Action and Cognition in Task Oriented Coping: Factor Structure and Internal Consistency of the CISS-21 with an Indian Sample

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Action and Cognition in Task Oriented Coping: Factor Structure and Internal Consistency of the Coping Inventory for Stressful Situations – 21 Item Scale with an Indian Sample

Running Title: CISS-21 with an Indian Sample

Abstract

Objective: Although the Coping Instrument for Stressful Situations – 21 item scale (CISS-21) offers excellent psychometric stability in samples from various countries, data about its validity and reliability among Indian samples is not easily accessible. The current study presents these data from a sample consisting of urban Indians working in the global service sector.

Method: Two hundred and seventy four professionals working in highly paying service sector jobs in India completed the CISS-21. The data was analyzed using principal factor analysis and reliability analysis.

Results: Instead of the three-factor structure consisting of emotion-oriented, avoidance-oriented, and task-oriented coping strategies, a four-factor structure emerged. This resulting structure indicates that the current Indian sample perceived the task-oriented coping strategy as comprising of two distinct sub-factors: One involving cognitive-appraisal based mechanisms and another where a direct action-based approach is preferred.

Conclusion: among the Indian sample involved in the current study, CISS-21 appears to be a reliable and valid scale, albeit with a four instead of three factor structure. Naïve dialecticism and Biculturalism are presented and discussed as possible reasons for this unique factor structure.

Key words

CISS-21; Coping Inventory for Stressful Situations; India; Service Sector; Validity; Reliability

Introduction

In their classical work on coping, Lazarus and Folkman (1984) proposed that people deal with stress using either problem-focused or emotion-focused coping strategies. Since then, many researchers have refined and expanded upon this typology of coping styles. For example, Carver, Scheier, and Weintraub (1989) described 14 different kinds of coping mechanisms in their COPE (Coping Orientations to Problems Experienced) instrument, while McCrae (1984) suggested 28 coping strategies or factors. Folkman and Lazarus (1988) also expanded their original two dimensions to eight in their 'Ways of Coping' questionnaire. However, in spite of the presence of such models, which differentiate between multiple styles of coping mechanisms, there is a wide acceptance of coping being constituted of just two to three elementary strategies (Boysan, 2012; Reed, 2005). According to Schwarzer and Schwarzer (1996), this is because most of the expanded coping strategies collapse back into these elementary factors, namely, problem-focused and emotion-focused. According to Krohne (1993), as well as Leventhal, Suls, and Leventhal (1993), the other strategies can at best be seen as hierarchical extensions of these few basic factors.

Endler and Parker (1990a, 1990b, 1994) have used the minimalist approach of differentiating coping strategies into only three-factors to develop the 'Coping Instrument for Stressful Situations' (CISS), which presents coping as consisting of three basic strategic dimensions or factors, namely, task-oriented, emotion-oriented, and avoidance-oriented coping. While the first two factors are similar to the problem-focused and emotion-focused strategies proposed by Lazarus and Folkman (1984), the avoidance dimension has been incorporated based on empirical evidence that showed people using avoidance of the stress-inducing stimulus itself as a specific and basic coping strategy (Amirkhan, 1990; Endler & Parker, 1990a, 1990b, 1994). According to Endler and Parker (1990a, 1994), the avoidance-oriented coping strategy may be employed by making use of one's social networks or by distracting oneself through engaging in self-rewarding activities like eating and shopping. These two different ways in which the avoidance-oriented strategy is manifested also leads to Endler and Parker's above mentioned coping model being perceived as consisting of four instead of three distinct factors in a number of studies (Cohan, Jang, & Stein, 2006; Forrester, 1997; Thome & Espelage, 2004). In these studies the avoidance-oriented coping factor is further split into social-diversion and distraction factors respectively.

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Methods

Instrument

The CISS has displayed remarkable psychometric consistency and has been described as "probably the best measure of its kind" (Stein, 2001, p. 353). It has established itself as a highly valid and reliable instrument (Furukawa et al., 1993; Rafnsson et al., 2006; Ramli et al., 2010; Schwarzer & Schwarzer, 1996) and offers very good construct validity through high correlations with scores on Folkman and Lazarus' (1988) 'Ways of Coping' questionnaire (Boysan, 2012; Endler & Parker, 1990a, 1990b, 1999; Schwarzer & Schwarzer, 1996). CISS' internal consistency is also well established with coefficients for the different factors ranging from 0.73 to 0.92. The test-retest reliability coefficients for this 48 item scale also range between a moderate 0.51 to a high 0.73 (Parker & Endler, 1992).

