

Can Cognitive Dissonance Predict Future Anxiety among University Students?

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Abstract

The present study aimed to identify both the level of cognitive dissonance and future anxiety among university students and to explore the predictive ability of cognitive dissonance in future anxiety. To achieve the objectives of the study, a sample of 258 students at Yarmouk University, Jordan, was given the cognitive dissonance scale (Al-Adamat & Atoum, 2023) and the future anxiety scale (Zaleski, 1996). The results of the study indicated that the level of cognitive dissonance was low and the level of future anxiety was moderate. The results showed that cognitive dissonance can predict future anxiety and explain (21.4%) of the variance in students' future anxiety. The study concluded that conflicting thoughts or unresolved issues tend to increase future anxiety and uncertainty tends to rise.

Keywords: Cognitive Dissonance, Future anxiety, University Students.

هل يستطيع التنافر المعرفي التنبؤ بقلق المستقبل لطلبة الجامعة

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المخلص

تهدف هذه الدراسة إلى تحديد مستوى التنافر المعرفي والقلق من المستقبل لدى طلاب الجامعة، واستكشاف القدرة التنبؤية للتنافر المعرفي في قلق المستقبل. ولتحقيق أهداف الدراسة، تم توزيع مقياس التنافر المعرفي (Al-Adamat & Atoum, 2023) ومقياس القلق من المستقبل (Zaleski, 1996) على عينة مكونة من (258) طالباً في جامعة اليرموك بالأردن. أشارت نتائج الدراسة إلى أن مستوى التنافر المعرفي كان منخفضاً، بينما كان مستوى القلق من المستقبل متوسطاً. وأظهرت النتائج أن التنافر المعرفي يمكنه التنبؤ بالقلق من المستقبل وتفسير (21.4%) من التباينات في قلق المستقبل لدى الطلاب. وخلصت الدراسة إلى أن الأفكار المتضاربة أو القضايا التي لم يتم حلها تميل إلى زيادة قلق الطلاب.

الكلمات المفتاحية: التنافر المعرفي، قلق المستقبل، طلبة الجامعة.

Introduction

University students frequently struggle to manage the demands of university life, whether they are personal, social, emotional, or academic. Students, therefore, frequently discover inconsistencies between their attitudes, beliefs, and behaviors. Festinger (1957) was one of the first to describe the paradox in knowledge and develop the theory of cognitive dissonance. According to his definition, it refers to a circumstance in which a person is preoccupied in their mind with two concepts, ideas, or subjects that are equally significant but at odds with one another.

Festinger (1957) formulated basic assumptions for the theory of cognitive dissonance: the existence of dissonance is unsatisfactory, which prompts man to try to reduce dissonance and obtain a state of compatibility and harmony. When there is dissonance, human beings will effectively seek to avoid attitudes and information that have the potential to increase dissonance. It can also affect their thinking processes and become more rigid and less critical when dealing with difficult issues (Atoum, et al, 2025).

Cognitive dissonance has been defined in various ways. For example, Cassel et al. (2001) defined it as a state of conflicting attitudes between beliefs and behaviors, usually accompanied by a feeling of discomfort. This feeling is what drives the person to search for restoring the balance between the components of the conflict by changing one of them. Stanchi (2013) defined it as an uncomfortable psychological state that arises from the clash of deeply held beliefs in a person's mind.

McFalls and Cobbs-Roberts (2001) believe that cognitive dissonance may cause psychological tension when new knowledge conflicts with one's existing knowledge. Because this inconsistency is not applicable, the individual seeks to end this situation by reducing the inconsistency between new and existing knowledge in an individual's cognitive structure.

Cognitive dissonance can play an active role in conflict and anxiety, both in sustaining and eliminating it. For example, large-scale and small-scale conflicts, such as ethnic conflict, can be exacerbated or reduced by cognitive dissonance (Barker, 2003). Dissonance can be reduced by seeking additional information that helps an individual diminish the significance of inconsistent information or align it with their pre-existing commitments. Another possibility for reducing dissonance may be to admit the mistake and adopt a new position, which is the easiest way to reduce cognitive dissonance (Brehm & Cohen, 1962).

