

Cognitive Consistency–Dissonance among University Students and Its Relationship with Selected Variables

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ABSTRACT:

Technological progress has become a major cause of cognitive dissonance. When a person's simple reality is at odds with the idealized technological world, the person would changes in lifestyle to decrease cognitive contradictions and restore internal psychological balance. Low cognitive consistency is also a psychological tension that has a motivational character. It is concerned with the circumstances that irritate or add to the discrepancy or dissonance in a person's frame of reference. Cognitive elements have certain relationships. These may be with the individual or the environment. You also have knowledge of one's feelings. You also know one's behaviour, opinions and interests. Finally, you know the ways to attain any desired goal. Given this characteristic, researchers have studied how such phenomenon varies according to the demographic variables and the self-regulation of students.

The aim of the current study is to measure cognitive consistency–dissonance among the students of the University of Kufa and to detect differences according to gender and specialization (scientific and humanities). To reach these goals. To achieve these objectives Haruki Sakai's (2021) Recurrent Network Model of Cognitive Consistency was utilized to develop a Cognitive Consistency–Dissonance Scale. The model holds that the mind does not consist of ideas that are not linked with one another, but instead, it works with connected thoughts, beliefs, and emotions. According to the cognitive dissonance theory proposal, persons attempt to achieve and maintain cognitive consistency but experience cognitive dissonance. Dissonance is not seen as a pathological state but rather as a self-regulatory mechanism aimed at restoring consonance.

There are 25 items in the scale. The psychometric properties of this instrument were established through face validity and construct validity. Reliability was evaluated through test-retest procedures and Cronbach's alpha, resulting in high correlation coefficients. After testing the instrument's validity and reliability, the instrument was administered to a stratified random sample. The sample was selected through proportional allocation.

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The participants displayed more cognitive consistency than cognitive dissonance, according to the findings. There were distinctions of statistical significance according to gender and academic specialization as well, with males and students from humanities disciplines showing more levels of cognitive consistency.

Keywords: Cognitive Consistency, Cognitive Dissonance, Students, University, Variables.

Introduction

People are constantly trying to develop themselves cognitively through the situations they meet and ideas they gather. These ideas can either be new, or they can complete partially formed thought about the issue. Human beings seek cognitive consistency. Despite having some knowledge regarding the topic, there may be contradictory or conflicting ideas arising in one's mind that affect decision-making and leads to internal conflict, thus hampering cognitive equilibrium. When ideas are inconsistent with each other, it is called cognitive dissonance.

According to the definition of cognitive dissonance, discrepancies among beliefs necessarily conflict with another thereby manifesting in cognitive dissonance. The mental processes which relate to knowledge, opinion or belief about an environment or behavior of the individual are called cognitions. The term cognitive dissonance describes a prior state that motivates directed activity aimed at the reduction of inconsistency as hunger motivates behavior intended to reduce hunger. The cognitive consistency theory is a psychological theory that assumes a relationship between knowledge and behavior. Moreover, this relationship has a natural tendency towards balance. When knowledge and behavior not matching it leads to a resolution. The main proposition of cognitive dissonance theory is that people desire to have harmony among their beliefs, attitudes, and opinions. (Al-Otaibi, 2015).

Research Problem

A cognitive dissonance could be studied in deeper in a more encompassing manner in

future studies. Due to it being an important dimension and fundamental constitutive of the University student's personality, it was chosen as the main focus area. Cognitive dissonance refers to a psychological state in which people experience discomfort, tension and confusion when they notice a discrepancy between what they know and what they encounter in a situation. The lack of cognitive equilibrium entails distress or contradiction between the different actions and reactions that may occur. This happens due to an unbalanced perception and moderate development of cognition. The fact that there is no consistency is one argument put forward to try to explain the emergence of a spate of different intellectual and cognitive orientations that may cause problems for many people, students in particular. Whether one can adjust to the circumstances or gets overwhelmed by them largely depends upon the details and formalities on the one hand and contradictions and rapid changes in life on the other hand. When we encounter various changes and contradictions, we may come across some information that is not useful at all and may not even want it; this may cause a disruption of our cognitive system. As a result, our cognitive consistency may weaken (Salloum & Abdul Karim, 2018).

According to Festinger, when people experience discomfort, they attempt to lessen the dissonance and inconsistency in their beliefs. The belief that is least likely to change is the one that will usually become the focus of the reversal series (Harmon & Harmon, 2008).

People, according to Al-Lahyani (2012) aim at equilibrium between their knowledge, beliefs and behaviors. Things that may go wrong

There are many things that could go wrong with this balance. For example, there may be conflicting knowledge about the matter. When someone is faced with contradictory statements, they often obsess over them and strive to resolve the contradiction. The aim of all this is to restore the feeling of comfort and internal equilibrium, as well as the feeling of being satisfied with oneself and one's behavior either way, even if this requires a form of self-deception (Al-Lahyani, 2012).

Cognitive dissonance may occur when a person has two or more conflicting beliefs or when their actions are different from their own beliefs. Dissonance and weak cognitive consistency may evoke feelings that motivate people to eliminate the source of the conflict. Such a thing can sometimes lead to a biased way of thinking and increase contradictory behaviors. Conflicting ideologies may allow cognitive consistency to be compromised, leading to weakened cognitive consistency. Students, for example, may develop cognitive dissonance concerning some issue and, rather than confronting and processing it, choose the easier option of avoidance which brings cognitive closure. Students who score low on measures of cognitive consistency are likely to favor spontaneity, are less predictable in their responses to cognitive and social stimuli and are less committed to remaining consistent with previous behavior. When the situation faced by the student contradicts your beliefs and expectations, weak cognitive consistency may affect their decision. As an individual finds it increasingly more difficult to speak and act in a way that opposes their beliefs, dissonance declines. Thus, one must find ways to diminish dissonance and create a consonance between belief and behavior. Under such circumstances, a large number of students experience challenges in their academic lives.

Students may resort to cognitive closure instead of openly confronting the contradictions. The cited evidence from Mustafa's (2023) findings indicates a statistically significant negative relationship between cognitive dissonance and mindfulness behaviour of first year Hafr Al-Batin University students. Increased cognitive

dissonance was correlated with reduced mindfulness levels in individuals. The lack of conscious awareness seems to point to a deeper conflict that technological acceleration generates in the minds of students.