In order to make the scale more participant-friendly and easier to administer, Endler and Parker (1999) shortened the original CISS by selecting the seven items with the highest validity scores for each of the three coping strategies. In this way, the original 48 item CISS was modified into a short version with only 21 items. This short version is referred to as CISS-21 (Calsbeek et al., 2003) or "CISS - Short Form" (CISS-SF) (Cohan et al., 2006). As reported in the CISS manuals (Endler & Parker, 1990a, 1999), both in the original and the short versions each of the three coping strategies is measured on a five-point Likert scale. The Likert scale responses range from 1 (almost never) to 5 (almost always). The responses on all the 7 items of each subscale in the CISS-21 (16 items for each subscale, in case of the original version) are summed together to obtain aggregate scores for the three coping strategies.

Like the original version, the CISS-21 also has reported high internal consistencies for all the three subscales, and also provides as good a factor structure as the original version in samples from USA (Cohan et al., 2006), the Netherlands (Calsbeek et al., 2003), and Turkey (Boysan, 2012).

In India, the use of the 48-item CISS (Far et al., 2012; Shirazi, Khan, & Khan, 2011) as well as the CISS-21 (Mohanty et al., 2011) to measure coping preferences have been reported. However, these studies have not presented any psychometric details like reliability and validity figures, which could have helped in determining the suitability of using these instruments with Indian samples.

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The target of the current study is to analyze and report these psychometric properties of CISS-21 with an Indian sample so as to ascertain if the instrument is as reliable and valid for use in India as has been reported in the other countries.

Participants

Professionals working in various service sector jobs in Indian cities participated in the study. They worked in various highly globalized and service-oriented workplaces including call-centers, hotels, law firms, insurance agencies, banks, hospitals, and software companies (Dickey, 2012; Golpelwar, 2011; Kamat, Mir, & Mathew, 2004; Kundu, 2009). After removing the cases with missing data, the sample consisted of 274 professionals. All except 26 of the participants were between 18 to 30 years of age, as per the categorical data obtained from them. All of the participants were either studying in a higher education institute or had completed graduation.

The participants had a middle class background and were earning relatively high salaries. Of the 223 participants who answered a query regarding their approximate income per month, 201 were earning above Rs. 5,000 per month, which is higher than the median monthly income for urban Indian households in base year 2004-05 that is, Rs. 4266.66 (cf. Desai et al., 2010). 224 participants were unmarried, while about a fourth of them were women. Table 1 provides this descriptive statistics in some detail.

As mentioned above, the participants of this study are professionals working in the service sector in India. This particular group of individuals has been selected for the study, given their rising importance within the Indian demography and economy. Currently, more urban Indians are working in the service sector than in any other form of employment (Ministry of Finance, 2011). It is estimated that the service sector now provides more than half and perhaps up to two thirds of all the jobs in urban areas (Ministry of Finance, 2011; National Sample Survey Office, 2011). In part, this is due to the preference of the young middle class Indians for working in service sector jobs within outsourced and multinational companies (Fernandes, 2000; Sandhu, 2006; Varma, 2007). Among others, these jobs mainly include those in the legal, financial (including banking and insurance), hospitality, healthcare, IT and customer care services (Balaji, 2006; Dossani & Kenney, 2007; Elmuti & Kathawala,

2000; Gereffi & Fernandez-Stark, 2010; Golpelwar, 2011; Grossman & Helpman, 2004; Mukherjee, 2006; Parikh, 2004; Smith, 2007).

Table 1: Demographic Characteristics Of Participants

Demographic Variable	Demographic Source	Sample Size	Percentage of Total Sample
Age	18-21	56	20.44
	22-25	111	40.51
	26-30	81	29.56
	31-35	16	5.84
	35+	10	3.65
Highest Complete Education	Pre-University	22	8.03
	Bachelor/Vocational Level Studies	145	52.92
	Post-Graduate Studies	104	37.96
	Did Not Respond	3	1.09
Gender	Male	204	74.45
	Female	70	25.55
Income (per month in Indian Rupees)	Less than 5,000	22	8.03
	5,000-10,000	34	12.41
	10,000-20,000	68	24.82
	20,000-30,000	41	14.96
	30,000-50,000	26	9.49
	50,000-100,000	4	1.46
	100,000+	8	2.92
	Did Not Respond	51	25.91
Service Subsector	Global Call Center Employees	159	58.03
	Others	115	41.97
Marital Status	Married	47	17.15
	Single	224	81.75
	Divorced	1	0.36
	Did Not Respond	2	0.73
Total Sample Size		274	100

