

Effect of Cognitive Distortion on Impulsivity among Higher Secondary Students

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ABSTRACT

There are various factors contributing to life of adolescents. Cognitive distortion is analyzed with reference to impulsivity in the present study to know the role cognitive distortion on impulsivity among adolescents. A sample of 300 students of higher secondary school has been taken for the study. Cognitive Distortion Scale and Impulsivity Scale have been administered to collect the data. For analyzing the data Mean, SD, and ANOVA have been used in the study. Findings shows that there is found there is no significant impact of cognitive distortion on impulsivity among students. In another finding no significant relationship is found between family environment and academic performance. So, it can be said that family environment can have significant relationship with mental health but not with academic performance. On the other hand, cognitive distortion and impulsivity both are prone to develop mental health issues. If this proneness will be identified during the period of child and adolescence, and then only effective intervention module can be developed for psychological well-being and good quality of life of the adolescent.

Keywords: *Adolescents, Cognitive distortion, Impulsivity*

Cognitive distortion was originally defined by Beck (1967) as the result of processing information in ways that predictably resulted in identifiable errors in thinking. In his work with depressed patients, Beck defined six systematic errors in thinking: arbitrary inference; selective abstraction; overgeneralization; magnification and minimization; personalization; and absolutistic, dichotomous thinking. Years later, Burns (1980) renamed and extended Beck's cognitive distortions to ten types: all-or-nothing thinking; overgeneralization; mental filter; discounting the positive; jumping to conclusions; magnification; emotional reasoning; should statements; labeling; and personalization and blame. Additional cognitive distortions, defined by Freeman and DeWolf (1992) and Freeman and Oster (1999), include: externalization of self-worth; comparison; and perfectionism. Most recently, Gilson and Freeman (1999) identified eight other types of cognitive distortions in the form of fallacies: fallacies of change; worrying; fairness; ignoring; being right; attachment; control; and heaven's reward. The conceptual framework of cognitive therapy is structured on the notion that an individual's subjective assessment of

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early life experience shapes and maintains fundamental beliefs (schemas) about self (Beck, 1970, 1976). In support of, or in defense against, early schemas, secondary beliefs develop and function as rules or assumptions about the self and the world. These beliefs define personal worth, are associated with emotions, and develop further into learned, habitual ways of thinking (Beck, Rush, Shaw, & Emery, 1979; Ellis & Grieger, 1986). Habitual ways of thinking function to support core beliefs and assumptions by generalizing, deleting, and/or distorting internal and external stimuli, thus creating cognitive distortions. Cognitions and, specifically, cognitive distortions have been identified as playing an important role in the maintenance of emotional disorders.

Researchers have developed various information processing models in an attempt to understand the processing of cognitive information. Kendall (1992) proposed a cognitive taxonomy model with a description of the relevant aspects of cognition involved in the creation of cognitive distortions. Kendall's taxonomy includes the following features: cognitive content; cognitive process; cognitive products; and cognitive structures. These features form the overall cognitive structure that serves to filter certain cognitive processes. Cognitive distortions reside within the domain of cognitive processes. Within the realm of cognitive processes, Kendall made distinctions between processing deficiencies and processing distortions. Deficient processing occurs when a lack of cognitive activity results in an unwanted consequence. Distorted processing occurs when an active thinking process filters through some faulty reasoning process resulting in an unwanted consequence. The difference is failure to think versus a pattern of thinking in a distorted manner (Kendall, 1985, 1992). Finally, Kendall (1992) also suggested that more accurate perceptions of the world do not necessarily lead to more successful mental health or behavioral adjustment. Cognitive distortions skewed in an overly positive direction tend to be functional, and benefit the individual in maintaining positive mental health (although a "too positive" view might be interpreted as narcissism). The opposite may also occur. In studies of depressed and nondepressed students, Alloy et al. (1999) reported that depressed subjects were more accurate in their perceptions and judgments as compared to nondepressed subjects, a phenomenon called "depressive realism." Subsequent research was less endorsing of this phenomenon, and researchers have concluded the process of distortion is more complex than merely perception (Ingram, Miranda, & Segal, 1998). Within the fields of cognitive and social psychology, other information processing systems have been developed that suggest theories for the formation of cognitive distortions (Berry & Broadbent, 1984; Hasher & Zacks, 1979; Nisbett & Wilson, 1977; Schneider & Shiffrin, 1977). In addition, developmental psychologists have suggested thinking or distorting processes may develop from learned behavior, while evolutionary psychologists (Gilbert, 1998) have suggested the development of an evolutionary information processing system over time that has led to a "better safe than sorry" processing approach. Cognitive distortions were originally identified in patients with depression. Since then, clinicians have expanded their identification and treatment of cognitive distortions to many other disorders (DiTomasso, Martin, & Kovnat, 2000; Freeman, Pretzer, Fleming, & Simon, 1990, 2004; Freeman & Fusco, 2000; Wells, 1997). Further, cognitive distortions have been found to play a role in sexual dysfunction (Leiblum & Rosen, 2000), eating disorders (Shafran, Teachman, Kerry, & Rachman, 1999), sex offender behavior (McGrath, Cann, & Konopasky, 1998), and gambling addictions (Delfabbro & Winefield, 2000; Fisher, Beech, & Browne, 1999). In addition to the identification of cognitive distortions in Axis I disorders, distortions appear to play an important role in Axis II disorders. The central feature of personality disorders, eating disorders, and addiction is impulsivity. Impulsivity is often defined as "a predisposition toward rapid, unplanned reactions to internal or external stimuli without regard to the

