. According to the original author these items could be deleted from the results to avoid variability of the results. In the model fit indices was achieved for the error variance and hence improving overall fitness of the model.

Error variances were drawn between the different factors which indicated that these factors possess a statistically significant relation with one another. Findings provided us the support that the translated instrument used in the present study was equally applicable and valid on Pakistani culture as they were applicable on their native cultures.

In Phase 3 of part II, convergent validity was established. For this purpose, correlation was computed using Pearson’s Product Moment Correlation to see the relationship between study variables. Results showed significant correlation and in the proposed direction. Earlier research also suggests a positive relationship between successful aging and positive stereotypes about aging (Levy et al., 2004). Relationship between positive stereotypes and successful aging was in proposed direction proposed by literature (see Table 4). When older adults have perceived and have positive beliefs about aging process, they practice more healthy lifestyles and adopt preventive health behaviors which led them to have better longevity, recovery from the trauma (Levy et al., 2004; Levy et al., 2016). According to the Meisner (2012), Asian culture held more positive attitudes. Reason of this relationship in Pakistani culture could be that individuals are having more positive stereotypes regarding the health, that leads to enhance their physical and cognitive performance that leads to successful aging. They show social comparison in which they see other older adults as sick, frail, and dependent, and they engage themselves into the long-term health outcomes, physical, and mental activities to avoid being unsuccessfully aging.

Table further showed that negative stereotypes have negatively negative relationship with successful aging was supported by the findings (see Table 4). These finding are in accordance with the earlier researcher on this relationship (see Table 4). Earlier research also suggests a negative relationship between successful aging and negative stereotypes about aging (Levy et al., 2019). In Pakistani society that gives the view of negative ageing stereotypes when one sees once ‘self in the mirror with wrinkled face. Ageing stereotypes works on behaviorally, psychologically, or physiologically. Psychologically, aging stereotypes generates expectation, and it acts as self-fulfilling prophecy (Levy et al., 2016; Ramírez et al., 2019; Scheierl 2009; Zhang et al., 2018).

When older adults have negative beliefs about the aging process, they do not practice healthy lifestyles and preventive health behaviors which do not lead them to have longevity, recovery from the trauma and good functional health (Levy et al., 2002; Levy et al., 2016). They perceive themselves as sick, helpless, and dependent, because of the fear of being perceived as sick by the others they do not seek medical assistance which eventually forbid them to solve long-term health related outcomes and successful aging.

Conclusion, Limitation, and Implications. Based on findings provided, the support that translated instrument used in the present study was equally applicable and valid on Pakistani culture as they were applicable on their native cultures (see Figure 2, 3). The Urdu translated version of scales measuring, successful aging, will be convenient to use with future studies. Because language restrictions create problem with indigenous population, and older population is not having higher level of the education. Urdu speaking community is living all over the globe, it will be beneficial to use Urdu measures for their better understanding.

In psychology, studies deal with complex human behavior, and they face some problem and limitation. Some of the limitations of the present study are, the sample characteristics and inclusion criteria, sample size was small, and it was restricted to the few geographical areas. It was implemented that results could not generalized on larger population of elderly. It is suggested that for the future geriatrics researches larger sample size and diverse geographical locations should be included so that results could be generalized to broader domains. Future studies should include more vigorous methodological controls (eg., random sampling methods), more sophisticated analytical strategies (i.e., measurement invariance) and cross-cultural designs to test for cultural effects to deal with successful aging confounders.

This study will be beneficial in contributing the gerontology literature in Pakistani community by highlighting the significance of many factors in predicting the successful aging. Pakistan is a patriarchal society, the perception of the men and women are different, so it was needed in the present study to highlight the predictors of successful aging.

Most often, practitioners provide assessment based upon the chronological age and ignore their functional capacity. This will be a fundamental approach in reducing ageistic attitude. This research would have a significant contribution in the gerontology literature. But this study was from a normal sample living on their own or with their children. Future reaches could have deployed samples from the old home setting to see the comparative sample results and protective factor in both communities. This could help to see the effect of successful aging's predictors among normal sample and old home settings. Due to the sample characteristics and inclusion criteria, sample size was small, and it was restricted to the few geographical areas. It was implemented that results could not generalize to a larger population of elderly. It is suggested that for the future geriatrics research larger sample size and diverse geographical locations should be included so that results could be generalized to broader domains.

Declaration

Authors' Contribution. All authors contributed to the conceptualizations of the formulation of research design, literature review, scale translation, data collection and data analysis.

Conflict of Interest. Authors declare that they have no conflict of interest.

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Research Article

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Managing Mental Health Problems and Quality of Life among Dialysis Patients through Stress Management Intervention

Sarwat Sultan¹, Rabia Muneer², Frasad Kanwal³

1, 2, 3. Department of Applied Psychology, Bahauddin Zakariya University, Multan.

For correspondence: Sarwat Sultan. Email. nizar@bkuc.edu.pk; nizardirvi@gmail.com

Abstract

Background and Objective. Chronic diseases and psychological disorders have privileged co morbidity with each other; dialysis patients are also at high risk of internalizing problems. This study investigated the effectiveness of stress management techniques in controlling internalizing problems and kidney disease related quality of life of the dialysis patients.

Method. This study was completed using repeated measure research design with 20 diagnosed kidney patients found high on mental health problems who were randomly selected from initially approached sample of 100 registered patients in Nishtar Hospital Multan. 20 participants were then randomly assigned to intervention and control group equally. Stress management techniques were administered to intervention group only. Pre and post data were obtained on Kidney Disease Related Quality of Life Scale (Hays et al., 1994) and Depression, Anxiety, Stress Scale (Lovibond & Lovibond, 1995). This study was conducted during 2016-2017.