The lack of cognitive consistency leads to a negative form of psychological tension. It is about the conditions which permit or encourage inconsistency or dissonance in a person's system. These cognitive factors and the relationship between the various conditions to the individual or surrounding environment such as knowledge of feelings, behaviour, opinion interests and methods of acquiring wants are conditions which may give rise to these states. Thus, according to these characteristics the researchers want to examine the variations of cognitive consistent and dissonance with demographic and self-regulation between students (Al-Otaibi, 2012).

Al-Hiti et al. (2023) found cognitive dissonance no in their study sample. Yet, gender differences were significant in favour of male subjects. The results also associated significant levels of self-regulation with respondents. No significant gender difference was found in self-regulation. In addition, cognitive dissonance and self-regulation (Al-Hiti et al. 2022) had a negative correlation.

This contradiction affects not only the regulation of behavior but also higher cognition. Al-Hujailan (2024) found that female students had a moderate level of cognitive dissonance and a low level of creative thinking. Researchers observed significant differences favoring students who have a higher level of cognitive dissonance in relation to cognitive flexibility; whereas no significant differences appeared in originality, fluency and elaboration. These results strengthen the proposal for a limited connection between cognitive dissonance and the various dimensions of creative thinking and that it may be viable to maintain balanced cognitive dissonance among the students to enhance creativity. The moderate rate of cognitive dissonance among university students by Al-Atoum and Al-Azamat (2024) explained

2.10% of the variances in academic engagement. The present finding provides evidence of the psychological and academic nature of cognitive dissonance to be further researched. Studies before ours came to different conclusions, likely due to differences in students' lifestyles and experiences, warranting more studies.

Through these theoretical indicators and practical indicators, the researcher has developed a strong awareness of the problem. The cognizance came through observations in the field noted discrepancy between university students' ideas and actions. Discrepancies create cognitive dissonance which manifests in the form of anxiety, uncertainty, and trivial mental distraction. It disrupts psychological balance and decision making in an academic environment. In addition to these observations, it was scientifically informed of the problem through the review of literature which presents a gap. As a result, the present study wants to evaluate cognitive consistency and cognitive dissonance among university students.

Significance of the Research

According to Festinger (1957), people often want their opinions, beliefs and actions to be consistent. Cognitive dissonance is believed to be one of the most important concepts of social psychology. The term cognitive dissonance is used to refer to a situation involving conflicting attitudes, beliefs or behaviours that are contradictory in nature. This can become clear when an individual feels uncomfortable, anxious or psychological uneasiness when there is a new piece of information that contradicts one's previous knowledge, scientific principle, cultural value, or conviction (Festinger, 1957).

Similarly, the study by Latif and Fakhri (2022) showed that cognitive consistency positively contributes to the academic performance of students' participations in academic and social activities. The findings indicated that cognitive consistency is important for students' academic and social adjustment. Human beings have an inherent need to balance actions, beliefs and knowledge. A better understanding of human nature and the disruptions that produce it shows

that contradictions frequently become evident within an individual's cognitive structure. As a result, people become motivated to resolve those inconsistencies to return to a state of internal harmony and feel satisfied with their behavior (Al-Lahyani, 2012).

Students face a basic difficulty of cognitive dissonance while making choices. People often need to select between competing options, and after making a decision, they typically justify their choice and derogate the non-chosen one to achieve cognitive consistency and psychological equilibrium (Festinger, 1957).

Cognitive consistency is an essential factor for students to accept and adapt new information in a rapidly developing and changing world. As students learn new information and gain knowledge, their cognitive systems adapt and integrate the new information into their pre-existing experience. The more a student and the more cognitive consistency a student has, the more he will make efforts to integrate new information. According to Jyotika (2015), cognitive consistency aids in learning by bolstering cognitive schemas, enhancing knowledge acquisition, fostering new development, increasing learner motivation, encouraging students' participation in educational activities, and enhancing their self-perception.

Another cognitive motivator of cognitive consistency connects students' beliefs and opinions with the information and knowledge they acquire. It motivates people to engage in learning. People feel they are overwhelmed with too much information, often with conflicting information. In this regard, cognitive consistency is a powerful educational tool as it pushes individuals to think through a variety of lenses, thus increasing engagement both psychologically and intellectually while also leading to self-actualization (Lee & Jeyaraj, 2014).

The impact of cognitive consistency goes beyond learning processes, extending even to academic achievement. A good number of studies like Rue, 2008, Bothell, 2013, and Otaibi

and Mohair, 2013, have established a positive relationship between cognitive consistency and academic achievement. Research suggests cognitive consistency enhances a college student's academic success and resilience. Vries, Bryne, and Kehoe (2014) reported similar findings that activities linked with cognitive consistency engage many areas of the brain. Cognitive consistency is considered to be one of the fundamental psychological principles governing judgments, attitude formation, environmental interpretation and behaviour modification. These positive interactions generally lead to a positive attitude towards those things. Further, cognitive consistency is able to organize thoughts, experiences as well as behavior (Jyotika, 2015).

There are two main reasons for the interest in cognitive consistency. To begin with, the fundamental nature of cognitive consistency is that it may have a bearing on a whole range of psychological phenomena, including a person's ability to comprehend external environments and anticipate chances and threats. Predicting such a result requires seeing connections between signals and outcomes. As a result, the capacity to detect consistency is essential for effective functioning across a variety of environments, as well as for a better understanding of human beliefs. Second, studying cognitive consistency in judgment and decision-making presents up-to-date methodological means of investigating the purposes and workings of differing psychological phenomena (Forster et al., 2007). Accordingly, cognitive consistency can be viewed as a mechanism for reducing internal psychological pressure through the organization of beliefs and identities in a coherent manner. Weak cognitive consistency often produces discomfort and tension, prompting individuals to reduce such feelings through various strategies, including rejecting information that conflicts with their existing beliefs (Al-Otaibi, 2012). Individuals generally seek cognitive consistency by accepting viewpoints that align with their cognitive structures and by maintaining beliefs that are mutually compatible.