Festinger (1957) showed that cognitive dissonance expresses anxiety generated when two or more ideas a person associates with each other conflict, and then a state of dissonance develops between them. An example of this is the combination of two ideas: I smoke and want my health to be good, and when such thoughts arise in an individual and cause him an amount of anxiety that prompts him to reduce this anxiety resulting from the conflict of his knowledge and thoughts, and the dissonance between them is resolved by reducing the stress and anxiety that he faces (Festinger, 1985).

This form of anxiety, which Festinger (1957) dubbed psychological anxiety, has a strong incentive to lessen dissonance. Because of this, dissonance has inflammatory properties, which means that people will try harder to eliminate or lessen it the more severe the dissonance (Rabbie et al., 1959). Due to the complexity of an individual's basic and varied roles and responsibilities, which is reflected in an increase in his fears and anxiety, anxiety is one of the most prevalent psychological disorders in modern times (Hammad, 2016).

Zaleski (1996) posits that anxiety regarding the future can be a component of all forms of general anxiety. Future anxiety in this context pertains to a long-term future. It is characterized by uncertainty about what is anticipated to occur in the distant future or the expectation of a catastrophic event. Zaleski also emphasized that one of the strengths of future anxiety is its cognitive components, which are more important than the emotional components. In this context, each individual knows their positive or negative beliefs about the future.

Students experience anxiety during their college years, as this is the stage in which their futures are shaped. During the transition from adolescence to adulthood, young people strive to build a professional identity and establish close social relationships. However, the inability to achieve independence or reach these developmental goals leads to feelings of stress and anxiety (Dalmış et al., 2025). Baker and Bıçak (2016) indicated that college students experience greater anxiety about the future than individuals at other developmental stages. This anxiety often arises as a result of the gap between high expectations regarding education and relationships and the actual reality of life, leading to negative thinking and decreased life satisfaction, ultimately increasing feelings of anxiety. The predominant anxiety at this stage is often the fear of failing to secure a suitable job or build a successful career. Numerous studies have confirmed that anxiety about the future and career path are common problems among college students during their studies (Boo et al., 2021).

Raffaelli and Koller (2005) characterized future anxiety as the kind of anxiety associated with pessimistic expectations about the future and the events it may hold. This definition is just one of many that deal with the topic. According to Bethany (2009) it is the expectation that something frightful will occur that is out of their control, regardless of how they respond to the events.

Numerous traits that have been identified in future anxiety sufferers come from theoretical frameworks and research that looked at future anxiety and its connections to various psychological variables. Some of these traits are physical symptoms and disorders. However, the most significant ones are alienation, indifference, frustration, feelings of irresponsibility, a sense of deprivation, and lack of satisfaction with others and themselves. The more anxious they get about the future, the more these symptoms worsen and become more prevalent in society. In addition to fearing the anticipated social and political changes, they rely on others to secure their future retreat from productive endeavors and do so without taking the chance of abusing social connections. (Al-Faqi et al., 2021).

Several studies have shown varying degrees of cognitive dissonance. Shimimol and Koya (2017) have indicated a low level of cognitive dissonance, another findings have indicated a moderate level of cognitive dissonance (Abu Thwaib, 2021; Al-Adamat & Atoum, 2018; Al-Adamat & Atoum, 2022; Atoum & Al-Adamat, 2024)

In terms of research on future anxiety levels, diverse revealed varying degrees of future anxiety. Some studies exhibited a high degree of future anxiety as reported by (Al-Khalfan & Haron, 2025; Al-Momani & Naeem, 2012; Zayd, 2021). As well (Al-Haribi & Bassiouni, 2020; Khuza'i et al., 2023) revealed that university students' anxiety about the future was minimal, while Makhoulfi (2020) the level of future anxiety was moderate.

