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IMPACT OF COGNITIVE DISTORTION ON DECISION-MAKING ABILITIES IN STUDENTS: AN EMPIRICAL ANALYSIS.

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Abstract
This study investigates the relationship between cognitive distortions and decision-making abilities among undergraduate students. A sample of 200 students was assessed using self-developed, validated tools. Results showed that both cognitive distortions and decision-making skills were at an average level. A weak positive correlation (r = 0.2085) was found between the two variables, indicating that cognitive distortions have minimal impact on students' decision-making. The findings suggest the need for interventions to improve rational thinking and cognitive awareness.

Keywords: Cognitive Distortion, Decision-Making, Abilities, Students, Empirical Analysis.

1. Introduction

Cognitive processes are essential to human thinking and understanding of different situations. Among these processes, cognitive distortions—psychological patterns that negatively influence thinking—can adversely affect students' behavior, comprehension, and decision-making. Beck and Alford (2009) pointed out that cognitive distortions often stem from individuals misinterpreting facts and evidence based on incorrect assumptions formed during flawed learning experiences at earlier stages of cognitive development. Initially defined by Beck (1967), cognitive distortions are predictable thinking errors that result from how information is processed. Through his research with depressed patients, Beck identified six main types of cognitive errors: arbitrary inference, selective abstraction, overgeneralization, magnification and minimization, personalization, and absolutist or black-and-white thinking. Later, Burns (1980) expanded and renamed these categories into ten types, including all-or-nothing thinking, overgeneralization, mental filter, discounting the positive, jumping to conclusions, magnification, emotional reasoning, "should" statements, labeling, and personalization and blame.

Further classifications were provided by Freeman and DeWolf (1992), and Freeman and Oster (1999), who introduced additional distortions such as externalizing self-worth, making comparisons, and striving for perfectionism. Gilson and Freeman (1999) later added eight more cognitive distortions, referred to as fallacies, including fallacies of change, worrying, fairness, ignoring, needing to be right, attachment, control, and belief in a heavenly reward. Cognitive therapy is based on the idea that a person's interpretation of early life experiences forms core beliefs or schemas about themselves (Beck, 1970, 1976). To support or protect these core beliefs, individuals develop secondary beliefs that serve as assumptions or rules about themselves and the world. These beliefs influence emotions and evolve into habitual thought patterns (Beck et al., 1979; Ellis & Grieger, 1986).

These ingrained thinking styles uphold core beliefs by distorting, omitting, or overgeneralizing internal and external information, leading to cognitive distortions. Such distorted thinking patterns play a significant role in sustaining emotional disorders.

1.1 Decision making

Carl Jung described decision-making as a perceptual process that involves both individual and social dimensions. It is grounded in facts and values and aims to select one option from several in order to resolve a problem. Put simply, decision-making involves identifying a problem, exploring possible solutions, and selecting the most suitable option. This process may rely on intuition, logic, or a blend of both. Intuition involves relying on instinct or a "gut feeling" to guide action, while logical decision-making is based on objective data and rational analysis to reach a well-reasoned conclusion.

1.2 Decision-making and Cognitive distortion

Our situations do not determine who we are. No matter what life brings, we always have the ability to choose how we respond. So, what sets apart someone who stays optimistic through intense hardship from someone who stays upset all day after a minor inconvenience? The key difference lies in their thought patterns.

Psychologists refer to these unhelpful thinking habits as “cognitive distortions”—irrational or exaggerated beliefs that skew a person’s view of reality, often in a negative direction. These distortions are common but often go unnoticed because they tend to appear as automatic thoughts. They are so deeply ingrained that people may not realize they can change them, coming to believe that this way of thinking is just “normal.”

Over time, cognitive distortions can seriously impact mental well-being, contributing to heightened stress, anxiety, and depression. If not addressed, these habitual thought patterns can become deeply rooted and interfere with one's ability to make sound, logical decisions.

