

Analysis of Factor Structure of an Urdu Version of Padua Moral Judgment Scale for Pakistani Adolescents

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Comunian (2002) developed the Padua Moral Judgment Scale (PMJS) as a self-report measure to assess moral judgment development. The present study aimed to examine the factor structure of PMJS considering Gibbs' theory of moral development. Data was collected from 287 adolescents from the district Abbottabad ($M = 15.5$ years, $SD = 1.75$) and confirmatory factor analysis was performed on an Urdu version of PMJS. The original four-factor structure and factor-loadings of PMJS that Comunian (2002) validated with samples from seven countries (Australia, the USA, Chile, Belgium, Ireland, England, and Italy) were tested for the Pakistani sample. Findings showed adolescents were at a higher level of moral judgments as per universal stages of moral development. But the model-to-data fit was permissible and signified cultural relativism of moral development among Pakistani youth. This highlights the revision of existing tests and a need for indigenous measures of moral development.

Keywords: Moral Development, Kohlberg theory, PMJS, adolescence, factor analysis.

Morality is largely studied in the West and there are various measuring tools testing theoretical claims across nations and cultures. But non-Western studies are scarce, mainly because of the absence of valid measures or lack of validation attempts. Some scholars developed their measures in the light of Kohlbergian theory, for instance, Rest's Defining Issues Test (Rest & Narvaez, 1979), Gibbs' Socio-moral Reflection Measure (Gibbs, Colby, & Widaman, 1982), and Lind's Moral Judgment Test (1998). Yet these measures lacked the rigor of objectivity and were

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marked with limitations in administration, scoring, and interpretation. To address these limitations, Comunian (2002) constructed an easy-to-administer and score measure, entitled Padua Moral Judgment Scale (PMJS) based on Gibbs moral development theory. Gibbs (2013) considered perspective-taking and the interplay of cognition and affect as important motives for moral behaviour. He revised Kohlberg's theory by presenting two levels and four stages of moral development, instead of three levels and six stages (Gibbs, 2013). Comunian (2002) developed PMJS to empirically test Kohlberg's theory of moral development and Gibbs' shift from the Kohlbergian notion of six stages to four stages of moral development. The present study is aimed to validate PMJS for indigenous use and determine its psychometric properties.

PMJS was developed and validated with the Italian sample and cross-validated with participants from 6 other countries. These countries included Australia, Belgium, Chile, England, Ireland, and the USA (Comunian, 2002). PMJS is based on testing seven moral values of the Social Reflection Measure-Short Form (SRM-SF) that Besieger and Gibbs (1987) had developed and Comunian (2002) factor analyzed. These values included, contract, law, legal justice, life, property, affiliation, and truth. The initial pool of 165 items was reduced to 28 items of PMJS during cultural adaptation with an Italian sample (Comunian, 2002). Comunian's findings of exploratory factor analysis bolstered Gibbs' four-stage model of moral judgment across two levels of immature and mature moral development. The subscales of PMJS follow the titles of the stages of moral development in Gibbs' theory which are power, deal, mutuality, and system.

Comunian (2002) considered mature moral judgment as an indicator of the progress through universal, sequential stages of moral development. The first two stages of power and deal represent immature moral judgment development when an individual is incapable of perspective-taking and reciprocal interactions. Across these stages, individuals remain self-centered and perform moral acts to receive rewards or avoid punishment. The next two stages of mutuality and system represent mature moral judgment development that is paramount to the post-conventional level of stages 5 and 6 in Kohlberg's theory, in which individuals become capable

of understanding reciprocal interactions. They develop respect for others' rights and abide by societal and cultural norms (Comunian, 2004; Gibbs, 1995).

