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Urdu Translation and Adaptation of Brief COPE Scale

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The phenomenon of coping has received remarkable recognition and instruments have been developed to survey diverse coping strategies. This study was aimed to translate, adapt, and validate Brief Coping Orientation of Problems Experienced (Brief COPE) inventory (Carver, 1997) in Urdu language by focusing on dispositional coping. The study includes two phases: Phase I comprised of translation and adaptation of Brief COPE in Urdu while in Phase II, psychometric analyses were carried out. The sample of 400 students (men = 200, women = 200) with age range between 19 to 25 years was taken from universities of Islamabad. The Brief COPE (Urdu), World Health Organization - Quality of Life Scale-Brief (Khan, Akhter, Ayub, Alam, & Naeem, 2003), and Aga Khan University Anxiety and Depression Scale (Ali, Reza, Khan, & Jehan, 1998) were administered. Factor analysis of Brief COPE yielded three factors namely, Problem Focused Coping, Avoidance Coping and Emotion Focused Coping that explained 33.66% of variance. The subscales demonstrated acceptable alpha reliability. Psychological distress correlated with avoidance and emotion focused coping; whereas problem focused coping correlated with better life satisfaction. Brief COPE demonstrated good preliminary evidence of internal consistency, convergent, and divergent validity for coping strategies, therefore, could be used in research and clinical settings in future in our culture.

Keywords: Brief-COPE scale, coping behavior, psychological distress, translation, psychometric properties

It would not be inappropriate if we call our times age of distress as from political arena to personal lives the dominant narrative is

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about what's wrong in our lives. These often include situational obstacles, interpersonal conflicts, traumatic events, existential threats, and everyday hassles. This, however, raises a question that why more people have not surrendered to stress related disorders and why so many people still manage to rise above the level of difficulties and live a healthy life. Our capacity to use our adaptive resources and coping seems to be the key answer to these questions. In a stress model, coping is believed to play a mediating role between psychological strain and stressors; a moderating role for the stress-chain relationship; and is seen as a noteworthy segment of the general stress process (Ogden, 2000). Lazarus and Folkman (1984) introduced the most comprehensive model of psychological stress response (García, Barraza-Peña, Wlodarczyk, Alvear-Carrasco, & Reyes-Reyes, 2018), informing that the ability to cope with the environment is essential to survive and thrive in a fast changing and competitive world. The authors defined this process as 'action associated with modification or resolution of a problem, continually changing cognitive and behavioral endeavors carried out by a person to manage demands which are particularly taxing and are potentially surpassing person's resources as well as capacities'. They proposed that three main elements involve in the process of coping: firstly, the trigger of the stress (the occasion or stressor); secondly, cognitive evaluation (which incorporates assessment of the occasion as being unimportant, undermining or positive, and synchronous appraisal of accessible coping resources within the individuals and their environment); and thirdly, coping strategies (Lazarus & Folkman, 1984). There is no commonly recognized understanding of the methods by which individuals cope, however, coping styles are generally categorized by the methodologies used to confront upsetting circumstances. They are primarily the dichotomous models, namely, emotion-focused coping versus problem-focused coping (Lazarus & Folkman, 1984), approach and avoidance coping (Roth & Cohen, 1986), or a three-categorical classification of emotional, behavioral, and cognitive (Schwarzer & Schwarzer, 1996) domains of coping (Pozzi et al., 2015).

The categorical measurement of coping has been widely censured, prompting to replace the dichotomous distinctions with cognitive, emotional, behavioral, and relational techniques for coping (Pozzi et al., 2015). Coping Orientation to Problems Experienced (COPE) inventory is one of the most validated and widely used tools when it comes to coping (Ashktorab, Baghchegi, Syedfatami, & Baghestani, 2017). The coping strategies proposed in this measure, were derived from the theory of Scheier and Carver's self-regulation theory (see, e.g., Carver, Scheier, & Weintraub, 1989) and factor

analysis was later carried out. Though, the COPE scales were planned to measure finer facets of coping, factor analytical examinations have revealed that there exist more extensive elements of coping (Kapsou, Panayiotou, Kokkinos, & Demetriou, 2010). Moreover, COPE also offers both the situational and dispositional formats of coping strategies, which overcomes the problem of state-trait coping strategies (Monzani et al., 2015). The original inventory faced challenge due to its length as response fatigue would compromise its effective use, therefore, in 1997 Brief COPE was developed to facilitate assessment and then onwards is widely used (Bautista & Erwin, 2013; Kapsou et al., 2010; Paukert, LeMaire, & Cully, 2009). The instrument presents good reliability except a couple of scales (Kapsou et al., 2010; Muller & Spitz, 2003). It had been translated in numerous languages, including Italian (Conti, 2000), Greek (Kapsou et al., 2010), Korean (Kim & Seidlitz, 2002), Portuguese (Pais-Ribeiro & Rodrigues, 2009), Tamil-India (Mohanraj et al., 2014), Brazilian (Brasileiro et al., 2016), Spanish (Perczek, Carver, Price, & Pozo-Kaderman, 2000), French (Muller & Spitz, 2003), and many other languages.

Due to the multifaceted nature of the connection between psychological stressors, coping techniques, and mental and physical health, research on factor structure of Brief COPE has not generally provided consistent findings. Several researches have categorized some specific coping methodologies, for example, positive reframing, religion¸ humor, and acceptance as either problem centered, avoidant, or emotion centered (Schnider, Gray, & Elhai, 2007). Similarly, some of the coping strategies appear to be constantly changing in their frequencies in different cultures including religion, emotion focused/ avoidance coping, and social support (Bardi & Guerra, 2010; Ong & Moschis, 2009; Taylor et al., 2004). Coping strategies are adopted in the context of stressors and the context implying that the dominant culture and available resources at personal and social level, would influence which coping style is used by an individual.