As for the studies that linked cognitive dissonance with future anxiety, the researchers did not find any direct studies linking future anxiety directly with cognitive dissonance, but some studies linked anxiety in general or other forms of anxiety with cognitive dissonance. The idea that dissonance positively correlates with anxiety was confirmed by Suinn (1965). Post-decision dissonance, according to another study by Menasco and Hawkins (1978), is a type of state anxiety in reaction to resolving a conflict situation. An increase in measures of state anxiety is linked to an increase in reported decision difficulty, which ought to increase cognitive dissonance.

Keng and Liao (2013) indicated that anxiety, as a trait or condition, negatively affects dissonance. Also, Allahyani and Al-Otaibi (2021) indicated that there is a positive, statistically significant correlation between cognitive dissonance and its dimensions and both anxiety in general and conflict. It also indicated that the cognitive dissonance variable contributes to predicting the degree of anxiety. Kent (2025) indicated that there was no statistically significant relationship between cognitive dissonance and anxiety.

It is concluded from the above that anxiety is a product of cognitive dissonance and one of its symptoms, which is expressed in the emotional state that arises when a person has cognitive elements that require one or some of them to be the opposite of the other, which creates a state of tension (Wicklund & Brehm, 1976) that leads to anxiety. This tension represents a state of conflict that prioritizes one cognitive element over the other, which leads to a reduction in cognitive dissonance in the case of choice, an end to the state of conflict, and then the cessation of anxiety.

Problem Statement:

Anxiety about the future occupies a large part of the psychological problems among university students, especially with the high pressures of life, the lack of job opportunities, and the high costs of living. When anxious about the future, we often tend to form negative beliefs and expectations about what may happen. However, we may also have prior knowledge or positive beliefs about the future, and this conflict between anxiety and contradictory beliefs leads to feelings of confusion and tension. It may prompt us to take actions to eliminate this dissonance, such as avoiding talking about these issues or searching for information that supports our previous beliefs. In

addition, future anxiety may also affect our ability to accept new information contradictory to our previous beliefs. When we feel anxious, we may be more likely to cling to old beliefs and reject or ignore any evidence that contradicts them, even if that evidence is reliable. Future anxiety may increase cognitive dissonance and affect our ability to accept and process information objectively.

Also, due to a lack of research on the relationship between future anxiety and cognitive dissonance and our believe that they are interrelated, at least in terms of the relationship between cognitive dissonance and general anxiety, it is our goal in this study to explore this relationship. More specifically, this study seeks to answer the following questions:

- 1- What is the level of cognitive dissonance among University students?
- 2- What is the level of future anxiety among University students?
- 3- Can cognitive dissonance predict future anxiety among university students?

Study Importance:

The importance of this study lies in the need to explore the relationship between future anxiety and cognitive dissonance in light of the lack of studies that link the two variables. Also, the study results will provide some knowledge structure for those in charge of the educational process in general and universities in particular about the relationship between cognitive dissonance and future anxiety that every student experiences in all scientific and life fields, especially in the educational and academic fields.

Terminology Definitions:

1. **Cognitive Dissonance:** a state of contradictory relationships between beliefs and behavior, usually accompanied by discomfort, which leads one to try to restore balance by changing one of the beliefs and behaviors (Festinger, 1957). In this study, this is procedurally known as the score the student receives on the cognitive dissonance scale used in the current study.
2. **Future Anxiety:** It is a state of uncertainty, fear, and worry about changes that threaten an individual's future (Kaya & Avci, 2016). Procedurally, this is defined as the student's score on the Future Anxiety Scale used in the current study.

Methodology

Study Population and Sample

The study population consisted of 24,000 undergraduate students at Yarmouk University during the 2023/2024 academic year, based on data from the Admission and Registration Department. Several sections of the university's requirements courses were selected to ensure representation of all characteristics of the population.

The study sample consisted of 258 male and female students, who were selected using the available method.