Results. Significant differences were found in pre and post scores on kidney disease quality of life, depression, anxiety and stress for intervention group ($t = 5.03, < .001$ and $t = 8.12, 1.42, 3.02$ at < 0.01 respectively) while insignificant findings were found for control group. It implies that patients after receiving stress management intervention (Meichenbaum, 1993) reported an increase in quality of life and decrease in their symptoms of depression, anxiety, and stress.

Conclusion. Stress management techniques have been found effective in improving kidney related quality of life and lowering depression, anxiety, and stress of kidney patients.

Implications. The findings of present study are useful for the physicians and family members of kidney patients. Stress management techniques if are employed by kidney patients' professionals in particular and their family members in general can extend the quality of life and let down the depression, anxiety, and stress. Seminars and workshop should be conducted for the awareness of these internalizing problems and importance of stress management.

Keywords. *Dialysis patients, stress management module, kidney disease quality of life, depression, anxiety, stress.*



Introduction

Individuals of chronic substantial ailment are similarly more in danger of mental misery than physically healthy people. Mental problem may reveal itself in a wide range of ways from making greater attempt to essential adjustments, through emotional effects, for example, distress or anxiety that normally go with mental turmoil. Most chronic illnesses don't establish accidentally and are generally not relieved at long last. Dialysis is one of those diseases that are considered as a constant physical ailment that develops several mental and social issues (Verhaak et al., 2005). The present research is concentrating on the mental health problems of dialysis patients and also aimed to reduce these mental problems with stress management or inoculation training.

Dialysis is the medicinal term for expelling the squanders and extra liquid from one's blood that one's kidneys can never again evacuate themselves. Dialysis disposes of additional liquid and squanders through a semi porous membrane (Ahmad et al., 2008). Recently, much attention has been given on finding the effect of physical and psychological instability and illness on patients' satisfaction in general and quality of life in particular (Theofilou, 2013). The psychological uneasiness usually refers to as anxiety of patients on hemodialysis intervention most of the times resulted in psychological problems, for instance, depression, tension, burden, and anxiety. It can have unfavorable effect on the psychological wellness of the patients. Mental and emotional problems are exceedingly common and interwoven among dialysis patients. The most experienced mental health problems were depression, anxiety, burden, and stress that have been found most independent risks and threats for self-destruction of patients, and associated with a low personal satisfaction in patients with hemodialysis (Chen et al., 2010; Feroze et al., 2012; Wang & Chen, 2012). Problem of anxiety is generally linked with depressive symptoms as well (Lamers et al., 2011).

Numerous investigations demonstrated that patients encountering hemodialysis experience anxiety, and patients used several coping strategies to manage their strained conditions and anxiety (Logan et al., 2006; Mok & Tam, 2001; Welch & Austin, 2001). Their ways for coping with upsetting situations are engaged and they use adapting techniques.

Affective or emotional focused coping strategies incorporate dealing with the annoying emotions made by worrying conditions; while problem focused adjusting strategy incorporate resolution of offensive situation itself (Jalowiec et al., 1984). Among mental wellbeing problems, depression is the most common and well understood issue revealed for dialysis patients (Cohen & Germain, 2005). Moreover, depression appears to be associated with fundamental parts of the clinical course of dialysis, including death rate, repeat of hospitalization, poor treatment adherence, and decreased personal satisfaction. Specific components of disease that have been seen to be associated with anxiety and burden include the characteristics of dialysis received (Griva et al., 2010).

The treatment for psychological maladjustment should use pharmacological medication and furthermore non-pharmacological medications, for instance, social emotionally supportive network, psychological therapies and physical activity exercises (Wang & Chen, 2012). Stress management/inoculation training is the effective one among all other available and notable correlative treatments which is acknowledged to improve psychological and overall health and prosperity. The last two decades have been found engaged in conducting investigations into the regularity and correlates of depression among kidney patients on dialysis (Kimmel et al., 2007).

Stress management training is helpful for people to reduce and manage the burden and anxiety. This therapy module is composed of four sessions with two hours dispersed for each session. In the first main session therapist introduces himself/herself. By then give understanding about the mental issues to the patients. Therapist administers the measures of anxiety or mental health problems to the clients to assess their degree of anxiety and mental health problems and then a short time later therapist gives them relaxing exercises along with homework assignments of relaxation training. In the second session therapist discusses the homework assignments given to patient at home and examine client's senseless feelings which create anxiety and stress for him/her. Focus is on the stressed events and signs are accumulated to recognize emotional feelings and negative self-talk. The point is to make the patient prepared to positive self-talk and gives him relaxation.

Chronic illness patients are exceedingly helpless against mental distress. At present medical professionals realize how to deal with the physiological states of chronic illness and also acknowledge the mental problems that lead them to greater seriousness. Existing together psychological and physical conditions reduce personal satisfaction and lead them to disease which lasts in a longer duration. It will definitely create more regrettable wellbeing results.

In recent years, kidney related diseases have been found more at risk than last. Kidney diseases are increased and becoming common. 36% of Pakistani individuals experience the ill effects of this infection that result in dialysis. Stress, anxiety, and depression are the primary mental health issues that are generally diagnosed in dialysis patients. These mental health problems usually are ignored and remained untreated by the medical professionals. Therefore the present study was planned to examine the mental health problems and quality of life of kidney patients. To manage the mental health problems and to improve the quality of life of kidney patients, the present study also planned to administer the stress inoculation training. By employing the experimental approach and repeated measures design, the study was completed with intervention and control group.