Our literature search showed that brief COPE scale has already been translated and used in Pakistan many times (see, e.g., Akhtar, 2005, Akram & Ilyas, 2017; Fatima & Tahir; 2013; Sabih, Sajid, Sohail, & Saba, 2014; Parshad & Tufail, 2014; Vadsaria et al., 2017), however, the current researchers are of the opinion that there are some issues in the translation and classification of internal structure and psychometric properties. For instance, in the widely used Urdu translation of Brief COPE scale (Akhtar, 2005), the original item *"I've been giving up trying to deal with it."* is translated in Urdu implying *carrying out efforts to deal with the situation*. The original statement

refers to difficulty in active engagement to deal with the problem whereas the translation is expressing an attempt to deal with the situation (see e.g., Fatima & Tahir; 2013; Sabih et al., 2014; Zafar & Majid, 2015). Secondly, in original Brief COPE, the present tense is used in dispositional format that measure traits, whereas the present tense progressive (I have been…) is used for situational format that assess state coping (Carver, 1997). The Urdu translation (Akhtar, 2005) alternates between present to present tense progressive in the same scale, which has the chance of producing misleading results in terms of assessment that is, it does not give a clear view whether the scale measures trait or state coping.

Furthermore, coming to the internal structure of the scale, some researchers have categorized the subscales as either Adaptive or Maladaptive (Kasi et al., 2012; Parshad & Tufail, 2014; Riaz & Agha, 2012; Vadsaria et al., 2017); Emotion Focused and Problem Focused (Jabeen & Khalid, 2010; Sheikh, Ashraf, Imran, Hussain, & Azeem, 2018) or five subscales namely Avoidance Coping, Problem Focused Coping, Positive Coping, Religious Coping, and Denial (Sabih et al., 2014). However, these studies do not state the details of any theoretical model or empirical basis for arriving at these classifications. Therefore, the above stated methodological issues give rise to the need of reevaluating the translation and analysis of factor structure of brief COPE in the Pakistani cultural context; that would help assess the pattern and cultural nuances in coping. Hence, the present research was aimed to translate, adapt, and examine the internal structure of the Brief COPE Scale in Urdu, on university students. After establishing the internal factor structure, the study also aimed to establish its convergent and divergent validity through World Health Organization - Quality of Life Scale-Brief (Khan et al., 2003), and Aga Khan University Anxiety and Depression Scale (Ali et al., 1998).

Method

The study comprised of two phases. In phase I, translation of the Brief COPE scale was done. In phase II, the psychometric properties of the scale were established using Exploratory Factor Analysis.

Phase I: Translation of Brief COPE

The Brief COPE inventory (Carver, 1997) comprises of 14 sub-scales (two-items each) including Self-distraction, Active Coping, Denial, Substance Use, Use of Emotional Support, Use of Instrumental Support, Behavioral Disengagement, Venting, Positive Reframing, Planning, Humor, Acceptance, Religion, and Self-blame.

This scale assesses to what extent people used a specific coping technique in their life to deal with several stressful situations (e.g., losing a job, failing exam, or being informed about a physical disease they're suffering from). The scale items were scored on a 4-point Likert type scale with four reaction alternatives: 0 = *I usually don't do this at all*, 1 = *I usually do this a little bit*, 2 = *I usually do this a medium amount*, 3 = *I usually do this a lot*. The tool does not have a composite score rather each subscale is scored separately. For each subscale, score ranged from 0 to 8 with higher scores demonstrating more prominent utilization and low scores demonstrating less utilization of each coping strategy. The alpha reliabilities ranged from .50 to .90 (Carver, 1997) and .54 to .91 (Kato, 2013). The translation and adaptation of brief COPE was carried out in the following five steps after getting permission from the original authors despite being an open access instrument.

Step 1: Forward translation of Brief COPE. Brief COPE Scale English version was translated in Urdu language, with the permission of the author, by following the World Health Organization (WHO) guidelines. One male and two female translators were bilingual (English, Urdu) having MS degree in psychology. The translators were explained the purpose and nature of the instrument for maintaining the quality of the translation and were asked to translate the scale conceptually in simple language keeping the cultural context while avoiding any jargon. Three independent forward translations were obtained.

Step 2: Expert panel. Expert panel comprised of three members, two of them were students of MS clinical psychology, and the third one was faculty of Psychology with experience in psychometrics. The MS students were approached based on their experience in research that is, on average 2 to 3 years. The expert panel reviewed all the three Urdu translations of Brief COPE inventory and a final translated version was finalized. Those items and phrases were selected, which were conceptually closer to the item in English, were simple, and culturally relevant.

Step 3: Back translation. The final version was given to a female bilingual translator having Master's degree in English. The purpose was to assess the conceptual equivalence of the translated scale with the original scale. The back translation was reviewed against the source language. All the items were conceptually relevant to the original English version of Brief COPE Scale.

Step 4: Pretesting and cognitive interviewing. The version approved in previous step was then pretested.

***Sample*.** For this purpose, 20 young adults (10 men, 10 women) were taken from Islamabad. Their age ranged from 19 to 25 years (*M* = 23.31, *SD* = 1.70). Participants had a minimum education of bachelors and maximum masters.

***Procedure*.** The participants who agreed to participate in the study were explained the objective of the study and were asked to fill the questionnaire leaving no item unanswered, as there was no time limit for them. Moreover, they were requested to write or share their thoughts about a question being asked, whether they are able to ask the same question using their own words, also when they hear a specific item or a term what came in their mind. Every respondent was asked to report any word or phrase that seem difficult to them, or a word or phrase they did not comprehend or expression they find inappropriate.

