

## **Construction of Moral Disengagement Scale for Adults: A Reliable Measure**

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The main objective of current research was development of an indigenous Moral Disengagement Scale for Adults (MDS-A) in Urdu language. The subsequent objective was the establishment of reliability of newly developed Scale. Initially an item pool of 116 items was formulated based on Bandura's model (2002) which was reduced to 106 items and later 92 items after expert's evaluation and item analysis, respectively. Exploratory Factor Analysis (EFA) was conducted on 92 items scale by administering it on 579 adults (250 men and 329 women), age range of 19-83 years from villages and various educational institutes of district Gujrat, Pakistan. EFA by using Principal Component Analysis with Varimax Orthogonal Rotation resulted in six factor solution of 63 items. Later Confirmatory Factor Analysis (CFA) confirmed the six-factor structure on an independent sample of 413 adults (193 men and 220 women) with age range 19-80 years from Gujrat district, Pakistan. After deletion of 43 items, CFA yielded good model fit indices for final 20 items MDS-A. MDS-A had very satisfactory Cronbach's alpha reliability and test-retest reliability. MDS-A also demonstrated construct validity in terms of highly significant item-total correlations and subscale-to-scale total correlations. Overall, a reliable and valid scale for measurement of moral disengagement among adults in Pakistani culture is available for further indigenous research and counselling settings.

*Keywords.* Development, moral disengagement scale, adults, reliability, validity

Albert Bandura first coined the term moral disengagement in his influential book on social cognitive theory (Bandura, 1986) and defined it as a socio-cognitive process, by which people rationalize and justify their injurious or aggressive behaviors to others, by loosening inner self-regulatory mechanisms in order to preserve their self-esteem (Bandura,

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1999). Moral disengagement refers to the tendency to indulge in self-deceit and make unethical judgements look more acceptable (Bandura, Caprara, Barbaranelli, Pastorelli, & Regalia, 2001). It is also known as “a set of eight cognitive mechanisms that decouple one's internal moral standards from one's actions, facilitating engaging in unethical behavior without feeling distress” (Moore, 2015, p. 199).

Bandura (2002) has described the eight moral disengagement mechanisms as moral justification, euphemistic labeling, advantageous comparison, displacement or diffusion of responsibility, disregard or distortion of consequences, dehumanization, and attribution of blame. Moral justification involves mentally restructuring destructive conducts into acceptable for oneself by justifying them as serving some moral and noble purpose. In euphemistic labelling innocent and cleansing labels are used to mask the deplorable conducts into calming and kind ones by ascribing reputable status to them. The harmful conducts are rendered as benign and acceptable by contrasting them with blatant atrocities in case of advantageous comparison. Minimizing individual's role as agent denotes to cognitive tactics which displace or diffuse responsibility for harmful conducts by diminishing or disguising one's own individual accountability in regard to a larger power or collective responsibility. Distorting or disregarding the aversive consequence of detrimental conduct includes cognitive schemes that aid to keep self at a distance from the damage or to stress that conduct is associated with positive consequences, benefits in place of negative, harmful consequences. Attribution of blame and dehumanization mechanisms are considered to diminish the moral and ethical impact of harmful conduct through accusing and desensitizing the victim by considering them accountable and worthy for such harsh and inhumane treatment (Bandura, 2016).

Moral disengagement theory has been studied by researchers employing both the quantitative as well as qualitative methods. Interview method was used by Bandura and his colleagues to obtain qualitative data about the moral disengagement mechanisms used by prisoners that enable them to take life of other inmates (Osofsky, Bandura, & Zimbardo, 2005). Bandura, Barbaranelli, Caprara, and Pastorelli (1996) developed Mechanism of Moral Disengagement Scale to measure children's inclination to morally disengage in variety of situational contexts and across many interpersonal relationships. The scale operationally defined moral disengagement as a multidimensional construct consisting of four subscales along which the eight mechanisms are clustered. Many group of researchers developed moral disengagement scales following Bandura's (1986; 1999) theory of moral disengagement which conceptualize it is as an eight factor or four factor multidimensional construct (Boardley & Kavussanu, 2008; Detert,

Treviño, & Sweitzer, 2008; Gini, Pozzoli, & Bussey, 2014; Jackson & Sparr, 2005) and conducted researches across different contexts such as sport psychology (Boardley & Kavussanu, 2008), organizational psychology (Christian & Ellis, 2013), military psychology (Beu & Buckley, 2004), and child development and adolescent development (Caravita, Sijtsema, Rambaran, & Gini, 2014; Gini, Pozzoli, & Hymel, 2013; Paciello, Fida, Tramontano, Lupinetti, & Caprara, 2008). Similarly, Pan and Hsu (2017) developed a scale to measure moral disengagement of students in physical education settings. It is a 17 items scale with 5 factor structure and rated on 6-point Likert scale.

Another scale was developed by Gini et al. (2014) in Italy using 486 and 654 student sample from middle and high schools to measure the extent to which moral disengagement mechanisms are shared by students of a class. It was named Classroom Collective Moral Disengagement Scale (CCMDS) and consists of 17 items. It is a good measure for research regarding group level morality. In line with these scales Thornberg and Jungert (2014) constructed a Moral Disengagement in Bullying Scale (MDBS) to measure the degree of individuals' propensity to morally disengage in bullying situations. It is 18 items Swedish scale rated on seven-point scale.