Method

Participants. A conveniently approached sample of 100 diagnosed kidney patients was contacted at Nishtar Hospital Multan. Of this sample 38 kidney patients were separately listed out on the basis of their high scores on depression, anxiety, and stress and low scores on quality of life. From this sample ($n = 38$ kidney patients), then a sample of 20 kidney patients aged 40-45 years was randomly selected. All the participants were more or less similar to age, education, and socioeconomic background.

Instruments. Depression Anxiety and Stress Scale (DASS) developed by Lovibond and Lovibond (1995) was used to assess the mental health problems of kidney patients. DASS has 42 items responding on 5-point Likert scale. It has three subscales measuring depression, anxiety, and stress with 14 items each. Higher score on each subscale shows greater the problem on that. The Urdu translated version (Zafar, & Khalily, 2014) was used in the present study. Both the original and translated versions indicate the reliability coefficients of .87 and .82 respectively.

Kidney Disease Quality of Life (KQOL) developed by Hays, et al (1994) was used to measure the kidney related quality of life of kidney patients. KDQL has 24 items presenting different response options for each item. All items are categorized into two major subscales; kidney disease scales and general health scales. Kidney disease -specific part includes 11 subscales; symptoms/problems, effects of kidney disease on daily life, burden of kidney disease, cognitive function, work status, sexual function, and quality of social interaction, sleep, social support, dialysis staff encouragement, and patient satisfaction. General health scales include 8 subscales physical functioning, role physical, pain, general health, emotional wellbeing, role emotional, social functioning, and energy/ fatigue. These are multi-item scales and are considered as a complete measure for an individual health. Every statement is precoded numerically after that it is changed into a scale of 0 to 100. Some of the questions are scored with additional instructions and are recoded differently. Responses of item no 17 and 18 are multiplied by 10 to get these items on 0-100 range. The higher scores on the scale show high level of quality of life.

Procedure. A randomly selected sample of 20 kidney patients from a pool of 100 kidney patients who were initially approached at Nishtar Hospital Multan was equally categorized into two groups intervention ($n=10$) and control group ($n=10$) through random assignment. Before employing the stress management techniques, both groups were pretested on both measures (DASS and KQOL). Stress management techniques were administered to the patients of intervention group only and the patients of control group did not receive any treatment. However both the groups were remained on their pharmacological treatment as well. Stress management intervention was completed within four sessions conducted on each patient of intervention group individually. There were four sessions with the interval of one week and each session contained two hours. In first session, the patient' history of his disease was noted down in detail and simple muscle relaxation technique was employed.

In the second session, the patient's irrational beliefs were discussed and were disputed to the rational ones. In the third session, therapist talked about the significance of convictions and qualities in overseeing anxiety.

Focus was kept on demonstrating how self-talk, convictions, and qualities are connected in employing anxiety. In the fourth session, therapist enhanced the clients' personal satisfaction and developed activity arrangement structure for the client. Toward the end, therapist assessed the treatments adequacy. Patients were also given the activity schedule as homework and learnt techniques such as deep breathing, meditations that would be helpful in their daily life.

After successful completion of all sessions given to intervention group, both the groups were post-tested on both measures (DASS and KQOL). After 1 month the quality of life scale and depression, anxiety and stress scale was applied again to measure the effectiveness of the therapy as post testing. Inter and intra-group comparisons were performed to see between and within group differences. All the analyses were performed on SPSS-21.

Results

Patients of kidney disease have a lower level of quality of life and they have to face many internalizing psychological problems. Depression anxiety and stress is commonly found in the patients and is mostly remained untreated. Therapeutic application can have a greater impact on the patients mental health. The present study is also aimed to measure its effective through statistical analysis. The results will be gathered by following the given sketch:

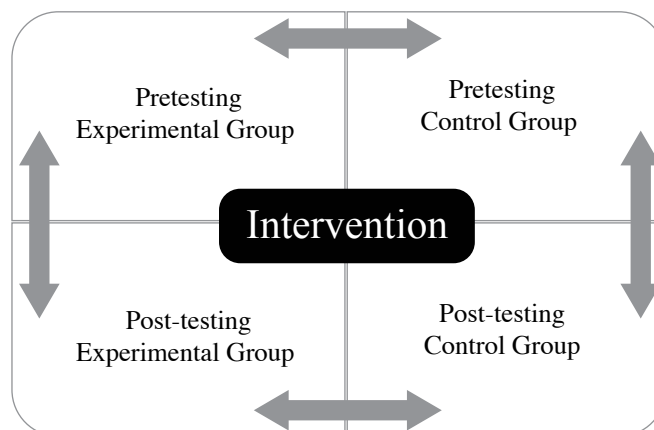


Table 1

Intra and Intergroup Comparisons of Experimental and Control Groups for their Scores on KQOL and Internalizing Problems

Scale		Experimental Group (n=5)	Control Group (n=5)	Intergroup Comparison		
		M ± SD	M ± SD	T	P	
Intra-group Comparison	KQOL	Pre	31.0 ± 5.43	26.80 ± 1.30	1.58	.189
		Post	62.80 ± 5.76	27.80 ± 4.97	10.70	.000***
		t	-11.74	-.439		
		p	.000**	.684		
	Depression	Pre	18.60 ± 10.24	15 ± 7.07	.772	.483
		Post	8.40 ± 4.04	24 ± 5.34	3.942	.017*
		t	3.302	-1.932		
		p	0.00**	.126		
	Anxiety	Pre	21.0 ± 10.56	19 ± 5.74	.363	.735
		Post	6.60 ± 3.51	23 ± 3.16	8.139	.001**
		t	3.316	-1.023		
		p	0.00**	.364		
Stress	Pre	22.40 ± 7.16	24.20 ± 3.42	-.451	.675	
	Post	11.00 ± 2.35	22.40 ± 4.62	-5.28	.006**	
	t	2.94	.793			
	p	.042*	.472			