Step 5: Final version of Brief COPE. The cognitive interviewing informed that none of the item was difficult to read or comprehend for the participants. Hence, the brief COPE was considered ready to be used in the main study.

Phase II: Psychometric Properties of Brief COPE (Urdu)

The main purpose of this phase was to determine the psychometric properties, correlation, and factor structure of Brief COPE.

Sample. Convenient sampling technique was employed for the present study. Four hundred students from 3 public and private universities from Islamabad and Rawalpindi were recruited in the study. The sample taken for the current study had following demographic characteristics:

Table 1
Frequency and Percentages Across Demographic Variables (N = 400)

Demographic Characteristics	*f*	%		*f*	%
Gender			Education		
Men	200	50	BA/BSc	251	62.8
Women	200	50	MA/MSc	113	28.3
Age (in years)			MS	36	9
19	128	32.0	Employment Status		
20	90	22.6	Not Employed	368	92
21	67	16.8	Employed	32	8
22	44	11.0	Marital Status		
23	32	8.0	Married	16	4
24	23	5.8	Unmarried	384	96
25	16	4.0			

Table 1 shows that there is an equal number of men and women in the sample with an age ranging from19 to 25 years. Majority of the respondents are undergraduate, unmarried, and not employed anywhere.

Instruments. Following instruments were used.

The Brief Coping Orientation to Problems Experienced (COPE) (Urdu). The measure (Urdu version) finalized in Phase I of the study was used for assessing the psychometric properties in detail.

World Health Organization - Quality of Life Scale-BREF (WHOQOL-BREF). This scale (Khan et al., 2003) was used to assess impact of negative events on subjective well-being across four areas of an individual's life that is, physical, psychological, social, and environmental domains. The reliability ranged from .67 to .86 for all the domains of the instrument (Kruithof et al., 2018). A translation of WHOQOL-BREF in Urdu was carried out (Khan et al., 2003), which established that it is a reliable (α = .86) and valid version for Pakistani population. It consisted of 26 items which were scored on 5-point scale that ranged from *extremely satisfied* (5) to *extremely dissatisfied* (1). Item 3, 4, and 26 requires recoding as they are negatively phrased items. WHOQOL-BREF provide an overall score and domain score as well. The total score of shows an individual's overall perception of quality of life with a score range from 26 to 130. Individuals who score higher on the facets of scale, indicates better quality of life than those who score low on the facets of this scale.

Aga Khan University Anxiety and Depression Scale (AKUADS). This scale (Ali et al., 1998) is an indigenously developed screening tool at Aga Khan University, Karachi, Pakistan. This scale is a 25 item self-report scale that contains 12 items of psychiatric and 13 items of somatic symptoms and assesses the presence and intensity of symptoms of anxiety and depression for prior 2 weeks. The instrument has a sensitivity of 66%, a specificity of 79% (Ali et al., 1998), and reliability coefficient of .90 (Sheikh et al., 2018). The response options are five, that ranges from 0 to 4 comprising 4 = *constantly*, 3 = *the greater part of time*, 2 = *some time*, 1 = *have not been there at all*, and 0 = *do not know* provided if the patient is unsure of the response. Score can range from 0 to 100 where individuals scoring high on AKUADS will be considered as having high level of anxiety and depression while low scores indicate lower level of anxiety and depression.

Procedure. The sample was selected through convenient sampling from universities in Rawalpindi and Islamabad. After getting consent from the university authorities, written and verbal informed consent was taken from university students for the research. Students were approached directly according to their availability during university timings. Objectives and nature of the study was informed in detail. Right to withdraw and confidentiality was ensured. They were informed that the data will be used for research purpose only while maintaining their anonymity. Demographic performa along with questionnaires were administered on the participants. Written instructions and verbal instructions were also given. It took approximately 12 to 15 minutes to fill the questionnaires by the group of participants. The participants were thanked for their cooperation at the end.

Results

Firstly, data was scrutinized for normality and accuracy; then exploratory factor analysis was carried out with the help of SPSS (version 20). The skewness of the data lies in the accepted range that is, -.04 to -1.37, however, item no. 4 "I've been using alcohol or other drugs to make myself feel better", and item 11 "I've been using alcohol or other drugs to help me get through it" had high values of skewness and kurtosis (i.e., 3.43 to 3.45 respectively). As exceptionally skewed items can altogether bias the findings of factor analysis (Lyne & Roger, 2000), hence, these items have been excluded. The remaining 26 items were subjected to Principal Component Analysis Promax Rotation.

Factor Analysis

Findings revealed that Kaiser-Meyer-Olkin Measure of Sampling Adequacy is .72 showing that sampling is adequate and factor analysis can be performed and interpreted satisfactorily (Field, 2013). The significant value ($p < .01$) of Bartlett's Test of sphericity (2459.43) shows the relatedness of variables in different factors that ensures the suitability of factor analysis. Principal component factor analysis using Promax rotation is used for factor extraction as it is a preferable method for initial factor extraction (Field, 2013). The number of factors is decided using Scree plot. The results of factor analysis have been presented in Table 2.