A general adult scale named as Propensity to Morally Disengage Scale constructed by Moore, Baker, Detert, Trevino, and Mayer (2012) is a unidimensional scale with 8 items each item represents the 8 mechanisms of moral disengagement and a single higher order factor moral disengagement. This scale measures inclination to morally disengage, but not actual moral disengagement construct itself.

Thus, to date researchers have explored moral disengagement in children and adolescents and developed scales that for them. While the moral disengagement scales that are designed for adult sample are very content specific and cannot be generalized to general population. Therefore, the present study aims to develop an indigenous disengagement scale for general adult population from all spheres of life for measuring disengagement behaviours in everyday life situations concerning family, friends, authorities, and possibilities to engage in unethical and immoral behaviors and then rationalizing and justifying such behaviors.

In Pakistan, Shahid and Ahmad (2016) and Saba, Azam, and Suzanne (2019) studied moral disengagement in organizational setting employing foreign scales due to non availability of indigenous moral disengagement scale for adults. Owing to the great difference between western and eastern cultures, difference in moral traits and moral disengagement mechanisms are expected in the Pakistani culture as also

reported by Saba et al. (2019). So, the present study will fill this gap in literature by developing an indigenous psychometrically sound scale to measure moral disengagement of adults of Pakistan in native Urdu language.

The alarming situation demands a valid and reliable measure of moral disengagement but there is no indigenous scale to measure moral disengagement in adults with reference to Pakistan. Recently an indigenous moral disengagement scale for adolescents has been developed (Riaz & Bano, 2018) but there arises a dire need to develop a psychometrically sound psychological scale to measure moral disengagement in adults. An adult is a person matured enough to take up adult roles like spouse, parents, tax payers, family care takers, responsible citizen of society etc. Further, adult age group constitute a significant part of world population, according to the statistic of 2017, individuals with age 15 years and above constitute about 74.56% of total world population (World Demographic Profile, 2018, April, 20). While in Pakistan adult age group constitutes 46.22% of total population with early adulthood (ages 20-39) constitutes 27.33%, middle adulthood (ages 40-64) constitutes 15.37%, older adulthood (ages 65 to 74) constitutes 2.29% and late adulthood (ages 75 and older) constitutes 1.21% of total population (Pakistan Bureau of Statistics, 2017). So a large part of population is part of adulthood. Furthermore, this era is very imperative as adults not only hold the responsibility for their conducts, but they also have the huge responsibility for the promoting ethical practices and the internalization of ethical principles in their dependents (Lama, 2016). There is no research in literature that has shown moral disengagement shift and trajectories solely during adulthood (Moore, 2015). The present study is aimed to address this dire need by developing an indigenous, psychometrically sound, and parsimonious scale to measure moral disengagement among Pakistani adults in Urdu language.

## Method

### Sample

The present study was carried out in two phases. In Phase I a detailed process of development of an indigenous Moral Disengagement Scale for Adults (MDS-A) was conducted, while, in Phase II reliability and validity analyses were carried out for the developed MDS-A.

### Phase I: Development of MDS-A

This phase included test five stages including test conceptualization, item pool generation, taking expert opinion, try-out, and item analysis.

**Stage 1: Test conceptualization.** Moral disengagement was operationally defined employing Bandura's (1999) definition as a multidimensional construct which comprises of eight mechanisms which are moral justification, euphemistic labeling, advantageous comparisons, displacement of responsibility, diffusion of responsibility, distortion, disregard and minimization of consequences, dehumanization and attribution of blame (Bandura, 2016). The target population of the scale are adults aged 19 years and above of both gender. It was conceptualized to be a self-report questionnaire indicating the degree of agreeableness on a 5-point Likert scale to the statements related to the eight theoretical mechanisms of moral disengagement.

**Stage 2: Generation of item pool.** A pool comprised of 116 items was generated by employing deductive approach. Culture relevant new items were created based on Bandura's theory of eight mechanisms of moral disengagement. The previous scales of moral disengagement (Bandura et al., 1996; Boardley & Kavussanu, 2008; Gini et al., 2014; Jackson & Sparr, 2005; Moore, Detert, Trevino, Baker, & Mayer, 2012; Riaz & Bano, 2018) based on Bandura's theory were also reviewed. Brainstorming exercise was also conducted with researchers to transform the eight moral disengagement mechanisms into locally evident behavioural representations. Moreover, semi-structured interviews with 5 adults (1 male and 4 female) aged above 19 years were conducted. The minimum education level of interviewees was graduation. Participants were asked to articulate behavioural demonstration of eight moral disengagement mechanisms according to our indigenous culture.

This led to development of 20 items for Moral Justification; 13 for Euphemistic Labeling; 15 for Advantageous Comparisons; 17 for Displacement of Responsibility; 13 for Diffusion of Responsibility; 13 for Distortion, Disregard, and Minimization of Consequences; 12 for Dehumanization; and 13 for Attribution of Blame.

**Stage 3: Experts' evaluation.** The item pool generated in Urdu language was content validated by six experts with proficiency in scale development and the construct of moral disengagement. The expert panel consisted of three PhD (one PhD from Keele University, England; one from University of Karachi, Pakistan; and one from University of Gujrat, Pakistan) and three MPhil (from University of Gujrat, Pakistan).

The experts scrupulously evaluated each item based on its relevance in general to moral disengagement construct and in specific to its indicated mechanism. Moreover, experts also reviewed the items

about its clarity, culture fairness, comprehension, essentiality, fairness, vagueness, accuracy, content, and appropriateness about adults of Pakistani culture. Expert panel evaluation recommended elimination and modification of repetitive, double-barreled, overloaded, lengthy, poorly worded, and conceptually inconsistent items resulting in a more relevant and quality-wise appropriate 106 items scale. Response format indicating degree of agreeableness on a 5-point Likert scale was finalized after the expert panel's approval.