Procedure

A battery of psychometric instruments and demographic/biographic details including the CISS-21 was administered in English as all the participants were using it as the primary language at work. Approximately a third of them filled in the questionnaire using paper and pencil. The rest filled in an online version of the same questionnaire. The participants were initially approached via online forums and social networks, as well as by contacting their companies with a request for participation. The initial participants were requested to help the data collection process by forwarding the instrument among their friends and colleagues. All the participants also filled in demographic details as provided in Table 1. The participants

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were assured anonymity and did not need to provide contact details, unless they specifically wished to do so.

Results and Statistical Analysis

The numerical data obtained from the study was analyzed using the Stata® 12 package for Microsoft Windows® (StataCorp, 2011b). The reliability (internal consistency) and construct validity (factor structure) of the scales was obtained using Cronbach's alpha analysis and factor analysis respectively.

Internal Consistency

As can be seen in Table 2, both the unstandardized and the standardized Cronbach's alpha values for all the three subscales are above 0.7. Thus, all the three subscales have fairly acceptable internal consistencies (Acock, 2010). Moreover, given that scales with less than 10 items generally have low alpha scores, these values actually indicate very good reliabilities for the three subscales (Pallant, 2011).

Table 2: Internal Consistency Of CISS-21 Subscales

CISS Subscales	Number of items	Cronbach's Alpha		Average Inter-item correlation
		Standardized	Unstandardized	
Emotion -oriented	7	0.70	0.71	0.25
Task-oriented	7	0.79	0.79	0.35
Avoidance-oriented	7	0.71	0.71	0.26
	21 in total			

The average inter-item correlation values, which are the preferred indicators of a short (less than 10 items) scale's internal consistency are also in the optimal range of 0.15-0.50 (Clark & Watson, 1995). This also indicates that the three subscales are internally consistent and reliable for the sample employed in this study.

Factor Structure and Construct Validity

To establish the construct validity and to ascertain the factor structure of the CISS-21 with reference to the current sample, the data was analyzed using the exploratory factor analysis method (Landis & Kaplan, 2005; Thompson, 2004). As the purpose of this study was

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to specifically explore the latent factor structure of scale, a principal factor analysis (PFA) approach was preferred over the more commonly used principal component analysis (PCA) or confirmatory factor analysis (CFA). As PFA uses only the common variance shared among the items of a scale, instead of the total variance which PCA uses, it offers much more stable factor loadings on latent variables than the later method and is the preferred method for assessing latent factors (Acock, 2010; Buja & Eyuboglu, 1992; Costello & Osborne, 2010; Steger, 2006; Widaman, 1993). However, in spite of these differences, PCA and PFA usually yield similar factor structures (Lehman et al., 2005; Wilkinson, Blank, & Gruber, 1996). In order to demonstrate the stability and proper identification of the extracted factors, as suggested by Steger (2006), this article presents the initial factor extraction results from both PCA and PFA. For the purpose of simplicity, the more detailed item based loadings on the latent factors are only being presented through the PFA results.

Although CFA is one of the most commonly used analysis tool for latent structures (Brown, 2006), it was not used for the present analysis because of stringent sample size requirements. Both Hoyle (2000) and Prudon (2013), for instance, recommend a preferred a sample size of at least 400 for ensuring robustness of the CFA results. The current sample size of 274 does not satisfy this criteria.

Table 3: Rotated Principal Factors and Un-Rotated Eigenvalues before Scale Modification

Factor	Variance	Proportion	Eigenvalue
Factor 1	2.53	0.32	3.28
Factor 2	2.08	0.26	2.43
Factor 3	2.07	0.26	1.45
Factor 4	1.51	0.19	1.03
Totals	8.19	1.02[1]	8.19

LR test: independent vs. saturated: chi2(210) = 1631.57 Prob>chi2 = 0.0000

The principal factors were rotated using the orthogonal Varimax approach, which helps in minimizing and simplifying the factor structure (Tabachnick & Fidell, 2007). In case of the PFA results, the decision regarding the number of factors to be retained was made using Kaiser's criterion of choosing only the factors with eigenvalues above 1.0 (Pallant, 2011).

