Available online **www.ijpras.com**

International Journal of Pharmaceutical Research & Allied Sciences, 2016, 5(1):266-272

Research Article

ISSN : 2277-3657
CODEN(USA) : IJPRPM

Investigating the Moderating Role of Cognitive Regulation of Emotion in the Relationship between Interpersonal Problems and Sleep Quality

Zhaleh Refahi
Department of Counseling, Marvdasht Branch. Islamic Azad University, Marvdasht, Iran
Email: Dr.refahi@miau.ac.ir

ABSTRACT

This study aims at investigating the investigating the moderating role of cognitive regulation of emotion with regard to the interpersonal problems and sleep quality variables. Statistical population of this study composed of the students' parents from Shiraz guidance schools that out of them, 220 people were selected by multi-stage random cluster sampling. In data collection process, interpersonal problems questionnaire, cognitive regulation of emotion questionnaire and Pittsburgh sleep quality index (PSQI) were used. The path analysis results confirmed the role of only one of the subscales of cognitive regulation of emotion (Catastrophizing) as a moderator for interpersonal problems and sleep quality variables. According to this test, the direct effect of interpersonal problems on sleep quality was due to the three subscales of extreme support, lack of affect and social withdrawal. Also extreme support by catastrophizing, that is one of the subscales of cognitive regulation of emotion, has an indirect impact on sleep quality. The obtained results confirmed the moderating role of cognitive regulation of emotion for interpersonal problems and sleep quality variables.

Key Words: *Interpersonal problems, Cognitive regulation of emotion, Sleep quality*

INTRODUCTION

The issue of sleep and dream has grabbed man's attention for many years. That people commonly after a tiresome effort go to sleep and after hours of revitalizing, they are ready to do activities again. Sleep is one of the most important circadian cycles and a complex biological pattern (Bagheri et al., 2006); it is also is of the man's basic needs (Kaplan and Sadock, 2002). Sleep-wake cycle is one of the biological cycles that it is affected by physiological function in brightness and darkness, work plans, caring and other activities and human biological clock (body clock) plays an important role in this cycles (Lima et al. 2002). The importance of sleep in health and illness has been considered from the time of Hippocrates and disturbed sleep can be construed as a major cause of suffering and the sickness at any age (Monane, 1192). Many physical disorders disturb sleep and disrupt alertness (Lamberg, 2005). Almost any physical illness that produces significant pain or discomfort or be caused by metabolic disorders, can negatively affect both the quantity and quality of sleep (Moran, Stoudemire, 1992). In fact, cognitive emotion regulation refers to actions which are used to change or modify an affective or emotional state.

Studies have shown that sleep and its quantity and quality play a significant role in life of all human beings (Farhadinasab and Azimi, 2008). On the other hand, physically and psychologically success, health and consistency of each person are dependent on the way he is dealing with the conditions and problems and what emotional strategies he will use to cope with these issues (Nejati, 2009). Cognitive emotion regulation plays an important role in coping with stressful life events (Eisenberg et al., 2000). In psychological literature, this concept often has been used to describe the mediating process of negative emotions (Gross, Munoz, 1995). Cognitive regulation of emotion is a form of self-regulation (Tice and Bratslausky, 2000) and it has been defined as internal and external processes involved in

reviewing, evaluating and mediating the emergence, intensity and duration of emotional reactions (Thompson, 1994). In addition to the above mentioned contents, interpersonal problems, the problems that arise between people in different situations and make mental turmoil, can strongly affect person's emotions and sleep (Horowitz, 1979). Thus according to the role of these three key components (interpersonal problems, cognitive emotion regulation and quality of sleep) in every person's life, the present study investigates the moderating role of cognitive regulation of emotion the between interpersonal problems and sleep quality variables.