**Stage 4: Try-out.** Pool of 106 items measuring moral disengagement, was tried out on a sample of 50 adults (25 men and 25 women) from the adult population of Gujrat, Pakistan. Convenient sampling technique was used. For inclusion in sample, the individuals aged 19 years and above who were literate enough to read and understand the test items were approached. Adults from Gujrat district were included in sample. Adults who were mentally stable and willing to participate constituted the sample.

The intention was to investigate the appropriateness of items from the test takers' end in terms of comprehension of the concepts and terminologies inquired in their national language Urdu. The target sample demonstrated clarity and better understanding of the test terminology and concepts as these were stated in their national language Urdu and were within their comprehension level. Participants took nearly 30 to 40 minutes to fill the scale.

**Stage 5: Item analysis.** Item-total correlation was conducted for 106 items moral disengagement scale using a convenient sample of 407 adults (148 men and 259 women) with age range 19-79 ( $M = 29.35$ ,  $SD = 11.27$ ). The sample consisted of students, workers, and staff from different school and colleges of Gujrat, district. Literate and nonprofessional adults from rural area were also recruited.

As a result of item analysis, 14 out of 106 items with item-total correlation values below .30 were discarded. This scrutiny yielded 92 items for MDS-A with significant item-total correlation values ranging from .31 to .57 ( $p < .01$ ).

## **Phase II: Validation Through Factor Analyses**

Psychometric properties and validation of MDS-A were established in different steps. This includes establishing construct validity through factor analyses and subscale-to-total correlation. Test-retest reliability along Cronbach alpha was also established.

### **Exploratory Factor Analysis (EFA).**

**Sample.** EFA was conducted on a sample of 579 adults (250 men and 329 women) with age range 19-83 years ( $M = 29.34$ ,  $SD = 11.09$ )

selected using convenient sampling technique from Gujrat district, Pakistan. The diverse sample comprised of students, teachers, workers, and other employees at educational institutions and local community people from all stages of adulthood. Convenient sampling technique was used for test administration.

For inclusion in sample the individuals should be 19 years and above in age and literate enough to read and understand the test items were approached. Adults from all stages of adulthood were sampled Gujrat district only. Adults who were mentally stable and willing to participate constituted the sample. The demographic characteristics are depicted in the Table 1.

Table 1

*Demographic Characteristics of the Exploratory Factor Analysis Sample (N = 579)*

Variable	Category	<i>n</i>	%
Gender	Men	250	43.2%
	Women	329	56.8%
Age	19 – 29	328	56.6%
	30 – 39	128	22.1%
	40 – 49	67	11.6%
	50 – 59	44	7.6%
	≥ 60	12	2.1%

**Procedure.** Formal permission was taken from higher authorities of educational institutions for data collection. Participants were approached personally using convenient sampling technique. Test objectives and instructions were clearly explicated to the participants. Confidentiality of the participants was assured for authentic responses and participants were thanked for their participation.

**Results.** Statistical Package for Social Sciences version 21 (IBM SPSS Statistics-21) was used to explore factor structure of 92 items of initial form of MDS-A. Appropriateness of data for EFA was assessed in terms of sample size, Kaiser-Meyer-Olkin measure of sampling adequacy .92 is above recommended acceptable value of .60 for sample to be declared as adequate (Pallant, 2013). The chi-square value of Bartlett's test of sphericity 21530.09(4186) is highly significant ( $p = .000$ ) Other requirements for EFA which included detection of missing values and outliers by data screening procedures and inspecting boxplot respectively were also executed (Hair, Black,

Babin, & Anderson, 2013). Values of mean and median (230) were almost equal with distribution of scores having skewness 0.28 and kurtosis 0.32 were in the acceptable normal range of  $\pm 2$  (George & Mallery, 2016; Ghasemi & Zahediasl, 2012).