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[1] It is not uncommon to obtain cumulative proportion values higher than 1.0, when using the principal factor method of factor analysis (Rencher, 2002).

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This was implemented by using the mineigen(1) option provided in Stata® (StataCorp, 2011a).

Table 4: Rotated Principal Components And Un-Rotated Eigenvalues Before Modification of Scale

Factor (1)	Variance (2)	Proportion (3)	Eigenvalue (4)	Random Eigenvalue (5)	Standard Deviation (6)	95th Percentile of Random Eigenvalue (7) [=(5)+1.65x(6)]	Factor Retained (8) [If (4)>(7)]
Factor 1	3.08	0.15	3.86	1.54	.049	1.62	Yes
Factor 2	2.47	0.12	3.02	1.43	.040	1.50	Yes
Factor 3	2.19	0.10	2.07	1.37	.031	1.42	Yes
Factor 4	1.98	0.09	1.63	1.30	.030	1.35	Yes
Factor 5	1.87	0.09	1.19	1.24	.028	1.29	No
Factor 6	1.30	0.06	1.10	1.19	.024	1.23	No
Total	12.88	0.61	12.89	8.08			Four Factors Retained

Only the PCA Factors with Eigenvalues above 1.0 are being reported, for the purpose of simplicity

LR test: independent vs. saturated: chi2(210) = 1631.57 Prob>chi2 = 0.0000

Parallel Analysis: Number of variables = 21; Number of replications = 100; Number of subjects = 27

Parallel analysis, which, according to Buja and Eyuboglu (1992), Steger (2006), and Pallant (2011), probably offers the most optimal method of choosing the factors, was also not used together with PFA. This is because, unlike with PCA, parallel analysis results are not consistent with PFA. Using parallel analysis and PFA together actually raises the risk of extracting too many factors (Buja & Eyuboglu, 1992; Steger, 2006). However, following Steger's (2006) recommendations, parallel analysis was conducted on the un-rotated Eigenvalues of the PCA factors so as to further test the validity of the PFA extractions. The random eigenvalues for parallel analysis were generated using the 'Monte Carlo PCA for Parallel Analysis' software (Watkins, 2000, 2006).

All items with loadings that were not considered at least moderately strong (i.e., factor loadings less than 0.4) were discarded (Acock, 2010; Hair et al., 2006; Pallant, 2011). As can be seen from Table 3 (PFA) and Table 4 (PCA), a four-factor structure of coping strategies

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emerged following the factor analysis. Both Kaiser's criterion in PFA and parallel analysis in PCA supported the extraction of four distinct factors.

Table 5: Rotated Principal Factor Loadings (Pattern Matrix) And Unique Variances Before Modification Of Scale

Item Nr.	Item	CISS-21 Subscale	Factor 1	Factor 2	Factor 3	Factor 4	Uniqu-eness
01.	Take some time off and get away from the situation	Avoidance	0.11	0.15	0.20	-0.07	0.92
02.	Focus on the problem and see how I can solve it	Task	0.40	-0.07	0.06	0.48	0.60
03.	Blame myself for having gotten into this situation	Emotion	-0.38	0.56	-0.08	0.21	0.49
04.	Treat myself to a favorite food or snack	Avoidance	0.02	0.15	0.53	0.16	0.68
05.	Feel anxious about not being able to cope	Emotion	-0.11	0.50	0.05	-0.01	0.73
06.	Think about how I solved similar problems	Task	0.56	0.05	0.25	0.18	0.59
07.	Visit a friend	Avoidance	0.05	-0.01	0.65	-0.03	0.58
08.	Determine a course of action and follow it	Task	0.24	-0.01	-0.03	0.62	0.55
09.	Buy myself something	Avoidance	0.29	0.06	0.51	-0.04	0.65
10.	Blame myself for being too emotional about the situation	Emotion	0.11	0.63	0.20	-0.19	0.51
11.	Work to understand the situation	Task	0.54	-0.11	0.07	0.25	0.62
12.	Become very upset	Emotion	0.14	0.58	0.12	-0.23	0.58
13.	Take corrective action immediately	Task	0.17	-0.11	0.01	0.64	0.54
14.	Blame myself for not knowing what to do	Emotion	-0.14	0.64	0.00	-0.02	0.57
15.	Spend time with a special person	Avoidance	0.28	-0.04	0.53	-0.07	0.63
16.	Think about the event and learn from my mistakes	Task	0.68	0.02	0.09	0.15	0.50
17.	Wish that I could change what had happened or how I felt	Emotion	-0.24	0.43	-0.04	0.25	0.70
18.	Go out for a snack or meal	Avoidance	0.25	0.14	0.62	-0.07	0.52
19.	Analyze my problem before reacting	Task	0.74	-0.10	0.09	0.10	0.42
20.	Focus on my general inadequacies	Emotion	0.25	0.24	0.02	0.24	0.82
21.	Phone a friend	Avoidance	-0.31	0.08	0.49	0.24	0.60

All factor loadings above 0.4 are marked in bold.

