Cognitive Dissonance Theory

Cognitive dissonance theory aims to explain the relationships between the motivation, perceptions and cognitions of an individual.

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Theory Factsheet

Proposed By: Festinger, 1962

Related Theories: Social Exchange Theory, Force Compliance Theory, Fairness Theories, Self-perception Theory, Balance Theory, Cost-benefit Analysis, Self-discrepancy Theory, Confirmation Bias, Coping Behaviour Theories, Sensemaking, Echo Chambers, Resistance to Change

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Level: Micro-level

Type: Theory for Explaining

Operationalised: Qualitatively / Quantitatively

Introduction

Cognitive dissonance theory was first presented by Leon Festinger in 1957 in order to explain the relationships between the motivation, perceptions and cognitions of an individual (Festinger, 1962). It clarified the conditions that motivate individuals to change their opinions, attitudes, beliefs or behaviours. Festinger (Festinger, 1962) defined the 'cognition' as any piece of knowledge that an individual has about themself or their environment. The theory was based on the belief that people strive toward consistency within themselves and are driven to make changes to reduce or eliminate an inconsistency (Cooper, 2007). Cognitive dissonance theory began by postulating that pairs of cognitions can be either relevant or irrelevant to one another. If two cognitions are relevant and concurring, there is consonance. However, if two cognitions are relevant, but conflicting, the existence of dissonance would cause psychological discomfort and motivate the individual to act upon this. The greater the magnitude of dissonance, the greater the pressure for the individual to reduce the dissonance (Harmon-Jones & Mills, 2019). The existence of dissonance and the mechanisms that humans used to cope with it captured Festinger's interest in developing cognitive dissonance theory.

The concept of cognition was relatively new at the time of the introduction of cognitive dissonance theory. Before that, the relationship between human attitudes and behaviours was understood as a

complex process that involved motivational, emotional, affective and perceptual factors (Krech, 2019; Rosenberg, 1966). Therefore, the theory was one of the breakthroughs for research in the psychology field as it revolutionised thinking about human psychological processes. More specifically, the theory explains how rewards affect attitudes and behaviours and how behaviours and motivations affect cognitions and perceptions (Harmon-Jones & Harmon-Jones, 2007). Although the concepts of harmony and conflict were not new and had been proposed earlier by Heider (Heider, 1946), Cognitive Dissonance theory made a major contribution to the concept of consistency (Cooper, 2007). The theory is different compared to other consistency theories as it defines dissonance and consonance in relation to a specific cognition, which usually is related to a behaviour (Harmon-Jones & Harmon-Jones, 2007). Cognitive Dissonance theory made it possible to identify the determinants of attitudes and beliefs, the internalisation of values, the consequences of decisions, the effects of disagreement among individuals and other important psychological processes (Mills & Harmon-Jones, 1999). Hence, the theory received good attention from scholars in its early days, due to its few fundamental and uncomplicated principles, which could make novel and non-obvious predictions.

Theory

Cognitive Dissonance theory has two basic underlying hypotheses:

 The existence of a dissonance will cause mental discomfort and motivate the individual to reduce the dissonance and restore consonance To reduce the dissonance, the individual will try to reduce it as well as avoid situations or information that are likely to increase the dissonance

In simple terms, a dissonance is an inconsistency in cognitive elements, which can be knowledge, opinions, beliefs, or the behaviours of an individual. The existence of such inconsistency causes mental discomfort and motivates the individual to take some actions to reduce or eliminate it. We have millions of cognitions, many of which are in our awareness but most are not (Marx, 1976). Festinger (Festinger, 1962) theorised that a pair of cognitive elements may relate to each other in three ways. Firstly, two cognitive elements may be relevant and consonant. Secondly, two cognitive elements may be relevant but dissonant. However, identification of the relationship may also be difficult, as two elements may be dissonant in one context, but not in another (Festinger, 1962). Dissonance can arise from many sources, including, but not limited to, logical inconsistency, cultural differences, contradictions between specific opinions and their related general stand, and a disconfirmation of a past experience to a current situation (Westmeyer, 2012). Lastly, two elements can be irrelevant to each other. The is a case when a pair of cognitive elements does not imply anything concerning one another. Once again, it can be challenging to deduce such a relationship because two elements may be indirectly linked. Therefore, researchers have to consider or make a reference to other cognitions before deriving a conclusion (Festinger, 1962).