1. Theoretical Foundations of the Study

1.1. Sleep Quality

Generally among the sleep disorders, insomnia and drowsiness during the day are the most common complaints. It seems that this disorder occurs in approximately 12-25% of people, although this estimate is lower than its actual value. Because available evidences suggest that many adults do not report their sleep problems (Walsleben, 1982) and they are less likely to seek treatment process (Veldi et al., 2005). Night work compels people to act against their body's natural system. This condition creates a disorder which is called cumulative lack of sleep. Evidence suggests that this disorder has two components: First, lack of sleep and the second lack of constant sleep and distribution of sleep hours. So sleep will be moved to unfavorable time period in a daily cycle (Mokarrami et al., 2010). These cases severely affect their sleep quality and also reduce their physical and mental health (Sporgeon, 2003).

2-2. Cognitive Regulation of Emotion

In order to address the concept of regulation of affects and emotions, it can be said that the emotion has three components of cognitive-experimental, behavioral-expressive and neurophysiologic-biochemical (Dodge, 1989). Thompson (1994), put adjustment of emotions in this way: all internal and external responsible processes to demonstrate evaluate and define the emotional reactions, which particularly refers to their strength and durability (Cicchetti et al., 1995). Based on previous studies, cognitive emotion regulation strategies include nine different strategies that people while experiencing stressful or threatening life events before doing anything, in terms of cognition use these strategies. These key and highlighted strategies include: Blame themselves, blame others, acceptance, planning, positive refocusing, positive evaluation, rumination, catastrophizing, developing a perspective.

2-3. Interpersonal Problems

Interpersonal problems can be described as the difficulties that people face when trying to have relationship with others that this issue can have a negative impact on social relations (Saffrey et al., 2003). According to the conducted researches, interpersonal problems are main reasons for people's psychotherapy (Horowitz et al., 1993). Interpersonal problems studied the eight dimensions in a way that follows: Domineering, Vindictive, Cold, Socially, Avoidant, Nonassertive, Exploitable Overly Nurturant, and Intrusive. (Saffrey et al., 2003).

2.4. **Literature Review**

The relationship between interpersonal problems and the personal expectations in daily life was approved in Locke's (2005) study, which was carried out on 150 undergraduate students, and it was found that modifying or reducing interpersonal expectations per day can lead to decreased chronic interpersonal problems. Also Paradis and Boucher (2010) conduct a study titled "Child maltreatment history and interpersonal problems in adult couple relationships**",** the results showed that the victims of abuse reported more interpersonal problems. Also Guastella and Moulds (2006) in their study entitled "The impact of rumination on sleep quality following a stressful life event" reported a direct relationship between the anxiety and stress, rumination variables with sleep quality. Caraballo et al. (2008) in a study under the title of "Negative affect and anger rumination as mediators between forgiveness and sleep quality" emphasized the relationship between rumination and sleep disorders also forgiveness of errors and better sleep. According to Gruber's et al. (2008) study entitled "Transdiagnostic emotion regulation processes in bipolar disorder and insomnia" that was carried on 60 participants, the relationship between cognitive emotion regulation strategies, anxiety, and depression and sleep disorders was confirmed. Existence of a direct relationship between anxiety, depression, anger, sleep quality was confirmed in Stewart's et al. (2011) study titled "Association of the shared and unique aspects of positive and negative emotional factors with sleep quality".

2. Method

The purpose and questions

This study aims at investigating the investigating the moderating role of cognitive regulation of emotion with regard to the interpersonal problems and sleep quality variables. The research design is correlational that by using structural

equation leads to presenting a model. The research question is: does the cognitive emotion regulation variable play a mediating role of for the interpersonal problems and sleep quality variables?

Population and sample

The statistical population was guidance school students' parents in Shiraz in the academic year of 2011-2012, that 220 participants were randomly selected by multistage random cluster sampling and in a joint meeting research questionnaires were given to the parents of the first, second and third grade students of each school to be completed by the students' parents.