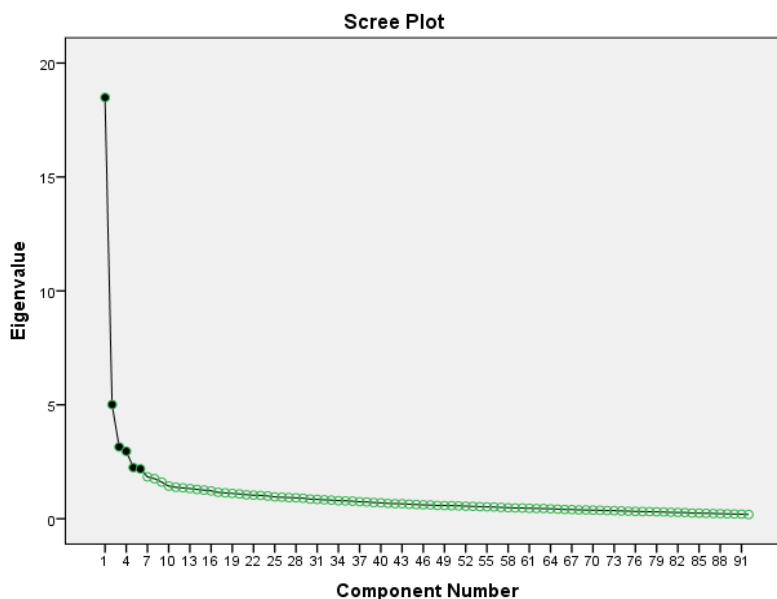


Figure 1. Scree Plot Showing Extraction of Factors for 92 Items MDS-A

Principal Component Analysis was used along with Varimax Orthogonal Rotation to uncover the underlying factor structure of 92 items. At initial run, 23 factors with Eigen values larger than 1 were generated which explained 60.98% of variance. As the scale was based on Bandura (1986, 2002) model of eight mechanisms of moral disengagement, model was run with 8 fixed factors with suppressed factor loadings below .40 (Yong & Pearce, 2013). The eight factor structure accounted for 40.91% of total variance which was within the acceptable range of 40 to 60 % (Ozen & Turan, 2017). Two factors were discarded as they had less than 3 items (Raykov & Marcoulides, 2011; Yong & Pearce, 2013). Both discarded factors had only two items. There were two items (Item 78 and Item 64) that loaded on two different factors simultaneously with factor loading values greater than .40. These items were placed in relevant factor depending on item content and stronger factor loading value. Scree plot also suggests 6 factor solution (see Figure 1).



Thus, EFA resulted in 63 items loading in six factors having circulative variance 38.16% with factor loading value greater than .40, while 29 items were having loadings less than .40, hence, discarded. First factor Diffusion of Responsibility and Distortion, Disregard, and Minimization of Consequences contains 19 items with factor loadings ranged from .41 to .66; second Dehumanization and Attribution of Blame contains 13 items with factor loadings ranged from .43 to .72; third Displacement of Responsibility contains 9 items with factor loadings ranging from .42 to .64; fourth Advantageous Comparison contains 11 items with factor loadings ranging from .45 to .65; fifth Euphemistic Labelling contains 5 items with factor loadings ranging from .41 to .49; while sixth factor Moral Justification contains 6 items with factor loadings ranging from .43 to .61.

Table 2

*Factor Loadings for Exploratory Factor Analysis with Varimax Rotation of 63 Items on MDS-A (N=579)*

Sr. No	Item No.	Factors					
		DIFR & DDMC	DH & AB	DISR	AC	EL	MJ
1	71	<b>.66</b>	-.01	.23	.11	.01	.10
2	72	<b>.62</b>	.01	.30	.13	-.00	.13
3	77	<b>.61</b>	.03	.25	.10	-.02	.13
4	70	<b>.59</b>	.13	.23	.18	-.03	.14
5	79	<b>.59</b>	.08	.21	.09	.00	.10
6	68	<b>.58</b>	.15	.28	.16	-.09	.07
7	80	<b>.58</b>	.11	.04	.08	.09	.10
8	83	<b>.57</b>	.13	.30	.06	.12	.03
9	81	<b>.55</b>	.05	.32	.18	.02	.14
10	78	<b>.50</b>	.15	.05	.09	.01	-.01
11	69	<b>.50</b>	.23	.13	.27	.11	.02
12	85	<b>.50</b>	.15	.18	.19	.01	.08
13	64	<b>.49</b>	-.03	.41	.10	.19	.07
14	87	<b>.48</b>	.20	-.02	.07	.19	-.11
15	76	<b>.47</b>	.16	.21	.01	.22	.22
16	65	<b>.47</b>	.19	.34	.13	.23	.09
17	74	<b>.46</b>	.13	.07	.01	.08	.32
18	90	<b>.45</b>	.26	-.14	.10	.20	-.04

*Continued...*

Sr. No	Item No.	Factors					
		DIFR & DDMC	DH & AB	DISR	AC	EL	MJ
19	75	<b>.41</b>	.08	.05	.08	.16	.20
20	102	.10	<b>.72</b>	-.02	.06	.05	.15
21	105	-.04	<b>.70</b>	.01	.23	-.05	.07
22	99	-.06	<b>.70</b>	.04	.10	.03	-.07
23	101	.05	<b>.65</b>	.04	.12	.04	.09
24	96	.10	<b>.64</b>	.01	.22	.07	.03
25	100	.19	<b>.63</b>	.03	.12	.08	.03
26	104	.13	<b>.62</b>	.04	.09	.03	.17
27	95	.21	<b>.61</b>	.07	.10	.12	.14
28	97	.20	<b>.57</b>	.12	.14	.04	.15
29	103	.18	<b>.55</b>	-.05	-.02	.13	.03
30	106	.12	<b>.54</b>	.17	.09	.03	.09
31	94	.05	<b>.45</b>	.16	-.05	.08	-.14
32	92	.03	<b>.43</b>	.12	.06	.09	.08
33	51	.08	.13	<b>.64</b>	-.01	.03	.08
34	55	.32	.04	<b>.61</b>	.20	.10	.07
35	50	.32	.04	<b>.59</b>	.17	.06	.08
36	52	.20	.12	<b>.59</b>	.16	.12	.15
37	53	.21	.08	<b>.57</b>	.05	.04	.14
38	49	.30	-.06	<b>.55</b>	.18	.05	.06
39	57	.30	.06	<b>.55</b>	.18	.10	.04
40	54	.05	.14	<b>.54</b>	.16	.12	.01
41	47	.17	.04	<b>.42</b>	.06	.00	.13
42	42	.18	.12	.15	<b>.65</b>	-.11	.03
43	40	.23	.08	.16	<b>.64</b>	-.01	.13
44	41	.22	.14	.23	<b>.63</b>	-.02	.07
45	38	.24	.1	.18	<b>.60</b>	.05	.05
46	43	-.03	.28	-.02	<b>.56</b>	.01	-.01
47	37	.05	.24	.09	<b>.55</b>	.24	.05
48	35	.29	.03	.08	<b>.53</b>	.14	.03
49	44	.06	.14	.19	<b>.52</b>	-.06	.17
50	34	.18	.03	.23	<b>.49</b>	.18	.12
51	39	-.02	.26	-.09	<b>.48</b>	.06	.05
52	36	.08	.05	-.03	<b>.45</b>	.18	.08