Note. * $p > 0.05$, ** $p < 0.001$

Table 1 presents the intergroup (between) and intra-group (within) comparisons of the intervention and control groups for their scores on kidney disease quality of life and internalizing problems; depression, anxiety, and stress. Results pertaining to the intergroup (between) comparisons report the findings of pre and post testing. Findings of pre-testing suggest the non-significant differences between experimental and control groups for their scores on KQOL and internalizing problems but the findings of post-testing are found significant between both groups on study measures.

Results pertaining to intra-group comparisons demonstrate the significant findings for experimental group on pre and post testing but insignificant differences are found for control group on pre and post testing. Findings imply that experimental group showed the improvement in quality of life and decrease in depression, anxiety and stress after intervention. But there is no significant difference in the pre testing and post testing of the control group.

Table 2

t-statistics for Intra and Intergroup Comparisons of Experimental and Control Groups for their Scores on Subscales of KQOL

Categories Subscales of KQOL	Intergroup Comparison		Intragroup Comparison	
	Pre-testing of Exp and Cont. Groups	Post-testing of Exp. and Cont. Groups	Pre and Post testing of Exp. Group	Pre and Post testing of Cont. Group
Kidney Symptoms of disease Kidney specific Disease	.801	7.59**	-4.57**	-.61
Effects of Kidney Disease	2.22**	3.05**	-4.22**	-.41
Burden of Kidney Disease	.525	2.92**	-2.99**	1.58
Work Status	--	1.00	-2.44**	-1.0
Cognitive Function	1.00	3.68**	-6.24**	-2.3*
Quality of social interaction	.884	4.87**	-7.45**	-1.5
Sexual function	.278	2.29**	-1.53	1.0
Sleep	-.15	8.12**	-13.4**	-1.8
Social Support	-1.00	3.49**	-5.73**	1.6
Dialysis staff encouragement	-.535	5.72**	-5.71**	.34
Patient Satisfaction	-1.49	13.8**	-8.55**	.42
Physical functioning	3.08**	7.48**	-4.00**	.34
General health Role physical scales	.000	4.00**	-2.05*	.59
Pain	.015	3.06**	-1.65	-1.3
General health	-.348	9.49**	-6.64**	1.3
Emotional wellbeing	2.41**	6.66**	-3.18**	-.75
Role emotional	1.49	3.16**	-3.48**	-1.6
Social function	1.55	4.42**	-3.53**	-1.5
Energy/fatigue	.725	3.14**	-3.30**	.53

Note. * $p > 0.05$, ** $p < 0.001$

Table 2 shows the findings related to the subscales of quality of life. Results pertaining to the comparison on pretesting of both groups indicate non-significant differences while significant differences are found on post-testing of intervention and control group. Table also present the comparisons of pre and post testing for each group. Findings demonstrate the improvements on all subscales in post testing than pretesting of intervention group. However, pre and post comparisons of control group are insignificant.

Discussion

The individuals with kidney disease and on dialysis often experience greater loss of life satisfaction that in turn results in overall low quality of life due to many psychological disturbances. Patients with kidney disease generally and/or on dialysis particularly reported several internalizing problems such as depression and anxiety (Lopes et al., 2002). Therefore, the kidney patients need support and psychological help along with physical treatment to overcome these problems and to maintain their quality of life.

This study was designed to examine the mental health problems of kidney patients and also explored their kidney disease related quality of life. Reliability analyses of the measures showed the satisfactory internal consistency of kidney disease related quality of life scale and depression, anxiety and stress scale for the current data obtained. The analyses were performed for the entire sample data that was taken prior to the intervention. The results are consistent and are related to the results of a research of Lovibond and Lovibond (1995).

Table 1 indicated the findings regarding the comparisons of between and within the both groups; intervention and control that were formed through random assignments of participants to each group. Findings pertaining to the comparisons of intervention and control for their scores on pre and post testing on measures revealed that both the groups were found similar in pre testing and the results were insignificant for depression, anxiety, stress, and kidney related quality of life. It means the patients from both groups were more or less similar prior to the administration of psychological intervention. However, results pertaining to the comparisons of both groups for their scores on post testing showed the significant differences. Findings suggested that patients of intervention group after receiving the stress management training reported the low levels of depression, anxiety, stress, and kidney related quality of life as compared to the patients of control group who didn't receive any stress management technique to overcome their psychological issues.

These findings are in tune with the findings of several other researches wherein stress management therapy has been employed and has been found as one of the well-known correlative therapies which are accepted to enhance mental and general wellbeing (Kimmel et al., 2007). Studies confirmed that therapeutic intervention plays an important role in the treatment and wellbeing of individuals.

The present study also analyzed the differences on subscales of kidney related quality of life. Table 2 presented the t-values for each scale measuring kidney disease specific and general health issues. Findings showed in table 2 demonstrated that from the subscales of kidney disease specific, the effect and burden of kidney disease were decreased after stress management training among patients of intervention group. Further the patients' cognitive, sexual, and physical functioning, quality of social interaction and sleep were found improved after receiving the therapy. Stress management techniques employed to patients also improved the patients' satisfaction, social support and dialysis staff encouragement.