Data Collection

1. Pittsburgh Sleep Quality Index (PSQI)

PSQI is a multidimensional questionnaire that it is made by Daniel J. Buysse and his colleagues in 1989 in order to assess the quality of sleep and help diagnosing people who have good or bad sleep. This questionnaire is a valid instrument that its content validity and reliability have been investigated in several studies. In Iran, Soleimani et al. (1386) and Hosein Abadi and et al. (1389), by test-retest method determined the reliability of this questionnaire as (r= 0/88) and (r= 0/84), respectively. In addition, the face and content validity of this instrument were reviewed and approved by six faculty members of the Nursing and Midwifery Faculty of Khorasgan Azad University. In the present study to determine the test reliability, Cronbach's alpha was used and its value for the whole questions was 0/73.

2. The Cognitive Regulation of Emotion Questionnaire

The Cognitive regulation of emotion questionnaire was made in 2002 by Garnefski et al. to assess how people think after experiencing stressful life events. Reliability coefficient of the questionnaire by using Cronbach's alpha was calculated by Garnefski et al. (2007). The value of this coefficient has been reported as 0/62. Also In this study by using Cronbach's alpha reliability of the test was obtained as 0/83. In Iran, this questionnaire has been validated by Samani Sadeghi (2010), and good reliability and validity has been reported.

3. Interpersonal Problems Questionnaire

Questionnaire of interpersonal problems has three forms of 127-questions, 64-questions, 32-questions variants. In the present study in order to collect data, the 32-questions form was used. This questionnaire was made in 1995 by Soldz et al. that examine interpersonal problems in eight subscales of domineering, vindictive, cold, socially, avoidant, nonassertive, exploitable overly nurturant, and intrusive. The creators of this scale by using Cronbach's alpha have reported the reliability coefficient of the questionnaire as 0/89 and other scales had alpha coefficient between 0/68 and 0/84, respectively. In this study, reliability of the test by measuring through the Cronbach's alpha method was 0.82.

Data Analysis

In order to analyze the data, descriptive indices ($SD, \bar{x}$) and analytical indicators were measured. In this investigation, Baron and Kenny's (1985) recommended steps for hierarchical regression method were used. In the first phase interpersonal problems on quality of sleep and in the second stage Regression, cognitive emotion regulation variable was added to equation and to determine indirect effect of interpersonal problems on sleep quality, the regression coefficient variation was measured from the first stage to the second stage and the regression coefficient was analyzed.

4. Research Findings

To test the moderating role of cognitive regulation of emotion variable for exogenous variable (interpersonal problems) and endogenous variable (quality of sleep), path analysis by hierarchical regression and Baron and Kenny method were used. In this course, in the first level, exogenous variable of the model (interpersonal problems) entered into the equation to predict endogenous variable (quality of sleep). Then in the second stage cognitive emotion regulation as dependant variable entered to the equation. Table 1 shows the regression coefficients for this analysis.

Table 1: Coefficients of the path analysis regression

Order	Variables	β	t	**P<**	R^2	F	df	P<

First	Nonassertive	0/14	0/98	0/33	0/18	2/08	74 and 8	0/048
	Exploitable	-0/15	1/13	0/26				
	Overly Nurturant	0/31	2/53	0/014				
	Intrusive	-0/01	0/05	0/96				
	Domineering	-0/02	0/18	0/86				
	Vindictive	0/03	0/18	0/86				
	Cold	0/34	2/45	0/017				
	Socially Avoidant	-0/25	1/90	0/06				
Second	Nonassertive	0/13	0/85	0/40	0/29	1/79	67 and 15	0/05
	Exploitable	-0/09	0/63	0/53				
	Overly Nurturant	0/25	1/97	0/05				
	Intrusive	-0/01	0/09	0/93				
	Domineering	-0/08	0/64	0/53				
	Vindictive	-0/06	0/40	0/69				
	Cold	0/37	2/56	0/013				
	Socially Avoidant	-0/31	2/22	0/03				
	Planning	0/10	0/55	0/58				
	Blaming others	-0/14	1/08	0/28				
	Positive evaluation	-0/13	0/74	0/46				
	Blaming the self	-0/01	0/12	0/90				
	Rumination	0/12	0/86	0/39				
	Catastrophizing	0/31	2/29	0/025				
	Acceptance	0/04	0/30	0/77				

Results showed that in the first order, the value of R^2 was equal to 0/18, [P <0/048 and 2/08 = (8 and 74) df] and the R^2 value for the second order was 0/29, [P <0/05 and 1/79 = (15 and 67) df]. Figure 1 shows the different paths that affect the endogenous variables (quality of sleep). In the meantime, only one of the subscales of cognitive emotion regulation plays a moderating role.

