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# Development and Validation of Altruism Scale for Youth

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The present study was aimed to develop and validate altruism scale within Pakistani social context. In phase I, a study was carried out in which 30 interviews (men =15, women =15) were conducted to conceptualize the construct of altruism. Initial item pool of 72 items was generated from qualitative data and the existing Self-Report Altruism Scale (SRAS) developed by Rushton, Chrisjohn, and Fekken (1981). After an extensive scrutiny and evaluation by the 5 judges, 30 items were selected for the final scale. These items were phrased in self-report format with a five-point rating scale. In phase II, psychometric properties of the scale were established. It was then administered to a sample of 200 participants (100 men and 100 women) with the age ranged from 18 to 25 years ($M$ = 21.49, $SD$ = 2.17). The results indicated that 24-items Self-Report Altruism Scale had high reliability ($\alpha$ = .92). The findings of exploratory factor analysis revealed four domains and these domains were labeled as emergency help, monetary/emotional help, social responsibility and common help. Furthermore, the scale showed satisfactory convergent validity with self-report altruism scale ($r$ =.53, $p$ < .01) and discriminant validity with non-generosity ($r$ = -.13, $p$ = ns) and introversion scale ($r$ = -.40, $p$ < .05).
***Keywords*:** Altruism, indigenous, adults, factor analysis, students, youth

Bar-Tal (1986) defined altruistic behavior as "a motivational aspect which should benefit other people. It is absolutely voluntary, deliberate and happens without any expectation for external rewards and benefits and is a goal in itself" (p. 30). Altruism plays a vibrant role in pro-social behaviors (Paul, Miller & Paul, 1993; Smith, 2006). It is a motivational-trait which promotes other positive behaviors such as helping behavior and social responsibility (Rushton, Chrisjohn, Fekken, 1981; Scott & Seglow, 2007; Seglow, 2002).

In order to understand and to grasp the concept and process of altruism appropriately, different theories have been proposed. These views and models impose the complex nature of altruistic and helping behaviors. For instance, altruism has been commonly labeled as selfless or directed behavior (Bar-Tal, 1986; Batson, 1991, 2002, 2011; Batson & Leonard, 1987; Barasch, Levine, Berman & Small, 2014; Mohan, 2000). Whereas, some argue that it is to be understood in a situational— social context (Latane & Darley, 1970), others view it as a personality trait (Batson, Bolen, Cross, & Neuringer-Benefiel, 1986). However, in general, altruism could be perceived as either internal, external or both in nature (e.g., Bierhoff , Klein & Kramp, 1991). Despite the differences in the nature and process of altruism, the crux of its outcome is to facilitate helping behaviors and social responsibility (Rushton et al., 1981). There are no fixed conditions to execute this behavior in particular situations and thus it could be selfless, directed, situational, motivational or personality trait. The process and nature of altruism could be better understood in the light of existing theories.

One of promising work related to helping behavior was demonstrated by Latane and Darley (1969). They suggested that altruistic behavior/helping behavior involves two major components (a) diffusion of responsibility and (b) social influence. It is later termed as *Bystander effect*— we hesitate to help in presence of others (Latane & Darley, 1970). The first factor diffusion of responsibility reflects the importance of others presence at the emergency situation, and this responsibility increases as the number of witness decreases. In addition, the emergency situation elicits cognitive-behavioral process, and this process consists of 5-steps: (a) What is happening (b) emergency situation (c) degree of responsibility (d) form of help and (e) action. The second factor depicts the social influence in terms of perceiving event as emergency or non-emergency situation (depends upon one's expectations, past experiences and actual observations; Latane & Darley, 1970). Overall, this view gives the importance of social context for altruistic behavior.