One of the features that distinguished cognitive dissonance theory from other consistency theories was the concept of dissonance magnitude. The magnitude of dissonance depends on the number and importance of cognitions that the person experiences a consonance or dissonance with. Its calculation is summarised in the mathematical expression below (Festinger, 1962). The total tension of a dissonance is the proportion of the inconsistent cognitions to the consistent cognitions that one has, each weighted by its importance.

The formula conveys that the greater the amount or importance of dissonant cognitions and the smaller the number or importance of consonant elements the greater the magnitude of dissonance one experiences. The tension of a dissonance can fluctuate over time and does not follow a uniform

pattern (Koller & Salzberger, 2012). However, the theory proposed that higher levels of dissonance can forcefully motivate a person to promptly address the psychological discomforts, while small levels of dissonance may not be as effective in encouraging the person to take an immediate action. The minimal tensions rather build up gradually over time before they are addressed (Festinger, 1962).

In general, there are four ways to reduce a dissonance. Referring to the dissonance magnitude formula above, the dissonance magnitude decreases if (i) the number of the dissonant cognitions decreases, (ii) the importance of the dissonant cognition decreases, (iii) the number of the consonant cognitions increases and (iv) the importance of the consonant cognition increases. In other words, an individual can reduce the mental discomfort by changing the inconsistent cognitions, reducing the importance of conflicting elements, acquiring new harmonious elements or increasing the importance of the existing consistent elements. Festinger used the case of a habitual smoker to demonstrate the theory (Festinger, 1962). A smoker who knows that smoking is bad for health will experience dissonance, which causes mental discomfort, because the habit of smoking and the knowledge of how harmful smoking is are conflicting. Hence, there are four ways that the smoker can reduce the dissonance. First, the person could remove the dissonant cognition by either changing his behaviour (stop smoking) or knowledge (believe that smoking is actually not bad for health). Second, the person could reduce the importance of the dissonant cognition by thinking that the risk of getting lung cancer from smoking is lesser than being in a car accident. Third, the person could increase the amount of consonant cognition by looking for positive effects of smoking. Lastly, the person could focus on the benefits of smoking as an important part of his or her life (Mills & Harmon-Jones, 1999).

As studies on dissonance reduction have grown, specific reduction strategies have been explored. A review has summarised and classified those strategies into seven categories (McGrath, 2017).

Attitude change: The changing of one's attitude is the strategy that has received the most empirical attention. Attitudes are recognised as more fluid and flexible when compared to other elements, and thus easier to change (Cooper, 2007). Researchers often use attitudinal change as an indicator of dissonance by measuring and comparing the affective state of participants before and after a particular event (e.g. (Auster, 1965; Vroom & Deci, 1971; Davis & Jones, 1960)). However, several researchers have pointed out that the overreliance on attitudinal change as a mere dissonance reduction strategy has limited our understanding about how individuals deal with dissonant experience (Devine et al., 1999;Leippe & Eisenstadt, 1999;Simon, Greenberg & Brehm, 1995;Wilder, 1992). Festinger (Mills & Harmon-Jones, 1999) has also stated that "in the ordinary world and if the experimenter is not very careful, a little bit sloppy, there are lots and lots of avenues of dissonance reduction, and those have never been explored" (p. 384), as further discussed below.

Distraction and forgetting: A diversion of attention away from the dissonance and its negative effects helps individuals to reduce psychological discomfort. Zanna and Aziza (Zanna & Aziza, 1976) were the first to propose distraction as a dissonance reduction method. The results suggested that distraction is a more efficient strategy than attitudinal change because the latter could still remind the individuals about the dissonance. In line with this, Elkin and Leippe (Elkin & Leippe, 1986) explored forgetting as a dissonance reduction strategy and found that dissonance only declined when participants forgot about the dissonance but not when they changed their attitudes.

