

The Relationship between Arousal and Cognitive Dissonance Reduction with Mental Health of Urmia University Students

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Abstract. In many situations, there are a significant gap between what we feel inside (positive or negative reactions to an object or subject) and what we have found out ,and In fact, we experience a kind of cognitive dissonance, an unpleasant situation on sometime when we know we have conflicting attitudes and our behavior or attitudes are incompatible with each other somehow . In different cognitive states, individuals apply diverse strategies which can affect their well-being and mental health. The aim of this study was to investigate the relationship between arousal and reduction of dissonance and mental health. Accordingly, the following hypotheses were formulated and tested:

1. The components of arousal and reduction of dissonance and mental health are related.
2. Components of arousal and reduction of dissonance significantly predict mental health. The study comprised 120 female undergraduate students in Urmia University, Urmia, Iran in 2010- 2011 academic year who were selected via simple random sampling. In order to gather data, Harman Jones' Arousal and Cognitive reduction questionnaire validated by Saffarinia (2011) as well as 25 Symptom checklist (SCL-25) were utilized. The results suggested that there was a significant correlation between arousal and cognitive dissonance reduction with mental health. Furthermore, the final results demonstrated that arousal and cognitive dissonance reduction could predict and explain 21/2 of variations associated with mental health. The findings of this study indicated that increased mental health will reduce cognitive dissonance and increased arousal will bring about enhanced amount of cognitive dissonance. This pattern can explain the amount of cognitive dissonance across different situations.

1. Introduction

Human health has been the subject of investigation since the human being's existence; however, when discussing it, only its physical dimension has been taken into account and less attention been drawn to the other health dimensions, specially its mental dimension. According to the world health organization, the world has witnessed basic changes regarding the disease epidemiology and the individual's health requirements so that such non-infectious diseases as mental illnesses are rapidly replaced by infectious and non-communicable infectious diseases, and deemed the first important factors contributing to the disability and early deaths [1]

Each community's student is the humane and spiritual accomplishment of that community, they, furthermore, are decision makers and organizers of the country's future. With industrial developments and new technologies as well as their pertinent problems, like physical problems, psychological disorders and diseases have increased significantly. Since the university students' mental health is of great significance this vast populations' affective and psychological problems is needed to be seriously taken into account and investigated. The research conducted in the recent years reveals mental disorder among different levels of students. The increasing student's reference to the student counseling departments approves their daily mental, social, and educational problems [2]. Students diagnosed with psychological disorders mostly experience prevalent education-related problems such as concentration, distraction, inappropriate behavior, lack of social skills, helplessness, impulsive behavior, and severe anxiety. Additionally, mental disorders among students lead to problems in homework doing, reduced motivation, anxiety, fear, and distress, and rather than devoting a considerable amount of their intellectual powers to educational and pedagogic activities, they dedicate it to dealing with such problems. Furthermore, unfamiliarity of a great number of students with the university atmosphere upon entering the university, detachment from the family, the lack of interest in the field of study, inconsistency with the other individuals in the environment, inadequate welfare and economical facilities, and those sorts of problems are factors that can contribute to the psychological disorders and academic drop [3]. It has frequently been observed that students who experience a high level of psychological pathology are less capable of accomplishing the university education ;as such, taking the university students' mental health problems into consideration within an Iranian context which is prone to growth and development is of great significance and should not be overlooked [4]. In some occasions, there exists a considerable discrepancy between whatever we feel inside (positive or negative reactions to an object or subject) and whatever we manifest outside. In other words, we experience some sort of cognitive inconsistency, an unfavorable status when happening generates the contradictory attitudes within ourselves or inconsistency between our attitudes and behaviors [5]. In other words, when the behavior is incongruent with self-concept, dissonance is assumed to occur [6].

Cognitive Dissonance Theory

One of the fundamentally significant theories within social psychology is cognitive dissonance theory which has attracted a great body of research over the 50 past years .The theory pivots around the notion that individuals strive toward consistency. If there are inconsistencies, they try to rationalize them to reduce psychological discomfort [7]. Festinger was the first to examine the precise workings of this phenomenon and elaborated his findings in social psychology's most significant and most provocative theory. Cognitive dissonance always generate discomfort and in response we attempt to diminish it

According to Festinger, people always strive to keep an internal consistency and coherence between their beliefs, attitudes, and values; in other words, there is a drive towards consistency between the cognitions. They make an attempt to minimize dissonance through the three following basic ways:

- By changing their behavior to bring it in line with the dissonant cognition.
- By attempting to justify their behavior through changing one of the dissonant cognitions.
- By attempting to justify their behavior by adding new cognitions.