*Continued...*

Sr. No	Item No.	DIFR & DDMC	Factors				
			DH & AB	DISR	AC	EL	MJ
53	23	.09	.14	-.06	.02	<b>.49</b>	.13
54	29	.11	.05	.26	.14	<b>.42</b>	-.05
55	8	.03	.14	.12	-.03	<b>.41</b>	.17
56	19	.08	.04	.09	.10	<b>.41</b>	.11
57	26	.27	.15	.03	.15	<b>.41</b>	.32
58	5	.05	.16	.07	.05	.12	<b>.61</b>
59	12	.08	.03	.05	.17	.03	<b>.60</b>
60	6	.13	.04	.01	.01	.09	<b>.59</b>
61	16	.20	.07	.22	.22	.04	<b>.48</b>
62	1	.23	.11	.17	.01	.08	<b>.47</b>
63	14	.06	.15	.23	.25	.20	<b>.43</b>
Eigen Values		8.11	6.48	5.56	5.38	3.54	3.29
% of variance		8.81	7.04	6.04	8.85	3.85	3.57

*Note.* Factor loadings > .40 are in boldface. DIFR & DDMC = Diffusion of Responsibility and Distortion, Disregard, and Minimization of Consequences; DH & AB = Dehumanization and Attribution of Blame; DISR = Displacement of Responsibility; AC = Advantageous Comparison; EL = Euphemistic Labeling; MJ = Moral Justification.

### Confirmatory Factor Analysis (CFA).

**Sample.** CFA was conducted on a separate sample consisting of 413 adults (193 men and 220 women) with age range 19-80 years ( $M = 32.34$ ,  $SD = 11.88$ ) selected using convenient sampling technique. The sample was recruited from different educational institutions which included University of Gujrat, and schools and colleges of Gujrat, Kharian, Lalamusa, and Jalalpur Jattan cities. Local available community people from different areas of Gujrat district were also approached. An inclusion criterion was same as of EFA's sample. Demographic characteristics of the sample are depicted in Table 3.

Table 3  
*Demographic Characteristics of the Sample (N = 413)*

Variable	Category	<i>f</i>	%
Gender	Men	193	46.7
	Women	220	53.3
Age	19 – 29	185	44.8
	30 – 39	110	26.6
	40 – 49	63	15.3
	50 – 59	43	10.4
	≥ 60	12	2.9

**Procedure.** Permission from higher authorities of both private and public educational institutions schools, colleges and university was taken. Local available community people from different areas of Gujrat district were personally approached. Test instructions were clearly explicated to the participants. The participants were assured about confidentiality and informed consent was taken. Then 63 items moral disengagement scale was applied.

**Results.** CFA was conducted using AMOS Graphics (21) to confirm the six factor structure of MDS-A formed as a result of EFA. Initial result of CFA indicated unacceptable Comparative Fit Index (CFI). To improve the value of CFI two modification indices, covariance and regression weights (Reise, Waller, & Comrey, 2000) were applied which led to discarding 43 items that were constraining the factor structure resulting in 20 items in final MDS-A with perfect model fit indices values for CMIN/DF, RMSEA, CFI, Goodness of Fit Index (GFI), Adjusted Goodness of Fit Index (AGFI), Tucker-Lewis Index (TLI), and Incremental Fit Index (IFI).

Table 4  
*Model Fit Summary of Confirmatory Factor Analysis for MDS-A (N=413)*

Indices	<i>CMIN/DF</i>	<i>GFI</i>	<i>AGFI</i>	<i>CFI</i>	<i>TLI</i>	<i>IFI</i>	<i>PCLOSE</i>	<i>RMSEA</i>
Model 1	2.504	.78	.76	.79	.78	.79	.18	.05
Model 2	1.585	.95	.93	.95	.94	.95	.99	.04

Table 5  
*Standardized Parameter Estimates for CFA Model of MDS-A (N=413)*

<b>Scale</b>	<b>B(SE)</b>	<b><math>\lambda</math></b>
<b>MJ</b>		
Item 1 MD5_MJ5	1.00	.50
Item 2 MD12_MJ12	0.99 (.18)***	.46
Item 3 MD14_MJ14	1.30 (.22)***	.58
<b>EL</b>		
Item 5 MD23_EL7	1.00	.31
Item 4 MD19_EL3	1.21 (.30)***	.43
Item 6 MD29_EL13	1.41 (.35)***	.46
<b>AC</b>		
Item 9 MD42_AC11	1.00	.66
Item 7 MD38_AC7	0.91 (.87)***	.69
Item 8 MD40_AC9	1.07 (.10)***	.75
<b>DISR</b>		
Item 12 MD51_DIS7	1.00	.43
Item 10 MD47_DIS3	1.11 (.17)***	.55
Item 11 MD50_DIS6	1.35 (.18)***	.74
<b>DIFR &amp; DDMC</b>		
Item 14 MD71_DFF10	1.00	.68
Item 13 MD68_DFF7	1.01 (.10)***	.60
Item 15 MD77_DC4	1.16 (.09)***	.73
Item 16 MD81_DC8	1.33 (.10)***	.77
<b>DH &amp; AB</b>		
Item 19 MD102_DH8	1.00	.64
Item 17 MD95_DH1	0.95 (.09)***	.73
Item 18 MD100_DH6	1.03 (.10)***	.74
Item 20 MD104_DH10	0.77 (.08)***	.55

*Note.* Standard errors are in parentheses. Factors are in boldface. MJ = Moral Justification; EL = Euphemistic Labeling; AC = Advantageous Comparisons; DISR = Displacement of Responsibility; DIFR & DDMC = Diffusion of Responsibility and Distortion, Disregard, and Minimization of Consequences; DH & AB = Dehumanization and Attribution of Blame.