In contemporary academic environments, students are exposed daily to substantial amounts of information that may contradict their prior knowledge and beliefs (Oskamp & Schultz, 2005).

Since environments are continuously changing and introducing new experiences, individuals frequently encounter situations that provoke uncertainty, challenge existing assumptions, and require adaptation. Under such conditions, cognitive dissonance may emerge when newly acquired information conflicts with previously established knowledge, creating psychological tension and motivating efforts to restore consistency (Festinger, 1985).

The importance of cognitive consistency extends beyond reducing psychological stress. It also influences self-perception, expectations, and confidence. Cognitive consistency contributes to personal expectations by shaping subjective beliefs regarding the likelihood of future events. When perceptions align with existing beliefs and ideas, individuals experience greater confidence in themselves and their judgments. Cognitive consistency therefore strengthens expectations and facilitates the processing of both compatible and incompatible information. It reflects the relationships among different personal beliefs as they are mentally represented within an individual's cognitive system (Arie et al., 2018).

These considerations suggest the existence of important cognitive and psychological influences that may affect students' consistency of thought and behavior. Such influences may produce both positive and negative outcomes, thereby affecting students' cognitive balance and their ability to adapt successfully to modern educational environments (Rose et al., 2022).

As a result of its influence on the thinking processes and decision-making of students, researchers studied more about the relationship between cognitive consistency and various changes. Tesser (1985) indicates that students with more affective-cognitive consistency are better able to process contradicting information and produce ideas that lessen cognitive

dissonance. This skill helps in scientific thinking and critical making.

As another angle, Festinger (1957) noted that the desire for cognitive consistency could be one of the basic needs. A number of theorists have suggested that cognitive consistency should be viewed as a tool to accomplish desirable ends and not as itself a desirable end. One of its major roles is an internal alert that points out flaws in a person's belief system. When our beliefs are incorrect, our behavior in a situation may not be appropriate. Such incidents call for a rethinking of existing beliefs. More effective behavior can be produced. From this perspective, cognitive consistency is important because it aids adaptive functioning. Inconsistencies between attitudes and behaviors threaten self-concept and stimulate both cognitive and behavioral responses aimed at restoring positive self-image via consistency. Such processes improve how we encode various memory functions which include causal attribution, retrieval and judgement formation as demonstrated by Bertram & Fritz 2012.

As per (Al-Shujairi and Al-Obaidi (2022), high cognitive consistency among university students indicates stability in their cognitive systems. Recent theoretical developments have moved forward understanding of cognitive consistency. Recent models, especially that of Sakai (2021), view consistency as a dynamic equilibrium in a person's network of beliefs, attitudes and behaviors. This view shows that preparation of education-psychological instruction is important to increase cognitive consistency of students.

This point is further emphasized by the present study's use of Sakai's 2021 COGNITIVE CONSISTENCY – DISSONANCE MODEL, which explains how beliefs, values and behaviors are dynamically related within the cognitive network of an individual. When faced with conflicting stimuli, students respond to this model by restructuring their cognitive structures to regain internal equilibrium to alleviate tension arising from cognitive dissonance. It is important to study cognitive consistency – dissonance of university students because, first

of all, it is useful theoretically, and secondly, it is useful practically and helps the students to cope with the problems of present-day education.

The current study is important because it focuses on university students, one of the most important developmental stages of any individual's life. At this stage, attitudes, values, personality traits, and future orientations are formed and consolidated. University students reflect a conscious and educated section of society capable of responding to the latest changes in scientific and technological progress. Teachers play an essential role in societal change. Moreover, they are responsible for the social betterment and scientific development of society (Al-Jizani, 2004).

The current study's significance can be articulated in two dimensions.

Hypothetical Importance

1. This article adds to the psychological and educational literature by presenting an up-to-date theoretical conception of cognitive consistency–dissonance that accounts for the changing social and technological conditions that traditional theories do not address.
2. It is important to study students of the university because they represent the future scientists, professionals and social leaders when they will graduate.
3. All in all, there should be adequate understanding of the degree of cognitive consistency–dissonance among the students of the university. Further, what is responsible for the same also needs to be known.
4. In addressing an up-to-date psychological construct that has not received significant attention in Arab educational and psychological literature, especially in universities, contributes to literature with scientific research that stems from contemporary changes.

Importance of the Research.

As per Leon Festinger (1957), people naturally want to have consistency in their environment and cognitive dissonance wants to avoid. The idea of cognitive dissonance is one of the central

concepts in social psychology. According to Festinger, cognitive dissonance is a condition in which a person, who possesses two ideas of similar importance, holds two inconsistent or contradictory ideas. It may also take place as discomfort, anxiety, or psychological uneasiness felt by individuals when they are exposed to new information that contradicts their existing knowledge, scientific facts, cultural values or firmly held beliefs (Festinger, 1957).

Latif and Fakhri's (2022) work found, in the same regard, a positive link between academic performance and cognitive consistency, as well as students' involvement in academic and social activities. Cognitive consistency plays an essential role in enhancing the academic and social adjustment of students. Human beings want harmony (or equilibrium) among their behaviours, beliefs and knowledge. An understanding of human nature and the factors disrupting such nature leads to contradictions to emerge in the formation of the individual mind. As a result, people are motivated to settle these inconsistencies with the aim of getting back to a state of internal equilibrium and comfort with own actions (Al-Lahyani, 2012).

Cognitive dissonance is a common phenomenon experienced by students when making choices. People are often faced with choices between competing alternatives (or options). Having made the choice, they often try to justify their choice or devalue the rejected alternative in order to achieve cognitive consistency and restore psychological balance (Festinger, 1957).

The degree of cognitive consistency is a critical criterion for students' accommodation and assimilation processes in an age of mass development and mass change. When new information and knowledge comes in, the cognitive systems of the students adapt and integrate the new information that comes under existing cognitive schemes. The higher the level of cognitive consistency, the greater the effort made by students to integrate new information into their cognitive structures. Cognitive consistency helps learning by strengthening

cognitive schemas, facilitating knowledge acquisition, building new understanding, increasing motivation to learn, engaging in educational activities, and facilitating students' perception of self-efficacy (Jyotika, 2015).