On the other hand, cost-benefit model emphasized on the nature of help and cost-benefit analysis to determine the helping behavior. If the nature of help is low cost compared to benefits (e.g., low ratio of risk, money, time etc.), then the person will be likely to help others. In contrast, we do not offer help when cost is high and benefits are low (Dovidio, Piliavin, Schroeder & Penner, 2006; Fritzsche, Finkelstein & Penner, 2000). Another reason behind this motive is to reduce negative emotion (Dovidio, Piliavin, Gaertner, Schroeder & Clark, 1991). According to reciprocal model of altruism when we help others in the time of need then they also help us in return (Krebs & Hesteren, 1994; Krebs & Davies, 1993). Similarly, negative state relief model states that we dissolve our negative feeling by helping others (Cialdini et al., 1987). The reciprocity, negative self-relief and cost-benefit models reflect selfish nature of altruism and generally serves as a means of gratification of oneself (Akbaba, 1994; Hu & Liu, 2003).

On the other hand, some models such as social responsibility norm, altruistic personality and evolutionary perspective views altruism as selfless and directed behavior to solely benefits others. For instance, social responsibility norm states that we help others due to our sense of social duty as set by our morals or social norms (Kassin, Fein & Markus, 2017) and those who have higher responsibility in the society need to be role model for others (DeLamater, Myers, & Collett, 2014). However, these norms vary according to culture and individual differences.

Similar to social responsibility concept, altruistic personality is important model in the field of helping behavior. It argues that those who are generally helpful tend to be helpful across situations (Hampson, 1984). Bierhoff et al. (1991) supported the altruistic

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personality model, and emphasized five factor model of altruistic personality named as: (a) internal locus of control (b) social responsibility (c) belief in just world (d) empathy and (e) instrumentality. The above mentioned factors might contribute toward helping behaviors.

Empathy is a major factor that is related to altruistic behavior. Batson eta al. (2002) empirically tested that empathy plays a vital role in an altruistic behavior. He argued that when we see other people in need of help, we feel mental pain (distress) or empathy, and these two factors determine the helping behavior. Moreover, this empathy-altruistic model suggests that likelihood of altruistic behavior increases when someone feels more empathy than distress (Batson & Leonard, 1987). The point of altruistic-hypothesis is "taking perspective" i.e., to perceive things in the light of others perspective. Therefore, we feel mental pain (distress) and when we offer help and resolve others' suffering in return, we feel relief. So this model explains altruism as selfless act— internal factors related to motivation (Batson, 2009). Whereas, the evolutionary perspective of altruism postulates that kinship selection and selfish gene play an important role to motivate our gene survival (Dawkins, 1989). Humans tend to promote their family members and likely to pass their gene with the help of successive reproduction, and there are certain pro-social behaviors that help humans to achieve this goal (Hamilton, 1964).

Overall, the above theoretical models well explain the nature and process of altruism. Previous research literature provides the insight about its contributing factors, i.e., positive relationship between altruism and productive behaviors. For instance, Rushton et al. (1981) suggested that altruism was positively correlated with empathy (Li, 2018), moral reasoning (Patrick et al., 2018), nurturance, pro-social values (Persson & Kajonius, 2016), sensitive attitude and social responsibility. In a similar study, it was found that internet altruistic behavior and interpersonal relationships and social self are positively correlated (Liu, Huang, Du, & Wu, 2014). Smith (2006) found that empathy was positively correlated with altruistic behaviors, values and love. Another interesting finding suggested that women provide emotional support, personal favor and counseling about personal problems to their friends more often than men (Aries & Johnson, 1983).

In Pakistan, several studies have shown the contextual and situational differences on the altruism. For instance, Chaudhry and Saleem (2011) experimentally examined the students' pro-social behaviors in laboratory and field settings, and concluded that students in different fields of study exhibit similar pro-social behaviors. Similarly, Iqbal (2013) suggested that there are no gender and marital status differences regarding pro-social behaviors. In some studies, altruism was positively associated with psychological variables such as psychological well-being (Khadim & Shahid , 2017)) and belief in a just world (Shah & Ali, 2012) . Moreover, the indigenous findings identified some factors that might impact pro-social behaviors, i.e., contextual and situational demands, morality/religious perspective, social norms, cultural practices, ratio of risk and relationship types (Asif et al., 2013; Tabassum & Khalid, 2016).

