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### Investigating the Role of METACOGNITIVE believes in ALEXITHYMIA

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#### ABSTRACT

The present research was conducted with the goal of investigating the role of METACOGNITIVE believes in ALEXITHYMIA. This is a descriptive and CORRELATIONAL research. The study population included all Pay am Noor University of Babul in the academic year 2013-14. The sample studied in this research included 175 of the above mentioned students selected through cluster sampling. To collect information, METACOGNITIVE believes questionnaire (MCQ-30) of Wales and ALEXITHYMIA questionnaire (TAS-20) of Bagri *et al* (1994). Descriptive and inferential statistics methods such as average, standard deviation, correlation coefficient and regression were utilized. The analysis indicated a positive and significant relationship between METACOGNITIVE believes and ALEXITHYMIA. The results also indicated a negative and significant relationship between ALEXITHYMIA and emotional intelligence. ALEXITHYMIA among male and female students ( $p < 0.05$ ). It was also made clear that METACOGNITIVE believe components such as cognitive contrast, positive believes and cognitive self-awareness can significantly predict ALEXITHYMIA and emotional intelligence.

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#### INTRODUCTION

In this research, we have studied the role of metacognitive believes in alexithymia. By Metacognition, we would like to refer to a multidimensional concept and the knowledge or concepts associated with thinking and strategies that people utilize to regulate and control thinking procedures. This concept includes knowledge, processes and strategies which evaluate, supervise or control cognition. Metacognition refers to our knowledge about acquisition of our own cognitive processes and the appropriate method of utilizing them to achieve learning objectives. The metacognitive view refers to humans' awareness and recognition of their awareness and recognition. The metacognitive knowledge assists us to monitor our progress while learning and knowing affairs. This knowledge helps us assess the results of our attempts and evaluate our mastery of the materials we have studied. Metacognition is a relatively new concept whose life doesn't exceed 30 years and it refers to the information that one has in his cognitive system. As the cognitive system develops and grows in humans, a set of metacognitive and supervising processes began to form in them. These metacognitive skills act as informing skills which are utilized during the process of learning and processing information and facilitate the flow of this procedure. Alexithymia means inability in processing the recognition of emotional information and regulating the emotions [5]. Alexithymia is a multidimensional structure including difficulty in identifying emotions and distinguishing between emotions and physical incitement associated with emotional simulation, difficulty in describing your emotions to others; limited power of imagination which is only specified by dreaming; concrete, pragmatic, and realistic cognitive style (non-imaginative), or concrete thinking. People afflicted with alexithymia consider normal physical simulations as being too much, interpret the physical signs of emotional simulation as bad, express emotional desperations through physical complaints, and look for physical signs in therapeutic actions. According to cognitive sciences, emotions are a group of mental structures based upon information processing, including procedures and symbolic and non-symbolic imaginations. Symbolic imaginations include pictures and vocabularies, while non-symbolic imaginations include physical and visceral incitements which are experiences during emotional simulations. Alexithymia is some sort of inability and

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reduction of emotional experiences and inability in expressing the emotions. Someone afflicted with alexithymia has difficulty experiencing various emotions and if he experiences any, he will have difficulty to verbalize them. Furthermore, alexithymia is an inability in imagining and applying symbols. Alexithymia also causes disorders in regulating and distinguishing emotions. In late 1940s, Mclain (1949) proposed the problem that the emotional experiences of the many patients suffering from impulsive psychological disorders is below their symbolic level of consciousness and verbal elaboration. In the literature related to the concept of alexithymia, references are made to the clinical reports of Rash (1948) and Mclain (1949) that many of the psychosomatic patients have clear disabilities in verbalizing their feelings. Rash and Mclain attribute these problems to deficits in imagining the emotions. Mclain believes that this performance is associated with Neocortex. After a while, Herchi (1952) and Kelman (1952) reported similar features in psychiatric patients. ). Later on, the concept of alexithymia began to be used by Syphos (1972, 1973) to describe a set of cognitive and emotional features in patients suffering from psychological tension disorders. Until the 11<sup>th</sup> European Conference of psychological tension disorders (2011), little attention was paid to alexithymia. In this conference, alexithymia was considered as a personality feature and there was need for further analysis of this issue. Today, we observe an increasing number of researches with various approaches to this issue. Tailor (1997) has described the 5 modules related to alexithymia.

There are several studies that confirm emotional processing [5], transformation of emotional comprehension to emotional words and concepts and establishment of emotional communication are disrupted in alexithymia. Furthermore, it has been proved that people with higher levels of alexithymia are less careful in doing especial assignments such as pairing verbal and non-verbal emotional simulations and gain fewer results than those afflicted with lower levels of this disorder (Lamint *et al*, 2006). In this study, we will investigate the relationship between three variables to see if there is any relationship between metacognitive believes, alexithymia.