As depicted in Table 5, only two out of the 21 original items did not have sufficiently strong loading factors. Among these, one (item 1) belonged to the avoidance-oriented coping subscale and another (item 20) to the emotion-oriented one. Both of these items had uniqueness scores above 0.8, or in other words, communality values lower than 0.2 (Chadha, 2009). Therefore, these items needed to be removed for improving the common variance

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within the subscales (Child, 2006). Interestingly, item 1 was also discarded by Cohan et al. (2006) as well as by Calsbeek et al. (2003), because of low factor loadings. In the study conducted in Turkey (Boysan, 2012), both items 1 and 20 had extremely high (above 0.95) residual error terms associated with them.

Table 6: Rotated Principal Factors And Un-Rotated Eigenvalues After Modification Of Scale

Factor	Variance	Proportion	Eigenvalue
Factor 1	2.45	0.32	3.19
Factor 2	2.02	0.27	2.35
Factor 3	1.98	0.26	1.35
Factor 4	1.46	0.19	1.02
Totals	7.91	1.04	7.91

LR test: independent vs. saturated: chi2(171) = 1539.98 Prob>chi2 = 0.0000.

Table 7: Rotated Principal Components and Un-Rotated Eigenvalues after Modification of Scale

Factor (1)	Variance (2)	Proportion (3)	Eigenvalue (4)	Random Eigenvalue (5)	Standard Deviation (6)	95th Percentile of Random Eigenvalue (7) [=(5)+1.65x(6)]	Factor Retained (If (4)>(7))
Factor 1	2.98	0.16	3.78	1.48	0.05	1.56	Yes
Factor 2	2.58	0.14	2.95	1.40	0.04	1.46	Yes
Factor 3	2.09	0.11	1.96	1.32	0.03	1.38	Yes
Factor 4	1.98	0.10	1.67	1.26	0.03	1.31	Yes
Factor 5	1.83	0.10	1.17	1.21	0.02	1.25	No
Total	11.46	0.61	11.53	6.67			Four Factors Retained

Only the PCA Factors with Eigenvalues above 1.0 are being reported, for the purpose of simplicity

LR test: independent vs. saturated: chi2(210) = 1631.57; Prob>chi2 = 0.0000

Parallel Analysis: Number of variables = 19; Number of replications = 100; Number of subjects = 274

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Table 8: Rotated Principal Factor Loadings (Pattern Matrix) and Unique Variances after Modification of Scale

Item Nr.	Item	CISS-Subscale	Factor 1	Factor 2	Factor 3	Factor 4	Uniqueness
02.	Focus on the problem and see how I can solve it	Task	0.40	0.06	-0.06	0.49	0.60
03.	Blame myself for having gotten into this situation	Emotion	-0.40	-0.08	0.54	0.28	0.49
04.	Treat myself to a favorite food or snack	Avoidance	0.01	0.53	0.15	0.15	0.67
05.	Feel anxious about not being able to cope	Emotion	-0.13	0.055	0.48	-0.00	0.75
06.	Think about how I solved similar problems	Task	0.56	0.25	0.07	0.19	0.58
07.	Visit a friend	Avoidance	0.05	0.64	-0.01	-0.03	0.58
08.	Determine a course of action and follow it	Task	0.23	-0.03	-0.02	0.62	0.56
09.	Buy myself something	Avoidance	0.29	0.52	0.06	-0.05	0.64
10.	Blame myself for being too emotional about the situation	Emotion	0.11	0.20	0.66	-0.17	0.49
11.	Work to understand the situation	Task	0.53	0.07	-0.12	0.26	0.63
12.	Become very upset	Emotion	0.15	0.11	0.61	-0.20	0.55
13.	Take corrective action immediately	Task	0.17	0.01	-0.11	0.65	0.53
14.	Blame myself for not knowing what to do	Emotion	-0.17	-0.00	0.63	-0.00	0.58
15.	Spend time with a special person	Avoidance	0.28	0.52	-0.03	-0.06	0.65
16.	Think about the event and learn from my mistakes	Task	0.68	0.10	0.03	0.16	0.51
17.	Wish that I could change what had happened or how I felt	Emotion	-0.26	-0.03	0.40	0.24	0.71
18.	Go out for a snack or meal	Avoidance	0.25	0.62	0.15	-0.07	0.52
19.	Analyze my problem before reacting	Task	0.73	0.09	-0.10	0.12	0.44
21.	Phone a friend	Avoidance	-0.31	0.49	0.07	0.24	0.60