According to cognitive dissonance theory, the sufficient presence of some degree of incoherency and incongruity between two cognitions generates aversive motivational state which provokes the people to reduce dissonance between their cognitions [9]. Festinger contends that a person who is aware of two dissonant cognitions feels an unpleasant tension state; the internal conflict is, therefore, manifested by the unpleasant physiological body arousal. The more important and deviant

the cognitions, the more inconsistent and unpleasant they will be; accordingly, the need for retrieving internal consistent states will be greater to the same effect [10].

In a dissonance state, the individuals experience an excessive arousal state and are more likely unable to reduce the negative feeling resulting from this dissonance between their cognitions or unable to change their attitudes; hence, experiencing enormous difficulties in different situations. Dissonance reduction behavior is a self-defending, consistent, and reactive behavior which is frequently (not always) of use to organism. By reducing dissonance, we maintain our positive self-image, an image which regards us as competent, intelligent, and valuable. Although self-defense behavior may be effective, it can lead to critical consequences. If people excessively involve in dissonance reduction, they will not confess their mistakes instead either conceal their mistakes or reflect them as moralities. Dissonance seems to be a universal aspect of social thought; however, the conditions under which dissonance takes place as well as the technologies chosen by individuals for reducing it are evidently affected by cultural factors [5].

In their study, Saffarinia & Azari (2010) probed into the effect of teaching critical thinking on resource control and reducing the cognitive arousal of the high school students of Baneh, Iran. The participants consisted of 40 students chosen based on multiple-stage luster method. The results of the analysis revealed no significant difference between reducing cognitive imbalance of those who were taught critical thinking and those who were not. In other words, critical thinking not only did not reduce the level of imbalance, but increased it to some extent as well.

Based on the above-mentioned discussions, the purpose of the current study was to investigate the relationship between arousal and cognitive dissonance reduction with mental health. In this regard, the following hypotheses were generated and investigated:

1. There is a relationship between arousal and cognitive dissonance reduction with mental health.
2. Arousal and cognitive dissonance reduction predict mental health significantly.

2. Method

This study was a descriptive-correlational research. The statistical population included Urmia University female students in 2011, among which 130 students were chosen by simple random sampling. Due to such difficulties as not submitting or completing the questionnaires 'demographic information, only the data procured from 120 students which were completed correctly entered the statistical analysis stage. After explaining the research objectives and stimulating the participants' cooperation, Harmon Jones' Arousal and Cognitive Reduction questionnaire validated by Saffarinia (2010) as well as 25 Symptom checklist (SCL-25) were implemented. For analyzing the data, descriptive and inferential statistics including Pearson Correlation and Stepwise Regression were employed.

Instruments

Arousal and Cognitive Reduction questionnaire (DARQ, Harmon-Jones): This questionnaire comprised 25 items and was validated by Saffarinia (2010) on a sample size of 528 people. It includes two subscales of arousal and cognitive dissonance reduction which have a reverse correlation with each other. Each item is measured on a continuum from 1 (always) to 5 (never). In Saffarinia and Zandi's study, the reported reliability coefficient of this scale was 0.83. In the current study, the questionnaire's total reliability was 0.74 measured by using Cronbach's alpha.

25 Symptom checklist (SCL-25): This scale is an abridged form of the version of the symptom checklist-90-revised (SCL-90-R; Derogatis, 1994) which was developed by [13]. This scale is a 25-item self-report instrument for measuring the general psychological pathology each item of which is scored on a continuum from 1 (never) through 5 (most of the time). In Najarian and etal (2001) study, the reliability coefficient by retesting was estimated 0.78 and by internal consistency 0.97.

The validity coefficient of this scale in Najarian and Davodi's study was variant from 0.49 to 0.69 which are significant at 0.01 levels. In this scale, the more lower the individual's score, the greater the mental health; in other words, higher score represent the lack of mental health within the individuals.