Comunian (2004) adopted a non-dilemma approach to know the reasoning behind moral choices and obtained rating scores and ranking scores for each respondent. Four subscales of PMJS represented four stages of Gibbs' theory of moral development. Interestingly, each of the 7 items corresponded to 7 moral values. Participants responded on a four-point rating scale to show agreement with the belief and practice of each moral value. The average score of 7 items was used to express the intensity level of a stage of moral development. Four subscale scores were used to calculate the summary score that represented an individual's overall moral development. Comunian (2004) labeled the sum score of responses to the close-ended items as the rating score of PMJS. The subscale scores ranged between 7-28 and the total score ranged between 28-112. There were 8 open-ended questions; two at the end of each subscale. The respondents were asked to mention the number of items they agreed or disagreed with the most and to elaborate on the reasons for the choice of responses. Comunian labeled the average score of responses to the open-ended questions as a ranking score of PMJS. She claimed to observe the correspondence between the rating score and ranking score on PMJS of any individual who attempts it (Comunian, 2002, 2004).

Empirical evidence supported PMJS as a valid and reliable measure for cross-cultural research (Comunian, 2002). There is a scarcity of information about its psychometric properties for the non-Western samples, particularly for the Pakistani population. Only two studies with Pakistani adolescents (i.e., Irfan & Kausar, 2018; Mehmood et al., 2011) could be traced that used PMJS in correlational studies and reported good internal consistency. A study supported the four-factor structure of PMJS in alignment with the stage model of moral judgment development and reported good internal consistency and test-retest reliability of PMJS with an Italian sample (Comunian & Gielen, 2001). Later, when Comunian (2004) tested PMJS with participants from seven countries, she found an average CFI value of .93 for the CFA model. The fit statistic was a minimum of .90 and a maximum of .98 for these countries. This finding

showed PMJS as a reliable measure for participants other than Italy. The original Italian version of PMJS, however, was translated into Urdu language (Ghous, 2004) but not validated for the respective population.

Scholars questioned the invariant sequence of six standard stages of moral development and the universal generalizability of Kohlberg's theory. The review of the literature showed that there are over 120 cross-cultural studies that tested Kohlberg's claims and use of the Moral Judgment Interview to measure moral development (Gielen, 1996). Where many researchers provide empirical support to Kohlberg's claims (e.g., Gibbs et al., 2007; Snarey, 1985), several researchers disagree with the invariant sequence and universal generalizability claims of moral development and favour moral relativism across nations and religions (e.g., Alas et al. 2010; Chen & Liu, 2009; Forsyth et al. 2008).

The universality or cultural relativism of moral development generated extensive research. Earlier reviews of cross-cultural studies using the Social Reflection Measure-Short Form augmented support for the universality of the stage approach to moral development. Snarey (1985) reviewed 45 studies about universal patterns of moral development in 27 countries and found evidence for universal moral values, provided the measure was translated and adapted into the native language of the participants. Later, Gibbs et al. (2007) reviewed the claims of cultural relativism and universality of moral judgment development in the analysis of 75 studies from 23 countries. They concluded, "*moral development is not entirely relative to particular cultures and socialization practices*" (Gibbs et al., p. 491). They also supported the universal moral development trends across cultures. Yet, some empirical studies trace cultural relativism (e.g., Chen & Liu, 2009; Forsyth et al. 2008).

The existing literature lacked a sufficient amount of non-Western studies on moral development to provide empirical support to Kohlberg's claim. Qadri and Siddiqui (2020) examined the effects of collectivist Pakistani culture on the moral judgment of business school students and found significant positive effects of collectivist culture on moral decisions. In a cross-cultural study, Winskel and Bhatt (2020) examined the role of culture on moral judgment using six moral dilemmas. They found that Australian adults paid more attention to outcomes of right and wrong

actions, whereas Indian adults were more concerned with personal versus impersonal issues in moral decision-making. It is noteworthy that mature moral development at the cultural level cannot necessarily correspond to an individual's moral stage of maturity. The past theories and research provided a guideline for concluding that homogeneity of progress through all stages of moral development between Western and non-Western cultures supports the universality of moral development, which otherwise signifies cultural relativism (Gibbs, 2013).