All factor loadings above 0.4 are marked in bold.

After deleting the items 1 and 20, the rotated principal factor analysis process was repeated to obtain a parsimonious simple structure in which each item is loaded to a

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moderately strong level (i.e., with a factor loading greater than 0.4) on exactly one factor (Gorsuch, 1974; Pallant, 2011; Thurstone, 1935, 1947). Once again, both the PFA (Table 6) and PCA (Table 7) extractions resulted in a four factor structure. The simple structure thus obtained, and presented in Table 8, offers a parsimonious and high quality view of the way the CISS-21 factors are perceived by the participants constituting the sample (Gorsuch, 1974).

The PFA results in Table 8 show that Factor 1 corresponds largely to the task-oriented coping strategy and contains all except three elements (items 2, 8 and 13) belonging to the original subscale. The three elements missing from Factor 1 together constitute Factor 4. Thus, Factor 4 seems to be another subset of the original task-oriented coping. Factor 2 corresponds largely to the avoidance-oriented coping factor from the original instrument and contains all elements belonging to that subscale, except the omitted item 1. Factor 3 corresponds almost completely to the emotion-oriented coping factor of the original scale, except the omitted item 20.

Internal Consistency of the Modified Four-Factor Structure

The internal consistency of the revised four-factor structure is depicted in Table 9. The Emotion-oriented; avoidance-oriented; and task-oriented (cognitive) subscales have alpha values above 0.7, while the task-oriented (action-based) subscale also has alpha values, which are very close to and can be rounded to 0.7. The average-inter-item correlation values for all the subscales are in the optimal range of 0.15-0.5. Thus, the modified CISS-21 scales shows satisfactory internal consistency (Clark & Watson, 1995; Pallant, 2011).

Table 9: Internal Consistency Of The Modified CISS Subscales

CISS Subscales	Number of items	Cronbach's Alpha		Average Inter-item correlation
		Standardized	Unstandardized	
Emotion -oriented	6	0.73	0.73	0.31
Task-oriented (cognitive-appraisal based)	4	0.76	0.76	0.44
Task-oriented (action-based)	3	0.70	0.70	0.44
Avoidance-oriented	6	0.73	0.72	0.31
	19 in total			

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Discussion

While the internal consistency of the three CISS subscales has been established, the factor structure that emerged is not similar to the one proposed by Endler and Parker (1990a, 1994, 1999). Instead, a four-factor structure was obtained. Because of the lack of cross-loadings in the obtained simple structure (Table 8), this four-factor structure of CISS-21 can be interpreted as displaying satisfactory convergent as well as divergent validity (Hu, Clark, & Ma, 2003; Martínez López & Sánchez, 2011; Spathis & Ananiadis, 2005). These results also confirm the construct validity of the avoidance and emotion-oriented coping factors of the CISS-21.

The third theoretical CISS-21 factor, namely, task-oriented coping did not appear as a unitary factor. Instead, two distinct sub-factors were obtained. This is a surprising result, as this structure is distinct not only from the theoretical three-factor structure, but also from the other four-factor structure of the CISS model that has been reported in some studies (Cohan et al., 2006; Forrester, 1997; Thome & Espelage, 2004). In all these cases, the emotion and task-oriented coping styles were revealed as unitary factors, whereas the avoidance-oriented coping subscale was split into the distraction and social-diversion-oriented subscales. In the current study, the emotion-oriented coping factor continued to be unitary, and so did the avoidance-oriented coping factor. Contrary to the results of above mentioned studies, it was the task-oriented coping scale which displayed two distinct sub-factors. This indicates that the current Indian sample perceives task-oriented coping differently from the other samples worldwide.