**Construct validity and reliability for MDS-A.** Reliability analyses was conducted to estimate the internal consistency and stability over time of newly developed MDS-A and its six subscales using SPSS-21 software.

**Sample.** A sample of 81 adults (35 men and 46 women) age range 20-59 years ( $M = 28.50$ ,  $SD = 9.81$ ) was selected using convenient sampling technique from Gujrat district, Pakistan. Initially a sample of 110 adults participated in first administration and second

retest administration was conducted on 81 participants due to non availability and unwillingness of 29 individuals after 8 days interval. Data was analysed using Cronbach's alpha reliability, split half reliability, and test-retest reliability of MDS-A and its six subscales.

**Results.** Construct validity of MDS-A was established by employing internal consistency method item-total correlation for scale and correlation of subscales total to scale total of MDS-A. While reliability was established through test-retest, Cronbach alpha, and split half reliability.

Table 6

*Cronbach's Alpha and Test-Retest Reliability of MDS-A and Its Subscales (N=81)*

	Items	<i>M</i>	<i>SD</i>	<i>α</i>	<i>r</i>
MDS-A	20	38.98	10.69	.90	.90**
Moral Justification	3	6.02	2.36	.73	.68**
Euphemistic Labeling	3	7.62	2.56	.68	.71**
Advantageous Comparison	3	4.91	1.80	.75	.48**
Displacement of Responsibility	3	5.80	2.34	.82	.75**
Diffusion of Responsibility and Distortion, Disregard and Minimization of Consequences	4	6.21	2.17	.78	.74**
Dehumanization and Attribution of Blame	4	8.41	3.26	.86	.68**

\*\* $p < .01$ .

Table 6 demonstrates that Cronbach's alpha reliability for MDS-A is very high regarded as excellent reliability for the scale (Sekeran, 2010; Gaur & Gaur, 2009; George & Mallery, 2003). Subscales of MDS-A also show good internal consistency. Cronbach's alpha reliability for six subscales is acceptable and good (Sekeran, 2010; Gaur & Gaur, 2009; George & Mallery, 2003). The MDS-A exhibited high test retest reliability as indicated by a highly significant correlation coefficient between test and retest. This shows that the new MDS-A is very stable over time of 8 days. The subscales of MDS-A also demonstrate significant stability ( $p < .01$ ) ranging from moderate to high (Hinkle, Wiersma, & Jurs, 2003) except for Advantageous Comparison Subscale ( $r = .48, p < .01$ ).

Split half reliability for first half is .85 and for second half is .86 respectively which are considered as good (Gaur & Gaur, 2009).

Table 7  
*Item-total Correlation of MDS-A (N=81)*

Item No.	<i>r</i>	Item No.	<i>r</i>
1	.65**	11	.73**
2	.67**	12	.69**
3	.61**	13	.60**
4	.59**	14	.59**
5	.56**	15	.60**
6	.55**	16	.55**
7	.53**	17	.54**
8	.55**	18	.60**
9	.57**	19	.55**
10	.70**	20	.58**

*Note.* MDS-A = Moral Disengagement Scale for Adults; *r* = Item-total correlation coefficient.

\*\*  $p < .01$ .

MDS-A also demonstrates construct validity in terms of highly significant ( $p < .01$ ) positive item-total correlations ranging from .53 to .73.

Table 8  
*Correlation Matrix of MDS-A and Its Subscales (N=81)*

Scale and subscales	1	2	3	4	5	6	7
1 MDS-A	-						
2 Moral Justification	.80**	-					
3 Euphemistic Labeling	.72**	.62**	-				
4 Advantageous Comparison	.67**	.48**	.38**	-			
5 Displacement of Responsibility	.83**	.66**	.53**	.56**	-		
6 Diffusion of Res. Dist, Disr, and Min of Con	.75**	.59**	.44**	.41**	.49**	-	
7 Dehumanization and Att. of Blame	.67**	.28*	.26**	.32**	.44**	.44**	-

*Note.* Diffusion of Res. Dist, Disr and Min of Con = Diffusion of Responsibility Distortion, Disregard and Minimization of Consequences; Dehumanization and Att. of Blame = Dehumanization and Attribution of Blame

\*  $p < .05$ . \*\*  $p < .01$ .

MDS-A also demonstrates construct validity in terms of subscale-total correlations for six subscales at moderate to high level (Hinkle et al., 2003). It reveals that all subscales are measuring the same construct that is moral disengagement.

## Discussion

The development of an effective measurement scale and establishment of its psychometric properties are considered critical to research advancement in the field of social, health, and behavioural sciences (Boateng, Neilands, Frongillo, Melgar-Quiñonez, & Young, 2018). The cultural differences are at par with individual differences in determining individual learning, adaptation, and development whether its personality, physical or moral development in response to its environment (Habib, Saleem, & Mahmood, 2013).