Moral judgment was studied as a correlate or causal factor in a few other studies. A study found that cultural values were a powerful causal factor affecting the immoral judgment of Nigerian and Pakistani Muslim adolescents (Maqsd, 1977a). Another study examined the link between immoral judgment development and moral conflict resolution among Nigerian Muslim adolescents with socially homogeneous versus heterogeneous backgrounds. Findings showed that adolescents with high social heterogeneity had high moral maturity in their judgments and better conflict resolution than their counterparts (Maqsd, 1977b). Previous studies recommend researchers conduct more studies on moral judgment development.

Cognitive developmental theorists claimed an incremental gain in moral maturity on average, with growing age (Kohlberg, 1976). Kohlberg (1976) postulated age-related changes in moral development and believed that, in general, very few individuals reach up into the sixth stage of principle moral reasoning. Gibbs (1995) contradicted him and posited that adolescents are capable of mature moral judgments at stages 3 and 4. Besides, Kohlberg (1976) claimed the absence of mature moral judgment development among non-Western or primitive cultures.

PMJS was translated into Urdu language (Ghous, 2004) but not yet validated for Pakistani participants. The original English version of PMJS was not used to avoid language comprehension problems among the participants of the study. The purpose of the present study was to examine the factor structure of the Urdu-translated PMJS among Pakistani adolescents performing confirmatory factor analysis (CFA) and to confirm the invariant sequential stages of moral development. For this purpose, a cross-sectional survey method was chosen. Though PMJS can be used with

children and adults as well, it was tested for adolescents being a middle age group and to compare the findings of the Pakistani sample across peers from other countries. Only the rating scores of participants on PMJS were used for the analysis. The rationale of the study was to seek culture-specific information and add to the body of global literature on the validation of PMJS. These findings can be compared with the cross-cultural sample in previous and/or upcoming studies.

Method

Participants

The present study targeted the adolescent population and the selection criterion was to choose participants between the age range of 12-18 years. An equal number of boys and girls were selected to facilitate gender comparison. A total of 304 adolescents were selected through convenience sampling from nine middle and high schools in the Abbottabad district for data collection. After data cleaning, answer booklets from 287 participants were shortlisted for the statistical analysis. The reported age range of the sample was 12-19 years ($M = 15.5$ years, $SD = 1.75$). Almost an equal number of boys ($n = 146$, 50.87%) and girls ($n = 141$) were included. No incentive was provided for research participation. Participants' selection was cross-sectional, and data were collected at a one-time point.

Measure

Padua Moral Judgment Scale (PMJS-Urdu version). Comunian (2002) developed PMJS to examine the specific stage of an individual's moral development in light of Gibbs's theory. Ghous (2004) translated PMJS into the Urdu language. This scale is a self-report and easy-to-administer measure. It has 28 items across four subscales of power, deal, mutual, and system. Each subscale has 7 items, and each item corresponds with seven socio-moral values that Gibbs used in SMR-SF. Each of the four subscales represents a moral judgment development stage of Gibbs's theory. The response options range from strongly agree (4) to strongly disagree (1), respectively. Respondents had to choose the most suitable

option from the 4-points rating scale. The sum of responses to 28 closed-ended items was used to find out an individual's stage of moral development. Cronbach's alpha value of PMJS was 0.82, at $p < .05$.

Procedure

The heads of academic institutions and parents of the adolescents were asked for data collection permission. PMJS was administered to the volunteering participants after ensuring informed consent, willingness, and freedom to withdraw from the study.