We also find that cognitive consistency is a cognitive motivator that connects learners' existing beliefs and opinions with new ones. It acts as a motivational factor to learn. In modern times, we are overwhelmed information and contradictory experts from various media sources. In this regard, cognitive consistency can be considered a potent educational tool, as it enables individuals to see beyond oneself and encourages intellectual stimulation and self-actualization (Lee & Jeyaraj, 2014).

Cognitive consistency influences not only learning but also academic performance in students. Rue (2008), Bothell (2013), and Otaibi and Mohair (2013) found that cognitive consistency has positive relationships with academic achievement according to many studies. Findings reveal that a sense of optimism and belief in self leads to achievement. In the same way, Vries, Bryne, and Kehoe (2014) noted that cognitive consistency experiences activate several brain areas. As a result, it is considered one of the basic psychological principles to govern human judgments, the formation of attitudes, interpretation of environment, and adaptation of behavior. People tend to have positive attitudes about people and things they like and cognitive consistency helps in organization of thoughts, experiences and behaviours (Jyotika, 2015)..

There are two main motivating factors behind the interest in cognitive consistency. The first reason is that the basic quality of cognitive consistency is expected to affect different phenomena. One of these phenomena is an individual capacity to make sense of the surrounding environment. Predicting an outcome requires perceiving its coherence with signals. As a result, this capacity to detect consistency is required for humans to function effectively in various environments and may contribute to understanding human beliefs.

Moreover, investigating the role of cognitive consistency in judgment and decision making currently has new methodological approaches to examine the aims and mechanisms of different other psychological phenomena (Forster et al., 2007).

Through consistent thinking; an individual can reduce internal psychological pressure by creating a logical affirmative connection between beliefs and identity. When cognitive consistency is weak, discomfort and tension are produced, people use various ways to reduce these feelings, such as rejecting information that contradicts their existing beliefs (Al-Otaibi, 2012). Most people tend to seek cognitive consistency by accepting views that are endowed with meaning, by keeping compatible beliefs, etc. In today's educational context, every day, students are being fed a huge quantity of information which contradicts what they have learnt so far (Oskamp & Schultz, 2005).

Our environments are always changing, creating new experiences. Therefore, we often find ourselves in a situation of doubt, a challenge to our elevation. In such circumstances, cognitive dissonance might arise when new information clashes with prior knowledge, leading to psychological discomfort and attempts to re-establish consistency (Festinger, 1985).

Cognitive consistency significance transcends alleviating psychological strain, 10 words. It also affects how one perceives and expects themselves and their confidence. Cognitive consistency helps shape our subjective beliefs about the probability of events occurring in the future. People feel more confident in themselves and their judgments when perceptions are aligning with existing beliefs and ideas. Cognitive consistency tells us what we should expect and what to do with pro- and con-information. The mental representation of personal beliefs and their relationships is reflected in a person's cognitive system (Arie et al., 2018).

Taking the above-mentioned things in mind, it is possible to identify the presence of great cognitive and psychological influences that

could affect the students' consistency of thought and action. This type of effects can be positive and negative in nature and may upset the cognitive equilibrium of learners thereby impairing their ability to adjust successfully to the contemporary schooling system (Rose et al., 2022).

As a result, researchers have been paying more attention to the relationship between cognitive consistency and various types of changes due to its direct impact on students' thinking and decision-making. According to Tessier (1985), the greater the students' affective-cognitive consistency, the more capable they are of processing contradictory information and coming up with ideas to reduce cognitive conflict. This skill aids in critical reasoning and scientific thinking.

Festinger (1957) noted cognitive consistency as another area that showed strong demand for and need for change. According to some scholars, cognitive consistency must be understood as an instrument for achieving significant goals and not as a goal in itself. One of its most essential functions is acting as an internal warning system that points out possible errors in one's belief system. When beliefs are wrong, they inhibit contextually appropriate behaviour and signal the need to modify your existing assumptions to generate better responses. Based on this, cognitive consistency is important in facilitating adaptive functioning. When attitudes and behaviors don't match, it threatens a person's self-concept. This causes cognitive and behavioral responses to restore positive self-image. Such processes improve how we take in information, our attention, how we encode memories, how we assign causality, and so on.

Supporting this view, Al-Shujairi and Al-Obaidi (2022) found that the higher cognitive consistency among university students the greater stability within their cognition system. Theoretical works have advanced knowledge of cognitive consistency recently. Modern models, such as that of Sakai (2021), view consistency as a balancing equilibrium among beliefs, attitudes,

and behaviour in the cognitions network of an agent. The above perspective highlights the need for establishing educational and psychological interventions that will develop students' cognitive consistency.

Using the Cognitive Consistency–Dissonance Model by Sakai (2021) demonstrates that beliefs, values, and behaviors interact dynamically in an individual's cognitive network. Such a model will increase the importance of this study. This theory claims students reorganize their cognitive structure every time their cognition creates tension. Cognitions do this in order to return to balance. Accordingly, the investigation of cognitive consistency-dissonance among university students will provide some theoretical insights and practical understanding of students' adjustment to current education issues.

The current study is important because it deals with university students that are one of the most consequential developmental phases in an individual's life. This is the stage when attitudes, values, personality traits, and future orientations take shape and solidify. University students are a conscious and an educated segment of society that can respond to the rapid developments of scientific and technological progress. The wider impact of public services is tremendous and everyone's function is indispensable to bringing a change in society and achieving (Al-Jizani, 2004).

The importance of current study can be conceptualized in two dimensions.

Hypothetical Import.

1. The study will provide new theoretical perspectives of cognitive consistency–dissonance that are not yet fully encompassed by traditional cognitive dissonance theories, but which will help us understand psychological and educational phenomena in our rapidly changing social and technological conditions.
2. It is important to study university student because they are future scientists and professionals as well as social leaders.
3. It involves providing an exhaustive knowledge of the extent of cognitive

consistency–dissonance among university students and the factors that contribute to it.

4. In the light of the literature 4. Discussing a contemporary psychological phenomenon that has hardly been studied in Arab educational and psychological researches, especially in the university environment, so as to enrich the literature through a scientific study SET against contemporary transformations.