In recent years, the significance of relatively new construct, moral disengagement has enhanced radically due to its existence across situations like in educational settings, occupational settings, local community setting, social interactions, and everyday dealings. Therefore, the chief aim of the current study was development of an indigenous parsimonious and psychometrically sound measure of moral disengagement in Urdu language for Pakistani adults. Further, the study was also aimed to establish the psychometric properties of the developed scale.

First, an item pool of 116 items based on Bandura (1986, 2002) model of moral disengagement was generated. A large item pool was created to fulfil content redundancy need which leads to internally consistent and reliable measure. Moreover, DeVellis (2017) and Streiner, Norman, and Cairney (2015) recommended that the size of item pool generated should be three to four times larger than the final scale, so the item pool generated in present study was in accordance with these recommendations as it consisted of 116 items and final MDA-S developed had 20 items. Morgado, Meireles, Neves, Amaral, and Ferreira (2018) suggested that the item pool should be evaluated by both expert panel as well as the target sample for establishing its face and content validity. Therefore, the item pool generated was critically evaluated by an expert panel of six experts from field of psychology with expertise in scale construction and concerned subject matter and later it was also tried out on 50 adults for assessing comprehension at test takers end. This scrutiny resulted in 106 items. Item analysis stage is vital for development of theory based scales (Singh, Junnarkar, & Kaur, 2016). The present study employed the item-total correlation technique to select the highly associated test item for construction of moral disengagement scale (Dimitrov, 2012). Ninety two, items with significant correlation above .30 were retained to be part of the MDS-A while remaining 14 items with item-total correlation less than .30 were discarded (Boateng et al., 2018).



EFA was carried out to reduce the 92 items moral disengagement scale and to discover number of underlying factors (Pallant, 2013). Morgado et al. (2018) suggests the use of EFA to determine the factors formed by reducing data and examining the underlying structure and pattern. Before conducting EFA, several assumptions of factor analysis especially EFA were assessed. The sample of 579 adults was adequate for EFA as this sample size was selected keeping in consideration respondent to item ratio of at least 5:1 and sample size of 500 participants regarded as good (Costello & Osborne, 2005; Zhao 2009). It also exceeded the ideal requirement of respondents greater than at least 300 by Tabachnick and Fidell (2013) and sample size larger than 200 by Hoe (2008) for factor analysis. Thus, Singh et al. (2016) regarded that large sample as better and more acceptable. Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett test of sphericity were conducted in the present study to assess whether data is adequate for reduction or not (Tabachnick & Fidell, 2013). The value of KMO obtained was .92 which is above recommended acceptable value of .60 for sample to be declares as adequate (Pallant, 2013). According to Rovai, Bakar, and Ponton (2013) present KMO value is marvellous as equal to .90 and Polit (2010) regarded this value good as it was greater than KMO value of .8. The chi- square value of Bartlett's test of sphericity is highly significant ( $p = .000$ ). This test of sphericity should yield a significant chi-square value ( $p < .05$ ) (Pallant, 2013; Polit, 2010) which shows that correlation matrix does not fulfil requirement for an identity matrix thus renders it suitable for EFA (Hair et al., 2013).

The data was nearly normal for 92 items moral disengagement scale as the values of mean and median are almost equal and both the skewness and kurtosis values were in the acceptable normal range of  $\pm 2$  (George & Mallery, 2016; Ghasemi & Zahediasl, 2012). The data indicated highly reliable value of  $\alpha = .95$  far greater than the minimum acceptable value of .70 (Hair et al., 2013; Pallant, 2013). Inspection of boxplot indicated that data was free from extreme outliers which adversely influence the EFA findings (Aguinis, Gottfredson, & Joo, 2013). Data cases with missing values and outliers due to incorrect data entry were already removed during data screening process after data collection so it was ready for factor analysis (Watkins, 2018). Principal Component Analysis with Varimax Rotation resulted in six factor solution comprised of 63 items with factor loading more than .40 to .72. Scree plot also confirmed 6 factor structure (Yong & Pearce, 2013).

The results of EFA support Bandura's model of moral disengagement along with two adjustments related to fusion of four

mechanisms into two resulting factors. The two mechanisms of moral disengagement, “diffusion of responsibility” and “disregard, distortion and minimization of the consequences” merged together into a single factor captioned as “Diffusion of Responsibility and Distortion, Disregard and Minimization of Consequences”. Reason behind the emergence of these two mechanisms appears that in both mechanisms the consequences of an immoral conduct are denied and distorted, as when such a conduct becomes very common among the masses and a lot of people are engaged in it, the conduct is no longer considered to be generating harmful consequences. In our culture when an unethical act is performed by all adults then it is considered normal practice with no devastating consequences as the personal gains surpass the minimal unpleasant effects imposed to others. So, may be in Pakistani culture, it is most prevailing mechanism by which adults minimize and distort negative consequences of their immoral behavior when it is performed at individual and group level.

Another amalgamated factor extracted consisted of two mechanisms of moral disengagement which are dehumanization and attribution of blame. This amalgamation of mechanisms is in accordance with Bandura’s theory (1991, 1999) by focusing on the same aspect of conduct that is recipient or victim locus from four loci model for the process of moral disengagement. This combined factor accuses the recipient as worthy and accountable for harsh treatment due to the recipient’s personal and situational factors or undress the victim of human qualities and regard them as animals worthy of maltreatment, thus, puts all the blame to the victims shoulder and state that they deserve such maltreatment. Further, moral disengagement at the victim locus, blames the oppressor for carrying the mistreatment on themselves or attributes it to provocation situations. In this method of self-exemption, culprits assess themselves as sufferers compelled to act injuriously by offenders’ offensive conduct or by power of situations. By showing themselves as sufferers, they may feel virtuous in their reciprocal engagements. This set of mechanisms either fades or removes the controlling influence of moral self-sanctions over detrimental practices (Bandura, 2004, 2016). The present findings were in line with the findings of Caroli and Sagone’s (2014) study that revealed that young adults were more inclined to use the mechanism that harm the target of reprehensible behavior individually and use dehumanization mechanism the most.