Analyses of general health scales in table 2, indicated the significant effects of stress management techniques on its subscales. Findings revealed that kidney patients of intervention group reported significant decreases in pain and fatigue as compared to that of control group. Results also provided that general health, emotional wellbeing, social functioning, and role emotions were found improved in kidney patients who received complete sessions of stress management training than those who did not receive in control group except physical treatment.

Conclusion

Low quality of life and internalizing problems are commonly found in the individuals with physical illness. These problems are tackled through many different ways by employing pharmacological and psychological treatments. This study was also conducted to assess the effectiveness of stress inoculation training for kidney patients.

The results of the study concluded that there was a significant effect of therapy on mental health problems such as depression, anxiety, and stress and clients showed positive changes in their quality of life. Post-testing confirmed the efficacy of stress management training because it significantly decreased the depression, anxiety, and stress and increased the kidney related quality of life of patients.

Limitations and Suggestions

Though the study has presented significant findings that can be utilized for the betterment of kidney patients quality of life by kidney professionals, several limitations have also been observed that should be acknowledged and addressed one by one. Firstly, the study was designed only on pre and post testing, and no follow-up testing was included to see the consistent effectiveness of stress inoculation training for kidney related quality of life and mental health problems. Therefore, it is recommended to add follow-up testing and comparisons in future research. Secondly, the effects of pharmacological treatment have not measured during the study that could confound the results of present study. Thus, a controlled study should be planned by controlling several other variables such as medicine effects, staff and family attitude. and hospital environment. Thirdly, many other variables' mediation and moderation should also be studied such as personality of patients, coping ways, autonomy support provided by doctors, and social support. Fourthly, a trained therapist should administer the therapy instead of researcher itself.

Declaration

Authors' Contribution. All authors contributed to the conceptualizations of the formulation of research design, literature review, scale translation, data collection and data analysis.

Conflict of Interest. Authors declare that they have no conflict of interest.

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Research Article

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Exploring Attention Deficient and Hyper Activity Disorder and Social Stigma: An Associational Perspective

Farooq Ahmad Khan¹, Nizar Ahmad², Younas Khan³

1. Department of Rural Sociology, The University of Agriculture Peshawar.

2, 3. Department of Sociology and Political Science, Bacha Khan University Charsadda.

For correspondence: Nizar Ahmad. Email. nizar@bkuc.edu.pk; nizadirvi@gmail.com

Abstract

Background and Objective. Attention Deficient and Hyper Activity Disorder (ADHD) is a behavioral disorder prevailed among child (below 18 years) is confined to children affect child in all aspects of life including developmental, social, educational and cognition. The present endeavor was designed to explore the association between social stigma (independent variable) and ADHD (dependent variable) patients in Peshawar city through quantitative methods i.e. Chi square test statistics through cross tabulation and indexation.

Method. This study was conducted in three major hospitals of Peshawar city. Data was collected through a well-structured interviewed schedule from 127 sampled respondents. Further the collected data was analyzed through descriptive and inferential statistics.

Results. A highly significant ($p=.00$) association was found between ADHD and social stigma attributes i.e. sampled respondents were highly stigmatized due to the prevalence of ADHD; normal interaction with own family members were prevailed in terms of eating, however, Parents give ADHD patient less concentration than normal kids were explored from the study findings through associational (chi-square) test statistics.

Implications. It could be concluded from the study findings that, a social repercussions of ADHD was considered as stigma-provoking agent of inferiority complex with prone personality disorder resulting into a state of social exclusion of ADHD patients from all walk of life.

Keywords. ADHD, children's, social stigma, chi-square, peshawar.



Introduction

Attention Deficient Hyperactivity Disorder (ADHD) refers to a behavioral disorder which could easily be identified by an observer by tracing child who suffering from it. According to the Convention on the Rights of the Child (CRC) as “who ever comes under the range of 18 years of age to be called as a child unless the state’s law interprets him or her above the prescribed age range of child.” ADHD is confined to children and such symptoms are prominently associated with disorder such as deficient in attention, mood swing, increase muscle-and-nerve acts and high impulsiveness. ADHD in very early age severely effects child’s all aspect of life particularly cognitive, educational, emotional, social and developmental perspectives (Rader, McCauley & Callen, 2009). It is believed that ADHD is prevalent in general population with the range of 5% to 20% depending on the environment they are living in. Similarly, it is prevalent among children only and their functional deficient may persist till their adulthood (Barbaresi et al., 2002; Polanczyk et al., 2014).

The concept of Attention Deficient Hyperactivity Disorder (ADHD) was used by Dr. Heinrich Hoffman in 1845. He was firmly interested in elaborating the psyche of children. His prior intent was to understand his own 3 years old son. The interesting turn came in his contribution when he collected books regarding poems pertaining with children particularly which eventually led him to do comprehensive work on the psyche problems or disorders related to children as the very area of psychiatry was untouched. This was his son whose problem turned Dr. Heinrich Hoffman to work more extensively on ADHD. Since there are thousands of scientific-based papers have been published on ADHD which have empirical understanding (Still, 1902).

From the start of 20th century, the main scientific metaphor of ADHD and its symptoms are believed to be existing in children. It is believed that ADHD is confined to children only. Similarly, another study depicts that it is not necessarily accepted that those children who are intellectually sound are not vulnerable to be identified with ADHD while several studies revealed that these children with normal intellectual grasping capacity could also be caught with ADHD as in very early age it is often difficult to be diagnosed before any clinical sitting (Still, 1902). It has been noted that early age head injury could trace or lead to hyperactivity in children as severe damage to the brain which results ADHD.