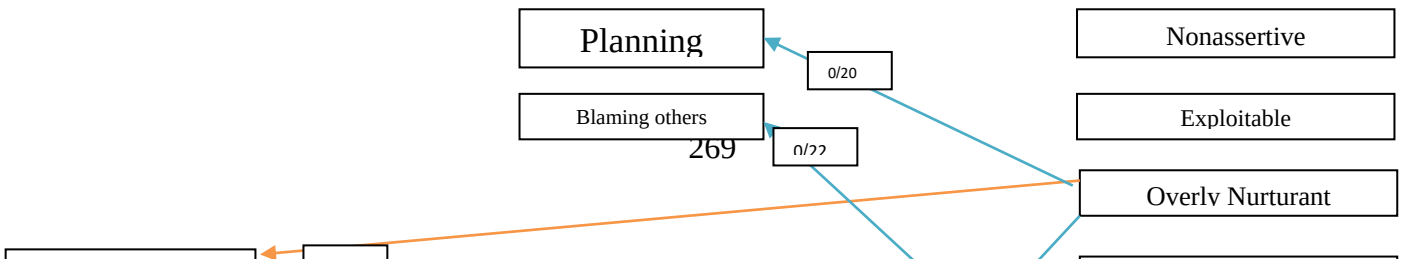

Figure 1: Diagram of different affecting paths endogenous variable (quality of sleep)

Discussion and conclusion

The results showed that only one of the subscales of cognitive emotion regulation, *catastrophizing*, out of the eight subscales, plays the moderating role for interpersonal problems and sleep quality. This finding is consistent with different authors' studies such as Barclay and Gregory (2010) and Buenaver, Quartana, Grace and Sarlani (2012). *Discuss and explain research pathways*: In this section, each path will be considered separately. In this path, extreme support as a subscale of the interpersonal problems with the coefficient of $(\beta = 0/25)$ has a direct impact on sleep quality. This finding suggests that the more individuals' extreme support (Overly Nurturant), poorer the sleep quality. To explain this finding it can be claimed that fundamentally need to encourage and being considered is in every human being and each person enjoys to be seen. Problems in interpersonal relationships cause that this need could not be satisfied properly and confidence and decisiveness in person comes down gradually. So a person will compensate this need to be seen by extreme support, it means that he tries to satisfy the others and prefers the needs of others to his needs, mainly he easily forgets himself and invites intrusive thoughts with worry and anxiety to his mind, because he should withstand a lot of pressure to satisfy people who is dealing with. In a survey, this issue negatively and directly affects individuals' sleep quality. Another subscale of interpersonal problems is lack of emotion (Cold) that has a direct impact on sleep quality, (β=0.27). It means that the lack of emotion in relationships and severe indifference will decrease sleep quality. To explain this finding based on Glasser's theory, it can be mentioned that all individuals need to love and be loved, so if a person with regard to various reasons in his mind does not express his love and acts very cold in dealing with others, consequently cannot establish a good relationship and feel close with the people. With the formation of this feature in a person, need to love and be loved is gradually suppressed. Cited cases easily impressed the sleep, because the man for having a good quality sleep in addition to physical health and relaxation needs mental health. Based on the studies in this milieu, lack of affection had a negative impact on sleep quality.