Table 2

Factor Analysis Using Principal Component Analysis (N = 400)

Item no.	Statements	Factors		
		F1	F2	F3
17	Try to find good things in what's going on.	.69		
7	Take practical measures in order to make the situation better.	.68		
14	Try to find a way out of this situation.	.68		
2	Give my utmost effort to cope with the current situation.	.64		
12	Try to look at it from different angles in order to view the situation in a positive light	.60		
25	Think a lot about what to do.	.54		
20	Accept the reality of all that has happened.	.45		
24	Learn to live with this situation.	.45		
18	Make fun of the situation.		.72	
28	Take the situation as a joke.		.68	
26	Blame myself for what happened.		.52	
13	Criticize myself.		.50	
6	Give up while trying to tackle with the situation.		.46	
16	Give up trying to cope with situations.		.44	
3	Tell myself that "this is not so in reality".		.44	
8	Deny that such has happened.		.43	
19	Do one thing or another to think less about the situation; like watching movies, watching TV, reading, imagining, thinking, or shopping etc.		.42	
23	Ask others for help in this regard.			.71
10	Take advice and help from others.			.70
21	Express my negative feelings.			.53
9	Say something in order to get rid of my unpleasant feelings.			.52
27	Pray or meditate.			.41
15	Get consolation and peace from someone.			.40
22	Trying to find peace in religious and spiritual principles.	.35		.38
5	Receive emotional support from others			
1	Get attracted towards other tasks or activities in order to get my attention/mind off more problems			

Note. F1 = Problem Focused Coping; F2 = Avoidance Coping; F3 = Emotion Focused Coping.

Table 2 is depicting the pattern of rotated factor loadings for this 3-factor solution. The first factor is named Problem focused Coping

and it includes 8 items from Active Coping, Planning, Positive Reframing, and Acceptance. This factor accounts for 14.77% variance. Factor loadings are high and yield good internal consistency (α = .77). Second factor is named as Avoidance Coping and it consisted primarily of 9 items from Self Blame, Behavioral Disengagement, Humor, Denial, and Self Distraction. This factor accounts for 11.55% variance. Factor loadings are high and yields acceptable internal consistency (α = .67). The third factor includes 7 items from Use of Instrumental Support, Venting, Religion, and item 15 of Use of Emotional Support; and was named Emotion Focused Coping. This factor accounts for 7.34% variance. Factor loadings are high and yield acceptable internal consistency (α = .66). However, when the suppression value is set to .30, 2 out of 26 items fails to load on any factor that is, item 1 about self-distraction, and item 5 about use of emotional support.

With the adjustment of suppression value at .25 (Tabachnick & Fidell, 2011), item 1 loaded on 2nd factor with item value .27 but item 5 still failed to load on any factor. Further analyses that is, item total correlation and α if item deleted revealed that item 1 is worthy of retention as the α if item deleted shows that the reliability of the scale stays the same that is, .67, and item total correlation is fair that is, .35, which is acceptable as it is higher than .30 (Nunnally, 1978). As, item 5 failed to load on any factor, hence, this item was decided to be not included in the scale for further analysis. The final Brief COPE scale Urdu consisted of 25 items, which can be obtained by emailing the corresponding author.

Table 3

Descriptive Statistics of Measures Used in the Study (N = 400)

					Range		
Scales	*k*	*M*	*SD*	α	Actual	Potential	Skw.
Brief Cope Scale							
Problem Focused Coping	8	18.69	4.23	.77	4-26	0-32	-.93
Avoidance Coping	10	14.13	5.12	.67	1-27	0-40	.15
Emotion Focused Coping	7	14.19	3.67	.66	0-21	0-28	-.51
WHOQOL-BREF	26	89.40	12.41	.84	41-117	26-130	-.82
QOL-Physical	7	25.78	4.74	.78	7-31	7-35	-.53
QOL-Psychological	6	21.12	4.23	.70	11-29	6-30	-.56
QOL-Environmental	8	27.46	5.38	.80	9-40	8-40	-.49
QOL-Social	3	10.98	2.50	.65	3-15	3-15	-.74
AKUADS	25	44.93	2.86	.90	2-90	0-100	.40

Note. Skw. = Skewness; WHOQOL-BREF = World Health Organization - Quality of Life-Brief; QOL = Quality of Life; AKUADS = Aga Khan University Anxiety Depression Scale.

Table 3 outlines the means, standard deviations, actual and potential ranges, and level of skewness for newly translated Brief COPE, WHOQOL-BREF and its domains, and AKUADS among university students. Means and standard deviations are calculated for all study variables that represent the average scores attained by the participants. Value of skewness is less than one which indicates that our data is normally distributed as skewness value range from -1 to +1 (Field, 2013). Alpha coefficients range from acceptable to highly satisfactory.

Convergent and Divergent Validity

To determine the construct validity of Brief COPE, correlation was conducted between scores on its subscales and scores on WHOQOL-BREF measuring quality of life and AKUADS measuring psychological distress. Table 4 reports the correlations between coping, psychological distress, and quality of life among university students.

Table 4

Correlation Matrix for Coping, Quality of Life, and Psychological Distress (N = 400)

Variables	1	2	3	4	5	6	7	8	9
1. C-PF	-	-.05	.25*	.26*	.34**	.32**	.19*	.18*	-.18*
2. C-A		-	.20**	-.37**	-.42**	-.42**	-.28**	-.30**	.37**
3. C-EF			-	.06	-.06	-.01	.01	.09	.11*
4. Quality of Life				-	.73**	.77**	.84**	.71**	-.50**
5. Physical					-	.64**	.57**	.40**	-.52**
6. Psychological						-	.52**	.56**	-.57**
7. Environmental							-	.48**	-.44**
8. Social								-	-.40**
9. PD									-

Note. C-PF = problem focused coping; C-A = Avoidance coping; C-EF = emotion focused coping; QOL = Quality of Life; PD = psychological distress.
*$p < .05$. **$p < .01$.