Contemporary scenario of World Health Organization (WHO) estimated in its report that 3% to 4% of adults worldwide have ADHD, out of which 4.5% in the United State only. All of those who are caught by this psychiatric disorder, among them a large proportion of patients, almost 8 million to 10 million are not going through any clinical sitting or testing for systematic diagnosis. Very sadly round about millions of ADHD patients did not seek any quality of treatment due to their ignorance or low level of awareness in initial phase of occurrence of the very disorder (Barkley, Murphy, & Fischer, 2008). The WHO study also reported that large portion of adults with ADHD are usually absent from organization where they serve their respective duties. The Centers for Disease Control and Prevention (2009) reports that their absence from workplace leads to break the plane environment or cycle of profits although in a result organization face losses about \$ 3.7 billion.

The commonness of ADHD has been noticed in Pakistan about 2.49% (Karim et al., 1998). Boys has significantly higher ratio with ADHD than girls, but ratio varies remarkably from 2:1 to 9:1. Gender difference is less distinct and prominent for being not attentive type of ADHD. Boys are more exposed to hostile and antagonistic behavioral problems (Gaub & Carlson, 1997). Children with ADHD contribute 30-40% of consultation to child mental health physicians (Barkley, 1998).

It is believed that ADHD has is frequently diagnosed disorder in child and adulthood with a high impact affecting multi facets of social life. Patients diagnosed with ADHD are usually are at vulnerable position to be stigmatized, prejudice and discrimination in their sphere of social interaction. The contribution of stigma attached with ADHD can be conceptualized as an misjudged risk factor, affecting the course of treatment, effectiveness, symptom aggravation, life satisfaction and psychologically soundness of individuals suffered from ADHD. General public and health professionals’ idea about ADHD are highly heterogeneous and dissimilar (Brakley et al., 2008).

Children with ADHD may experience significant social troubles. It is guessed that approximately 50%-60% of ADHD children prone to be socially excluded by their friends, colleagues and sometime by their family members due to stigma associated with ADHD.

Whereas, only 13% to 16% of children in primary schoolclassrooms are discarded (Terry & Coie, 1991). Similarly, many children with ADHD are distasted or averted within minutes in their initial social interaction with others (Pelham & Bender, 1982) and then denied further opportunities to exhibit social skills (Landau et al., 1998). Unluckily they are labeled being authoritarian, disturbing, inflexible, agitating, explosive, disputed, disappointed and discontented not attentive during organized sports/games, and breaking the rules of game (Taylor, 1994; Whalen & Henker, 1985). Classmates feel uncomfortable with such children irrespective of knowing the fact. They do not like to make embrace as their friend and stigmatized as disruptive, lazy, dirty, and unable to adjust with changing circumstances.

From last recent 10 years numbers of studies pertaining to stigma associated with ADHD have considerably increased chiefly focus on the diagnosis and the risk of stigma which strengthen the probability of hatred and discriminating behavior on the mental health well-being of individual with ADHD (Brohan et al., 2010). Stigma gives exposure to stereotypical attitude from public and determines group as favorable or unfavorable on the basis of attribute they attach with ADHD is the form of social stigma (Demaio, 2006). Stigma is socially constructed label attached with different diseases or disorders i.e. ADHD, AIDs etc. The roots of social stigma lie within the frame of every culture but its degree considerably vary from culture to culture (Corrigan & Shapiro, 2010). Stigma utilization and stigma sight can be demonstrated as an intricate interplay of affective, cognitive and as well as behavioral characteristics primary noticed and expressed in social interaction (Goffman, 1997).

Basically there are some features of stigma among which are public stigma, self-stigma (Corrigan & Shapiro, 2010) and courtesy stigma (Goffman, 1963). Amongst these above mentioned qualities of stigma, the most life threatening is public stigma where one may confront discrediting/unreliable and there is a chance of social exclusion in the form of alienating from social group. Similarly, due to public stigma people are being advised to have no more social interaction with those who are victim of such disorders which seem unbearable and uncomfortable (Corrigan & Shapiro, 2010).

Methods

A cross sectional study design was conducted in three major hospitals in district Peshawar namely-Lady Reading, Khyber Teaching and Hayatabad Medical Complex. ADHA patients at psychiatric wards of the aforementioned hospitals were the key respondents of the study (where every sampled respondents consent was there at the time of data collection). The overall population of ADHD patients at aforementioned three hospitals was 185 resulting a sample size of 127 was selected as per Sekeran (2003) criteria. The sample size was further proportionally assigned to each single unit (hospital) by adopting proportion allocation method as given in table 1 (Chaudry & Kamel, 1996). Further, by adopting direct and face-to-face interaction a well-structured interview schedule was used. The primary data collection was coded in SPSS (20 version) to analyze the data into descriptive (frequency and percentage distribution) and inferential statistics (chi square test statistics through indexation and cross tabulation method) were applied.

Table 1

Proportional Allocation of the Sample taken from each Hospital (N=127)

Name of the Hospital	Population Size(Patients)(N)	Sample Size (n)
Lady Reading Hospital	46	31
Khyber Teaching Hospital	74	51
Hayatabad Medical Complex	65	45
GRAND TOTAL	185	127

Note: Lady Reading Hospital (LRH), Medical Ward, Khyber Teaching Hospital (KTH), and Hayatabad Medical Complex (HMC) Peshawar.