Study Instruments:

Two scales were utilized in this study:

1) The Cognitive Dissonance Scale (Al-Adamat & Atoum, 2023): This scale consists of 18 real-world situations followed by two multiple-choice questions for each. The scale was developed with six domains: family context and status, emotional control, adaptation and personal health, university and learning, upbringing and coexistence, and dependency/dominance. Al-Adamat and Atoum provided several indicators to support the validity and reliability of the scale, mainly because it was recently administered to the same study population. Cronbach's alpha scores as an indicator of the scale's reliability in the current study ranged between 0.67 and 0.88 for the dimensions and 0.90 for the total scale.

2) Future Anxiety Scale (Zaleski, 1996): This scale was translated into Arabic (Ahmed, 2017) and initially consisted of 30 items. Ahmed (2017) verified the content validity and reliability, as the correlation coefficient reached 0.92 for the scale's total score.

To ensure the validity of the Future Anxiety Scale, it was presented to nine arbitrators from the teaching staff at Yarmouk University who are specialists in educational psychology, measurement, and evaluation. In light of the arbitrators' comments, four items were deleted, and some of the linguistic wording of the items was modified; thus, the scale became composed of 26 items in its final form. Also, the scale was applied to a survey sample of 45 male and female students from outside the study sample to verify the construct validity of the Future Anxiety. Correlation coefficients were calculated between each item and the scale's total score, and the values of the correlation coefficients ranged between 0.39 and 0.84. Based on the validity data, the Cronbach Alpha equation was also calculated (0.82), which indicated a good reliability.

Results:

To answer the first question, "What is the level of cognitive dissonance among University students?", the means and standard deviations were calculated to answer this question. Results are detailed in Table (1).

Table 1

Descriptive analysis of the level of cognitive dissonance among Yarmouk University students

Rank	N	Dimensions	Mean	Std.	Level
1	3	Adaptation and personal health	0.23	0.158	low
2	4	University and learning	0.19	0.153	low
3	5	Upbringing and coexistence with life	0.19	0.157	low
4	1	Family Context and Status	0.18	0.129	low
5	2	Emotional control	0.17	0.177	low
6	6	Dependency/ dominance	0.15	0.141	low
Cognitive Dissonance			0.19	0.82	low

Items from one to six present the sub-dimensions of cognitive dissonance, and their means ranged between 0.15 and 0.23. Adaptation and personal health ranked first with the highest mean of 0.23. In contrast, dependency/ dominance came in last place with a mean of 0.15. However, the overall mean for the level of cognitive dissonance among university students was 0.19, and this is a low level.

To answer the second question, "What is the level of Future Anxiety among university students?", the means and the standard deviations were calculated as shown in Table (2).

Table 2

Descriptive analysis of the level of Future Anxiety among Yarmouk University students

Scale scores	Mean	Std.	Level
Future Anxiety	3.27	0.609	Medium

Table (2) indicates that the overall mean of future anxiety scores among university students is 3.27, which represents a medium level.

To answer the third question, "Can cognitive dissonance predict future anxiety among university students?", Pearson correlation coefficients were calculated between cognitive dissonance and future anxiety among university students as shown in Table (3).

Table 3

Pearson correlation coefficient for the relationship between the domains of cognitive dissonance and future anxiety

Cognitive dissonance domains	Future anxiety		
	Correlation coefficient r	Statistical connotation	Number
Content and Family Status	0.178(**)	0.004	259
Controlling emotions	0.299(**)	0.0	259
Adaptation and personal health	0.250(**)	0.0	259
University and Learning	0.220(**)	0.0	259
Nurturing and Living with Life	0.345(**)	0.0	259
Dependence-Domination	0.225(**)	0.0	259
Cognitive dissonance	0.480(**)	0.0	259

The double asterisks (**) indicate statistical significance at the 0.01 level ($p \leq 0.01$), meaning there is a strong significant relationship between the variables.

The results in Table (3) illustrate a positive, statistically significant relationship between scores of cognitive dissonance and all its domains and scores of future anxiety among university students. Therefore, multiple linear regression analysis was used by adopting the stepwise method into the regression equation, as indicated in Table (4), to reveal the predictive ability of cognitive dissonance on future anxiety among students.

