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Role of Positive Metacognitions and Meta-emotions in Predicting Alexithymia

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ABSTRACT

The present study explores the role of positive meta-cognitions and meta-emotions in predicting of alexithymia. Alexithymia is an established construct newly complemented with positive meta-cognitions and meta-emotions. The study was conducted on 20 to 50 years old 300 (150 men and 150 women) conveniently sampled participants from the Chowk area of Varanasi city of India. The participants were individually administered Hindi versions of: (i) Positive Meta cognitions and Meta-emotions Questionnaire (PMCEQ-H) and (ii) Toronto Alexithymia Scale (TAS-20-H).Pearson product moment correlations were computed to elucidate the relationship between facets of positive metacognitions and meta-emotions, and facets of alexithymia and the results revealed that PMCEQ-H1, PMCEQ-H2 and PMCEQ-H3, in general, have a negative relationship with 'difficulties in identifying and describing feelings' as well as 'externally oriented thinking' facets and total scores of alexithymia. Furthermore, stepwise regression analysis with factors of alexithymia as criterion and facets of PMCEQ-H as predictor variables indicated that PMCEQ-H1 and PMCEQ-H3 as significant predictors of alexithymia. Overall, the findings imply that positive metacognitions and meta-emotions are negatively associated with alexithymia. The observed findings have been discussed in the light of the available empirical evidences.

KEYWORDS: Positive metacognitions and meta-emotions, PMCEQ, PMCEQ-H, Alexithymia, TAS-20-H

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INTRODUCTION

Deficits in the ability to recognize and think about mental states are broadly understood to be a symptom of alexithymia. Alexithymia is a multi-facet construct consisting of difficulties in recognition, description of emotions and distinguishing between emotions and bodily tensions related to emotional excitement and difficulty in expressing feeling for others[1]. Alexithymia refers to people who have trouble identifying and describing emotions and who tend to minimize emotional experience and focus attention externally. Although, individuals with this emotional problem are aware of their emotion experiences but they have difficulty in differentiating the type of emotion. In general population, the prevalence rate of alexithymia reported is about 10% that is more prevalent in populations with psychological disorders such as depression, anxiety, pain disorders, sexual disorders, procrastination, substance abuse and educational problems[2-7].One of the most important variables related to emotional problems in individuals is metacognition beliefs, beliefs which the person has about his/her thoughts, emotions, memories, feelings and other perceptual forces[8-10]. These beliefs can influence on person´s response, thoughts, behaviours, emotions and also on self-regulation[11]. Metacognitive beliefs are important factors in development and maintenance of psychological disorders. As such, this study compares the magnitude of those deficits related to positive meta-cognitions and meta-emotions. Metacognition refers to stable knowledge about one's own cognitive system, knowledge about factors that affect the functioning of this system, regulation and awareness of the current state of cognition, and appraisal of the significance of thoughts and memories[12]. It can focus on any aspect of cognition, even metacognition itself [13, 14].

At present instruments are available to measure both maladaptive and adaptive metacognitions. The Metacognitions Questionnaire[15] (MCQ) was developed to measure maladaptive metacognitions whereas the Positive Metacognitions and Meta-emotions Questionnaire (PMCEQ)[16] was developed to measure adaptive metacognitions and meta-emotions.Beer and Moneta[16] pronounced the theory of adaptive metacognitions and meta-emotions that proposes that merely absence of maladaptive metacognitions is not a sufficient asset for an individual to succeed when facing a challenging situation. This study addresses the primary question: "does positive meta-cognitions and meta-emotions effect alexithymia or not"?