Results

The purpose of the present study was to verify the factor structure of PMJS and to confirm the invariant stages of moral development among Pakistan adolescents. The missing data and normal distribution were assessed before performing statistical analysis. Data from 17 participants were discarded using stepwise deletion for missing information and the data from the remaining 287 participants were chosen to run the final analysis. Normality was graphically tested using a histogram and statistically tested using skewness and kurtosis. The PMJS subscales and total scale scores were within an acceptable range of -1 to +1 skewness, and -2 to +2 kurtosis, which indicated the normal distribution of data. Next, Cronbach's alpha reliability and the descriptive statistics for PMJS were computed in SPSS version 25. The mean scale score of PMJS was 73.91 ($SD = 11.77$) (See Table 1).

Table 1

Descriptive Statistics of Participants on Padua Moral Judgment Scale (n = 287)

Subscales	<i>M</i>	<i>S.D.</i>	Skew	Kurtosis
Power	18.50	3.56	.07	-.35
Deal	18.60	3.43	.08	-.10

Mutuality	17.24	3.94	-.13	-.19
System	19.80	3.45	-.40	.14
Total	73.91	11.77	.14	.00

The hierarchical confirmatory factor analysis of PJMS was performed using maximum likelihood estimation in MPLUS software version 7.4 (Muthen & Muthen, 2015). Four subscales of PMJS were specified as its four factors. The marker items 1, 8, 15, and 22 for power, deal, mutuality, and system subscales respectively, had factor loadings fixed at 1. Hu and Bentley's (1999) rule of thumb was used to evaluate the model fit. Fit indices included the chi-square test of model fit (χ^2), comparative fit index (CFI), root-mean-square error of approximation (RMSEA), and the standardized root means square residual (SRMR). The values of $\chi^2 = 716.47$ ($d = 344$, $p < .00$), RMSEA = .05 (.04 with 90% confidence interval), and SRMR = 0.06 were acceptable but CFI = .85 were below the threshold of $>.95$. Next, the item loadings were examined for each item into four subscales. All 28 items had statistically significant loadings to their corresponding factors, but their magnitude was as low as .18. Hence, the model fit with the data was permissible given low-to-moderate factor loadings. The findings supported the hierarchical four-factor structure of PMJS among Pakistani adolescents.

Figure 1 shows a graphic representation of the model with standardized factor loadings, standard errors, and inter-factor correlations. Some factor loadings were in the moderate to acceptably high range, whereas the most standardized factor loadings were $>.30$. Two standardized loadings were $<.20$, which were .18 for item 1 (i.e., marker item), and .19 for item 12. The highest standardized factor loading was .63 in all. It shows that PMJS is not as valid for Pakistani adolescents as it was for the participants from seven countries. Given the acceptably low model fit with the data, neither modification index was used, nor items with poor factor loadings were deleted to improve the model fit. As the purpose of

the study was to conduct to examine the factor structure of PMJS, none of the items was deleted.

The construct validity was examined via convergent and discriminant validity using the Fornell-Larcker criterion, as mentioned in Cheung and Wang (2017). The sum of squared standardized factor loadings was divided by the number of indicators in each subscale to get an average variance extracted (AVE) score. As a rule of thumb for an acceptable convergent validity, the AVE score should be above .50. But the findings showed poor convergent validity of the indicators with their respective factors (See Table 2). The AVEs ranged between 0.11-0.22.

Figure 1
Confirmatory Factor Analysis of Urdu-translated Padua Moral Judgment Scale (PMJS)