Second, Practical Significance.

1. Guiding Psychological Counseling at University.

The results of this study can help university counselors comprehend the anxiety, confusion and psychological distress experienced by the students' due to the cognitive dissonance and inconsistency created in their cognitive systems.

2. Educational and training program development.

Through the outcomes of the present study, awareness and training programs may be developed, so that the students may achieve higher levels of cognitive consistency, better psychological adjustment, as well as a better performance academically.

3. Aid in Educational Decision-Making

The findings might furnish educational policymakers with evidence for the importance of establishing value-based educational settings aimed at shielding students from psychological and cognitive conflicts. Efforts of this nature can assist with the strengthening of the mindset of the population.

4. Use the Psychometrically Valid Measurement tools.

The present study provides a measuring instrument with confirmed psychometric properties of cognitive consistency–dissonance. This tool can be employed for assessment, diagnosis, and future research in educational and psychological contexts.

The 25 situational items of the Cognitive Consistency–Dissonance Scale was developed according to the theoretical model of Sakai

(2021). The results showed that the study sample was characterized by the high cognitive consistency–dissonance. The recommendations and suggestions are proposed based on the findings above.

Goals of Research.

The current study's goal is to identify.

1. The extent of cognitive dissonance in university students.
2. There are statistically significant differences in cognitive consistency–dissonance according to gender (male, female) and academic specialization (humanities, scientific) as well as their interaction effect.

Conceptual Framework.

Sakai's conceptualisation of cognitive consistency–dissonance was adopted by the researcher.

According to Sakai (2021), it is the state of knowledge and beliefs at any one time that supports psychological balance and self. Thus, when these components are aligned, harmony is achieved in the cognitive and emotional realms.

Sakai (2021) describes cognitive dissonance is a disturbed state both cognitively and emotionally. It occurs because of discrepancies in the participant's knowledge or because of conflict between beliefs and the behavior that participant engages in. Thus, it is an internal conflict that motivates action to restore that particular consistency.

According to Sakai (2021), cognitive consistency-dissonance is defined as a repeating interactive system formed in the cognitive structure of an individual. This system is involved in the movements of the cognitive apparatus which always occurs in a range of harmony and imbalance for beliefs, attitudes and behaviour. The aforementioned view postulates that consistency and dissonance do not represent separate conditions but rather components of the same system, which is continuously disturbed and stabilised and which oscillates from dissonance to consistency through neutral intermediaries. The main goal of

this system is to maintain a balance between cognitive flexibility and behavioral (Sakai, 2021, pp. 32–33).

Parts of the Model Structure.

1. Thought Processes.

They include beliefs, values, attitudes, ideas, and cognitive representation.

2. Social ties

Attachments can be of two types. They can either aggravate someone or flatter someone.

3. Repeating loops.

These are the prime function of the theory. This allows activation to return time and again to the same cognitive nodes, which would reinforce consistency or escalate dissonance when conflicts are left unattended.

4. States that are stable.

Cognitive interactions lead the network to settle into these cognitive consistency states (Sakai, 2021, pp. 269-275).

Essential Principles of the Model.

Structural Foundation

Cognitive structure has more important than cognitive content according to the model of human behaviour. How beliefs are related to each other determines cognitions.

Second: Vibrant Basis

Cognitive processes are not something that will remain constant.

Integrative Foundation, Third

The model incorporates insights from cognitive and social psychology as well as complex systems theory.

Foundation that serves a purpose.

The main objective of the cognitive system is to maintain internal equilibrium, reduce cognitive tension and preserve continuity of identity.

Fifth: Setting the Context.

The model suggests that cognitive consistency is conditioned by the social, cultural and

technological environments in which the cognitive networks operate.

The model's distinctiveness in theory.

The model goes beyond the simple categories of “consistency vs. inconsistency” and provides a solution to complex cognitive change. It integrates identity within cognitive structures, provides a contemporary framework for explaining psychological phenomena, and is particularly suitable for analyzing modern psychological challenges.

Ways to Accomplish Cognitive Consistence.

Cognitive consistency happens through many mechanisms according to the model.

1. Adapt information so it fits into your cognitive structure
2. Limiting or mentally disregarding contradictory associations.
3. Repetition and experience strengthens consistent connections.
4. Rearranging cognitive networks by exposure to a great force.
5. Ever-changing cognitive processes rather than sudden cognitive change..

Explanatory Value of the Model

The Recurrent Cognitive Consistency Network Model is capable of explaining:

- Persistence of beliefs despite contradictory evidence.
- Resistance to cognitive change.
- Formation of complex attitudes.
- Cognitive polarization.
- Self-justification mechanisms.
- Apparently contradictory behaviors.

Cognitive Consistency within the Model

Figure 1. Cognitive Consistency State

⌋ — ⌋

Idea A Idea B

- Two positive cognitions.

- Positive relationship between them.
- Stable cognitive network.

Cognitive Dissonance within the Model

Figure 2. Cognitive Dissonance State

⌋ — ⌋

Idea A Idea B

- One positive cognition and one negative cognition.
- Direct conflict between them.
- Contraction and instability within the cognitive network.

In this situation, the individual experiences tension, anxiety, and a desire to justify, modify, or reconcile the conflicting cognitions.

Dynamic Structure of Cognitive Consistency

The Recurrent Network Model assumes that cognitive consistency is not a simple binary condition. Instead, it represents a dynamic continuum consisting of:

- High Consistency.
- Functional Consistency.
- Fragile Consistency.
- Latent Dissonance.
- Active Dissonance.

An individual's position along this continuum is determined by several factors, including:

- The density of conflicting connections.
- The frequency of cognitive activation.
- The strength of attractor states.

Attractor states refer to stable cognitive patterns toward which the network naturally returns, even after exposure to conflicting cognitive stimuli.

Types of Attractor States

According to Sakai (2021), attractor states represent relatively stable cognitive configurations toward which the cognitive network tends to return following stimuli to

which one is exposed. There are three types of these states.