Table 4

The results of the multiple regression analysis for the predictor variables

Cognitive Dissonance Domains	(R)	(R ²)	Adjusted R ²	(β)	F value	T value	Intercept	Sig
Upbringing and coexistence with life	0.345	0.119	0.116	1.343	34.764	5.896	3.004	.000
Emotional control	0.408	0.167	0.160	0.775	25.571	3.814	2.915	.000
Adaptation & personal health	0.441	0.195	0.185	0.664	20.533	2.980	2.790	.000
Dependency/ dominance	0.463	0.214	0.202	0.625	17.335	2.536	2.720	.000

It is clear from Table 4 that the cognitive dissonance domains that can significantly predict future anxiety scores are upbringing and coexistence with life, emotional control, adaptation & personal health, and dependency/ dominance, which together explained 20.2% of the variance for the future anxiety scores. Upbringing and coexistence with life predicted (11.6%) the future anxiety variance, followed by emotional control (4.4%), Adaptation & personal health (2.5%), and dependency/dominance (1.7%) in order. Other domains in cognitive dissonance were not included in predicting the future anxiety scale, given that the explained variance they added was not statistically significant at the significance level ($\alpha = 0.05$).

It is also clear from table (4) that an increase in upbringing and coexistence with life by one standard unit (standard deviation) increases the measure of future anxiety by 1.343 standard units, and that an increase in emotional control by one standard unit (standard deviation) increases the measure of future anxiety by an amount (0.327), and that an increase in adaptation & personal health by one standard unit (standard deviation) increases the measure of future anxiety by (0.775), and that an increase in adjustment and personal health by one standard unit (standard deviation) increases the measure of future anxiety by (0.664) from standard unit; Note that these predictor variables were statistically significant at the level of significance ($\alpha = 0.05$). It is also clear from table (4) that an increase in dependency/ dominance by a standard unit (standard deviation) increases the measure of future anxiety by an

amount of (.625) of the standard unit; Note that this predictor variable was statistically significant at the significance level ($\alpha = 0.05$).

Discussion:

The findings for the first research question indicated a low level of cognitive dissonance among Yarmouk University students. This outcome can be attributed to the fact that the university students' beliefs and values align with societal expectations, avoiding conflicts with their ideas. As a result, students strive to conform to societal norms and regulations while also managing their emotions and emotional responses in their interactions with others, thereby coping with social and internal pressures, and adapting to daily life's requirements, ultimately achieving a state of cognitive balance and psychological harmony.

The findings of this study align with those of Shimimol and Koya (2017), who also reported a low level of cognitive dissonance. The result of this study differs from the results of other studies (Abu Thwaib, 2021; Al-Adamat and Atoum, 2018; Al-Adamat and Atoum, 2022; Atoum and Al-Adamat, 2024), which indicated the presence of a moderate level of cognitive dissonance.

The results for the second research question showed a moderate level of future anxiety among Yarmouk University students. This outcome may be attributed to the various challenges and pressures university students encounter in their academic and personal lives, such as exam pressures, academic achievement, research projects, academic competition, and social relationships, leading to this moderate level of anxiety regarding the future.

The findings of this study are consistent with the results of Makhoulfi's (2020) study, which found a moderate level of future anxiety among the sample. In contrast, this result differs from the findings of Al-Momani and Naeem's (2012) study and Zayd's (2021) study, which reported a high level of future anxiety among the sample. Furthermore, the studies conducted by Al-Haribi and Bassiouni (2020) and Khuza'i et al. (2023) indicated a low level of future anxiety among university students.

The findings of the third question revealed that the domains of cognitive dissonance linked to predicting future anxiety scores encompass upbringing and coexistence with life, control of emotions, adaptation and personal health, and dependency-dominance, collectively accounting for 21.4% of the variance in future anxiety. This outcome may be attributed to the upbringing and life experience dimension, which encompasses an individual's personal background and life events, and is influenced by education and social and cultural environment, thereby affecting their thought patterns and perceptions about the future, and subsequently, their future anxiety levels and expanded (11.6%) of the future anxiety variance alone.