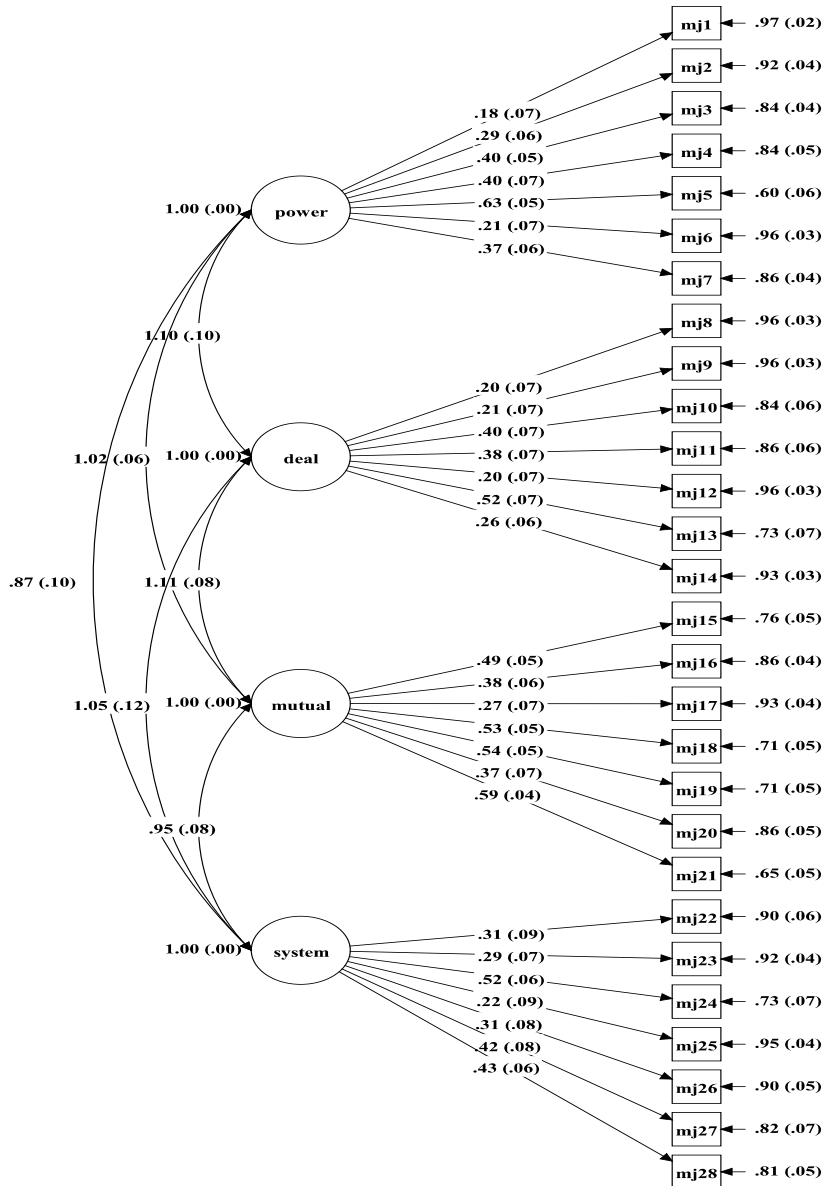


Table 2
Convergent and Discriminant Validity of PMJS

Subscale	Items	B	β^2	$\sum\beta^2$	Indicators	AVE	\sqrt{AVE}	R
Power	1	0.18	0.03	1.01	7	0.14	0.38	Power-deal = 0.55* Power-mutual = 0.57* Power-system = 0.47*
	2	0.29	0.08					
	3	0.40	0.16					
	4	0.40	0.16					
	5	0.63	0.40					
	6	0.21	0.04					
	7	0.37	0.14					
Deal	8	0.20	0.04	0.77	7	0.11	0.33	Mutual-deal = 0.056* Deal-system = 0.55*
	9	0.21	0.04					
	10	0.40	0.16					
	11	0.38	0.14					
	12	0.20	0.04					
	13	0.52	0.27					
Mutual	14	0.26	0.07	1.51	7	0.22	0.47	
	15	0.49	0.24					

	16	0.38	0.14					
	17	0.27	0.07					
	18	0.53	0.28					
	19	0.54	0.29					
	20	0.37	0.14					
	21	0.59	0.35					
	22	0.31	0.10					
	23	0.29	0.08					
	24	0.52	0.27					
System	25	0.22	0.05	0.96	7	0.14	0.37	
	26	0.31	0.10					
	27	0.42	0.18					
	28	0.43	0.18					