1. Consistent Attractive States.

They are characterized by consistency among beliefs, values, attitudes and behaviours; they are stable and harmonious systems. Those people in this state are psychologically stable with balanced mental functioning.

2. Defense Attractor States

These refer to an apparent consistency that belies unresolved countervailing cognitive dissonance. While the cognitive structure likely looks stable from the outside, there are active contradictions lying dormant in the network. This network of contradictions can re-emerge under certain circumstances.

3. Warped Attractor States.

These are cognitive systems that lack constructive patterns in their cognitive structures. While the person experiences some stability internally, it is based on maladaptive cognition and incorrect interpretations of reality. (Sakai, 2021, pp. 275–284)

What Resists Change in Cognition

The Recurrent Cognitive Consistency Network Model suggests that being resistant to change is not simply a personality trait, but rather a characteristic of the structure of the cognitive network. This is expressed through a range of mechanisms.

A. Connected Resistance

Network inertia refers to a situation in which connections of higher density and stronger strength prevent the reorganization of cognitive structure.

B Inbuilt partiality.

When we encounter new information, we always rebuild the cognition and interpret in a way that does not challenge.

C. Frequent selective activation.

Cognitive nodes that tend to get activated all the time receive reinforcement while conflicting nodes are negated or subjugated.

Mental Discomfort as an Unconscious Network Process.

In contrast with classical models, which interpret cognitive dissonance as a psychological experience accessible to consciousness, Sakai's model sees dissonance as a network-based process often outside consciousness. It is, therefore, understood that cognitive dissonance is.

- A disturbance in the distribution of cognitive activation.
- When inhibitory connections outnumber facilitatory connections.
- There's cognitive noise growth within the network.

As such, people may not be aware they have dissonance, yet the dissonance manifests through repetitive justification, contradictory actions, defensive speech patterns, and rigidity in one's thoughts.

The combination of consistency and dissonance in Sakai.

Sakai's model is notable for integrating cognitive consistency and cognitive dissonance into a single theoretical framework, which is one of its major contributions.

Figure 3. Unified Cognitive Consistency–Dissonance Process

Stage 1: Dissonance

$\cup \rightleftharpoons \cap \rightleftharpoons \cup$

Stage 2: Reorganization

$\cup \rightleftharpoons \cup \rightleftharpoons \cup$

Within this framework:

- Cognitive dissonance represents a state of disturbance.
- Cognitive consistency represents a state of stability.
- Both are components of a single continuous cognitive process.

The Role of the Self in Cognitive Dissonance

Sakai's model emphasizes that cognitive dissonance extends beyond isolated beliefs and may directly affect personal identity.

Behavior |

Values — Self — Beliefs |

Social Self-Image

In this setup, not just one belief, but the whole self-concept and identity structure of an individual is under the threat of cognitive dissonance.

A recurrent network model of cognitive consistency.

Sakai (2021) posits that the human mind does not store or process information as individual units. Rather, it exists within a dynamic cognitive network which consists of beliefs, attitudes, values, mental representations and past experiences. These elements are linked together through active reciprocal relations that regularly engage with repetition feedback loops working to maintain consistency of the internal cognitive states.

The Wealth model offers a robust theoretical construct for examining intricate psychological phenomena, particularly in the modern technological and educational contexts. It assumes that the human mind works through systems that are interrelated such as thoughts, beliefs, feelings, and experiences. A person's natural tendency is to seek cognitive consistency. But when a person engages in behaviour that contradicts his beliefs or values, he experiences cognitive dissonance. Significantly, dissonance is not construed as pathological but as a self-regulatory mechanism to achieve a return to equilibrium.

To this end, the researcher has taken Sakai's (2021) Recurrent Network Model of Cognitive Consistency as the theoretical basis to construct the Cognitive Consistency – Dissonance Scale.

Sakai (2021) states that Recurrent Network Model presents us with a viewpoint that is fundamentally different. Knowledge is conceived as a network of nodes along which information passes. That network comprises a

range of cognitive nodes linked through various types of relationships. More importantly, those relationships come in different strengths. Cognitive dissonance cannot just be reduced to a conflict between two opposing items or thoughts that disturb the equilibrium of a given dimension.

Cognitive change is seen as a gradual and cumulative process due to continuous reorganization of cognitive networks. Central to this framework is identity, whereas consistency refers to an emergent property of interactions between components of the network rather than a given state.

Sakai developed a framework which overcomes many limitations of previous theories and provides a proper basis for the measurement of cognitive consistency–dissonance of university students.

Earlier Studies on Cognitive Consistency. Arab Studies

1. Al-Shujairi and Al-Obaidi (2022)

“Cognitive Consistency among University Students at the University of Baghdad”

This study aimed to identify the level of cognitive consistency among university students and to examine differences according to gender and academic specialization. The researchers employed a descriptive analytical approach and selected a stratified random sample consisting of 400 students from the University of Baghdad. The sample included 176 students from scientific disciplines and 224 students from humanities disciplines.

The findings indicated that university students demonstrated high levels of cognitive consistency. No significant differences were found according to gender or academic specialization, and no interaction effect was observed between gender and specialization (Al-Shujairi & Al-Obaidi, 2022).

2. Latif and Fakhri (2022)

“Academic Engagement and Its Relationship with Cognitive Consistency among University Students”

The study aimed to examine the relationship between academic engagement and cognitive consistency and to determine the influence of cognitive consistency on students' involvement in academic and social activities. Using a descriptive analytical methodology, the researchers collected data from a random sample of 377 students at the University of Babylon. Measures of academic engagement and cognitive consistency were administered.

The results revealed a statistically significant positive correlation between academic engagement and cognitive consistency. Higher levels of cognitive consistency were associated with greater academic engagement among students (Latif & Fakhri, 2022).

Previous Studies on Cognitive Dissonance

Arab Studies

1. Al-Hujailan (2024)

“Creative Thinking in Light of Cognitive Dissonance among Female Students at Qassim University”

The cognitive dissonance of student females related to creative thinking were investigated in this study. A methodological descriptive study via the random sample was accomplished 423 students from the faculties of science and humanities at Qassim University.