Table 4 indicates that problem focused coping has nonsignificant negative correlation with avoidance coping, whereas significant positive correlation with emotion focused coping. Problem focused coping then has significant positive correlation with quality of life overall and between all its domains. Conversely, problem focused coping has significant negative correlation with anxiety and depression. Avoidance coping has significant positive correlation with emotion focused coping, anxiety, and depression and has significant

negative correlation with quality of life and all its domains. Emotion focused coping has significant positive correlation with anxiety and depression, whereas there is nonsignificant negative correlation between quality of life and its four domains. Psychological distress has statistically significant negative correlation with quality of life and its domains that is, physical, psychological, environmental, and social.

Discussion

The main aim of the current study was to translate and assess the factor structure of dispositional format of the Brief COPE in the cultural context of Pakistan. The findings of the present study demonstrated that brief COPE yielded three factors assessing Emotion-Focused Coping, Problem-Focused Coping, and Avoidance, comprising of 25 items now. By and large, our findings are in concurrence with past factor analytical findings, suggesting the existence of broader underlying components of coping (e.g., Carver, 1997; Hagan et al., 2017; Kapsou et al. 2010; Pozzi et al., 2015). Moreover, the alpha reliability shows acceptable internal consistency of these factors. Lastly, construct validity was determined as problem focused coping correlated with better life satisfaction, whereas psychological distress correlated with avoidance and emotion focused coping.

Based on initial descriptive data analysis we did one modification, that is, dropping the subscale of substance use before conducting factor analysis, as it was reported to be rarely used by the students in our sample. A probable explanation for lowest scores on items of substance use is that, alcohol is seen as a taboo in Muslim countries (Khalid et al., 2017) and it is not socially desirable to consider and acknowledge using alcohol, thus, increasing the likelihood of underreporting for the consumption of alcohol or other drugs.

The resultant factor structure of brief COPE Urdu serves to confirm an emerging pattern in the literature. The first factor identified was Problem Focused Coping including methodologies such as planning, active coping, positive reframing, and acceptance; the same was reported by Carver (1997), and Hagan et al. (2017). The items of active coping and planning reflect an underlying dimension of problem-engagement, where the individuals allow themselves to use other complimentary and/or accommodating strategies such as positive reframing, and acceptance to deal with a stressful situation effectively.

The second factor was Avoidant Coping that consists of strategies clearly associated with lessening of efforts to cope with the problem such as self-distraction, behavioral disengagement, blaming, denial and humor. These strategies are in partial agreement with avoidant strategies categorized by Carver (1997) and García et al. (2018), both theoretically and empirically; however, venting did not converge on this factor as suggested by Carver (1997). The avoidant coping strategies converged on this subscale appear to impede adaptive and active coping, as it leads one to disengage from his goal, especially, when these strategies are used for a longer period (Folkman & Moskowitz, 2004). The strategies in problem focused and avoidance coping are mostly linked with one's own willingness to either deal with the stressor or avoid it. However, the third factor deals with social aspect of coping, wherein others' contribution plays its role in coping.

Third factor, Emotion Focused Coping includes utilizing instrumental support, emotional support, religion, and venting. In agreement to earlier findings reported by Kapsou et al. (2010), emotional and instrumental support coping techniques converge on the same factor (Craver, 1989; Pozzi et al., 2015), along with religion (e.g., Knoll, Rieckmann, & Schwarzer, 2005) and with venting (Monzani et al., 2015; Ornelas et al., 2013). Though instrumental and emotional support may conceptually differ, but they occur in practice together (Aldwin & Revenson, 1987; Carver 1997). A plausible explanation could be that emotion-focused strategies seem to function on altering emotional reactions evoked by the stressing circumstances, whereas instrumental support helps to provide alternatives to cope with the problem at hand. One of the cultural observations regarding overlapping of these two strategies is that our culture emphasis more on emotional suppression (Ramzan & Amjad, 2017), which might be compensated by behavioral demonstration of warmth and concern through helping the person going through stressful circumstances. Overall, the components in emotion focused coping direct towards external sources to deal with the stressful situations, either towards people or towards the supreme authority (religion).

The construct validity of the newly translated subscales was determined by carrying out correlation between coping, quality of life, and psychological distress (i.e., anxiety & depression). The convergent validity of the problem focused coping was exhibited by positive association with better quality of life (see e.g., Mathew, Khakha, Qureshi, Sagar, & Khakha, 2015; Zaman & Ali, 2014) and divergent validity by having negative association with psychological distress (e.g., Mohammad, 2012; Vadsaria et al., 2017). Conversely,

avoidance coping had positive association with anxiety and depression (Lyne & Rogers, 2000) and negative association with quality of life (García et al., 2018). These two factors appeared to be well defined in convergent and divergent validities and corroborate with the findings of previous studies.

The correlation between emotion focused coping and other variables was not as straightforward as the other two coping methods. Emotion focused coping converge positively with problem focused coping, avoidance coping, and psychological distress, the similar findings were found by Lyne and Rogers (2000). Conversely, this factor had weak nonsignificant correlation with quality of life. Here, the pattern of correlation proposes that the tendency to look for social support that may have both constructive and unpleasant implications, and whether it is great or terrible may rely upon what other adapting strategies are happening alongside it (García et al., 2018). Emotion focused coping is linked with increased anxiety and depression and affect quality of life, it may be opted as an alternative for high distress conditions and may be intervened by quality of support available (Hagan et al., 2017). The type of emotional support in which a person is calmed down and reassured can foster problem focused coping that can be an adaptive strategy. On the other hand, the evidence depicts that social support that involves only venting out negative emotional energy may not always be adaptive (Billings & Moos, 1984; Carver, et al., 1989). It may be functional; when the individual is encouraged to express the negativity, which can then help him or her process the grief and then move on. However, if the individual continues to dwell on the negative experience, it may turn out to be exhaustive and may contribute to vicious cycle of emotional distress.