Trivialisation and self-affirmation: Although Festinger (Festinger, 1962) described trivialisation as a way to reduce psychological discomfort when introducing Cognitive Dissonance theory, the approach was not empirically examined until almost 40 years later. Simon et al. (Simon, Greenberg & Brehm, 1995) investigated the conditions that individuals would choose to minimise the importance of dissonant cognitions over attitudinal change to counteract the arising psychological discomfort.

The study found that the participants preferred trivialisation when the pre-existing attitudes or an important issue were made salient. In addition, Simon et al. (Simon, Greenberg & Brehm, 1995) also proposed trivialisation as a process involving self-affirmation. Once someone reaffirms themselves about their important value, the person weakens the importance of a discrepant act and reasserts the sense of self-integrity (Steele & Liu, 1983).

Denial of responsibility: A sense of responsibility for one's cognitions triggers the experience of dissonance (McGrath, 2017). Gosling, Denizeau and Oberlé (Gosling, Denizeau & Oberlé, 2006) empirically investigated this mode of dissonance reduction and confirmed its effectiveness. The results of the study suggested that denial of responsibility could even be more efficient than trivialisation in dealing with dissonance, especially when it is associated with feelings of shame and guilt.

Adding consonant cognitions: Inconsistent behaviours may be rationalised by adding new consonant cognitions to one's belief system. A considerable number of empirical studies have demonstrated how people seek out new information and external justification to support their position. For example, participants searched for more supporting arguments after experiencing discomfort from writing a counter-attitudinal essay (Cotton & Hieser, 1980) or participating in a boring experiment (Brock & Balloun, 1967; Frey & Wicklund, 1978). Furthermore, overconfidence in one's position may also help add a consonant cognition and reduce dissonance (Knox & Inkster, 1968; Blanton et al., 2001).

Changing behaviour: Although Festinger (p. 384) (Mills & Harmon-Jones, 1999) suggested that "one of the major avenues of dissonance reduction is to change your behaviour", the approach often may not be the most convenient way. To be specific, behaviours can be difficult to change when they involve pain and loss, addiction or are simply irreversible (Festinger, 1962). However, many studies have successfully demonstrated a mechanism for positive behaviour change as a result of a dissonance arousal (DICKERSON et al., 1992;Focella et al., 2016;Fried & Aronson, 1995;Fointiat, 2004). Yet, limited research has investigated the behavioural change together with other dissonance reduction strategies (McGrath, 2017). Therefore, it is unclear whether people will actually change their behaviour when other reduction modes are also available.

Act rationalisation: Act rationalisation has been discussed in previous research as an alternative behaviour reduction mode (Beauvois & Joule, 1996) (Joule & Beauvois, 1997). The approach concerns using a new problematic behaviour that is consistent with a previous action to reduce dissonance. For example, smokers who agreed to abstain from smoking for a short period tended to agree to a second and longer abstinence period (Beauvois, Joule & Brunetti, 1993). The participation in the longer abstinence period made the first abstinence period seem less problematic, and this reduced dissonance.

Only scant research has investigated multiple dissonance reduction strategies simultaneously (McGrath, 2017). However, in general, the likelihood that a particular cognition will change is determined by its resistance to change, which is based on its responsiveness to reality and the extent to which it is consonant with other cognitions (Harmon-Jones & Mills, 2019). Therefore, changes are more likely to happen in an element that is less resistant or less important (Cooper, 2007). However, an attempt to reduce a dissonance is not always successful. An individual may fail to restore a consonance, if there is a lack of social support and new harmonious elements, or the existing problematic element is too satisfying (Harmon-Jones & Harmon-Jones, 2007).

When cognitive dissonance theory was first presented, three experimental paradigms (namely decision justification, effort justification and induced compliance behaviour) were used to empirically test and provide evidence to support the theory.