Social withdrawal (Socially Avoidant) is another subscale of the interpersonal problems that by the coefficient of (β=-0.31) directly affects the sleep quality, this result suggests if the social withdrawal in individuals is stronger, they will have better sleep quality. According to these results, the positive aspect of social withdrawal will be considered; people who do not involve themselves in being familiar with other people and their problems. In analyzing this finding it can be said that, although keeping in touch with individuals and the outside world has many positive aspects But we should neglect the tensions and stresses that this issue can bring to our life. According to the obtained results in this study, people who do not interact and socialize with others in a balanced way, in fact by no dealing with others' problems and issues, they will have less stress and anxiety and they can have a better performance in various aspects of their life, also the have better sleep quality. But saying this could be interesting the impact that social withdrawal has on

sleep quality, compared with the social phobia and sleep quality is exactly the opposite. According to research conducted by Raffray, Bond and Pelissolo (2011), individuals with social phobia have very low sleep quality.

Practical Suggestions

Learning how to deal with problems and correct application of cognitive regulation ofemotion strategies to improve sleep quality and having a calm life.

References

Bagheri H, Shahabi Z, Ebrahimi H, Alaeenejad F. (2007). The association between quality of sleep and health-related quality of life in nurses. *Journal of Nursing and Midwifery Tehran University of Medical Sciences* (*Haya)t.; 12* (4) :13-20

Hossein-Abadi R, Nowrouzi K, Pouresmaili R, Karimloo M, Maddah S S B. (2008). Acupoint Massage in Improving Sleep Quality of Older Adults. *Rehabilitation Journal,RJ.; 9* (2) :8-14

Samani, S., & Sadeghi, L. (2010). Psychometric Properties of the Cognitive Emotion Regulation Questionnaire. *Journal of psychological methods and models, 1*, p.51-62.

M. Soleimany, F. Nasiri Ziba, A. Kermani, F.Hosseini. (2007)Comparison of Sleep Quality in Two Groups of Nurses With and Without Rotation Work Shift Hours. *Iran Journal of Nursing IJN.; 20* (49) :29-38

Farhadi Nasab A, Azimi H. (2008). Study of Patterns and Subjective Quality of Sleep and Their Correlation with Personality Traits among Medical Students of Hamadan University of Medical Sciences. Scientific Journal of Hamadan University of Medical Sciences and Health Services *Sci J Hamadan Univ Med Sci .; 15* (1) :11-15

Mokkarami, H.R., Kakooi, H., Dehdashti, A.R., Jahani, Y., et al. (2010). Comparing the general health status and quality of sleep of shift workers in a pressing workshop. *Quarterly Journal - Kermanshah University of Medical Sciences 4* (3), p.237-243.

Nejati, E. (2009). Investigating the relationship between early parental support, emotional intelligence, public self-efficacy and cognitive emotions regulation strategies in Shiraz University Students, *MSc. Thesis in the field of Educational Psychology,* Shiraz University.

Barclay ,N .L .,Gregory ,A .M .(2010).The presence of a perseverative iterative style in poor vs. good sleepers. *Journal of Behavior Therapy and Experimental* **Psychiatry** ,41 , p.18-23 .

Buenaver ,L .F .,Quartana ,P .J .,Grace ,E .G .,Sarlani ,E .(2012).Evidence for indirect effect of pain catastrophizing on clinical pain among myofascial temporomandibular disorder

Caraballo ,R .,Rye ,M.S.,Kirschman ,B .,Pan ,W .(2008).Negative affect and anger rumination as mediators between forgiveness and sleep quality.*J Behave Med* ,31 , p.478-488.

Cicchetti ,D ., Ackerman ,B .P .,and Izard ,C .E. (1995). Emotion and emotion regulation in developmental psychopathology. *Developmental and Psychopathology* , 7 , p.1-10.

Dodge ,K .A .(1989). Coordinating responses to aversive stimuli: introduction to a special section on the development of emotion regulation. *Development psychology* ,25 , p.339-342.