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negative consequences of these reactions to the impulsive individual or to others (Moeller et al., 2001), a definition only suitable for a personality trait, understood as a propensity to emit a certain response to stimuli.

Impulsivity is a multidimensional concept that involves the tendency to act quickly and without reflection, having something to do with restraining one's behavior, handling of different emotions, rapid processing of information, novelty seeking, and ability to delay gratification. The balance of countervailing forces determines the resulting behavior. It does not seem to depend on an impaired critical judgment, but on the loss of control over one's cravings, and has been described as a process over and above particular drives. Psychologists view it as a tendency to act on the spur of the moment, neither thinking, nor planning, nor considering potential risks and alternative modes of action (Plutchik & van Praag, 1995). Murray (1938) described it as the tendency to respond quickly to a given stimulus and without enough reflection about consequences (Buss & Plomin 1975). The impulsive is a do-er, not a thinker (Barratt, 1972). Douglas (1972) related it to inability to sustain attention.

Psychiatrists consider impulsivity in a broader way, as a tendency to perform acts that are harmful to self or others. From this perspective, it would be central feature of personality disorders and also an aspect of behavioral disorders of various kinds: kleptomania, pyromania, addictions, perversions, some sexual disorders, bulimia, suicidal threats, self-mutilating behavior. It has been recognized as a general process that underlies some socially important problems such as drug abuse, aggressive behavior, and suicide (Horesh et al., 1997; Ripke, 2005). The first step towards a more useful construct of impulsivity is to differentiate between an impulsive act and an underlying psychological process — impulsivity, understood as a stable trait personality feature related to the control of thoughts and behaviors. The usefulness of this distinction may be shown by the following example. In a choice between a small immediate reward and a larger more delayed reward, a subject may find waiting for the large reward quite unbearable. The consequent preference for the small immediate reward is called impulsive, and in this case the underlying reason is true impulsivity, an inability to wait. On the other hand, consider a subject who cannot discriminate between different reward amounts and simply chooses the more immediate one. In this case the behavior is impulsive, but the underlying mechanism is an inability to discriminate reward amounts, or to wait for a larger reward. There are a wide range of models and, according to Barratt and Plomin (1983); there is some truth in all of them. Ainslie (1975) explained three models of impulsivity: People obeying impulses may ignore the consequences of their behavior; know the consequences but obey a 'lower' principle; or know the consequences but value them in a distorted way. We may call the last two processes 'true' impulsivity, although acknowledging that other processes (e.g., ignorance, reward sensitivity, attention) may also result in impulsive behavior. White et al. (1994) analyzed different measures of impulsivity and found that they were grouped in two distinct axes, a 'behavioral' impulsivity that strongly correlated with delinquency, and a 'cognitive' impulsivity negatively correlated with intelligence.

The central feature of personality disorders, eating disorders, and addiction is impulsivity. If this central feature as impulsivity will be identified during the period of child and adolescence, and then only effective intervention module can be developed for psychological well-being and good quality of life of the adolescent. Future directions for the field of mental health include increasing psychology professionals' awareness of the need to address cognitive distortion or cognitive error associated with impulsivity as psychological

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health issues, continuing research in areas of prevention, consultation, behavioral modification, intervention, and community focused multidisciplinary research and practice. The continuing change and rising costs in the mental health area, psychology professionals are challenged to further support and defend the cost-effective psychological treatment for mental health issues, enhancement of emotional well-being, and improved quality of life of adolescents.

The objective of current study to find out the impact of cognitive distortion on impulsivity among adolescents.

Objectives

To examine impact of cognitive distortion on impulsivity among students.

Hypotheses

There would not be impact of cognitive distortion on impulsivity among students.

METHODOLOGY

Sample:

The sample of 300 adolescent from different Higher Secondary Schools of Varanasi district of Utter Pradesh. There are 150 male and 150 female students. The age of all students range 15-18 year. The researcher went to the school to contact the principals or head with request letter for the selection of the students. After getting permission then data collection was scheduled respectively. The selection of students was done on random basis. After that they were screened by screening questionnaire GHQ-12 (General Health Questionnaire-12), and those adolescents were selected who scored 2 or less.