Similarly, using the Fornell-Larcker criterion, the square root of the AVE scores represented the discriminant validity that should be more than the inter-correlations among the latent factors. The discriminant validity of the power subscale was .38 whereas the inter-correlations of power with the deal ($r = .55^*$), power with mutuality ($r = .57^*$), and power with systems ($r = .47^*$) were above the discriminant validity. Likewise, the square root of AVEs for the deal, mutuality, and system subscales was

below their respective intercorrelation coefficients that provide evidence for poor discriminant validity. Taken together, the construct validity of the four latent factors of PMJS was not as acceptably high among the sample of Pakistani adolescents as it was observed among the youth of seven countries that Comunion (2002) studied.

Discussion

The present study examined the factor structure of PMJS to obtain evidence about its reliability and validity for the Pakistan sample. The confirmatory factor analysis (CFA) was conducted to verify four factors of PMJS and their factor loadings for the evaluation of Gibbs's theory of moral development. Consistent with theory, findings showed adolescents had progressed from the immature stages of moral judgment as per their developmental age and had not yet reached principled judgments of stage four. The sequence of the stage development was also similar as observed in samples from other countries (Comunion, 2004; Graham et al., 2016; Snarey, 1985).

The goodness-of-the-fit index was .85. Thus, the findings could not obtain vigorous support for PMJS to represent the construct of moral judgment development for Pakistan adolescents, as it was initially noted for Italian adolescents and later for adolescents from seven other countries (Comunian, 2002). This finding signifies the cultural relativism of moral development among the Pakistani sample. The poor model fit with the data warrants a claim of full support for the hypothesized model. However, the overall findings were in the same direction as assumed.

In the present study, the hierarchical progression of adolescents across four developmental stages confirmed the stage sequence. For their age, most adolescents had reached mature moral judgments, and there were only 12 adolescents with immature moral judgments. Kohlberg's (1976) and Gibbs' (1995) stage theories of moral development maintained age-related changes in moral judgment development and an individual's progress to the advanced stages of moral judgment development with growing age. The findings of the present study showed that older adolescents analyzed moral values with more maturity than younger adolescents. Adolescents were observed at mature stages of moral

development, which was in agreement with Kohlberg and Gibbs's approaches to moral development. Had the present study participants below age 12, the stage sequence of the earlier two stages would also have been represented. The empirical literature on age-related changes in moral development is scarce. Caravita et al. (2009) finding is consistent with the present study and older adolescents were at advanced stages of moral development and judged moral issues independent of authority's influence.

The alpha reliability for PMJS was .82 in the present study. In Communion's original research, the alpha reliability of PMJS ranged between .74-.87 across different samples from other countries. Two previous studies by Irfan and Kausar (2018) and Mehmood et al. (2011) reported similar internal consistency of PMJS with the Pakistani sample. Adolescents had progressed through the immature level of moral judgments. The results confirmed the homogenous stages of moral judgment development in the light of Kohlberg and Gibbs' theories. Most adolescents were in stage 3 and very few of them approached stage 4 of principled moral judgment. The four-factor structure was also in alignment with existing literature from other countries. But poor factor loadings, lack of acceptable model fit with the data, and low construct validity warranted claims of universal generalizability of moral development. Rather, the study highlighted the cultural relativism of moral judgment development among Pakistani adolescents. This finding opens the door for new studies in this direction.