Here, reviewing the classifications reported in Pakistani studies using the brief COPE is important for few reasons. First, the present factor structure demonstrated that more than two factors exist, as opposed to categorization of strategies as either adaptive and maladaptive or problem focused and emotion focused. Secondly, there are differences in the strategies used for actively solving a problem and getting spiritual or social support for dealing with a stressor. However, previous studies combined problems focused and emotion focused strategies and labeled them as adaptive coping strategies (Kasi et al., 2012; Riaz & Agha, 2012; Vadsaria et al., 2017). Whereas, the current analysis of correlation between emotion focused and problem focused coping showed that these strategies not only differ conceptually but also in their relationship between quality of life and level of depression and anxiety. Thus, providing evidence that emotion focused strategies are not simply adaptive.

One cannot evaluate the role of coping strategies in isolation, the unstable or partial agreement to already developed factor structures does not imply they were flawed; it shows the vastness of coping phenomenon. Other factors such as situational or dispositional ways of coping, types of stressor, or available resources to deal with stressors jointly play their role in collaboration. Moreover, the selection of different samples including age, ethnicity, clinical, or non-clinical samples can lead to different factor structures. Hence, the assessment of coping strategies as adaptive or maladaptive should be determined in terms of their relationship with other variables and factors.

Limitations and Suggestions

Sample of the present study consisted of young adults. One cannot assume that the factor structure can be generalized across age ranges. The difference in the use of different coping strategies is expected to occur as the participants of the present study were students and their nature of stressors might be different from the nature of stressors of middle or older adults. In future, comparative studies of young adults, middle, and older adults would be meaningful to analyze the effect of age on factor structure of coping as reported by studies (Monzani et al., 2015). Furthermore, the present study was conducted on a non-clinical sample, this also limits it generalizability to the clinical sample. Future studies would be significant to explore what coping strategies they use to deal with their illnesses both physical and psychological.

Implications

The findings of the present study can be utilized in multiple settings including clinical, organizational, educational, and research. The newly developed and validated factor structure of Brief COPE scale can provide clearer insight into coping and managing skills for a wide range of medical conditions as well as mental health conditions. Additionally, this tool can be used for the assessment of preferred coping methods in educational settings by students and in organizational settings by employees. Also, this scale can be used in intervention and prevention studies for pre-post assessment, and in correlational studies to measure coping with various psychological phenomena.

Conclusion

This study was an effort to translate and validate Brief COPE in Pakistan which enhanced greater confidence on the applicability of the scale. More significantly, the subsequent Brief COPE translation accomplished a harmony between good psychometric properties and briefness, with the identification of a three-factor structure (problem focused coping, avoidance coping, & emotion focused coping). With the assistance of this newfound factor structure, it is expected that researchers will be able to more comprehensively evaluate coping, and to assess relations of coping with different concepts from a unique point of view.

References

Akhtar, M. (2005). *Coping strategies and its relationship with stress and time demands among university students.* (Unpublished M.Phil Thesis), National Institute of Psychology, Quaid-i-Azam University, Islamabad.

Akram, B., & Ilyas, M. (2017). Coping strategies, mental health and HIV status: Predictors of suicidal behavior among PWIDs. *Journal of Pakistan Medical Association 67*(4), 23-30.

Aldwin, C. M., & Revenson, T. A. (1987). Does coping help? A reexamination of the relation between coping and mental health. *Journal of Personality and Social Psychology*, *53*(2), 337-348. doi:10.1037//0022-3514.53.2.337

Ali, B. S., Reza, H., Khan, M. M., & Jehan, I. (1998). Development of an indigenous screening instrument in Pakistan: The Agha Khan University Anxiety and Depression Scale. *Journal of Pakistan Medical Association*, *48*(9), 261-265.

Ashktorab, T., Baghcheghi, N., Seyedfatemi, N., & Baghestani, A. (2017). Psychometric parameters of the Persian version of the Brief COPE among wives of patients under hemodialysis. *Medical Journal of the Islamic Republic of Iran*, *31*(1), 113-118. doi:10.18869/mjiri.31.20

Bardi, A., & Guerra, V. M. (2010). Cultural values predict coping using culture as an individual difference variable in multicultural samples. *Journal of Cross-Cultural Psychology*, *42*(6), 908-927. doi:10.1177/0022022110381119

Bautista, R. E., & Erwin, P. A. (2013). Analyzing depression coping strategies of patients with epilepsy: A preliminary study. *Seizure*, *22*(9), 686-691. doi: 10.1016/j.seizure.2013.05.004

Billings, A. G., & Moos, R. H. (1984). Coping Checklist. *Psychological TESTS Dataset*. doi:10.1037/t08055-000

Brasileiro, S. V., Orsini, M. R., Cavalcante, J. A., Bartholomeu, D., Montiel, J. M., Costa, P. S., & Costa, L. R. (2016). Controversies regarding the psychometric properties of the Brief COPE: The Case of the Brazilian-Portuguese Version COPE Breve. *PLOS ONE*, *11*(3), e0152233. doi: 10.1371/journal.pone.0152233

Brunault, P., Champagne, A., Huguet, G., Suzanne, I., Senon, J., Body, G., & Camus, V. (2015). Major depressive disorder, personality disorders, and coping strategies are independent risk factors for lower quality of life in non-metastatic breast cancer patients. *Psycho-Oncology*, *25*(5), 513-520. doi:10.1002/pon.3947

Carver, C. S. (1997). You want to measure coping but your protocol' too long: Consider the brief cope. *International Journal of Behavioral Medicine*, *4*(1), 92-100. doi:10.1207/s15327558ijbm0401_6

Carver, C. S., Scheier, M. F., & Weintraub, J. K. (1989). Assessing coping strategies: A theoretically based approach. *Journal of Personality and Social Psychology*, *56*(2), 267-283. doi:10.1037//0022-3514.56.2.267

Conti, L. (2000). Italian collection of the assessment scales in psychiatry. *Firenze, 4*(12), 1581-1590.