The present study aimed to develop the altruism scale for the Pakistani youth due to present challenges, i.e., language bias of the available instruments, cultural practice, social norms and religious context. It is important to note that existing literature on altruism mostly consists of Western instruments (Abaka, 1994; Lee, Lee & Kang, 2003; Rushton et al., 1981; Wrightsman, 1964), and there are very few indigenous scales. However, most of the available instruments were adapted or translated for the measurement of altruism (e.g., Afzal & Shah, 2017; Farooq & Fatima, 2017; Hussain, 1999; Safder & Kausar, 2015). Some cultural differences were also noted in the foreign scales (available only in English language) such as religious practices (e.g., Christmas and going to Church), cultural and social context (e.g., moving out the car from snow), and some items do not comply with our target sample (Rushton et al., 1981). In addition, few empirical evidences are available in this area of research, and it has not been explored extensively with reference to Pakistani culture (Tabassum & Khalid, 2016). Therefore, present study was aimed to develop indigenous scale on altruism.

## Objectives of the Study

The present study was designed to develop an altruism scale, to examine psychometric properties of the indigenous altruism scale and to determine the convergent and discriminant validity of the newly developed indigenous altruism scale.

## Method

The present study was conducted in three phases. In phase I, items for the altruism scale was empirically generated. In phase II the selected items were administered to a sample of university students, and then the data were analyzed statistically to establish the psychometric properties of the altruism scale. In phase III, convergent and discriminant validity of the altruism scale was established.

### Step 1: Item Generation

***Participants*.** Convenient sampling was used to recruit participants from GCU, Lahore. Sample consisted of 30 university students (women = 15, men = 15) with an age range from 18 to 25 years (with at least 13 years of education). The participants who did not fulfill the criteria were not included in this phase.

**Instruments.** For Item generation, interview method was used to obtain the participants' responses. Final information was transcribed, and then themes were generated from the transcribed data.

***Procedure*.** First of all, verbal and written permission was sought from the concerned teachers and then students were approached**,** and briefed about the research process**.** In step I, in depth interviews were conducted and certain social situations was explored and observed. They were provided with the operational definition of altruism, as adapted from Baston (2011), and were briefly explained what altruism means. They were then asked to contribute a description of such social situations in which they had acted or one could act in an altruistic way during the past two weeks or so.

**Step II**. From the interviews of 30 participants (15 men and 15 women), themes were chosen for the item generation and yielded 72 social situations that have a good relevance to the construct of Altruism. An intensive literature review also helped in this regard and seven items were adapted from existing measure of altruism, self-report altruism scale (Rushton, et al., 1981; see items: 2, 8, 12, 10, 17, 18 and 19).

**Step III**. In order to retain the most prevalent altruism related social situations, the situations obtained in the previous step were

rated for frequency on a three-point response format (rarely = 0, Normal = 1, frequently = 2). These situations were administered to 30 participants, asking them to specify how frequently they come across the given situations, in which one could act in an altruistic way. At this step Urdu translated items were generated, and most frequently occurring items were retained.

**Step IV.** An initial item pool of 41 items was presented to a committee of 5 judges to get their expert opinion. These items were examined in detail and closely scrutinized for their content as well. Further, these items were analyzed on the basis of (a) fidelity to the relevant construct, (b) clarity, (c) comprehensibility or readability (d) face validity and redundancy. The items with surplus meaning, repeated previously and irrelevant to the construct of Altruism were removed from the item pool. Item number 11, 14, 16, 19, 23, 27, 28, 30, 33, 35 and 41 were removed due to ambiguous and gender specific content. Item number 15, 23, 24, 34, 36 and 38 were rephrased to make them useful. The chosen items were checked for their wording; few were rephrased before presenting in the final form of the scale.