Results and Discussions

Perceptions of the respondents regarding ADHD

Attention Deficient Hyperactivity Disorder (ADHD) refers to a behavioral disorder, which could easily be identified by an observer by tracing child who suffering from it. ADHD is confined to children and such symptoms are prominently associated with disorder such as deficient in attention, mood swing, increase muscle-and-nerve acts and high impulsiveness. ADHD in very early age severely affects child's all aspects of life particularly cognitive, educational, emotional, social and developmental perspectives.

Table 2 describes frequency and percentage distribution of ADHD. Majority 80.3% of the respondents agreed that ADHD is behavioral disorder with particularly be found in children. Followed by 19.7% were not sure about the statement. Similarly, 81.1% of the respondents confessed that in initial phase of ADHD are very hard to be diagnosed. Whereas, 18.9% were uncertain about the initial phase of ADHD. Likewise, majority 79.5% of the respondents agreed that ADHD has affected their cognitive and emotional capacitive strength. While 20.5% negated from the statement. Early age explanation over activities of a child is difficult to be monitored. Any act deviance on non-participation also either be situational or personal. However, frequency of occurrence of such acts through proper monitoring is not being owned by the concerned family, rather treated it occasional. Rader, McCauley and Callen (2009) acknowledged that ADHD is actually behavioral disorder and it seems difficult the child to be identified with disorder in its initial surge. Being ADHD patients children are more prone to be destabilized emotionally.

Moreover, majority 80.3% of the respondents agreed that ADHD is also prevalent in adults as well. While 19.7% negated from the statement. Similarly, majority 80.3% of the respondents had the opinion that symptoms of ADHD changes as child grow up whereas 19.7% of the respondents showed disagreement with the statement. These findings of the study are supported by Barbaresi et al. (2002) and Polanczyk et al. (2014) that it is prevalent among children only and their functional deficient may persist till their adulthood.

Similarly, majority 59.8% of the respondents exposed that the impact of ADHD is alarming and challenging. While 20.5% of the respondents were not sure that whether ADHD is alarming or easily curable. Followed by 19.7% of the respondents who negated from the statement. Similarly, majority 69.3% of the respondents had the view that ADHD is a familial disorder, having signs of spreading to others. Whereas, 20.5% of the respondents disagreed with the same statement. Followed by 10.2% of the respondents had no clue. It is either biological or social, yet to be ascertained. However in some of the cases, it is treated as transferable. These findings of the study are in consonance with the study of Baria (2013) who revealed that ADHD is very challenging and familial disorder and sometimes it is noticed that it often spread from one person to another. Likewise, majority 80.3% of the respondents urged that coping patients with ADHD is a social and psychological challenge. While 19.7% of the respondents had the opinion that coping ADHD patients has no serious concerns both socially and psychologically. These findings of the study are supported by Kaidar et al (2003) who explained that for both parents and counseling professionals it is quite perplexing and problematic to cope ADHD psychologically and socially.

Table 2

Frequency and Percentage distribution on the basis of ADHD (N=127)

Characteristics	Yes	No	Uncertain
ADHD is behavioral disorder with particularly be found in children	102(80.3)	00(00.0)	25(19.7)
In initial phase of ADHD is very hard to be diagnosed	103(81.1)	00(00.0)	24(18.9)
ADHD effects the cognitive and emotional capacitive of child	101(79.5)	26(20.5)	00(00.0)
ADHD is also prevalent in adults as well	102(80.3)	25(19.7)	00(00.0)
The symptoms of ADHD changes as child grow up	102(80.3)	25(19.7)	00(00.0)
The impact of ADHD is alarming and challenging	76(59.8)	25(19.7)	26(20.5)
ADHD is a social dys-functionalism	90(70.9)	37(29.1)	00(00.0)
ADHD is a familial disorder, having signs of spreading to others	88(69.3)	26(20.5)	13(10.2)
ADHD is a psychological disorder, with signs of readdressed after particular period of time	101(79.5)	13(10.2)	13(10.2)
Coping patients with ADHD is a social and psychological challenge	102(80.3)	25(19.7)	00(00.0)

Note. *Values in the table represent frequencies while values in the parentheses present percentage

Association between Social Stigma and Attention Deficient Hyperactivity Disorder (ADHD).

Social stigma is mark of infamy or feeling of disrespect and Shame, usually associated with the observance of any prescribed norms. However attaching such feeling to the disease like HIV, AIDS, and mental illness like ADHD as also virtually to additional situation. It is believed that ADHD has is frequently diagnosed disorder in child and adulthood with a high impact affecting multi facets of social life. Patients diagnosed with ADHD are usually at vulnerable position to be stigmatized, some unexplained prejudice and discrimination in their spheres of social interaction during social group participation.

Table 3 showed the association between social stigma and Attention Deficient Hyperactivity Disorder (ADHD) and disclosed a highly significant ($p=.00$) association between ADHD and patients are highly stigmatized due to having ADHD. Similarly, highly significant ($p=.00$) association was found between ADHD and patients having normal social interaction with your family members. These finding shows a fear of social isolation and from family affair participation and treatment of exclusion from their friends. These findings of the study have consonance with the finding of Terry & Coie (1991) who claimed that children with ADHD might experience significant social troubles. It is guessed that approximately 50%-60% of ADHD children prone to be socially excluded by their friends, colleagues and sometime by their family members due to stigma associated with ADHD and secondly, they are also excluded from sphere of social interaction.