A closer look at the items constituting these two sub-factors shows that there is conceptual difference between the respective elements. As can be seen from **Error! Reference source not found.**, all the four elements of Factor 1 ("think about how I solved similar problems", "work to understand the situation", "think about the event and learn from my mistakes", and "analyze my problem before reacting") refer to the cognitive process of thinking or apprising the stressful situation. Here the respondents are expected to analyze and understand the situation by contemplating about it or by making use of their past experiences before taking any action. The constituent elements of Factor 4 ("focus on the problem and see how I can solve it", "determine a course of action and follow it", and "take corrective action immediately"), on the other hand, encourage the respondent to look for a direct solution to

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the problem at hand and take decisive action to implement the solution. Thus, the task-oriented coping factor gets subdivided into a more introspective apprising and an extrospective active-solution seeking factors.

Interestingly, though this dichotomy of the task-oriented coping strategy into two distinct parts has not been explicitly categorized in the Endler and Parker (1990a, 1994, 1999) model, it has occurred frequently in literature. For example, Ayers et al. (2006) have referred to the overall task-oriented coping as active coping. According to them, this coping style comprises direct problem solving as well as cognitive reappraisal. Lazarus and Folkman (1984) have also pointed out that direct problem-solving and positive reappraisal can be distinct coping strategies, and have included these in their 'Ways of Coping' questionnaire (1988). Wong, Wong, and Scott (2006) also similarly differentiated between an inward cognitive and a more action-focused outward approach coping, both of which they described as active styles. Latack (1986) and Armstrong-Stassen (2005) also grouped cognitive reappraisal and direct-action as forms of proactive and control-oriented coping styles, which are distinct from the more reactive emotion and escape focused styles. Latack and Havlovic (1992) referred to cognitive-appraisal-focused coping as a style distinct from the action-based problem-focused coping. However, they also reported a lack of empirical evidence needed for explicitly differentiating between these two styles of coping.

Latack and Havlovic's (1992) findings regarding a general lack of empirical evidence that support the dual-dimensionality of the task-oriented coping style have been corroborated by other studies as well. For example, there is also strong empirical evidence in studies using the 'Ways of Coping' questionnaire, which indicates that both the direct action-based and cognitive-appraisal strategies are so highly correlated with each other that they are almost indistinguishable from one another (Lambert, Lambert, & Ito, 2004; Ratzlaff et al., 2000). In fact, this is no different from the results of the many studies using the original and short versions of CISS (e.g.: Boysan, 2012; Calsbeek et al., 2003; Cohan et al., 2006; Endler & Parker, 1990a, 1999; Hasui et al., 2009) that have also confirmed the unitary structure of the task-oriented coping factor. Moreover, the direct-action and thought-based proactive factors of the 'Ways of Coping' questionnaire were not limited to being highly correlated in studies involving only European-American areas. A study involving nurses in China (Xianyu & Lambert, 2006) and one with university students in India (Shah & Thingujam, 2008) also

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found the action-based and problem-solving oriented dimension and the cognitive-appraisal dimension to be closely related.

However, there appears to be a cultural difference in the preference being accorded to the respective dimensions of action-based problem-solving and cognitive appraisal or reappraisal for the purpose of coping with stressful situations. Whereas action-oriented problem solving mechanisms are preferred in the European or North American cultures (Wong et al., 2006), Asian cultures seem to prefer cognitive-appraisal as a task-oriented strategy (Chen, 2009; Sung, 2012). Direct action-based coping strategies like assertive self-disclosure or direct confrontation are avoided (Sumer, 2009). Thus, the individual preference for one over the other mode of task-oriented coping is dependent on the cultural background of the person. However, the high correlation between the two sub-styles usually results in them being perceived as a single task-oriented coping factor.

In urban India too, various samples have shown a preference for the cognitive appraisal and re-appraisal strategies over direct action-based strategies to resolve problems. The preferred problem-focused strategy in Indian studies and coping literature is usually reported to be the reassessment of the situation based earlier experiences. Indians have been reported to employ task-oriented coping by making changes in one's own perception of the situation rather than trying to directly act upon the stressor (Hariharan & Rath, 2008; Kaila, 2004; Mohanty et al., 2011; Sharma & Sharma, 2008). Thus, as compared to direct actions like assertive confrontations, the preferences for proactively dealing with stress in urban India include cognitive-appraisal strategies including the use of meditation techniques like Yoga, acceptance of the situation at hand and accepting the inability of oneself to change this situation (Abdulla, Shah, & Khan, 2011; Kavitha, 2009; Pestonjee, 1992).