**Step V**. Finally, a pool of 30 most suitable items (Urdu version) were selected and presented to a group of 200 participants to elicit general information about altruistic motives and their linkage to actual social behavior. The 30 items were presented in a five-point Likert-type scale, which require the participant of the study to report the degree of their agreement and disagreement with each item. Item of this scale were measured using a five-point response format that ranged from "strongly agree" (5) to "strongly disagree" (1). The order of the questions was intended to prevent obfuscation of the reported social behaviors.

## Phase II: Exploratory Factor Analysis and Psychometric Properties of the Scale

***Participants*.** Convenient sampling was used to recruit participants from GCU, Lahore. The sample consisted of 200 university students with an age range from 18 to 26 years, 100 men and 100 women ($M$ = 21.5, $SD$ = 2.2). Minimum age was 18 years and at least education of 13 years, as an inclusion criterion for sample. And those participants who did not fulfil this criterion were excluded.

***Instruments***. The present study used the Urdu version of newly developed altruism scale (24-item) along with demographic variables (age, gender and education). The indigenous altruism scale has five-point Likert-type scale, which require the participant of the study to report the degree of their agreement and disagreement with each item (*strong agreement* = 5 to *strong disagreement* = 1).

***Procedure***. Firstly, permission was sought from the class teachers of participants, and then nature and purpose of the study was explained to the participants in a group form. In this phase, exploratory factor analysis (EFA) and psychometric properties were assessed. In initial EFA (with PCA and oblique rotation: promax), 6 items were removed (item number 2, 3, 10, 12, 15 and 21) due to the communality less than .4 (e.g., Costello & Osborne, 2005), and EFA (Principal Component Analysis) was run again to check the factor structure of the final 24 items. After EFA, 24 items were retained for the final version of the altruism scale. Moreover, EFA was employed with oblique method: Promax rotation on 24 items. The final EFA on 24 items extracted 4 factors which were labeled according to the theoretical importance and characteristics of the items. The reason to select the PCA with oblique rotation was to obtain maximum variance of the extracted factors, and it was suitable for the present study (Pett et al., 2003). In addition, two major points were considered in the present EFA process (a) criterion for retaining factors (number of factors in EFA) (b) criterion for minimum number of items to retain in each factors. The first issue was addressed by meeting the Kaiser criterion, i.e., Eigen value equal and greater than one (Field, 2016). And second issue was resolved by retaining factor which have 3 or more items, or 3 or more factor loadings greater than .4 in each factors (Samuels, 2017).

## Phase III: Convergent and Discriminant Validity

***Participants*.** Convenient sampling was used to recruit participants from GCU, Lahore. The sample consisted of 30 university students (15 men and 15 women) with an age range from 18 to 26 years ($M$ = 23.57, $SD$ = 2.2), and at least had an education of 13 years. In addition, those participants were excluded who did not qualify these criteria.

***Instruments***. The newly developed altruism scale (24-item) along with demographic variables (age, gender and education) was administered to collect the data. Furthermore, Self -Report Altruism Scale (Rushton et al., 1981), Non-generosity (Russell, 1984) and Introversion Scale (Goldberg et al., 2006) were used.

***Procedure***. Similarly, to the phase I and II, permission was sought from the concerned authority and then participants' consent was taken prior to the data collection. And purpose and nature of the study was explained to the participants. In the third phase of the study, Altruism Scale, Self-Report Altruism scale by Rushton et al. (1981), Non-generosity and Envy Scale by Russell (1984) were presented together to thirty participants ($N$ = 30) to assess the convergent and discriminant validity of the scale. For convergent validity Altruism Scale and Self-Report Altruism Scale (SRAS) should be correlated positively significant, and for discriminant validity, both newly developed scale and SRAS should not related to Non-generosity and Envy Scale (theoretically unrelated concepts to altruism).