Fatima, S., & Tahir, S. (2013). Comparison of coping strategies used by adolescents on state and trait anxiety. *FWU Journal of Social Sciences*, *7*(2), 165-174.

Field, A. P. (2013). *Meta-analysis in clinical psychology research*. London: Oxford.

Folkman, S., & Moskowitz, J. T. (2004). Coping: Pitfalls and promise. *Annual Review of Psychology*, *55*(1), 745-774.

García, F. E., Barraza-Peña, C. G., Wlodarczyk, A., Alvear-Carrasco, M., & Reyes-Reyes, A. (2018). Psychometric properties of the Brief-COPE for the evaluation of coping strategies in the Chilean population. *Psicologia: Reflexão e Crítica*, *31*(1). doi:10.1186/s41155-018-0102-3

Hagan, T. L., Fishbein, J. N., Nipp, R. D., Jacobs, J. M., Traeger, L., Irwin, K. E., … Temel, J. S. (2017). Coping in patients with incurable lung and gastrointestinal cancers: A validation study of the Brief COPE. *Journal of Pain and Symptom Management*, *53*(1), 131-138. doi: 10.1016/j.jpainsymman.2016.06.005

Jabeen, T., & Khalid, R. (2010). Predictors of psychological well-being of Pakistani immigrants in Toronto, Canada. *International Journal of Intercultural Relations 34*(3), 452-464.doi:10.1016/j.ijintrel.2010.04.010

Kapsou, M., Panayiotou, G., Kokkinos, C. M., & Demetriou, A. G. (2010). Dimensionality of coping. *Journal of Health Psychology, 15*(2), 215-229. doi:10.1177/1359105309346516

Kasi, P. M., Naqvi, H. A., Afghan, A. K., Khawar, T., Khan, F. H., & Khan, U. Z., et al. (2012). Coping styles in patients with anxiety and depression. *ISRN Psychiatry, 2*(1), 91-104.

Kato, T. (2013). Frequently used coping scales: A meta-analysis. *Stress and Health*, *31*(4), 315-323. doi:10.1002/smi.2557

Khalid, S., Bukhari, A., Azhar, S., Saeed, N., Manzoor, S., Syed, H., ... Kamboh, M. S. (2017). Incidence of depression and the coping styles used by undergraduate and postgraduate pharmacy students: A comparison. *Journal of Human Virology & Retrovirology 5*(2), 222-241. doi: 10.15406/jhvrv.2017.05.00146

Khan, M. N., Akhter, S. M., Ayub, S. M., Alam, M., & Naeem, U. L. (2003). Translation and validation of Quality of Life Scale, the brief version. *Journal of the College of Physicians & Surgeon Pakistan*, *13*(1), 98-100.

Kim, Y., & Seidlitz, L. (2002). Spirituality moderates the effect of stress on emotional and physical adjustment. *Personality & Individual Differences*, *32*(8), 1377-1390. doi:10.1016/s0191-8869(01)00128-3

Knoll, N., Rieckmann, N., & Schwarzer, R. (2005). Coping as a mediator between personality and stress outcomes: A longitudinal study with cataract surgery patients. *European Journal of Personality*, *19*(3), 229-247. doi:10.1002/per.546

Kruithof, N., Haagsma, J., Karabatzakis, M., Cnossen, M., De Munter, L., Van de Ree, C., … Polinder, S. (2018). Validation and reliability of the abbreviated World Health Organization Quality of Life Instrument (WHOQOL-BREF) in the hospitalized trauma population. *Injury*, *49*(10), 1796-1804.

Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. New York: Springer.

Lyne, K., & Roger, D. (2000). A psychometric re-assessment of the COPE questionnaire. *Personality & Individual Differences*, *29*(2), 321-335. doi:10.1016/s0191-8869(99)00196-8

Mathew, N., Khakha, D. C., Qureshi, A., Sagar, R., & Khakha, C. C. (2015). Stress and coping among adolescents in selected schools in the capital city of India. *Indian Journal of Pediatrics*, *82*(9), 809-816. doi:10.1007/s 12098-015-1710-x

Mehmood, T., & Shaukat, M. (2014). Life satisfaction and psychological well-being among young adult female university students. *International Journal of Liberal Arts and Social Science*, *2*(5), 143-153.

Mohammad, A. (2012). The relationship of coping strategies with mental health in Iranian Students. *Journal of Subcontinent Research*, *11*(1), 71-76.

Mohanraj, R., Jeyaseelan, V., Kumar, S., Mani, T., Rao, D., Murray, K. R., & Manhart, L. E. (2014). Cultural adaptation of the Brief COPE for persons living with HIV/AIDS in Southern India. *AIDS & Behavior*, *19*(2), 341-351. doi:10.1007/s10461-014-0872-2

Monzani, D., Steca, P., Greco, A., D'Addario, M., Cappelletti, E., & Pancani, L. (2015). The situational version of the Brief COPE: Dimensionality and relationships with goal-related variables. *European Journal of Psychology*, *11*(2), 295-310. doi:10.5964/ejop.v11i2.935

Muller, L., & Spitz, E. (2003). Multidimensional assessment of coping: validation of the Brief COPE among French population. *Encephale*, *29*(1), 507-518.

Nunnally, J. C. (1978). An overview of psychological measurement. *Clinical Diagnosis of Mental Disorders*, *2*(1)97-146. doi:10.1007/978-1-4684-2490-4_4

Ogden, J. (2000). *Health psychology*. Buckingham: Open University Press.