But, what could explain the rather unique and bipolar preference for both cognitive and action-based task-oriented coping in the current sample? One of the reasons could be the existence of 'naïve dialecticism' that is prevalent in Asian cultures including India (Perunovic, Ross, & Wilson, 2005; Samson, 2004; Sinha & Tripathi, 1994). Naïve dialectic thinking allows for the juxtaposition of concepts that might appear opposing each other in the Aristotelian logical mode of thinking, without appearing contradictory to the individual doing the thinking in this case. Therefore, it is not unusual for Indians and other Asians to experience and display seemingly contradictory emotions and attitudes like happiness and sadness,

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individualism and collectivism, and secularism and religious belief concurrently (Boucher et al., 2009; Lindquist & Barrett, 2008; Sinha & Tripathi, 1994). A bipolar preference for both cognitive and action-based task-oriented coping could also stem from this complex pattern of thinking among Asians. However, as earlier studies in both China (Xianyu & Lambert, 2006) and India (Shah & Thingujam, 2008) did not find such bipolar task-orientated coping among their respective samples, naïve dialecticism alone does not offer a satisfactory solution to this conundrum.

The constitution of the sample itself might offer a solution in this case. A highly globalized work force from the service sector participated in the study. This sample, though being Indian in origin and geography works in a globalized workplace that is greatly influenced by American cultural practices (Dickey, 2012; Kamat et al., 2004; Kundu, 2009; Mahajan, 1995; Nisbett, 2007; Rampal, 2001; Turiel, 2002). Peng and Nisbett (1999) have argued that naïve dialecticism makes Asian individuals experiencing such multicultural lives more likely to become bicultural than Western individuals. Other studies also have reported that such bicultural individuals tend to display seemingly opposing traits from the different cultures as compatible, and not contradictory to each other (Benet-Martínez & Haritatos, 2005; Benet-Martínez, Lee, & Leu, 2006; Nguyen & Benet-Martínez, 2013).

This biculturalism might be a reason for the rather unique and bi-polar perception of the task-oriented coping dimension into both a cognitive-appraisal style (favored by the Indian culture) and an action-oriented solution seeking style (favored by the globalized urban employees). The participants could be looking at these styles with differing preferences based on the degree to which they are westernized or globalized in their coping preferences. These differing perceptions of task-orientation could result in the otherwise unidimensional task-oriented coping style appear as two distinct sub-factors.

Conclusions

The CISS-21 offers good internal consistency among the urban Indian sample that participated in this study. However, the three-factor structure that differentiates coping in emotion-oriented, avoidance-oriented, and task-oriented styles could only be partially validated. Instead of a 21 item scale with three factors, a 19 item scale with a four-factor structure emerged after using both principal factor analysis and principal component analysis.

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This resulting four-factor structure maintained the avoidance and emotion-oriented coping factors, but split the task-oriented coping factor into cognitive and action-oriented sub-factors. This four-factor model displayed satisfactory content validity and internal consistency.

The two items (1 and 20), which were omitted from the factor analysis because of low factor loadings and high uniqueness might also indicate the need for reformulating or removing them from the CISS-21 scale. The need for a modification of the current forms of these two items is important, as previous studies conducted in America, the Netherlands, and Turkey have also reported low factor loadings for them. Thus, the continuation of these two items in their current form might require a reassessment.

This study has successfully explored and presented the psychometric properties of the CISS-21 in the Indian context. In the process, it has shown that the emotion-oriented and avoidance-oriented subscales of the CISS-21 are valid and consistent among professionals belonging to the rapidly growing urban service sector in India. However, the way this group perceives task-oriented coping is distinct from the other samples found in literature. Task-oriented coping among these individuals appears to be split into cognitive-appraisal-based and direct action-based sub-styles.

Existing literature points towards naïve dialecticism and bicultural identity among the sample as possible reasons for the bipolarity observed within the task-oriented coping factor. Whether this is the conclusive reason for the four-factor structure of CISS-21 is, however, beyond the scope of this article, which is primarily exploring and reporting the psychometric properties of the scale among a single sample. Furthermore the limitations of not being able to use the more powerful and generalizable CFA or parallel analysis methods hinder such a conclusive deduction for the current study. The role of naïve dialecticism and bicultural identity in causing the bipolar split in the task-oriented factor can only be ascertained with the help of further studies, which take the degree of globalization and acculturation levels of the participants into perspective.

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