

## **Gender difference in cognitive emotion regulation of anger across developmental stages**

**SACHIN KUMAR<sup>1\*</sup> AND KUMKUM PAREEK<sup>2</sup>**

<sup>1</sup>Research Scholar and <sup>2</sup>Associate Professor

Department of Psychology, R.G.P.G. College, Meerut (U.P.) India

### **ABSTRACT**

Purpose of the present paper is to investigate gender difference at three developmental stages: adolescence, adulthood and elder-hood. For this purpose a sample of 120 subjects was derived from the general population of rural areas of district Saharanpur, U.P. Each group of adolescents, adults and elders has 40 subjects which consist of equal number of male and females to make a 2x3 experimental design with two dependent variables: cognitive emotion regulation and emotion of anger. To have as representative sample as possible, stratified random sampling was conducted. Data collection was done with inventories of 'Cognitive Emotion Regulation Questionnaire' and 'Negative Emotions Scale'. Result showed that there is a significant difference between adolescents and adults with respect to 'emotion of anger' and cognitive emotion regulation. And this difference remains consistent between male and female at the stage of adolescence. But, except this, no significant gender difference was found at the stage of adulthood and elder-hood with respect to both dependent variables.

**Key Words :** Cognitive emotion regulation, Emotion of anger, Adolescence, Adulthood, Elder-hood

### **INTRODUCTION**

Emotion is a whole body phenomenon characterized by changes in subjective experience, behavior and physiological process, coupled loosely (Mauss *et al.*, 2005). Emotions, whether positive or negative, not only make us to feel, but incline us to act also (Frizda, 1986) and subsequently help in achieving the goal of dealing with situation that initially gave rise to the emotion (Levenson, 1999). Emotions if experienced and expressed in proper intensity and duration, help one to behave adaptively and effectively by drawing attention on significant environment features through optimizing sensory intake, enhancing episodic memory, tuning the decision making process, getting ready to make behavioral responses in order to facilitate positive social interaction (Gross, 2014). Anger is also one of such emotions, which of course should be considered as normal, as stated by Abrams (2010). Spielberg (1991) defined anger as an emotional state varying from a minor level of tantrum to a high-level rage. According to Cevik (2017) females tend to experience lower level of anger in comparison of males.

#### **Emotion regulation :**

In day to day life, one's attempt to influence the emotions one has, and to see how the specific

**How to cite this Article:** Kumar, Sachin and Pareek, Kumkum (2018). Gender difference in cognitive emotion regulation of anger across developmental stages. *Internat. J. Appl. Soc. Sci.*, 5 (12) : 2074-2080.

emotion is experienced and expressed, is called as emotion regulation (Gross, 1998). Emotion regulation, as an emotion focused coping, is one of two coping strategies- problem focused and emotion focused. So bearing this in mind, emotion regulation can be said as the process adopted by an individual to manage his physiological arousal (Cicchetti *et al.*, 1991), to handle the behaviors and internal feeling in order to reach one's goals (Eisenberg and Morris, 2002; Thompson, 1994) or to fulfill the situational demands.

In addition to these two categories of coping strategies, cognitive coping strategy versus behavioral coping strategy also underlies one another classification of coping strategy (Holahan, Moss and Schaeffer, 1996). A cognitive coping strategy can be exemplified as to make a plan. On other hand a behavioral coping strategy can be said as to take an immediate action.

### **Emotion regulation and developmental stages :**

In order to respond to external situations effectively, an individual must be able to develop skill of using appropriate emotion regulation strategy, which can be the result of interaction between children and their attachment figures (Maccoby, 1992). Various studies seem to indicate that emotion regulation continues to develop even in later stages, which can be as follow:

#### ***Infancy:***

Begin to appear in infancy, for example infants' behavior of compressing their lips and knitting their eyebrows in attempting to suppress their anger or sadness is related to emotion regulation activity (Malatesta *et al.*, 1986).

#### ***Toddler-hood:***

By the end of first year, infants begin to use new strategies, such as moving away from unpleasant stimuli or chewing on objects, as the response to negative emotions (Kopp, 1989).

#### ***Childhood:***

By growing as children, they begin to understand the display rules. For example, by the age of 6-10 years, children may understand that they should smile when receiving a gift, irrespective of their actual feelings about the gift (Harris, 1983).

#### ***Adolescence:***

As children grow to the stage of adolescence, a marked increase in spontaneous use of cognitive emotion regulation strategies can be noticed. For example, in expectation of a sympathetic response from significant others, adolescents tend to display more emotions (Zeman and Garber, 1996).