The cognitive dissonance was average but creative thinking levels were found to be low. Students who reported experiencing cognitive dissonance do more often have a greater cognitive flexibility. No major differences were found in originality or fluency. According to the results, there is a partial relation between some aspects of creative thinking and cognitive dissonance. The study sheds light on the possible benefit of maintaining balanced cognitive dissonance to achieve creativity (Al-Hujailan, 2024).

2. Al-Atoum and Al-Azamat (2024)

“Cognitive Dissonance and Its Relationship with Academic Engagement”

This study aimed to assess cognitive dissonance levels in Al al-Bayt University students. It also looked at such differences regarding gender, specialty, and grade level. This also studied the predictive capability of cognitive dissonance towards academic engagement.

Data for the study were collected from a sample of 265 students using a cognitive dissonance measure and an academic engagement measure.

The outcomes demonstrated a moderate degree of cognitive dissonance. The only differences that emerged were according to academic year, most favorable to the third- and fourth-year students. In addition, the variance of academic engagement accounted for cognitive dissonance was 210%. Thus, cognitive dissonance is an important psychological and academic factor affecting university students (Al-Atoum & Al-Azamat, 2024)..

Foreign Studies

1. Dawson et al. (2025)

“Cognitive Dissonance in Programming Education: A Qualitative Exploration of the Impact of Generative Artificial Intelligence on Application-Oriented Learning”

The current study looked at the impact of Generative Artificial Intelligence (GenAI) tools driven by Large Language Models (LLMs) on programming learning. The researchers in the study adopted qualitative analytical approach using thematic analysis and semi-structured interviews. The sample of study was taken from 12 university students.

There was a big difference in how often students used LLM-based tools according to the findings. Cautious computer use related to a meaning-oriented learning approach whereas intensive computer use related to an application-oriented learning approach. The findings also revealed a clear tension between how often the students used AI tools and their awareness of the fact this might not be the best way to learn. In light of the result, it can then be concluded that the Cognitive Dissonance Theory is an apt choice to study when it comes to explaining how students are motivated to behave in a way

that lowers the psychological discomfort arising from the inconsistencies between beliefs and actions. A study suggested enhancing self-regulated learning skills and meaning-oriented learning strategies among university students (Dawson et al., 2025).

2. Seran et al. (2025)

“A Conceptual Exploration of Cognitive Dissonance Resulting from Generative Artificial Intelligence and Its Manifestation in Academic Writing” This study sought to examine how generative artificial intelligence tools such as ChatGPT, Gemini, and Claude influence academic integrity and learning behaviors among university students, with particular emphasis on the psychological tension and cognitive dissonance associated with the use of these technologies. The study included a sample of 467 university students and employed a conceptual exploratory approach supported by descriptive data analysis. The results indicated that 68% of students experienced ethical conflict when using artificial intelligence tools, whereas 52% preferred speed and convenience over complete adherence to academic values and standards. The findings suggested that excessive reliance on generative artificial intelligence creates a conflict between the desire for rapid accomplishment and commitment to academic values such as originality and personal effort. Consequently, students often adopt strategies aimed at reducing cognitive dissonance, including justifying the use of artificial intelligence or minimizing the importance of academic integrity (Seran et al., 2025).

Research Methodology and Procedures

The researcher used a descriptive correlational method. The entire group of students who studied at the University of Kufa during the academic year 2025-2026 was targeted.

Selection of sample was done by stratified random sampling with proportional allocation. The student respondents included 600 male and female students from scientific and humanities specializations.

Research Instrument

The Cognitive Consistency–Dissonance Scale was developed. To determine face validity, the measurement instrument was evaluated by experts. For construct validity testing, the instrument was examined through discriminant validity, internal consistency indicators, and confirmatory factor analysis. Four hundred students were the statistical analysis sample in which the scale was administered.

Cronbach’s alpha coefficient and the test-retest method were used. The results were shown to have good psychometric properties, indicating that the instrument has sufficient validity and reliability..

Presentation of Results

First Objective

To identify the level of cognitive consistency–dissonance among students at the University of Kufa.

To achieve this objective, a One-Sample t-test was conducted. The results are presented in Table 1.

Table 1: Results of the One-Sample t-Test Comparing the Sample Mean on the Cognitive Consistency–Dissonance Scale with the Theoretical Mean

Variable	Sample Size	Mean	Standard Deviation	Theoretical Mean	Calculated t-value	Tabulated t-value
Cognitive Consistency–Dissonance	600	55.422	5.731	50	23.174	1.960

The tabulated t-value at the 0.05 significance level and 599 degrees of freedom equals 1.960.

The results indicate that the calculated t-value (23.174) exceeded the tabulated value (1.960), demonstrating a statistically significant

difference between the sample mean and the theoretical mean. The difference was in favor of the sample mean, indicating that the level of cognitive consistency–dissonance among the participants was above average.

These findings suggest that university students tend toward cognitive consistency more than cognitive dissonance.

Discussion of the First Objective

The research findings show that university students have a fairly high cognitive consistency. The researcher believes that this finding is consistent with the study's theory, in particular, Sakai's (2021) Recurrent Network Model of Cognitive Consistency. This model suggests that consistency and dissonance are successively evolving states that an individual undergoes in a dynamic cognitive system.

According to the model, cognitive networks of humans do not remain permanently disturbed when faced with cognitive conflicts caused by environmental, social, or technological changes. Rather, they do this by replacing beliefs with new ones, reinterpreting incoming information, and reconstituting cognitive structures to restore some degree of internal stability.

Therefore, a considerable cognitive consistency does not necessitate means absence of considerable cognitive dissonance. In fact, it implies that students have effectively dealt with

cognitive conflicts and reorganized their cognitive systems successfully.

While at university, students are continually learning to balance their previous knowledge with new knowledge, and their traditional views with contemporary views. More coherent and stable cognitive structures are formed through such experiences.

Moreover, the results suggest that the students do not often face significant contradictions between their beliefs, attitudes, and behaviours. This allows them to attain a fairly high degree of harmony and internal consistency.

In addition, university students are faced with many sources of information like lectures, digital media, social media and so on. The information might create dissonance initially, but repeated exposure and cognitive processing help information integrate into cognitive structures. In turn, it improves cognitive consistency (Albers et al., 2021)..