Decision justification: Brehm (Brehm, 1956) applied the theory to examine dissonance in decision making. According to the theory, when an individual evaluates a decision, all of the cognitions that support the decision promote consonance, while cognitions that conflict with the selected choice trigger dissonance. The greater the amount and importance of the conflicting cognitions and the lesser the amount and importance of the supportive cognitions the higher degree of dissonance an individual would experience, and vice versa. Dissonance that is aroused when evaluating a decision can be reduced by viewing the selected choice as more attractive or the rejected alternatives as less attractive. Brehm also suggested that the degree of dissonance is more severe with a difficult decision when choices are close in attractiveness. An individual is more likely to change his or her attitude to be more negative towards the rejected alternatives after a difficult decision, while being unlikely to change the attitude if the attractiveness of the options is not comparable.

Effort justification: Dissonance arises when an individual invests a great amount of effort into a task, but gets an undesirable outcome. The more undesirable the outcome, the higher the degree of dissonance. The classic experimental design in effort justification was undertaken by Aronson and Mills (Aronson & Mills, 1959). In this study, the researchers divided the participants into groups and set them to undergo different levels of embarrassment to examine how they would deal with the experiment. The results showed that the participants who experienced mild embarrassment perceived the activity to be dull and boring, while the others who underwent a severely embarrassing moment thought the activity was interesting. The experiment demonstrated that an individual could reduce the psychological discomfort by convincing him or herself that the task is interesting and the outcome is worthwhile to eliminate dissonance and achieve consonance.

Induced compliance behaviour: Festinger and CarlsmithFestinger & Carlsmith, 1959) used cognitive dissonance theory to study induced compliance behaviours. They set up an experimental study and asked participants to undertake a boring task for an hour. Then, the participants were rewarded either $1 or $20. The group that was compensated with a higher amount of money did not experience much dissonance, while the other group had to change their attitude and convinced themselves that the task was interesting to counter the aroused dissonance. In cognitive dissonance theory, monetary compensation can be viewed as a supportive cognition that promotes consonance. Therefore, an individual would experience minimal to no dissonance when the amount or importance of the supportive cognitions is great enough. On the other hand, if the supportive cognitions are not large or strong enough to counter the dissonance, the individual would be motivated to change attitude to be more positive as a justification for the counter-attitudinal behaviour.

Although many studies have focused on a single dissonance reduction strategy (Festinger & Carlsmith, 1959;Aronson & Mills, 1959;Brehm, 1956), it is important to note that people may simultaneously adopt multiple strategies to counter the dissonance. This practice is commonly studied in relation to coping strategies. For example, a recent study (Mahapatra & Mishra, 2021) showed that customers who faced post-consumption cognitive dissonance took multiple actions to negate the experienced psychological discomfort. They sought support from like-minded people and mentally disconnected from the negative situation to reduce the negative emotions.

In summary, Cognitive Dissonance theory has contributed to the concept of consistency in several ways. Firstly, Festinger integrated various concepts, including attitudes, beliefs, perceptions, value and behaviours, which had been considered separately as a single construct of cognition. This treatment made it possible for scholars to understand the psychological process as a whole. Secondly, Festinger viewed people's mental states in a social environment from an intellectual tradition, which was influenced by Kurt Lewin, rather than a Gestalt tradition as Heider did (Cooper, 2007). This intellectual tradition proposed that people navigated the world by motivational pushes and pulls, and therefore our behaviours were driven by psychological forces. Based on this

intellectual tradition, Festinger was able to predict the magnitude of dissonance in different situations.

Applications

Cognitive dissonance theory has been successfully applied in many fields. It has been used to explain and predict the motivational nature of dissonance that led to attitude and behaviour changes at both the individual and organisational level.