More complex and developed strategies of regulating emotion appears with developing stages of adulthood and old age (Garnefski *et al.*, 2002). In relation of gender difference research suggests that girls are better in regulating emotion than boys, which may be the result of innate differences in reactivity levels (Morris *et al.*, 2002). Some evidence suggests that parents encourage distraction and problem solving strategies more for boys than for girls (Eisenberg *et al.*, 1998). Szasz *et al.* (2010) stated that cognitive regulation, such as appraisal, produce significant variation in the level of experience and expression of anger.

### **Objectives of the study :**

Following objectives lead the present research work:

1. To test the significance of difference between male and female adolescents with respect to cognitive emotion regulation and emotion of anger.
2. To test the significance of difference between male and female adults with respect to cognitive emotion regulation and emotion of anger.
3. To test the significance of difference between male and female elders with respect to cognitive emotion regulation and emotion of anger.

### **Hypotheses :**

Following hypotheses have been formulated to proceed with present research:

1. There is no significant difference between male and female adolescents with respect to cognitive emotion regulation and emotion of anger.
2. There is no significant difference between male and female adults with respect to cognitive emotion regulation and emotion of anger.
3. There is no significant difference between male and female elders with respect to cognitive emotion regulation and emotion of anger.

## **METHODOLOGY**

### **Research design :**

This is a Quasi-experimental research design with type-S independent variables, in which random selection of participants was made but random assignment to the group was not possible.

### **Sample :**

To attain the objectives of the present research, a sample of 120 subjects (60 male and 60 female) was derived from the normal population of rural areas of district Saharanpur, U.P., through the procedure of stratified random sampling. Subject were selected in equal number for three age categories, *i.e.* forty adolescents (13 to 18 years of age), forty adults (25 to 45 years of age), and forty elders (above 60 years of age).

### **Variables :**

#### ***Independent variables :***

1. Gender (*i.e.* Male and Female)
2. Age:
  - (i) Adolescence (Age 13 to 18 Years)
  - (ii) Adulthood (age 20 to 40 years)
  - (iii) Elderly age (age above 50)

#### ***Dependent variables :***

1. Cognitive Emotion Regulation
2. Negative Emotion

### **Tools :**

To meet the objectives of the current research following tools have been used:

***The Cognitive Emotion Regulation Questionnaire:***

CERQ is a self report questionnaire to identify the cognitive strategies of emotion regulation originally developed by Garnefski *et al.* (2002).. This questionnaire consists of 36 items which have been constructed both on theoretical and empirical basis in order to measures nine different coping strategies. It can be administered in normal population in different age groups. Its internal consistency ranged from .68 to .80, and stability from .48 to .65. Its factorial and construct validity are quiet high.

***Negative Emotions Scale (NES):***

Negative Emotion Scale has been used to measure the emotion of anger, which was originally constructed by the author to measure three basic negative emotions: anger, anxiety and sadness. There are 15 items in anger subscale, whereas 11 items in anxiety subscale and 11 items in sadness subscale. Alpha coefficient for anger subscale is .78 and test-retest reliability is .61.

**Data analysis :**

This research is aimed at identifying the emotional response of anger and cognitive emotion regulation strategy in terms of gender difference at various developmental stages. Two levels of gender and three levels of developmental stages make it a 2x3 factorial design. Collected data on a representative sample for two dependant variables is liable to be analyzed with Multivariate ANOVA. t-test for two mean comparison, Tukey HSD (post-hoc), and Leven's test of homogeneity of variance as well as descriptive statistics were calculated with SPSS.

**RESULTS AND DISCUSSION**

The present research involved 120 males and females (both in equal numbers) as the participants, to test the gender difference as well as age difference with respect to two dependent variables- Cognitive Emotion Regulation and Emotion of Anger. Results shows that male and female participants are not, significantly different from each other in terms of neither emotion of anger (F-value=.09) nor cognitive emotion regulation (F-value=1.64), as shown in Table 2. Age variable produces a significant difference with respect to cognitive emotion regulation (F-value= 10.09) only, not in terms of anger. The interaction of gender and age factors is not found to make any significant difference in the scores of anger and cognitive emotion regulation.