The Self-Regulatory Executive Function model (S-REF)[17] proposes that emotional disorders are linked to beliefs about thinking called metacognitive beliefs[18,19]. This approach suggests metacognitive beliefs can be causal factors in predicting the development and maintenance of a broad range of psychological disorders such as depression and anxiety disorders[19-24], emotional distress[25], pathological anxiety[26], obsessive-compulsive symptomatology[27], health anxiety[20],

prolonged worry[28, 29], and anxiety sensitivity[30]. In particular, successful resolution requires metacognitive beliefs that help to regulate S-REF activity based on the strategic demands of the situation, the meta-emotions of interest and curiosity in one's own primary emotional responses to challenges, and metacognitive beliefs of an agentic type that support identification of feasible and flexible goal restructuring. Research on adaptive metacognitions has just started. Beer and Moneta[16] studied metacognitions from a positive psychology angle and provided initial evidence for general adaptive metacognitive processes, which people exhibit during demanding situations. Adaptive metacognitions and meta-emotions correlated negatively but moderately with maladaptive metacognitions and were found to correlate with indicators of well-being, such as intrinsic motivation and adaptive coping[16, 31]. This is predominantly a cognitive phenomenon, it was hypothesised that people, who tackle demanding tasks, would not only activate general adaptive metacognitions, but it also activates a specific metacognition, which in turn would facilitate the process of experience.

A wealth of research has found that metacognition, which controls individual cognition, is related to emotions such as depression, anxiety and fear. The available reports indicated that role of positive metacognitions and meta-emotions have not been explored in many psychological phenomena and processes. As such, the present investigation was planned with the objective to elucidate the role of positive metacognitions and meta-emotions in alexithymia in Indian cultural setting. It was hypothesized that positive metacognitions and meta-emotions would negatively predict alexithymia.

EXPERIMENTAL

Participants

A total of 300 participants (mean age = 29.743, SD = 8.724) ranging in age from 20 to 50 years (150 women, mean age = 29.053, SD = 6.073; 150 men, mean age = 30.433, SD = 10.720) with at least High School Qualification were conveniently sampled from the Chowk locality of Varanasi city of Uttar Pradesh participated in the present study. None of the participants reported any present or prior history of long term medication or psychiatric illness in a semi-structured interview conducted before the administration of the tools for the present study.

Behavioural Measures

Participants were individually administered the following behavioural measures:

Positive metacognitions and meta-emotions questionnaire-Hindi version

Positive metacognitions and meta-emotions were measured by PMCEQ-H[32](the Hindi version of Positive Metacognition and Meta-emotions Questionnaire **(**PMCEQ)[16]. PMCEQ is an instrument that assesses three factors of adaptive metacognitive beliefs: (i) Confidence in Extinguishing Perseverative Thoughts and Emotions; (ii) Confidence in Interpreting Own Emotions as Cues, Restraining from Immediate Reaction, and Mind Setting for Problem Solving; and (iii) Confidence in Setting Flexible and Feasible Hierarchies of Goals. PMCEQ-H is a 18 item instrument and it also measures the above mentioned three factors but in a different order of factor loadings in the factor analysis i.e., (i) Confidence in Setting Flexible and Feasible Hierarchies of Goals (PMCEQ-H1), (ii) Confidence in Interpreting Own Emotions as Cues, Restraining from Immediate Reaction, and Mind Setting for Problem Solving (PMCEQ-H2); and (iii) Confidence in Extinguishing Perseverative Thoughts and Emotions (PMCEQ-H3). Each factor is measured by six items on a four-point response scale:1 = *do not agree*, 2 = *agree slightly*, 3 = *agree moderately*, and 4 = *agree strongly*, and the responses were scored as 1, 2, 3 and 4 respectively. The CFA has indicated that PMCEQ-H has acceptable and adequate model fit indicating good construct validity. The reliability indices (split-half and Chronbach alphas) of the three factors of PMCEQ-H obtained ranged from 0.65 to 0.80[32].