The literature that is based on cognitive dissonance theory has broadly covered four phases of the process, namely, cognitive discrepancy, dissonance, motivation and discrepancy reduction (Hinojosa et al., 2017). The cognitive discrepancy phase considered a conflict between two or more cognitive elements. The dissonance phase concerned the existence of a dissonance. The motivation phase focused on the motivational nature of dissonance to reduce the psychological discomfort. Lastly, the discrepancy reduction phase related to dissonance reduction mechanisms. The concept of dissonance is predominantly related to the post-decision or post-purchase situation (Oliver, 2009). The research on this phase commonly focused on the impacts of post-purchase touchpoints on product or service evaluation (Cohen & Goldberg, 1970), satisfaction (Engel, 1963) intention to repurchase (Hunt, 1970) and the back-out rate (Donnelly & Ivancevich, 1970) of customers. Negative emotion was another concept that has been closely invested with cognitive dissonance. Previous studies have examined the impact of anger, pain, guilt and regret on the strength of dissonance and customer coping mechanisms (Higgins, 1997; Marikyan, Papagiannidis & Alamanos, 2020; Harmon-Jones, 2004; Harmon-Jones, Harmon-Jones & Summerell, 2017; Gilovich, Medvec & Chen, 1995). Some studies also investigated moderators, such as income and product involvement (Gbadamosi, 2009), on consumer decision making. Dissonance can also be extended to other purchase phases, but its purposes will be different (Koller & Salzberger, 2009; Koller & Salzberger, 2012).

Organisational studies researchers have also applied cognitive dissonance theory to examine many issues, such as, emotional labour in the workplace (Bhave & Glomb, 2016), team dissonance (Stoverink et al., 2014), information search for decision making (Jonas & Frey, 2003) and employee job change (Boswell, Boudreau & Tichy, 2005). A review of cognitive dissonance theory at the organisation level was also conducted to integrate the relevant knowledge that was published from 2000 to 2016 (Hinojosa et al., 2017). The review revealed that most of the related studies focused on a specific stage rather than the whole process of cognitive dissonance, with the least coverage on the motivation phase. The two most studied phases of cognitive dissonance in the organisational context were the cognitive discrepancy and the discrepancy reduction phase. The cognitive discrepancy phase focused mainly on decision justification, effort justification and induced compliance behaviours as sources of dissonance in various situations, whilst the discrepancy reduction phase investigated methods that organisations used to reduce dissonance, including changes in attitudes, behaviours, values, information selection, as well as no dissonance reduction (Hinojosa et al., 2017).

Limitations

Cognitive dissonance theory has become popular among social psychology and social science researchers since its early days, due to its few tenets that are able to explain the complex process of dissonance. However, the parsimonious nature of its formulation and application made the theory subject to the paradox of simplicity and raised concerns about overlooking confounding variables (Festinger, 1957; Osgood, 1960; Zajonc, 1960). Since dissonance is not restricted to logical inconsistencies, but is also bounded by other psychological and cultural factors (Festinger, 1962),

several scholars argued that dissonance was more complicated than as presented by the Cognitive Dissonance theory and not easy to create in an experiment, which also raised concerned over the experimental paradigms that have been used to demonstrate the theory (Chapanis & Chapanis, 1964; Marx, 1976). In response to the limitations of the theory, three revisions of cognitive dissonance theory have been proposed. Firstly, the self-consistency model (Abelson, Aronson & McGuire, 1968; Aronson, 1999) addressed the paradox of the simplicity of the original theory by adding self-concept as a further explanation of dissonance. Secondly, the self-affirmation model (Berkowitz, 1988) focused on the overall self-image of moral and adaptive adequacy as an alternative explanation for attitude change. Lastly, the aversive consequences model (also commonly known as "a *new look at dissonance*") (Cooper & Fazio, 1984) also presented an alternative view on mental discomfort. This model proposed that the psychological stress was caused by the feeling of being self-responsible for inducing aversive consequences, rather than the inconsistency in cognitive elements.

Concepts

Cognition (Independent): An opinion, knowledge or belief about the environment, about oneself, or about one's behaviour. (Festinger, 1962)

Cognitive Dissonance (Dependent): The existence of non-fitting relations among cognitions. (Festinger, 1962)

Cognitive Dissonance Reduction (Dependent): The existence of dissonance causes psychological discomfort and motivates the individual to act upon this by changing their opinions, attitudes, beliefs or behaviours. (Festinger, 1962)

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