## Results

Table 1.
*Factor Loadings For Exploratory Factor Analysis With Oblique Rotation (Promax) of an Altruism Scale for Youth*

| Sr. | key content of items | *r* | F1 | F2 | F3 | F4 |
|---|---|---|---|---|---|---|
| 1 | Help in a natural disaster | .54 | **.67** | .36 | .20 | .48 |
| 3 | Help an injured person | .61 | **.78** | .35 | .34 | .43 |
| 4 | Feeding the poor | .67 | **.75** | .48 | .29 | .58 |
| 6 | Help handicapped | .68 | **.72** | .57 | .29 | .55 |
| 8 | Give leave to sick servants | .62 | **.62** | .58 | .36 | .37 |
| 10 | Carry on older persons' things | .58 | **.69** | .49 | .21 | .44 |
| 18 | Release a poor person's loan | .59 | **.73** | .47 | .31 | .33 |
| 12 | Help a crying children | .62 | .32 | **.71** | .39 | .56 |
| 17 | Assist mentally retard children | .59 | .57 | **.66** | .31 | .29 |
| 19 | Encourage in case of | .58 | .57 | **.68** | .16 | .35 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | failure | | | | | |
| 20 | Feed the free-birds | .60 | .42 | **.77** | .26 | .43 |
| 21 | Help the needy | .65 | .53 | **.68** | .27 | .58 |
| 22 | Help others' in finding their lost things | .61 | .47 | **.60** | .46 | .38 |
| 23 | Treat an injured animal | .60 | .63 | **.69** | .24 | .25 |
| 2 | Give a lift | .41 | .31 | .13 | **.73** | .24 |
| 5 | Look after the neighbor's home | .49 | .33 | .14 | **.67** | .57 |
| 9 | Give needful things to others | .43 | .34 | .28 | **.69** | .11 |
| 11 | Resolve a fight | .40 | .05 | .32 | **.63** | .35 |
| 13 | Pay stranger's fare | .50 | .21 | .47 | **.66** | .31 |
| 24 | Give others your turn in lineup | .56 | .31 | .58 | **.64** | .24 |
| 7 | Take care of a patient | .63 | .56 | .42 | .35 | **.72** |
| 14 | Assist a weak student | .60 | .39 | .63 | .26 | **.69** |
| 15 | Leave your seat for old ones. | .58 | .49 | .44 | .24 | **.74** |
| 16 | Help old people to get on a bus | .57 | .52 | .38 | .31 | **.66** |
| Eigen Value | | | 9.41 | 1.91 | 1.20 | 1.01 |
| % Variance | | | 39.22 | 7.95 | 5.00 | .4.20 |

*Note*. *r* = corrected item total correlations.$h^2$ > .45 (communality). *N* = 200.

In present study, the EFA (Oblique rotation with promax method) on 24 items showed Kaiser Myer Olkin's (KMO) sample adequacy was .90 (excellent). Bartlett's test of sphericity was significant, $\chi 2$ (276, *n* = 200) = 2257.9, *p* <. 001. The factor one was labelled as emergency help (7 items). Factor 2 was labelled as monetary and emotional help (7 items). Factor 3 was labelled as social responsibility (6 items). The final factor was labelled as common help (4 items). Total 56.4 percent variance explained by the four factors (see Table 1).

Table 2
*Psychometric Properties of the Altruism Scale* (*N* = 200)

| | | | | Range | |
|---|---|---|---|---|---|
| Scale | *k* | *M*(*SD*) | *α* | Potential | Actual |
| Altruism total | 24 | 103.04(12.24) | .92 | 1-5 | 1.46-5.0 |
| Emergency help | 7 | 31.00(3.40) | .87 | 1-5 | 1.43-5.0 |
| Monetary and emotional help | 7 | 30.69(3.89) | .85 | 1-5 | 1.43-5.0 |
| Social responsibility | 6 | 22.64(4.58) | .77 | 1-5 | 1.00-5.0 |
| Common help | 4 | 17.92(2.00) | .78 | 1-5 | 1.50-5.0 |

*Note*. *k* = no. of items. *α = Cronbach's alpha*

The results indicated that self-report altruism scale had quite satisfactory reliability (*α* = .92). Moreover, its sub scales, emergency help (*α* = .87), monetary/emotional help (*α* = .85), social responsibility (*α* = .77) and common help (*α* = .78) factors also showed satisfactory reliability (see Table 2). It was also found that average item to item correlations for the Altruism Scale was *M* = .36, *p* < .05, for the total scale.