Measurement Tools:

The following scales as measurement tools were used to obtained relevant data in the present study:

- **Cognitive Distortion Scale (CDS-SDSD):** The Cognitive Distortion Scale (CDS) is recently published in 2012, and developed by Sisodia D.S. and Sharma D. This scale consists of 25 items and can be administrated on all age groups. The psychometric properties of this test are very good. This scale was developed by using Likert technique with a view to measure cognitive distortion. The reliability of test is .79 and validity is .71.
- **Impulsiveness Scale (IS):** The Impulsiveness scale is developed by **Rai S.N. & Sharma A.** This scale contains 30 items and measures impulsive tendency of adolescents. There are two alternative Yes and No. The reliability is .72, and validity is .58.

Procedure

Researcher visited the boys and girls schools separately and met the administration of these schools and took permission from them to collect the data for his research. When the permission was given by the administration data collection was scheduled respectively. As per scheduled day and timing researcher visited the classrooms where interacted with students and rapport was established easily. After establishing rapport with them, they were briefly told about the study. Once they gave their consent for the study, questionnaires were administered with instructions. The students were assured that the information given by them will be kept confidential and they were encouraged to give honest responses. When the

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subjects completed the task then researcher thanked the subjects for their time and cooperation for the study.

RESULT

Hypothesis: There would not be impact of cognitive distortion on impulsivity among students.

This single null hypothesis was tested by applying one way ANOVA

Table 1.1- Descriptive statistics showing the levels of cognitive distortion on impulsivity among students

	Level of Cognitive Distortion	N	Mean	S.D.
IMPULSIVITY	High	53	16.642	3.536
	Average	198	16.263	2.943
	Low	49	16.225	2.845
	Total	300	16.323	3.033

Table no 1.1 reveals that the mean score & SD for levels of cognitive distortion on impulsivity among students is M= 16.642, SD =3.536, M=16.263 & SD= 2.943 & M= 16.225, SD =2.845 respectively. It was observed that impulsivity on different levels of cognitive distortion neither more nor less. To test whether there are significant differences exists, the data is further subjected to Analysis of variance.

Table 1.2- Univariate analysis of variance showing there is no significant impact of levels of cognitive distortion among students

Sources of Variance	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	6.574	2	3.287	.356	.701
Within Groups	2745.063	297	9.243		
Total	2751.637	299			

From table 1.2, when three levels of cognitive distortion were observed on impulsivity, the F (2, 297)-ratio was found to be 0.356, which is not significant as $p < 0.05$ ($p = 0.701$). It shows that there is no significant difference between the level of cognitive distortion on impulsivity among students. The obtained result support stated hypothesis, hence on the basis of result null hypothesis is accepted.

Table 2.1- Descriptive statistics showing the high and low levels of cognitive distortion on impulsivity among students

	Level of Cognitive Distortion	N	Mean	Std. Deviation
IMPULSIVITY	High	53	16.642	3.536
	Low	49	16.225	2.845
	Total	102	16.441	3.214

Table no 2.1 reveals that the mean score & SD for high and low levels of cognitive distortion on impulsivity among students is M= 16.642, SD =3.536 & M= 16.225, SD =2.845 respectively. It was observed that impulsivity on different levels of cognitive distortion neither more nor less. To test whether there are significant differences exists, the data is further subjected to Analysis of variance.

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Table 2.2- Univariate analysis of variance showing there is no significant impact of levels of cognitive distortion among students

Sources of Variance	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	4.428	1	4.428	.426	.515
Within Groups	1038.719	100	10.387		
Total	1043.147	101			

The summary of univariate analysis of variance presented in the table no. 2.2 when high and low levels of cognitive distortion were observed on impulsivity, the F (1, 100)-ratio was found to be 0.426, which is not significant as $p < 0.05$ ($p = 0.515$). It shows that there is no significant difference between the level of cognitive distortion on impulsivity among students. The obtained result support stated hypothesis, hence on the basis of result null hypothesis is accepted.

Summary of Findings

There was significant effect of levels of cognitive distortion on impulsivity among higher secondary students.

CONCLUSION

Multiple factors related to psychological, biological, and sociological aspects of life such as family, school, personality, motor-cognitive abilities, thoughts, emotions, and behaviors play significant role in the development of child and adolescent. If these all factors are not favorable to child and adolescent then it may influence their thoughts which lead to error in thinking followed by cognitive distortions. Cognitive distortions may affect behaviors or responses followed by many issues related to mental health. But in the present study result shows that there is no significant impact of cognitive distortion on impulsivity among students. In another finding no significant relationship is found between family environment and academic performance. So it can be said that family environment can have significant relationship with mental health but not with academic performance. On the other hand, cognitive distortion and impulsivity both are prone to develop mental health issues. If these proneness will be identified during the period of child and adolescence, and then only effective intervention module can be developed for psychological well-being and good quality of life of the adolescent.

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Conflict of Interest

The author(s) declared no conflict of interest.

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