Second Objective

To identify statistically significant differences in cognitive consistency–dissonance according to gender (male, female), academic specialization (humanities, scientific), and the interaction between these variables.

To examine these differences, a Two-Way Analysis of Variance with Interaction was conducted. The results are presented in Table 2.

Table 2 : Results of the Two-Way Analysis of Variance for Cognitive Consistency–Dissonance According to Gender, Academic Specialization, and Their Interaction

Source of Variance	Sum of Squares	df	Mean Square	F-value	Significance
Gender	314.614	1	314.614	9.885	Significant
Academic Specialization	124.160	1	124.160	3.901	Significant
Gender × Specialization	618.932	1	618.932	19.447	Significant
Error	18968.668	596	31.827	—	—
Total	20026.374	599	—	—	—

The tabulated F-value at the 0.05 significance level with degrees of freedom (1,596) equals 3.86.

The results demonstrate statistically significant differences attributable to gender, academic specialization, and the interaction between the two variables, as all calculated F-values exceeded the corresponding critical value.

Interpretation of Results Related to Gender

The results revealed that the F-value for gender was calculated as 9.885 while tabulated was 3.86 at 0.05 level of significance and 1, 596 degrees of freedom. The result indicates a significant cognitive consistency-dissonance difference based on gender, favoring male students in particular.

The researcher interprets this finding as gender-related influence on cognitive consistency-dissonance. Levels of cognitive consistency-dissonance seem to differ between male and female students. Compared to females, males may be more involved in real-life social environments, which gives them the capability to reorganize cognitive structures when they experience any contradictory information and non-complementary cognitions.

As per the model of Sakai (2021), cognitive dissonance is not synonymous with permanent cognitive instability. It impels people to rearrange their opinions and attitudes in order to achieve a relative state of internal consistency. Boys may have greater opportunities for cognitive reorganisation due to the socialisation patterns which facilitate independence, openness, and social interchange.

Also, male students participate more often in university activities and mixers with friends and professors. These interactions lead to discussion and resolution of opposing viewpoints as such satisfaction reduces cognitive conflicts and results in higher cognitive consistency as compared to female students.

Interpretation of Results Related to Academic Specialization

Based on the findings, the calculated F-value of the academic specialization was 3.901, which is higher than the tabulated F-value which is 3.86 at 0.05 level of significance (1, 596). The findings have indicated the statistically significant difference in the Cognitive consistency-dissonance based on the area of specialization, in favor of humanities students. The findings of the research may be explained by the nature of education in the humanities, which is

characterised by two things, namely reflective thinking and critical analysis, along with examination on values, beliefs and attitudes. Experiences like the educational ones encountered in the Indian classroom make students rethink and re-organise their structure.

In Sakai's theory, cognitive consistency occurs through the reorganization of the relationships among beliefs and cognitive images. Humanities students are more likely to show this behavior since their courses are mainly about interpretation and discussion and evaluation and not just facts. Humanities students engage with issues of identity, values, ethics and social attitudes more frequently; all of which are directly linked with the concepts of cognitive consistency and cognitive dissonance. As a result, they may be able to process cognitive contradictions in a mature and adaptive manner in a better way.

The interaction effect of gender and field of study. Moreover, the F-value computed for the interaction of gender and academic specialization was found to be 19.447, which exceeded the tabulated F-value of 3.86 at 0.05. In addition, the degrees of freedom are (1, 596). A statistically significant interaction effect of gender and academic specialization on cognitive consistency-dissonance was found, as shown above. The existence of this interaction indicates that the impact of gender on cognitive consistency-dissonance fluctuates according to academic specialization and that the impact of specialization differs according to gender. Consequently, the phenomenon of cognitive consistency and dissonance cannot be comprehended by solely analyzing gender, specialization, or their isolated effect. Rather, it is a product of the combined effect of the two variables.

Conclusions

Based on the findings of the study, the following conclusions can be drawn:

1. University students exhibit a high level of consistency which indicates that they have adapted to the current changes without any inconsistency.

2. Cognitive consistency is a representation of cognitive maturity and the ability of students at the University of Kufa to reorganize their beliefs, attitudes and knowledge structures.
3. Cognitive dissonance can be present even when cognitive consistency is high. Instead, it indicates that there are effective cognitive mechanisms that allow students to process contradictions and resolve cognitive conflicts.
4. Both gender and academic specialization affect the levels of cognitive consistency–dissonance of university students.
5. The ceiling effect found in previous studies has been confirmed, meaning that students' responses tend to be limited to the upper end.

Recommendations

1. Employ the Cognitive Consistency–Dissonance Scale formulated in this study as a reliable scientific diagnostic instrument in university counseling centers to discover and diagnose contemporary behavioral and cognitive problems.
2. Through workshops and educational activities, the role of psychological counseling units in universities should be strengthened to reduce the cognitive dissonance caused by the gap between values and behaviors.
3. Create teaching brochures and guidance materials that highlight typical symptoms of cognitive dissonance and practical strategies for managing it.
4. Create field-based intervention programs for female students in humanities to narrow down the gap between theory and practice and

improve cognitive flexibility and cognitive consistency.

5. Use the strength shown by male students who have chosen humanities as a stream and have good levels of cognitive flexibility and positive social engagement, including them in awareness campaigns, dialogue sessions, and leadership activities.
6. Engagement in extracurricular activities is useful for scientific students (male and female) in order to lessen their stiffness of recurring school work and enhancing coping, life skills, cognitive balance, and intellectual maturity.
7. Encourage academic counseling centers to adopt a gender-sensitive approach in their counseling sessions by enhancing emotional support for female students and promoting a more flexible cognitive mode among male students to assist them in overcoming cognitive dissonance.

Suggestions for Future Research

1. Carry out studies to explore cognitive consistency–dissonance with other psychological and educational variables not considered in this study (e.g. mindfulness, emotional intelligence and artificial intelligence literacy).
2. Another interesting area of research that could be examined is the relationship between social media and cognitive consistency or dissonance among university students.
3. Comparative studies should be conducted in Iraqi, Arab universities to look at cognitive consistency-dissonance and similarities and differences.

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