Toronto Alexithymia Scale (TAS-20-H) - Hindi version

The Hindi version of 20 item Toronto Alexithymia Scale (TAS-20-H)[33] was used to assess the level of alexithymia of the participants. The TAS-20-H consists of 20 items and measures the three dimensions of alexithymia: (i) difficulties in identifying feelings (DIF), (ii) difficulties in describing feelings (DDF), and (iii) externally oriented thinking (EOT). Items are rated using a 5-point Likert scale whereby 1 = strongly disagree and 5 = strongly agree. The total alexithymia score is the sum of responses to all 20 items, while the score for each subscale/ sub-factor is the sum of the responses to that subscale. The possible score on this scale ranges from 20 to 100; The TAS-20-H uses cutoff scoring: equal to or less than 51 = non-alexithymia, equal to or greater than 61 = alexithymia, and scores of 52 to 60 = possible alexithymia. TAS-20-H has been found to be highly comparable with the original TAS-20, and has demonstrated good internal consistency and test-retest reliability and validity[33-35].

Statistical analysis

Initially, Pearson product moment correlations were calculated to determine the relationships between the three facets of positive metacognitions and meta-emotions and alexithymia across the sample. Secondly, stepwise backward Multiple Regression Analysis was performed with measures of

alexithymia (DIF, DDF, EOT and total score of Alexithymia) as criterion and the three facets of positive metacognitions and meta-emotions as predictor variables.

RESULTS

The obtained coefficient of correlations between the factors of positive metacognitions and meta-emotions, and alexithymia are displayed in Table 1. It is evident from the Table-1 that all three facets of PMCEQ-H- (i) Confidence in Setting Flexible and Feasible Hierarchies of Goals (PMCEQ-H1), (ii) Confidence in Interpreting Own Emotions as Cues, Restraining from Immediate Reaction, and Mind Setting for Problem Solving (PMCEQ-H2) and (iii) Confidence in Extinguishing Perseverative Thoughts and Emotions (PMCEQ-H3), correlated negatively and significantly with all three dimensions of alexithymia.

Table – 1: Relationship between PMCEQ-H1, PMCEQ-H2,PMCEQ-H3 sub-factors of PMCEQ-H (the independent variables) and measures of alexithymia (the dependent variables)

Sub-factors of PMCEQ-H	Sub-factors of alexithymia			Alexithymia Total
	Difficulty identifying feelings	Difficulty describing feelings	Externally oriented thinking	
PMCEQ-H1	-0.264**	-0.290**	-0.400**	-0.361**
PMCEQ-H2	-0.197**	-0.271**	-0.333**	-0.298**
PMCEQ-H3	-0.523**	-0.361**	-0.182**	-0.436**

Table – 2: Predictability of Alexithymia as criterion variable by sub factors of PMCEQ-H as predictor variables for whole sample

DependentVariables	Predictors	R	R Square	AdjustedR Square	df	Fratio
DIF	PMCEQ-H-1, PMCEQ-H-2, PMCEQ-H-3	0.545	0.298	0.290	3/296	41.787**
	PMCEQ-H-1, PMCEQ-H-3	0.544	0.295	0.291	2/297	62.260**
DDF	PMCEQ-H-1, PMCEQ-H-2, PMCEQ-H-3	0.424	0.179	0.171	3/296	21.567**
	PMCEQ-H-1, PMCEQ-H-3,	0.419	0.176	0.170	2/297	31.625**
EOT	PMCEQ-H-1, PMCEQ-H-2, PMCEQ-H-3	0.421	0.177	0.169	3/296	21.291**
	PMCEQ-H-1, PMCEQ-H-2	0.415	0.172	0.166	2/297	30.855**
Alexithymia Total	PMCEQ-H3, PMCEQ-H1, PMCEQ-H2	0.513	0.263	0.256	3/296	35.220**
	PMCEQ-H3, PMCEQ-H1	0.512	0.262	0.257	2/297	52.785**

** indicates significance at $p< 0.01$; DIF = difficulty identifying feelings, DDF = difficulty identifying feelings, EOT = externally oriented thinking, TAS =