2. Review of Literature

Omar Rimawi; Hussein Almasri. (2017). studied the Relationship Between Cognitive Distortions And Decision-Making Skills Among Al-Quds University Students. This study aimed to examine the relationship between cognitive distortions and decision-making skills among students at Al-Quds University. A randomly selected sample of 264 male and female students participated in the research. Standardized tools were used to measure both cognitive distortions and decision-making abilities. The results indicated a negative correlation between cognitive distortions and decision-making skills, suggesting that higher levels of distorted thinking were associated with weaker decision-making abilities. Additionally, the average scores for both cognitive distortions and decision-making skills were found to be at a moderate level. Among the various types of cognitive distortions, overthinking emerged as the most prevalent. The findings also highlighted significant differences in cognitive distortions based on gender, academic discipline, and place of residence, with higher levels observed among female students, those studying in the Faculty of Humanities, and students living in villages.

Rabina Debbarma. (2017). Cognitive distortion among Annamalai University students. The study aimed to assess

the level of cognitive distortions among college students and to explore differences based on demographic factors such as gender (male and female) and locality (rural and urban). A total of 100 students, aged between 18 and 20, were selected through simple random sampling from Annamalai University in Tamil Nadu. Data were collected using the Cognitive Distortion Scale (CDS) developed by Briere (2000). The findings indicated that female students exhibited a higher level of cognitive distortions compared to male students. The results also showed a significant difference in cognitive distortions between students from rural and urban backgrounds.

Songul Sonay Gucray.(2003). This study aimed to explore the relationship between adolescents' decision-making behaviours, self-esteem, and their perceived problem-solving abilities. It also sought to determine the extent to which self-esteem and perceived problem-solving skills predict various aspects of decision-making, including decision response styles, decisional self-esteem, and decisional stress. Additionally, the research examined whether decision-making behaviours vary based on gender and school type.To achieve these objectives, the Decision Behaviour Questionnaire, Self-Esteem Inventory, and Problem-Solving Inventory were administered to a sample of 511 Turkish high school students (276 females and 235 males). The results indicated a positive correlation between decision-making behaviours, self-esteem, and problem-solving abilities. Furthermore, different dimensions of self-esteem (general, social, academic, and home/family) and problem-solving skills were found to be significant predictors of decision-making behaviours. Significant variations were also observed in decision-making behaviours with respect to gender and school type.

3. Statement of the problem & Objectives

This study aims to assess the level of cognitive distortion among students and examine its correlation with decision-making, with the following Objectives.

- To study the cognitive distortion of Undergraduate students.
- To study the decision-making skills of Undergraduate students.
- To study the Correlation between Cognitive distortion and decision-making skill in Undergraduate students.

4. Hypotheses

- Cognitive distortion of Undergraduate students is High.
- Decision-making skills of Undergraduate students is of moderate level.
- There is a high correlation between cognitive distortion and Decision-making skill among Undergraduate students.

5. Research Methodology / Research Design

5.1 Sample Size and Sampling Method

In the present study, a sample of 200 students, comprising 100 males and 100 females, has been selected.
For sampling, Simple Random sampling technique was used to select 200 undergraduate students.

5.2 Research Design

A research design serves as the blueprint for a scientific study, encompassing research methodologies, tools, and techniques employed in the research process. It plays a crucial role in identifying and addressing potential issues that may arise during the research and analysis phases. In the current study, the aim is to investigate the level of cognitive distortion and decision-making skills and their correlation.

5.3 Instruments Used

I. Cognitive Distortion Scale: A standardized "Cognitive Distortion Scale" made by the researcher herself is used in the present research. It is a 40-item test for dysfunctional cognition. Cronbach's Alpha reliability was calculated which was found to be 0.636. To ensure its validity, the tool was subjected to both face and content validation by a panel of experts in the fields of psychology and education.

II. Decision-making scale: A standardized "Decision Making Scale" made by the researcher herself is used in the present research. It is a 31-item test. Cronbach's Alpha reliability was calculated which was found to be 0.688. To ensure its validity, the tool was subjected to both face and content validation by a panel of experts in the fields of psychology and education.