**Table 1 : Showing t-values between male and female at three developmental stages with respect to cognitive emotion regulation and emotion of anger**

Developmental Stages (N)	Gender (N)	Cognitive emotion regulation				Emotion of anger			
		Mean	SD	SED	t-value	Mean	SD	SED	t-value
Adolescents (40)	Male (20)	85.40	13.20	3.42	-2.45**	43.70	6.57	2.40	2.49**
	Female (20)	93.80	7.72			37.70	8.53		
Adults (40)	Male (20)	99.05	12.70	3.21	.194	41.55	8.37	2.81	-.534
	Female (20)	98.40	7.97			42.50	9.36		
Elders (40)	Male (20)	101.15	12.13	4.01	.062	40.55	7.69	2.78	2.197
	Female (20)	100.90	13.23			41.10	9.80		

\*= Significant at .05-level, \*\*= Significant at .01-level

Table 2 : Showing multivariate statistical outcome (F-values with significance indication)						
Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Gender	CERQ	258.133	1	258.133	1.983	NS
	Anger	52.008	1	52.008	.727	NS
Age	CERQ	2921.150	2	1460.575	11.218	.01
	Anger	26.317	2	13.158	.184	NS
Gender *	CERQ	452.317	2	226.158	1.737	NS
Age	Anger	333.517	2	166.758	2.330	NS
Error	CERQ	14842.100	114	130.194		
	Anger	8158.150	114	71.563		

NS-Non-significant, \*\*= Significant at .01 level; \*= Significant at .05-level.

To understand the role of gender and age in a clearer way, t-value was obtained for gender difference at various stages of development. Table 1 shows the descriptive and t-values. We can see that adolescent female participants have significantly higher score on emotion regulation (Mean=93.80) and lower score on anger (Mean=37.70) in comparison of adolescent male participants who have mean score of 85.40 and 43.70, respective to both dependent variables. This gender difference is significant at .01-level with respect to both DVs during adolescence phase of life. Adult males and females, whose mean scores, respectively are 99.05 and 98.40 on cognitive emotion regulation and 41.55 and 42.50 on anger, which are not significant. Elderly males and females' mean-scores are 101.15 and 100.75, respectively, for cognitive emotion regulation, and 39.95, 39.70 for emotion of anger. This difference also can't be said as significant with respect to both DVs.

As we see that there is significant difference with respect to cognitive emotion regulation produced by age, as the F-value-11.21 is significant at .01-level. Table 3 showing post-hoc statistics for three levels of age factor reveals that the difference exists between adolescents and adults, as

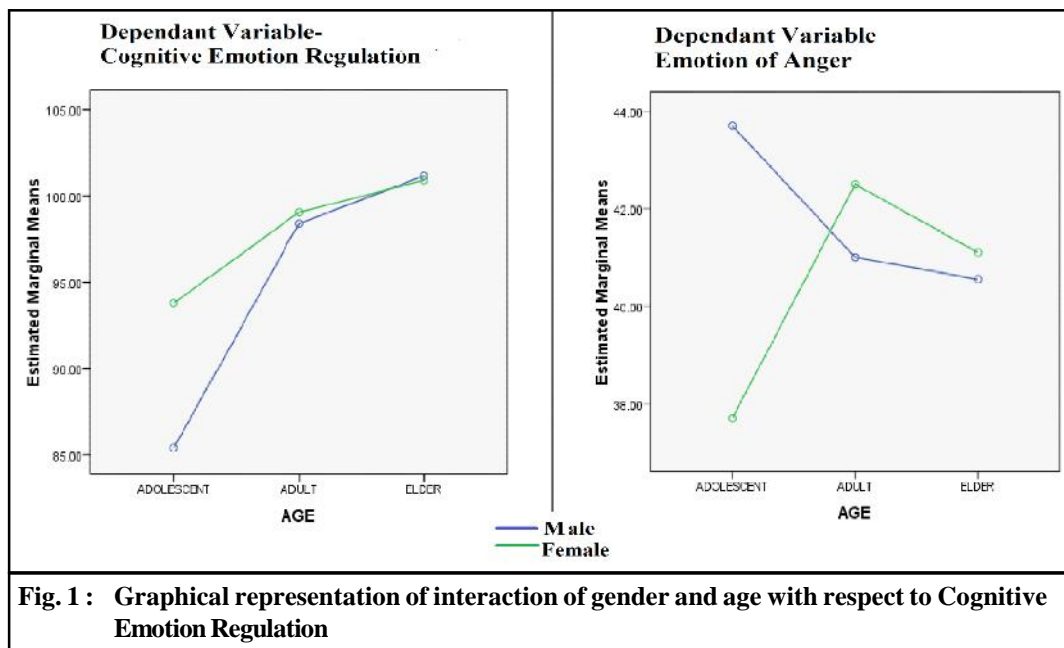


Fig. 1 : Graphical representation of interaction of gender and age with respect to Cognitive Emotion Regulation

**Table 3 : Post-hoc statistics for developmental stages with respect to cognitive emotion regulation**

Dependent Variable		(I) Age	(J) Age	Mean Difference (I-J)	Std. Error	Sig.
CERQ	Tukey	Adolescence	Adulthood	-9.1250*	2.55141	.01**
			Elder-hood	-11.4250*	2.55141	.01**
	HSD	Adulthood	Adolescence	9.1250*	2.55141	.01**
			Elder-hood	-2.3000	2.55141	NS
	Elder-hood	Adolescent	Adulthood	11.4250*	2.55141	.01**
			Adulthood	2.3000	2.55141	NS

\*\*= Significant at .01-level; NS= Non-significant

well as adolescents and elders. But adults and elders do not differ significantly in terms of cognitive emotion regulation.