Ong, F. S., & Moschis, G. P. (2009). Stress, coping, and well-being: A study of ethnic differences among older adults. *Journal of International Consumer Marketing*, *21*(3), 219-229. doi:10.1080/08961530802202933

Ornelas, R., Anahi, M., Vite, A., Guerrero, O., Rosas, A., & Sanchez, J. (2013). Coping in breast cancer patients undergoing radiotherapy: The brief COPE scale. *Psicología y Salud*, *23*(1), 55-62.

Ouimet, A. J., Gawronski, B., & Dozois, D. J. (2009). Cognitive vulnerability to anxiety: A review and an integrative model. *Clinical Psychology Review*, *29*(6), 459-470. doi: 10.1016/j.cpr.2009.05.004

Pais-Ribeiro, Jose, & Rodrigues, A. P. (2009). Questõesacerca do coping: A propósito do estudo de adaptação do Brief COPE [Some questions about coping: The study of the Portuguese adaptation of the Brief COPE]. *Psicologia, Saúde & Doenças*, (5), 3-15.

Parshad, N., & Tufail, A. (2014). Depression, anxiety, coping and quality of life among elderly living in old age homes and in family setup. *Pakistan Journal of Professional Psychologists*, *5*(1), 66-79.

Paukert, A. L., LeMaire, A., & Cully, J. A. (2009). Predictors of depressive symptoms in older veterans with heart failure. *Aging & Mental Health*, *13*(4), 601-610. doi:10.1080/13607860802459823

Perczek, R., Carver, C. S., Price, A. A., & Pozo-Kaderman, C. (2000). Coping, mood, and aspects of personality in Spanish translation and evidence of convergence with English versions. *Journal of Personality Assessment*, *74*(1), 63-87. doi:10.1207/s15327752jpa740105

Pozzi, G., Frustaci, A., Tedeschi, D., Solaroli, S., Grandinetti, P., Di Nicola, M., & Janiri, L. (2015). Coping strategies in a sample of anxiety patients: Factorial analysis and associations with psychopathology. *Brain and Behavior*, *5*(1), 21-37. doi:10.1002/brb3.351

Riaz, R., & Agha, S. (2012). Efficacy of cognitive behavior therapy with deliberate self-harm in incarcerated women. *Pakistan Journal of Psychological Research*, *27*(1), 21-35.

Ramzan, N., & Amjad, N. (2017). Cross cultural variation in emotion regulation: A systematic review. *Annals of King Edward Medical University*, *23*(1), 64-78.doi.org/10.21649/akemu.v23i1.1512

Roth, S., & Cohen, L. J. (1986). Approach, avoidance, and coping with stress. *American Psychologist, 41*(7), 813-819.

Sabih, F., Sajid, W.B., Sohail, A., & Saba, S. (2014). Coping strategies among adolescent children of depressed and non-depressed parents. *Journal of Islamic International Medical College*, *9*(30), 94-98.

Schnider, K., Gray, M., & Elhai, J. (2007). Coping style use predicts posttraumatic stress and complicated grief. *Psyc-EXTRA Dataset*. doi:10.1037/e517322011-445

Schottenbauer, M. A., Klimes-Dougan, B., Rodriguez, B. F., Arnkoff, D. B., Glass, C. R., & LaSalle, V. H. (2006). Attachment and affective resolution following a stressful event: General and religious coping as possible mediators. *Mental Health, Religion & Culture*, *9*(5), 448-471. doi:10.1080/13694670500440684

Schwarzer, R., & Schwarzer, C. (1996). A critical survey of coping instruments. In M. Zeidner, & N. S. Endler (Eds.), *Handbook of coping: Theory, research, applications* (pp. 107-132). New York: John Wiley & Sons.

Sheikh, M. H., Ashraf, S., Imran, N., Hussain, S., & Azeem, M. W. (2018). Psychiatric morbidity, perceived stress and ways of coping among parents of children with intellectual disability in Lahore, Pakistan. *Cureus*, *10*(2), 310-333. doi:10.7759/cureus.2200

Skinner, E. A., Edge, K., Altman, J., & Sherwood, H. (2003). Searching for the structure of coping: A review and critique of category systems for classifying ways of coping. *Psychological Bulletin*, *129*(2), 216-269. doi:10.1037/0033-2909.129.2.216

Tabachnick, B. G., & Fidell, L. S. (2011). Multivariate analysis of variance. *International Encyclopedia of Statistical Science*, *6*(2), 902-904. doi:10.1007/978-3-642-04898-2_394

Taylor, S. E., Sherman, D. K., Kim, H. S., Jarcho, J., Takagi, K., & Dunagan, M. S. (2004). Culture and social support: Who seeks it and why? *Journal of Personality and Social Psychology*, *87*(3), 354-362. doi:10.1037/0022-3514.87.3.354

Vadsaria, K., Jabbar, A., Azam, I., Rizvi, S., Haider, G., & Naqvi, H. (2017). Coping styles and depression among patients with solid organ cancers attending two tertiary care hospitals of Karachi: A cross sectional study. *Open Journal of Epidemiology*, *7*(1), 69-83. doi:10.4236/ojepi.2017.71007

Zafar, A., & Majid, S. (2015). Role of coping strategies in the mental health and quality of life of caregivers of the patients of chronic illness. *Indian Journal of Health and Wellbeing*, *6*(10), 617-635.

Zaman, N. A., & Ali, U. (2014). Predictive role of problem focused coping in the psychological wellbeing of university students. *Journal of Pakistan Psychiatric Society, 11*(2), 23-25.

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