3. Findings

1. In Table 1, the mean, standard deviation, and correlation between the study variables is demonstrated. According to the information in Table 1, the average score of students in mental health, arousal, and cognitive dissonance reduction variables were 59.08, 34.39, and 46.46, respectively. Moreover, the results of Pearson correlation indicated that there was a significant correlation between arousal and cognitive dissonance reduction with mental health. In other words, the first hypotheses which predicted a relationship between arousal and cognitive dissonance reduction with mental health is confirmed. It was also found that there was a negative relationship between arousal and cognitive dissonance reduction.

Table 1

Mean, Standard Deviation, and Correlation among Variable

2	1	Standard deviation	mean		
	-	12.31	59.08	mental health	.1
-	0.38*	12.31	34.39	arousal	.2
-0.12	-0.30**	7.18	46.46	Cognitive dissonance reduction	.3

P**01<.0

Tables 2 and 3 display the stepwise regression analysis of arousal and cognitive dissonance reduction with mental health. As it can be seen, the observed F was significant and, of the total 21.2 % of explanatory variable criterion coefficient, the predictive variable, i.e., arousal, entered the equation in the first regression analysis and in model 1; it furthermore explained 14.6 % of the criterion variable variations by a beta coefficient of 0.383. Then, in the second step and model 2, cognitive dissonance reduction variable was added and predicted and explained 6.6 % of mental health variations by a beta coefficient of 0.259. The other variations are explained through variables which are not considered in the present study and not entered the model.

Table 2

The Summary of Regression Model, Variance Analysis, and Statistical Characteristics of Variables on Mental Health

Variation coefficient	Explanatory coefficient	R	signifacant level	F	average of squares	Degree of freedom	Sum of squares		
146.0	146.0	^a 383.0	000.0	24.20	36.2639	1	36.2639	Remaining regression	1
					43.130	118	97.15390		
066.0	212.0	^b 461.0	000.0	78.15	41.1915	1	82.3830	Remaining regression	2
					36.121	118	51.14199		

a: predictive variable: arousal

b: predictive variable: arousal and cognitive dissonance reduction

Table 3

Standard and Non-Standard Regression Coefficients for the Models' Variables

Significant level	t	β	Standard error B	Regression coefficient	index model	
000.0	50.4	383.0	146.0	656.0	arousal	1
000.0	25.4	352.0	142.0	602.0	arousal	2
000.0	13.-3	259.-0	197.0	617.-0	Cognitive dissonance reduction	

4. Conclusion

To sum up, cognitive dissonance theory played a significant role in the history of social psychology. Cognitive dissonance theory proposes that dissonance arises when humans hold two psychologically inconsistent cognitions (ideas, beliefs). They strive to eliminate dissonance through changing behavior, changing cognitions, and adding a new cognitive element [7]. In fact, it can lead to fascinating changes in the way we perceive the world and the way we behave.

The present study was carried out to probe into the relationship between arousal and cognitive dissonance reduction with mental health among Urmia University female students. The results of the analysis revealed a significant correlation between arousal and mental health. Since the presence of high scores in the mental health questionnaire was an indicator of mental disorder, the findings suggested that there was a direct and significant relationship between increased cognitive arousal and augmented mental pathology. People who experience excessive arousal are more likely not able to reduce the negative feeling resulted from this dissonance between their cognitions and undergo lots of difficulties in different situations which may threaten their mental health. Another finding of this study indicate a significant relationship between reduced cognitive dissonance and mental health. Since the lower scores in the mental questionnaire in an indication of better mental health, the results point to the existence a significant correlation between reduced cognitive arousal and decreased mental pathology. Cognitive dissonance can be reduced in a number of ways (direct and indirect dissonance practices). The direct methods focus on the attitude-behavior conflict which stimulates dissonance. In indirect methods, the people experiencing dissonance may not concentrate on reducing the gap between attitudes and behaviors, they rather focus on other alternative ways which allows them, in spit of gaps, have a good feeling about themselves such as recouring to positive self-appraisals threatened by dissonance (self-approval) [5] . Hence, cognitive dissonance reduction can be accompanied by mental health increase within individuals. In sum, the procured findings indicated that arousal and cognitive dissonance reduction were two components capable of predicting mental health variations. This study suffers from some limitations such as 1) limiting the research finding to Urmia University students only makes the generalizations of finding difficult and we should be cautious when interpreting the research findings; 2) not examining students from other disciplines, not including male students, and the lack of similar research on the intended research area make the explanation of finding difficult.

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