### Conclusion :

The finding of the present study revealed that female adolescent participants tend to have more use of cognitive emotion regulation in comparison of male adolescent participants, which is consistent with findings of Morris *et al.* (2002). But this difference in use of cognitive regulation does not exist at the stage of adulthood and elder-hood. It means that male and female participants equally use cognitive strategy to regulate their emotions. Gender-difference with respect to emotion of anger appears among adolescents only and disappears among adults and elders, same like as cognitive emotion regulation. Anger tends to reduce among male participants and increase among female participants, as they shift from the stage of adolescence to adulthood and then remains parallel through elder-hood. This is what happens in case of using cognitive emotion regulation. In conclusion it can be said that there is an association between cognitive emotion regulation and anger. Tendency of using cognitive strategy of regulation increases in linear fashion with age. But such increment is significant only up to adulthood, as was found and established by Garnefski *et al.* (2002). As one moves towards elder-hood from adulthood, increment in use of cognitive strategy of emotion regulation is not significant.

### REFERENCES

- Cevik, G.B. (2017). Examining University students' anger and satisfaction with life. *J. Edu. & Practice*, **8** (7) : 187-195.
- Cicchetti, D., Ganiban, J. and Barnett, D. (1991). Contributions from the study of high risk populations to understanding the development of emotion regulation. In : J. Garber & K. Dodge (Eds.) *The Development of Emotion Regulation and Dysregulation*, 15-48. New York: Cambridge University Press.
- Frizda, N.H. (1986). *The emotions*. Cambridge, UK: Cambridge University Press.
- Garnefski, N., Kraaij, V. and Spinhoven, P. (2002). *CERQ: Manual for the use of the Cognitive Emotion Regulation Questionnaire*. Leiden University.
- Gross, J.J. (1998). The emerging field of emotion regulation: An integrative review. *Rev. General Psychol.*, **2** (3): 271-299.
- Gross, J.J. (2014). *A Handbook of Emotion Regulation*, 7, New York: The Guilford Press.

- Harris, P. L. (1983). Children's understanding of the link between situation and emotion. *J. Experimental Child Psychol.*, **33** : 1-20.
- Holahan, C.J., Moss, R.H. and Schaeffer, J.A. (1996). Coping, stress resistance and growth: Conceptualizing adaptive functioning. In M. Zeidner & N.S. Endler (Eds). *Handbook of coping*. New York: John Wiley & Sons.
- Kopp, C.B. (1989). Regulation of distress and negative emotions: A developmental view. *Developmental Psychol.*, **25** (3) : 343-354.
- Levenson, R.W. (1999). The interpersonal functions of emotion. *Cognition & Emotion*, **13** : 481-504.
- Maccoby, E. (1992). The role of parents in socialization of children: An historical overview. *Developmental Psychol.*, **28** (6) : 1006-1017.
- Malatesta, C.Z., Grigoryev, P., Lamb, C., Albin, M. and Culver, C. (1986). Emotional socialization and expressive development in preterm and full-term infants. *Child Development*, **57** (2) : 316-330.
- Mauss, I.B., Levenson, R.W., McCarter, L., Wilhelm, F. H. and Gross, J.J. (2005). The tie that binds?: Coherence among emotion experience, behavior, and physiology. *Emotion*, **5** : 175-190.
- Morgan, G.T., King, R.A., Weisz, J.R. and Schopler, J. (1993). *Introduction to Psychology*, 7 (p.p. 321-323). New York: Tata McGraw-Hill.
- Morris, A.S., Silk, J.S., Steinberg, L., Sessa, F.M., Avenevoli, S. and Essex, M.J. (2002). Temperamental vulnerability and negative parenting as interacting predictors of child adjustment. *J. Marriage & Family*, **64** : 461-471.
- Szasz, P.L., Szentagotai, A. and Hofmann, S.G. (2011). The effect of emotion regulation strategies on anger. *Behav Res Ther.*, **49** (2) : 114-119.
- Thompson, R.A. (1994). Emotion regulation: A theme in search of a definition. *Monographs of the Society for Res. Child Development*, **59** : 25-52.
- Zeman, J. and Garber, J. (1996). Display rules for anger, sadness and pain: it depends on who is watching. *Child Development*, **67** : 957-973.

\*\*\*\*\*