In addition, a highly significant ($p=.00$) association was found between ADHD and their family members allow eating with them. It could be deduced from their finding that family treat their children with normal. The obvious reason of such treatment is embodied and teaching of Islam, which is ensured with equality in treatment to all human being. Furthermore, a highly significant ($p=.00$) association was found between ADHD and peer play with you without any hesitation. Similarly, a highly significant ($p=.00$) association was found between ADHD and people treat you as usual as they were before when you were not identified with ADHD. These findings were in negative to the work of Corrigan and Calabrese (2001) who revealed that while having ADHD status peer are very hesitant and people also treat them differently due to the stigma associated with ADHD.

A significant ($p=.00$) association was found between ADHD and teachers treat you as they treat the rest of your class fellows. Likewise, significant ($p=.00$) association between ADHD and you are not socially excluded from daily social events/activities. However, Clarke (1997) in his study revealed that children with ADHD are usually treated very differently by their teachers and have given no such eager attention which eventually leads to alienation from social gathering. Furthermore, significant ($p=0.006$) association was found between ADHD and you don't feel depressed due to suffering from ADHD. Similarly, a significant ($p=0.006$) association was found between ADHD and parents give you second priority in comparison to others normal kids. These finding shows a visible difference in treatment between normal ADHD affected kids. These results were also in line with Sandberg (2002) who thinks that sense of deprivation and low self-esteem among ADHD children is the result of parent discriminatory attitudes with their children.

Table 3*Association between Social Stigma and ADHD (N=127)*

Social Stigma	Perception	ADHD			P-value(χ^2)
		<i>Yes</i>	<i>No</i>	<i>Uncertain</i>	
You are highly stigmatized due to having ADHD	<i>Yes</i>	26(66.7)	13(33.3)	00(00.0)	$\chi^2=32.678$ (<i>p</i> =.00)
	<i>No</i>	88(100.0)	00(00.0)	00(00.0)	
	<i>Uncertain</i>	00(00.0)	00(00.0)	00(00.0)	
You have normal social interaction with your family members	<i>Yes</i>	52(80.0)	13(20.0)	00(00.0)	$\chi^2=13.814$ (<i>p</i> =.00)
	<i>No</i>	62(100.0)	00(00.0)	00(00.0)	
	<i>Uncertain</i>	00(00.0)	00(00.0)	00(00.0)	
Your family allow you to eat with them	<i>Yes</i>	101(100.0)	00(00.0)	00(00.0)	$\chi^2=56.259$ (<i>p</i> =.00)
	<i>No</i>	13(50.0)	13(50.0)	00(00.0)	
	<i>Uncertain</i>	00(00.0)	00(00.0)	00(00.0)	
Your peer play with you without any hesitation	<i>Yes</i>	65(100.0)	00(00.0)	00(00.0)	$\chi^2=15.183$ (<i>p</i> =.00)
	<i>No</i>	49(79.0)	13(21.0)	00(00.0)	
	<i>Uncertain</i>	00(00.0)	00(00.0)	00(00.0)	
People treat you as usual as they were before when you were not identified with ADHD	<i>Yes</i>	75(100.0)	00(00.0)	00(00.0)	$\chi^2=20.888$ (<i>p</i> =.00)
	<i>No</i>	39(75.0)	13(25.0)	00(00.0)	
	<i>Uncertain</i>	00(00.0)	00(00.0)	00(00.0)	
Your teachers treat you as they treat the rest of your class fellows	<i>Yes</i>	51(100.0)	00(00.0)	00(00.0)	$\chi^2=9.718$ (<i>p</i> =.00)
	<i>No</i>	63(82.9)	13(17.1)	00(00.0)	
	<i>Uncertain</i>	00(00.0)	00(00.0)	00(00.0)	
You are not socially excluded from daily social events/activities	<i>Yes</i>	52(100.0)	00(00.0)	00(00.0)	$\chi^2=10.041$ (<i>p</i> =.00)
	<i>No</i>	62(82.7)	13(17.3)	00(00.0)	
	<i>Uncertain</i>	00(00.0)	00(00.0)	00(00.0)	
You don't feel depressed due to suffering from ADHD	<i>Yes</i>	39(100.0)	00(00.0)	00(00.0)	$\chi^2=6.418$ (<i>P</i> =0.006)
	<i>No</i>	75(85.2)	13(14.8)	00(00.0)	
	<i>Uncertain</i>	00(00.0)	00(00.0)	00(00.0)	
Parents give you second priority in comparison to others normal kids	<i>Yes</i>	75(85.2)	13(14.8)	00(00.0)	$\chi^2=6.418$ (<i>P</i> =0.006)
	<i>No</i>	39(100.0)	00(00.0)	00(00.0)	
	<i>Uncertain</i>	00(00.0)	00(00.0)	00(00.0)	

Note. *Number in table represent frequencies and number in parenthesis represent percentage proportion of respondents and in the last columns number in the parenthesis represent p-Value

Conclusion

A cross sectional based study was conducted with the sole aim to assess the social stigma among ADHD patient in Peshawar. Primary data was collected through structured questionnaire from 127 patients in 3 major hospitals of Peshawar for quantitative analysis in i.e., descriptive and inferential statistics. Thus the study concluded based on the study findings that ADHD patients are highly stigmatized, having lack of normal social interaction with family members and others. Moreover, social repercussions of ADHD was associated with stigma which further led to inferiority complex with prone personality disorders resulting into state of social exclusion of the ADHD patients. Children with ADHD need to be considered and treated as normal being by adopting socially allowable behavior towards them in order to remove sense of social stigma associated to them at family and community level. Parents are often facing the lacking of adequate knowledge about ADHD.

Declaration

Authors' Contribution. All authors contributed to the conceptualizations of the formulation of research design, literature review, scale translation, data collection and data analysis.

Conflict of Interest. Authors declare that they have no conflict of interest.

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