In addition to these two pairs of merged factors, four independent and significant factors consistent with four of the eight mechanisms of moral disengagement proposed by Bandura (1986, 2002) were prominent in adult population of our culture. These four mechanisms

are displacement of responsibility, advantageous comparison, euphemistic labelling, and moral justification. Present is not the only study that extracted a six-factor structure for moral disengagement. Literature review indicated that a six factor structure was also extracted by Boardley and Kavussanu (2008) when they developed a context specific moral disengagement scale for sports, but the factor structure was different but consistent with Bandura's theory (1991).

CFA confirmed the six factor structure proposed by EFA after the deletion of 43 problematic items. CFA resulted in highly acceptable and good model fit indices for 20 items MDS-A. According to Kline (2015), for adequate model fit the CMIN/DF ratio should be equal to or less than the value of 3. While Hooper, Coughlan, and Mullen (2008) stress a strict criterion of model fitness with  $CMIN/DF < 2$ . The CMIN/DF ratio was considered instead of chi-square value because chi-square test rejects adequate model, as it is highly sensitive to large sample sizes (Hooper et al. 2008). The CMIN/DF ratio for present model fulfils both the criteria with a value less than 2 (Hooper et al., 2008; Kline, 2015). GFI was equal to .95 and AGFI value was greater than suggested .95 values for a good fit of model for both the indices (Hooper et al., 2008). Kline (2005) recommended CFI value equal to and greater than .95 as good model fit and the current CFI value fulfils this criteria indicating a near to perfect model. The TLI value was very close to cut-off value of .95 which reflects a good model match (Hooper et al., 2008, All, Mahdi, & Isaksson, 2013). The IFI value was equal to the cut-off score of .95 providing evidence of adequate fit (Hu & Bentler, 1998). The RMSEA value was less than .05 along with insignificant PCLOSE indicating a strong evidence of good fit of model (All et al., 2013; Hooper et al., 2008). As result all model fit indices provided evidence of a good model fit for MDS-A with six subscale thus supporting the underlying theoretical model of Bandura (1986; 2002) with few modification for current Pakistani culture.

Further reliability analyses were conducted on a sample of 81 adults. Cronbach's alpha reliability for MDS-A was very high ( $\alpha = .90$ ) regarded as excellent reliability for the scale (Sekeran, 2010; Gaur & Gaur, 2009). Split half reliability for first half was .85 and for second half was .86, respectively, which are considered as good (Gaur & Gaur, 2009). Moreover, MDS-A exhibited satisfactory test-retest reliability demonstrating temporal stability over 8 days' time period (Hinkle, et al., 2003).

MDS-A also demonstrated construct validity in terms of highly significant ( $p < .01$ ) positive item-total correlations ( $r = .53$  to  $r = .73$ ) and subscale-total correlations for six subscales at moderate to high

level (Hinkle et al., 2003). It reveals that all test items and subscales are measuring the same construct that is moral disengagement. Thus, the high level of internal consistency exhibited by item total correlation and subscale-total correlations for MDS-A provide evidence for its construct validity.

### **Limitations and Suggestions**

Firstly, the samples used for factor analysis were acceptable as it fulfilled the respondent to variable ratio of 5:1, however, if it is increased to recommended ratio of 10:1 or 30:1 in future studies with same scale MDS-A, it may depict better stable factor structure. Similarly, the sample sizes used for establishing psychometric properties should be large in future and discriminant and convergent validity can also be established. Secondly, present study only explored the eight factor model of moral disengagement for adults and resulted in confirmation of six factor model through EFA and CFA; it is suggested that future researchers can explore eight, four, and higher one factor model as well for moral disengagement of adults of Pakistani culture as such models are also supported by literature. Thirdly, survey method with convenient sampling was used for data collection which has several demerits. It would be more appropriate if many qualitative methods like detail interviews with more adults and focus group with adults from different walks of life to be conducted to explore the phenomenon of moral disengagement, as existing foreign model of Bandura for moral disengagement may not fully represent moral disengagement behavior of Pakistani culture. Therefore, there is a need for developing our indigenous model of moral disengagement, which could accurately explain this construct in our Pakistani culture. Future studies are recommended to extend the generalizability of MDS-A to other districts and provinces of Pakistan.

### **Implications**

MDS-A can be used to measure moral disengagement in a wide sample of adults aged 19 years and above and in all contexts as its general in nature. It can further assist researchers to comprehend the moral disengagement phenomenon from the view-point of eastern culture and specifically Pakistani culture. This study provides basic frame-work for further researches in Pakistani context by providing a psychometrically sound measure of moral disengagement for adults in national language Urdu. Prevalence, correlational, and interventional studies in Pakistani context can be conducted using MDS-A. It

provides avenue for construction of population and context specific new moral disengagement scales. It can be used for assessment of moral disengagement in clinical, counselling, occupational, and higher educational settings and also for problem identification. Researchers can also explore its utility in occupational and military settings for personal recruitment.

### Conclusion

In a nutshell, present study helped in developing an indigenous, parsimonious, valid, and reliable MDS-A with regard to Pakistani culture to measure moral disengagement in adults.

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