Although the findings of correlations are encouraging and show that positive metacognitions and meta-emotion are negatively related to alexithymia, these do not show the relative significance of various domains of positive metacognitions and meta-emotion in predicting alexithymia. The results of step–wise (backward) multiple regression analysis (vide Table - 2) indicated: (i) the three predictors (PMCEQ-H1, PMCEQ-H2 and PMCEQ-H3 facets of positive metacognitions and meta-emotions) predicted: (a) total of 29.8 % of variance (R^2 = 0.298, F(3, 296) = 41. 787, p = 0.01) and (b) PMCEQ-H1 and PMCEQ-H3 facets (deleting PMCEQ-H2) of positive metacognitions and meta-emotions predicted a total of 29.50 % of variance (R^2 = 0.295, F(2, 297) = 62.260, p = 0.01); PMCEQ-H1 significantly predicted difficulty identifying feelings (β = 0.152, p < 0.01) as did PMCEQ-H3 (β = 0.488, p < 0.01) and these results indicate that PMCEQ-H1 and PMCEQ-H3 are

significant predictors of difficulty identifying feelings and PMCEQ-H3 had more impact than PMCEQ-H1whereas PMCEQ-H2 had virtually no impact (β = 0.059, p > 0.05), (ii) all measures of positive metacognitions and meta-emotions together (PMCEQ-H1, PMCEQ-H2, PMCEQ-H3) predicted: (a) 17.90 % of variance (R^2 = 0.179, F (3, 296) = 21.567, p < 0.01), (b) PMCEQ-H1 and PMCEQ-H3 (deleting PMCEQ-H2) predicted a total of 17.60 % of varianceof difficulty describing feelings (R^2 = 0.176, F (2, 297) = 31.625, p < 0.01); PMCEQ-H1 (β = 0.173, p < 0.01) significantly predicted difficulty describing feelings sub-factor of alexithymia, as did PMCEQ-H3 (β = 0.299, p < 0.01); deleting PMCEQ-H2, results displayed that PMCEQ-H-1(β = 0.219, p < 0.01) significantly predicted difficulty describing feelings sub-factor of alexithymia as did PMCEQ-H3 (β = 0.311, p < 0.01). and these results denote that PMCEQ-H1 and PMCEQ-H3 are significant predictors of difficulty identifying feelings sub-factor of alexithymia and PMCEQ-H3 had more impact than PMCEQ-H1 while PMCEQ-H2 (β = 0.080, p > 0.05) had essentially no impact; (iii) all measures of positive metacognitions and meta-emotions together (PMCEQ-H1, PMCEQ-H2, PMCEQ-H3) predicted: (a) 17.70 % of variance (R^2 = 0.177, F (3, 296) = 21.291, p < 0.01, (b) PMCEQ-H1 and PMCEQ-H2 (deleting PMCEQ-H3) predicted a total of 17.20 % of variance (R^2 = 0.172, F (2, 297) = 30.855, p < 0.01) of externally oriented thinking sub-factor of alexithymia; PMCEQ-H1 (β = 0.307, p < 0.01) significantly predicted externally oriented thinking sub-factor of alexithymia; deleting PMCEQ-H3; results indicated that PMCEQ-H1 (β = 0.314, p < 0.01) and PMCEQ-H2 (β = 0.140, p < 0.05) significantly predicted externally oriented thinking sub-factor of alexithymia, and these results specify that PMCEQ-H1 and PMCEQ-H2 are significant predictors of externally oriented thinking sub-factor of alexithymia and PMCEQ-H1 had more impact than PMCEQ-H2 whereas PMCEQ-H3 (β = 0.077, p > 0.05) had virtually no impact; and (iv) the three factors of positive metacognitions and meta-emotions(PMCEQ-H1, PMCEQ-H2 and PMCEQ-H3)predicted: (a) total of 26.30 % of variance (R^2 = 0.263, F(3, 296) = 35.220, p = 0.01), (b) PMCEQ-H1 and PMCEQ-H3 (deleting PMCEQ-H2)facets of positive metacognitions and meta-emotions predicted a total of 26.20 % of variance of alexithymia((R^2 = 0.262, F(2, 297) = 52.785, p = 0.01); PMCEQ-H1 significantly predicted alexithymia (β = 0.276, p < 0.01) as did PMCEQ-H3 (β = 0.373, p < 0.01) and these results indicated that PMCEQ-H1 and PMCEQ-H3 are significant predictors of alexithymia and PMCEQ-H3 had more impact than PMCEQ-H1 whereas PMCEQ-H2 had virtually no impact (β = 0.037, p > 0.05).