In light of Forell-Larcker's criterion, the construct validity of PMJS was poor. AVE values are below 0.5 and the squared inter-correlations indicated inadequate convergent and discriminant validity scores, respectively. The reason for poor construct validity and the lack of model fit with the data can be the difference in the cultural values of the Pakistani population from the Western cultures for whom Kohlberg (1976) originally developed the theory of moral development, and Comunian (2004) constructed and validated PMJS. Neither Kohlberg and Gibbs nor Comunian had considered the disparity between individualist and collectivist cultures. Moral judgments and moral behaviour are influenced by cultural background across and within societies (Graham et al., 2016). Yilmaz et al. (2016) experimentally manipulated Turkish Muslim students'

cultural schemas of individualism and collectivism to examine if change their moral foundation. They found participants reported more concern for protection from harm and individual rights under individualism. They reported more concern for loyalty under collectivism and were motivated to protect the rights of one's group against rival groups. It can be inferred from these findings that culture has a salient role in shaping moral judgment development.

The present finding signals that sociocultural factors are varied from the mainstream Western culture. The present study did not include a representative sample of Pakistan adolescents from various demographic regions or with diverse cultural backgrounds. Data were collected from the youth of district Abbottabad, Pakistan, that cannot portray the full spectrum of cultural values of Pakistani adolescents. Another reason can be the small sample size. Although 287 participants for 28 items scale seems reasonable yet increasing the sample size and examining different age groups of children and adolescents can present different findings. The magnitude of .30 was acceptable for standardized factor loadings. There were eight items below this threshold that include items 6, 8, 9, 12, 14, 17, 23, and 25. More research is required to examine the cultural relevance of these universal moral values, such as observing the law, respecting others' property, and speaking the truth, etc. It also alludes to assessing if Urdu translation and cultural adaptation of the scale were carefully performed. Plausibly, PMJS might appear a more reliable and valid measure if the model is tested with a larger and culturally diverse sample.

Strengths and Implications

The present study determined the psychometric properties of PMJS and provided evidence of its validation for non-Western cultures, particularly for Pakistan adolescents. The measure of PMJS was validated for several Western cultures and the present study filled up the gap in validating its Urdu version for the Pakistani culture. It's a significant contribution of this study to examine the factor structure of PMJS, the findings of which can be compared against parallel Western studies. Items with poor factor loadings can be revised for cultural validation of PMJS for the Pakistani population. PMJS is a non-dilemma-based measure used

to assess moral judgment development and offers an alternative measuring tool to the Moral Judgment Interview. Future studies can simultaneously use both types of measures to compare their findings.

Another strength of the present study was the use of CFA as a technique of structural equation modeling that will promote quantitative research on moral development. Information is provided about the psychometric properties of PMJS that will be a platform for future researchers to confirm the factor structure of PMJS with larger and diverse samples across different developmental periods and socio-cultural backgrounds. It is recommended to the indigenous researchers rephrase items with poor factor loadings and retest the CFA model of PMJS with additional data sets. It would provide more empirical support for the factor structure of PMJS. An important implication instantiated the practical utility of PMJS as an assessment tool for moral judgment development.

Limitations

There were a few limitations to the present study. First, the purpose of the study was to confirm the factor structure of PMJS for Pakistan adolescents, but the sample was not representative of the entire population. Pakistani population is marked by multiculturalism and has a huge diversity in socio-economic status. Data were collected from limited demography, the sample size was small, and the sample nonetheless represented the respective population. Thus, careful application and interpretation of findings are demanded. Second, the research on morality has potential risks of response bias. The answers of respondents may be affected by demand characteristics, social desirability, and/or tendency to over-report their beliefs and practices of moral values. The PMJS is a self-report measure, and this methodological limitation further exacerbates the compromise to gain valid findings. Future researchers should address these limitations while designing their studies.

Conclusion

The findings of the present study sparked interest in future studies on moral judgment. On one hand, the findings supported Kohlberg's claim of an invariant sequence and Gibbs' four-stage model of moral judgment

development. Adolescents were at the third stage of moral development and had progressed to mature judgments. The internal consistency of the scale was also permissible. On the other hand, the model-to-data fit, convergent validity, and discriminant validity were poor. All items significantly contributed to their respective factors, but the latent factors appeared psychometrically invalid components of PMJS. The items with poor item loadings can be rephrased and tested in future studies.

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