Table 3.
*Inter-correlation among Scores of Indigenous Altruism Scale, Rushton Self-report Altruism Scale, Non-Generosity and Introversion Scale*

| Variable | 1 | 2 | 3 | 4 |
|---|---|---|---|---|
| 1. altruism scale (Indigenous) | — | .53** | -.13 | -.40* |
| 2. Self-report Altruism scale (SRAS) | | — | .06 | -.46** |
| 3. Non-generosity | | | — | .36* |
| 4. Introversion | | | | — |

*Note*. *N* = 30, *$p$ < .05, **$p$ < .01.

Table 3 shows that altruism scale and self-report altruism scale significantly correlate (*r* = .53, *p* < .01) with each other. It also appears that indigenous Altruism Scale is not significantly correlated with non-generosity (*r* = -.13, *p* = ns) and negatively correlated with introversion scale (*r* = -.40, *p* < .05). Similarly, SRAS was not significantly correlated with non-generosity (*r* = .06, *p* = ns) and negatively correlated with introversion scale (*r* = -.46, *p* < .01).

## Discussion

Altruism is an important aspect of human life, and it promotes other positive behaviors such as helping and social responsibility (Becker, 1974; Rushton et al., 1981). This topic has importance for social and psychology researchers. The altruism scale was developed in present study with respect to Pakistani cultural context, because existing scales on this construct were developed in English language.

First, objective of the study was to develop an indigenousness altruism scale for youth. In order to achieve the first objective, items were empirically generated. It was started with generating certain social situations in which one could act in an altruistic way. Then item pool was generated in Urdu language. The major point here was to obtain statements consisted of broad altruistic traits which are consistent and frequent among the participants (Rushton et al., 1981). Further these altruistic traits were grouped with the help of exploratory factor analysis (24-item). Total four factors emerged from EFA. The first factor was labelled as emergency help (e.g., helping people in disaster and accident). The second factor was labelled as monetary and emotional help (e.g., helping injured birds and clear other person loan). The third factor was labelled as social responsibility (e.g., resolving the quarrel between two persons and look after neighbors' house in their absence). The last factor was labelled as common help (e.g., giving your seat to older persons and looking after patients). Factors 1,3 and 4 were consistent with Haluk et al. (2006); Lee, Lee, and Kang (2003) model, and second factor was supported by Liu et al. (2014); and Rushton et al. (1981) study. The items of indigenous altruism scale generally reflect the religious (e.g., helping others, taking care of others, monetary help, kind to old individuals: item no. 4, 15, 16, 18, 21), social (caring for neighbor, help to find lost things: item no. 1, 5, 9, 11, 15, 22, ,24) and cultural aspects (feeding birds, carry on elderly people's things, helping handicapped and give leave to sick servants: item no. 6, 8, 10, 20) of Pakistani society in general. There were cultural and local differences noted in the current scale and

foreign scales. For instance, Rushton et al. (1981) scale items consisted of themes such as celebrating Christmas, help to move car out of the snow, finding out clerk's error and corrected undercharging which were not found in the present study. In addition, similarity of items was found with Rushton and Lee altruism scale. Some methodological concerns related to factor analysis were raised in present study such as cross loadings and low Eigen value of factor 3 and 4 (i.e. 1.20 and 1.01). The Eigen value issue was justified with several study findings. For instance, Jolliffe (1972, 1986) suggested retaining eigen value greater than .70, with small sample size. In contrast, Field (2016) argues that eigen value of 1 depicts different interpretation with respect to variable ratio (p.679). Secondly, cross loadings were expected due to the Oblique rotation method (correlated factors). The reason was that oblique rotation gives interrelated factors rather independent i.e., assume zero inter-correlation (Field, 2016; George & Mallery, 2006). The cross-loading point was also supported by Guadagonoli and Velicer (1988). They suggested that a reliable factor solution could be produced if a factor contains 4 or more loadings greater than .6 regardless of the sample size (present study fulfills this criterion). From all the arguments above the acceptable EFA solution was supported.