#### *Research methodology:*

The research methodology taken up in this study is a correlational method in which the researcher merely studies the synchronic and predictive relationships between variables without manipulating them. The statistical population of the research included all students of Babol Payam Noor University in the academic year 2013-14. The sample used for this research included 175 students chosen based upon the cluster sampling.

#### *Research tools:*

##### *Metacognitive believes questionnaire (MCQ-30):*

The initial form of this questionnaire consisted of 65 articles proposed by Cart Rite Hatton and Wales (1997) to investigate the bothering anxieties and thoughts. The accepted form of this scale (MCQ-30) consists of 30 questions which was developed and extended later by Cart Rite Hatton and Wales (2004) similar to the initial form. This scale is formed based on the self-regulatory executive function (SREF) proposed by Wales and Mateus.

##### *Alexithymia questionnaire:( TAS-20):*

Toronto's Alexithymia questionnaire is a 20-questioned test with three subscales of difficulty in indentifying emotions, difficulty in expressing the emotions, and concrete thinking and it is scored by Likret's 5-degree scale ranging from 1 (total disagreement) to 5 (total agreement). By adding the scores of three subscales for Alexithymia, a total score is calculated [5]. The psychometric properties of Toronto-20 Alexithymia questionnaire have been investigated and verified in numerous studies. In the Persian version of this scale [12], Cronbach's alpha coefficient for total Alexithymia was 0.85 and this coefficient had values of 0.82, 0.75 and 0.72 for difficulty in identifying emotions, difficulty in describing emotions, and concrete thinking respectively which indicates its appropriate internal consistency. The retest reliability of Toronto-20 Alexithymia scale for the total Alexithymia of various subscales in a sample consisting of 67 people in two times (with the distance of 4 weeks) was confirmed to range from  $r=0.80$  to  $r=0.87$ . Ghorbani, Bing, Watson, Davison & Mack (2002; quoted by Shahgholian, Moradi & Kafi, 2007) calculated the following Cronbach's alpha for this scale in the Iranian sample: 0.74 for difficulty in identifying the emotions, 0.61 for difficulty in describing emotions, and 0.50 for externally focused thinking [27]. Using Cronbach's alpha method for the total scale of credence coefficient, the total credence of the scale in the Iranian sample was 0.74 and the following values were reported for the subscales: 0.70 for difficulty in describing the emotions, 0.64 for difficulty in identifying the emotions, and 0.52 for externally focused thinking.

#### *The descriptive statistics and inferential statistics methods:*

Descriptive statistics: the numerical descriptions are called descriptive statistics. Descriptive statistics is a general title for those statistical methods which help the researcher classify, summarize, describe, and interpret the data collected and create a link between them. The methods used in descriptive statistics are divided to 3

categories: A) Frequency distribution table and drawing charts, B) Central indicators, and C) Variation indicators.

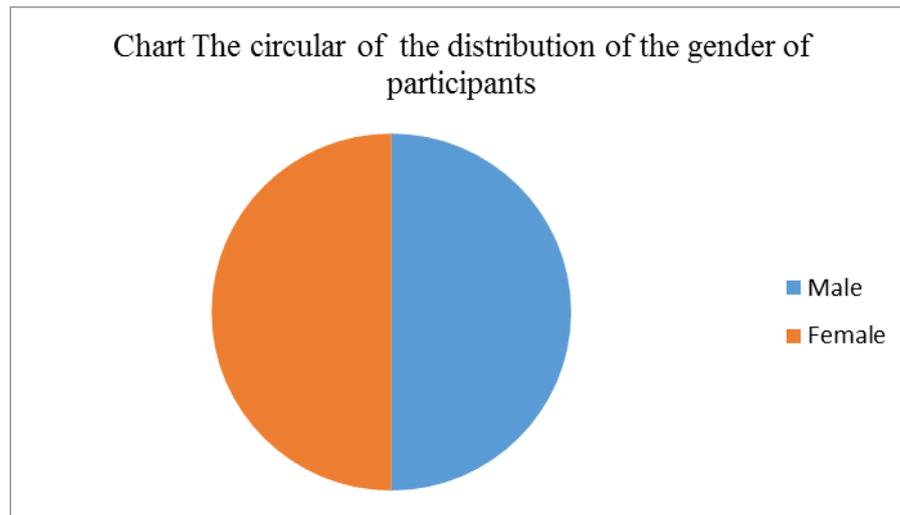
Descriptive and inferential statistical methods including average, standard deviation, correlational coefficient and regression are used for data analysis.