The emotional regulation dimension reflects an individual's capacity to manage and process emotions, as well as adapt to future challenges and pressures. Individuals with effective emotional management skills and adaptability may exhibit lower levels of future anxiety. The adaptability and personal well-being dimension encompasses an individual's general health status and psychological well-being, with

good health likely to have a positive impact on future anxiety levels. Lastly, the reliance on others and dominance dimension refers to the extent of dependence on others and the influence they exert on an individual's life, with high dependence and dominance, or exposure to control from others, potentially leading to increased anxiety in the future.

The results of this study are consistent with the results of the study by Suinn (1965), which indicated that dissonance is positively related to the level of anxiety. Moreover, the study by Allahyani and Al-Otaibi (2021) indicated a positive, statistically significant correlation between cognitive dissonance and its dimensions and anxiety and conflict. It also indicated that the cognitive dissonance variable contributes to predicting the degree of anxiety. The study by Mohammad (2020) indicated that there was a statistically significant positive effect at the significance level (0.01) of the dimension of learning emotions (anxiety) on cognitive dissonance, as it explained (1.14%) of the variance in cognitive dissonance. Furthermore, the study of Keng and Liao (2013) indicated that anxiety as a trait or condition directly negatively affects dissonance.

Limitations: A significant limitation of the current study is its dependence on self-report measures to evaluate both cognitive dissonance and future anxiety. These instruments are prone to social desirability bias and may not truly represent the participants' genuine thoughts or emotional conditions. Furthermore, while the study investigates predictive relationships, its correlational design restricts any causal inferences. The identified associations could be affected by unmeasured factors such as personal coping mechanisms, personality characteristics, or previous mental health issues. On other hand, the present study has some limitations. Firstly, reliance on self-reported data may result in response bias. Secondly, the sample was drawn from one university, thereby restricting the external validity of the results. Thirdly, the cross-sectional design of the study does not allow for causal inferences, highlighting the necessity for longitudinal research. Finally, other variables that may impact cognitive dissonance and resulting anxiety, personality factors and social support, for instance, were not investigated and need to be addressed in future studies.

Conclusion and Recommendations:

This study investigated the correlation between future anxiety and cognitive dissonance among a sample of university students. The results showed that students tended to have a low degree of cognitive dissonance, which was an indication that their cognition and behavior were highly congruent, thereby minimizing internal conflict. Such congruence could be explained by social norms and education systems that foster cognition and behavior harmony. Conversely, students reported a moderate level of future anxiety, indicating that there is certainly worry regarding the future but that it is not irretrievably upsetting. Academic stress, career uncertainty, and economic hardship are probably among the elements entering this anxiety, though they do not destroy a perception of control in students.

The study also found that cognitive dissonance significantly predicts future anxiety. A number of dissonance dimensions, such as childhood experiences,

emotional control, personal adjustment, and dependency on others, explained a great deal of the variance in subsequent anxiety scores, which highlights the importance of internal psychological conflict in influencing students' expectations and perceptions of the future. When students hold conflicting thoughts or unresolved issues, their anxiety about uncertainty tends to rise. This result is consistent with earlier studies indicating that cognitive dissonance can increase stress and anxiety, especially in decision-making situations where the person has to resolve conflicting beliefs.

From a broader perspective, these findings point to the necessity of addressing cognitive dissonance as a source of students' distress. Universities are encouraged to develop support initiatives that cultivate cognitive flexibility, strengthen emotional control, and provide students with constructive coping mechanisms for managing uncertainty. By assisting students in eliminating internal inconsistencies and making their perspective on the future more balanced, universities can help minimize levels of anxiety and facilitate psychological resilience.

Future studies: Further studies should investigate the subtlety of such a relationship with the help of other variables like coping mechanisms, personality, and culture that can moderate the dynamics of the effect of cognitive dissonance on later anxiety. Longitudinal design could offer more clarity on whether cognitive dissonance differences at various time points correspond to differences in later anxiety. Ultimately, an understanding of such dynamics can enable the development of targeted interventions to help alleviate student anxiety and enhance psychological wellness in academic and professional environments.

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