Eisenberg ,N .,Fabes ,R .A .,Guthrie ,I .K .,and Reiser ,M .(2000).Dispositional emotionality and regulation :their role in predicting quality of social functioning. *Journal of Personality and Social Psychology* **,**78 ,p.136-157.

Garnefski ,N .,kraaij ,V .and Spinhoven ,P .H .(2001). Negative life events, cognitive emotion regulation and depression. *Personality and Individual Differences* **,**30 , p.1311-1327**.**

Gross ,J .J .,Munoz ,R .F .(1995).Emotion regulation and mental health.*Clinical Psychology :Science and Practice* ,2 , p.151-164.

Gruber ,J .,Eidelman ,P .,Harvey ,A .G .(2008).Transdiagnostic emotion regulation processes in bipolar disorder and insomnia. *Behavior Research and Therapy* ,46 , p.1096-1100.

Guastella ,A .J .,Moulds ,M .L .(2006).The impact of rumination on sleep quality following a stressful life event. *Personality and Individual Differences***,** *42,* p.1151-1162.

Horowitz ,L .M .(1979).On the cognitive structure of interpersonal problems treated In psychotherapy. *Journal of Counsulting and Clinical Psychology* ,47 , p.5-15.

Horowitz ,L .M .,Rosenberg ,S .E .,and Bartholomew ,K .(1993).Interpersonal problems,attachment styles,and outcome in brief dynamic psychotherapy.*Journal of Consulting and Clinical psychology* ,61 , p.549-560.
Kaplan ,H .,Sadock ,V .A .(2002).*Normal Sleep and Sleep Disorder* .Philadelphia :Lippincott Williams and Wilkins.
Lamberg ,L .(2005).Insomnia shows strong link to psychiatric disorders .*Psychiatric News* ,40 , p.3-21.
Lima ,P .F .,Medeiros ,A .L .D .,Araujo ,J .F .(2002).Sleep - wake pattern of medical students :early versus late class starting time .*Braz J Med Biol Res* ,35 , p.1373-1377**.**
Locke ,K .L .(2005). Interpersonal problems and interpersonal expectation in everyday life. *Journal of Social and Clinical Psychology* ,24 , p.915-931.
Monane ,M .(1992).Insomnia in elderly .*J Clin psychiat* ,53, p.8-23.
Moran ,M .G .,Stoudemire ,A .(1992).Sleep disorders in medically ill patients . *J Clin psychiat* ,53 , p.29-36.
Paradis ,A .,and Boucher ,S .(2010).Child maltreatment history and interpersonal problems in adult couple relationship. *Journal of Aggression ,Maltreatment and Trauma* ,19 , p.138-158.
Raffray ,T .,Bond ,T .L .,Pelissolo ,A .(2011).Correlates of insomnia in patients with social phobia :Role of depression and anxiety.**Psychiatry Research** .189 , p.315-317.
Saarni ,C .(1999).*The Development of Emotional Competence*. New York :Guil Ford Press.
Saffrey ,C .,Bartholomew ,K .,Scharfe ,E .,Henderson ,A .J .Z .,Koopman ,R .(2003).Self- and partner- perceptions of interpersonal problems and relationship functioning. *Journal of Social and Personal Relationship*,20 , p.117-139.
Spurgeon ,A .(2003).Working Time :Its impact on safety and health.*Geneva :ILO Press* ,1 , p.7-25.
Stewart ,J .C .,Rand ,K .L .,Hawkins ,M .,Stines ,J .A .(2011).Association of the shared and unique aspects of positive and negative emotional factors with sleep quality. *Personality and Individual Differences* ,50 , p.609-614.
Thompson ,R .A .(1994).The development of emotion regulation :biological and behavioral consideration.*Child Development* ,59 , p.25-52.
Tice ,D .M .,Bratslavsky ,E .(2000).Giving in to feel good : the place of emotion regulation in the context of general self – control .*Psychological Inquiry* ,11 , p.149-159.
Walsleben ,J .(1982).Sleep Disorder .*AM J Nurs* ,82 , p.936-940.