#### Findings:

Investigating the distribution of the frequency of indexes in terms of the gender of participants

**Table 1:** The frequency distribution of the participants' gender.

variables	frequency	percentage
female	87	50
male	88	50
total	175	100%



As you can see in table and chart, 50 percent of the participants were male and the remaining 50 percent were female.

Table descriptive statistics of investigating the status of the variable "metacognitive believes" in research samples

central tendency indexes			dispersion indexes			distribution indexes		
mode	mean	average	extent of variation	variance	standard deviation	standard error	coefficient of curvature	coefficient of strain
65	68	66.7	17.9	4.20	17.23	0.66	0.67	0.49

Based on this table, we can say that no great difference is observed between mode, mean and average and since the coefficients of curvature and strain are below 1, this distribution has the assumption of normality and the index of average can be used as an appropriate index for investigations. The detailed proof of this fact is presented through appropriate tests in the forthcoming sections.

Table descriptive statistics of investigating the status of the variable "alexithymia" in research samples

central tendency indexes			dispersion indexes			distribution indexes		
mode	mean	average	extent of variation	variance	standard deviation	standard error	coefficient of curvature	coefficient of strain
48	48	48.7	19.4	3.52	9.30	0.66	0.08	0.21

Based on this table, we can say that no great difference is observed between mode, mean and average and since the coefficients of curvature and strain are below 1, this distribution has the assumption of normality and the index of average can be used as an appropriate index for investigations. The detailed proof of this fact is presented through appropriate tests in forthcoming sections.

Table Pearson's correlation statistics (the relationship between cognitive believes, alexithymia and emotional intelligence)

variables	metacognitive believes		alexithymia		emotional intelligence	
	$r^M$	sig	$r^M$	sig	$r^M$	sig
metacognitive believes	1		0.204*	0.01	0.245**	0.003
alexithymia	0.204*	0.01	1		-0.201	0.02

n= 175, df= 173, \*P<0.05 \*\*P<0.01

Based on the results of table in determining the relationship between metacognitive believes and alexithymia, since the calculated  $r^M$  correlation equals (0.204) in the confidence level of 95% (5% error) and the freedom degree of 173 and is bigger than the correlational coefficient of the critical table (0.194), thus 95% of the confidence of the researcher's hypothesis will be fulfilled. In other words, we can say that since the resulting level of significance equals (sig=0.01) and is smaller than 0.05 ( $p<0.05$ ), we may infer that the researcher's hypothesis is true. Thus, we may say a significant and positive relationship exists between metacognitive believes and alexithymia. Concerning the relationship between metacognitive believes and emotional intelligence, because the  $r^M$  calculated correlational coefficients equaling (0.245) in the confidence level of 99 percent (1% error) and a degree of freedom of 173 is bigger than the correlational coefficient of  $r^b$  critical table (0.194), thus the researcher's hypothesis will be confirmed with a confidence level of 95 percent. In other words we can say since the resulting level of significance equals (sig=0/003) and is smaller than 0.01 ( $p<0.01$ ), the researcher's hypothesis is confirmed and the null hypothesis is rejected. Thus, we may say there is a negative and significant relationship exists between alexithymia and emotional intelligence ( $p<0.05$ ) & ( $p<0.01$ ).

Table Independent T statistics (a comparison of alexithymia components in male and female students)

alexithymia variables	average		standard deviation		$t_m$	$t_b$	sig
	female	male	female	male			
difficulty in identifying emotions	16.12	18.6	6.5	6.9	2.28	1.98	0.02
difficulty in describing the emotions	12.3	13.7	3.7	3.4	2.33	1.98	0.021
thinking with the external orientation	17.8	18.8	4.09	4.02	1.56	1.98	0.119
total alexithymia scale	46.3	51.1	11.5	10.2	2.14	1.98	0.03

Based on table in investigating the difficulty in identifying the emotions components, we can say that since the calculated  $t = 2.28$  in the confidence level of 95 percent ( $\alpha=0.05$ ) and the degree of freedom 173 ( $df=173$ ) is bigger than  $T$  of critical table, thus the null hypothesis is rejected and the researcher's hypothesis is confirmed. In other words, we can say since the resulting level of significance equals (sig=0.02) and is smaller than 0.05 ( $p<0.05$ ), we can infer that the null hypothesis is rejected and the researcher's hypothesis is confirmed. Thus, we may say that difficulty in identifying the emotions has a significant difference between girls and boys.

A significant difference was observed in comparison of the scale of difficulty in describing the emotions from the subscale of alexithymia among male and female students ( $p<0.05$ ).