DISCUSSION

The present study aimed to determine the contribution of positive metacognitions and meta-emotions in predicting Alexithymia. The obtained pattern of correlations suggests that PMCEQ-H3 (confidence in extinguishing perseverative thoughts and emotions) had higher significance and negative influence on difficulty identifying feelings (affective component) of alexithymia and PMCEQ-H1 (confidence in setting flexible and feasible hierarchies of goals) associated highly negatively with externally oriented thinking (cognitive component) of alexithymia. The results of the study endorse the hypothesis and show that alexithymia had significant negative relationship with PMCEQ-H1, (confidence in setting flexible and feasible hierarchies of goals), PMCEQ-H2 (confidence in interpreting own emotions as cues, restraining from immediate reaction and mind-setting for problem-solving) and PMCEQ-H3 (confidence in extinguishing perseverative thoughts and emotions). Moreover, findings of this study indicate that 'confidence in setting flexible and feasible hierarchies of goals' and 'confidence in extinguishing perseverative thoughts and emotions' factors of positive metacognitions and meta-emotions are significant predictors of affective components (DIF, DDF) and total score of alexithymia, whereas, 'confidence in setting flexible and feasible hierarchies of goals' and 'confidence in interpreting own emotions as cues, restraining from immediate reaction and mind-setting for problem-solving' are significant predictors of cognitive component (EOT) of alexithymia. There is empirical evidence that alexithymia is associated with difficulties in discriminating among different emotional states[36] and with a limited ability to think about and use emotions to cope with stressful situations[37,38], and more recently alexithymia has been conceptualized as a deficit in cognitive processing and regulation of emotional states, and research efforts are attempting to situate alexithymia with regard to other emotion-related constructs[39]. One of the most important variables related to emotional problems in individuals is metacognitive beliefs, the beliefs that the person has about his/her thoughts, emotions, feelings, memories and other perceptual forces[8-10]. These beliefs can effect on person's response, thoughts and behaviours, emotions and self-regulation[11]. The studies have also revealed that knowledge of cognitive and metacognitive strategies lead to improvements in learning and educational performance[40, 41], and high levels of impaired metacognitive knowledge have significantly correlated with alexithymia. Moreover, participants with higher metacognitive knowledge have better educational performance[42].Studies have reported a positive relationship between maladaptive metacognitive beliefs and alexithymia[43]and it has been said that metacognitions are important in affecting person's response to negative thoughts, signs and emotions[44, 45]. Difficulties in identifying and describing one's own emotion state[42], are suggested to be associated with maladaptive emotion processing, and

have also been linked with poorer ability to mentalize[46]. Therefore, inverse can be hypothesized with positive metacognitions and meta-emotions and the observed findings substantiate that presence of adaptive metacognitions, i.e., positive meta-cognitions and meta-emotions equips the individuals to extinguish perseverative and ruminative thoughts which prevents S-REF from becoming hyperactive and perseverative thereby helping the individuals to protect themselves from engaging in maladaptive avoidance coping strategies and shifting to agentic problem focus and goal setting[16]. Hence, it can be concluded that presence of positive metacognitions and meta-emotions equips the individual to overcome both affective and cognitive problems.

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