6. Data Analysis / Findings

i. First objective of the research was **to study the cognitive distortion of Undergraduate students.** To check the level of Cognitive distortion of students, mean of the overall score was computed. In the table below, mean of the overall score of Cognitive distortion is mentioned.

N	200
Mean	137.35

Table 1: Mean of the overall score of Cognitive distortion of students.

Table 1 shows the mean of the overall score of Cognitive distortion of the undergraduate students. According to the norm table of the Cognitive distortion scale, the score obtained from the statistical mean 137.35 lies in the average category. Thus, the first hypothesis, i.e-, "Cognitive distortion of Undergraduate students is High" is **Rejected.**

ii. Second objective of the research was **to study the Decision-making skills of Undergraduate students.** To check the decision-making skills of the students, mean of the overall score was computed. In the table below, mean of the overall score of Decision-making scale is mentioned.

N	200
Mean	100.22

Table 2: Mean of the overall score of Decision-making skills of students.

Table 2 shows the mean of the overall score of Decision-making skills of Undergraduate students. According to the

norm table of the Decision-making scale, the score obtained from the statistical mean 100.22 lies in the average category. Thus, the second hypothesis, i.e-, "Decision-making skills of Undergraduate students is of moderate level" is **Accepted.**

iii. Third objective of the research was to study the Correlation between Cognitive distortion and decision-making skill in Undergraduate students.

Variable	Pearson's Coefficient	Range	Degree of correlation
Cognitive Distortion and Decision-Making skill	0.2085	0.20-0.39	**Weak Positive correlation.**

***Table 3: Correlation between* Cognitive Distortion and Decision-Making skills**

From the above table, the coefficient of correlation between **Cognitive Distortion and Decision-Making skills** is +0.2085, which lies in the range 0.20–0.39, which shows a weak positive correlation. Thus, the third hypothesis, i.e, "There is a high correlation between cognitive distortion and Decision-making skill among Undergraduate students," is **Rejected.**

7. Conclusion

The present study assessed the level of cognitive distortion among undergraduate students, examined their decision-making abilities, and analyzed the correlation between these two psychological constructs.

Concerning the **first objective**, the mean score of cognitive distortion among the students was found to be 137.35, which, as per the standardized norm table, falls within the **average** category. This outcome contradicts the **first hypothesis**, which predicted a high level of cognitive distortion among undergraduate students. This suggests that while cognitive distortions are present, they are not extreme or highly prevalent in the current sample. It also implies that most students are capable of maintaining relatively balanced thinking patterns, although some cognitive bias may still influence their daily functioning.

With reference to the **second objective**, the decision-making abilities of undergraduate students were also found to be **average**, with a mean score of 100.22. This finding supports the **second hypothesis**, confirming that undergraduate students generally demonstrate a moderate capacity for decision-making. This could be attributed to their developmental stage—young adults typically encounter increased independence and responsibilities, which might contribute to the strengthening of decision-making skills, albeit inconsistently.

For the **third objective**, the correlation analysis revealed a **weak positive relationship** ($r = 0.2085$) between cognitive distortion and decision-making skills. This outcome leads to the **rejection of the third hypothesis**, which assumed a strong correlation. While the correlation is statistically positive, its low magnitude indicates that cognitive distortions may only minimally affect decision-making among the respondents. This weak association might be due to the complexity and multidimensional nature of decision-making, which can be influenced by several other cognitive, emotional, and situational variables such as stress levels, self-efficacy, and past experiences.

The findings are in partial agreement with previous studies. For instance, Rimawi and Almasri (2017) observed a **negative** relationship between cognitive distortions and decision-making, suggesting that higher distortion levels impair decision quality. However, in the present study, the weak **positive** correlation might reflect that students with mild distortions still engage in rational decision-making, or that certain types of distortions (e.g., perfectionism or overgeneralization) could, in some contexts, lead to more cautious or deliberate decisions.

Overall, the study underscores the importance of addressing cognitive distortions in educational and psychological support settings. Interventions like cognitive-behavioral strategies, metacognitive training, and decision-making workshops may help students enhance both awareness of irrational thought patterns and their practical decision-making competencies.

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