No significant difference was observed in comparison of the scale of thinking with external orientation from the subscale of alexithymia among male and female students ( $p>0.05$ ).

A significant difference was observed in the total scale of alexithymia among male and female students ( $p<0.05$ ).

#### Discussion and Conclusion:

The results indicate a significant and positive relationship between metacognitive believes and alexithymia. This is in line with the results of the study conducted by Nasel (2011), Kelk (2011) and Kattie (2011) ( $p>0.05$ ). The results also indicated a positive and significant relationship between metacognitive believes and emotional intelligence. These results are in line with the results of the studies conducted by Nares (2012), Schotte *et al* (2007) and Amiri (2013) ( $p<0.01$ ). The results also indicate a negative and significant relationship between alexithymia and emotional intelligence ( $p>0.05$ ) and ( $p<0.01$ ). These results are in line with the results of the studies conducted by Ogai, Akimoto, Fokonishi (2003), Besharat [12], Parker, Taylor, Bagbi (2001), Ghorbani *et al* (2002). People afflicted with alexithymia fail to respond to emotional stimulations and seem to be unaware of environmental signs and interpret events as emotional signs. These people have difficulty identifying the social and environmental signs to express emotions. These problems indicate the weakness of emotional intelligence and render these people unable to correctly interpret and process the emotional intelligence and fail to have a good response.

Metacognitive believes are believes and ideas that people have about their mentality; Quoted by Seyf and Khadem, 2010). These believes can influence the responding method of the individual to the thoughts and behaviors and lead to self-regulation. Due to some reasons and causes, these metacognitive believes are disrupted and form a set of uncongenial Meta-believes about internal thoughts and believes and result in unhealthy self-regulation in the person. Metacognition is one's ability to recognize his knowledges and ignorances. Metacognition interacts directly with many variables such as emotional intelligence. The results of many researches indicate a greater role for emotional intelligence than IQ for success in life. These investigations also shed light on the necessity of the presence of emotional intelligence in work environments, course classes, performance improvement in interviews, group work and mental issues. Generally, we can say that metacognitive believes and, specifically, the metacognitive belief of uncontrollability and danger are associated with continuation of psychological pathology through their influence on selection of contrastive approach and one's realization of his abilities. In terms of the clinical application, these results show that students can be trained to change their metacognitive believes and benefit from greater levels of general and

mental health. Alexithymia has specific components that reveal the special forms of this phenomenon. Components of alexithymia include: difficulty in identifying the emotions, difficulty in describing the emotions, and objective thinking.

People afflicted with alexithymia fail to respond to common emotional stimuli and seem to be unaware of environmental signs and interpret incidents as emotional signs. These people have problems identifying the social and environmental signs to express their feelings. These problems reflect the weakness of emotional intelligence. As a result, they will be unable to absorb, process and respond appropriately to emotional situations.

The results indicated a significant difference in difficulty in identifying the emotions and difficulty in describing the emotions from the subscales of alexithymia among male and female students ( $p < 0.05$ ). No significant difference was observed between male and female students in terms of thinking with external orientation from the subscale of alexithymia ( $p > 0.05$ ). A significant difference was observed between girls and boys in terms of the total scale of alexithymia ( $p > 0.05$ ).

These results are in line with previous investigations. Researches investigating the relationship between alexithymia and demographic variables have yielded various results. In the researches conducted by Salminen, Sarijaroy, Ayerla, Toyka and Kahanen (1998, quoted by Rohn Al-dini, 2008), the results indicated higher levels of alexithymia in men than women and this difference is observed in the 2 components of difficulty in describing the emotions and objective thinking, yet no difference was observed in the variable associate with difficulty in identifying the emotions. In an effort to describe this relationship, we can refer to the role of gender differences in cultures and initial learning of expressing emotions in interaction with emotions in both genders. The results of a study conducted by Matila, Salminen, Noami, and Yokama (2006) indicated higher levels of alexithymia among men than women. In a research which investigated the role of in alexithymia among clinical samples in Japan, women had gained higher score in difficulty in identifying the emotions, yet in other scales of alexithymia, men had gained higher scores (Morigochi, Midam Igarashi, Shoji, Kobo and Komaki, 2007). Since 1973 when Syphnos first discovered the signs of alexithymia, major researches have been conducted in this field.

Based on the theory of information processing, the ability to symbolically imagine emotions is limited in alexithymia. Thus, the semi-symbolic imagination of emotions is weakly associated with the words and images. As a result, cognitive control on them will be very limited. This issue has been observed many times in the form of sever reduction in dreaming power and disability in finding words to express personal emotions and emphasis on physical emotions caused by emotional stimulation and reduced levels of tension in the form of impulsive or obsessive behaviors.

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