Second objective of the study was to examine the optimal/acceptable psychometric properties of the study scales. This objective was achieved with the help of reliability analysis (alpha coefficient) and by computing descriptive statistics of the scales (see Table 2). The altruism scale had a quite satisfactory reliability ($\alpha$ = .92) and its sub scales, emergency help, monetary and emotional help, social responsibility and common help has also reasonable reliability. In social sciences, an alpha of .70 is taken as standard but the minimum acceptable cut-off is .50 (Field, 2016; George & Mallery, 2006).

The last objective of the study was to check the convergent and discriminant validity of the newly developed scale. This objective was achieved by computing correlation with theoretically similar (Self-report Altruism) and unrelated/dissimilar constructs (Non-generosity and Envy Scale). The convergent validity of indigenous scale was supported by the literature reviews (Abaka, 1994; Blum, 1980; Kitcher, 1998; Lee, Lee & Kang, 2003; Public Library of Science, 2007; Rushton et al., 1981). In addition, discriminant validity indicated that altruism was unrelated/dissimilar to introversion and non-generosity construct. The literature reviews also supported findings of divergent validity (Argan & Argan, 2017; Schroeder, Nettle & McElreath, 2015; Suda & Fouts, 1980). The reason to choose non-generosity and introversion as opposite construct for altruism was due to their negative impact on helping behaviors. For instance, non-generosity has characteristics such as not sharing and possessiveness of things (Russell,1984), and therefore, it was expected to be negatively correlated with altruism. Whereas introversion also reflect nonsocial characteristics like lack of friends, not outgoing or less cooperated in the social situations.

## Conclusion

It has been demonstrated in the results section that newly developed altruism scale is a psychometrically sound and valid instrument. Some methodological challenges were faced while constructing the scale and these were discussed and supported in the light of literature review. The indigenous altruism scale comprised of four domains named as emergency help, monetary/emotional help, social responsibility and common help. These labels were assigned according to the theoretical relevance and homogeneous category pattern. Furthermore, present study showed the convergent and discriminant validity of the newly developed altruism scale. It was positively correlated with Rushton self-report altruism scale and negatively correlated with envy, and not correlated with non-generosity scores.

## Limitations and Suggestions

The current study has some limitations which need to be addressed. Firstly, the present scale was developed employing the sample of students only, and its generalizability could be limited to the mentioned characteristics of the participants. In future studies, different age groups and the diverse settings could be examined in this regard. Pakistan is a Muslim country and Muslims have some religious practices (e.g., helping others, prayers, social welfare acts) that encourage altruistic behavior, and therefore it was expected to have common practice behaviors (e.g., help needy person and monetary help). In addition, current scale items also consisted of social and cultural elements (e.g., give leave to sick servants, help in a disaster, and give needful things to others). Therefore, indigenous altruism scale was based upon general practices among students rather than overall impression of altruism, and this limitation could be overcome by developing multimodal of altruism in future studies. The findings of the study could also be examined as cross cultural comparison (both in qualitative and quantitative form), and it can give a better understanding. Exploratory factor analysis was run to determine the four factors, and future studies could check the stability of the altruism scale's factors with the help of confirmatory factor analysis.

## Implications

The indigenous altruism scale can be used by researchers to measure the degree of altruism objectively. It can be used as a screening measure to identify high and low altruistic people by social psychologists in local context. In addition, translated scale (mother tongue of the target population) could provide better readability and understanding of the scale items as compared to secondary sources. It was also observed from the literature review that modern procedures of assessment required brief instruments and newly developed scale could be optimal for this purpose, i.e., it neither contains a large number of items, nor very few items in the scale. Lastly, the present study could provide future research directions related to the assessment of altruism with reference to Pakistani cultural perspective.

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