UNIVERSITÀ DEGLI STUDI DI PADOVA

Dipartimento di Psicologia Generale (DPG)

Corso di laurea magistrale in Psicologia Clinica

Tesi di laurea magistrale

Exploring the Role of Cognitive Dissonance in Shaping Perceptions and Memories of Intimate Experiences

Relatore
Prof. Giuseppe Sartori

***Laureanda*: Giulia Brocchini**
***Matricola*: 2089569**

Anno Accademico 2024/2025

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Introduction

Cognitive dissonance, as the discomfort stemming from intrapersonal, conflicting cognitions (i.e., beliefs, behaviours, feelings, attitudes, values, and perceptions), has been widely researched. However, its relevance in shaping perceptions and memories remains less understood. Thus, this paper aims to explore this topic with a thorough overview of the existing literature, with a specific focus on intimate experiences. Specifically, the aim is to investigate whether cognitive dissonance may be a source of inaccurate allegations of sexual assault due to its potential to influence retrospective memories and evaluations of sexual encounters. On no account does this paper seek to undermine the validity of the allegations of sexual assault but rather shed light on a psychological phenomenon that may unintentionally shape the interpretation of an event.

From the literature search we conducted, it emerged that, given the empirically demonstrated potential for cognitive dissonance to alter memories and perceptions, it is reasonable to presume that this mechanism could also apply in cases of disputed sexual encounters, where dissonance is evoked. Hence, especially when the debate revolves around the presence/absence of consent, which is by its very nature ambiguous and interpretative, dissonance could result in a relabelling of the event as more coercive due to genuine misperception and/or misremembering. This statement is discussed throughout the paper and addressed more specifically in the third chapter.

In the first chapter, the theoretical foundations of this dissertation are laid out. First, the cognitive dissonance theory, as initially postulated by Festinger (1957), is outlined and discussed, with an additional brief but relevant focus on the most recent insights and revisions. Moreover, in the second half of the first chapter, the mechanisms of effective and ineffective remembering are examined, with a focus on the effect of strong emotions and alcohol on memory, as both are most of the time involved in cases of intimate experiences and especially of sexual assault.

In the second chapter, after briefly addressing the existing Italian legislation on the crime of sexual assault, the occurrence of inaccurate allegations of sexual assault is explored. In fact, inaccurate (or false) allegations, even if far less frequent than accurate, are a

relevant social issue that has received little academic attention. Finally, the challenges of distinguishing accurate from inaccurate allegations of sexual assault are taken into account.

The third chapter specifically addresses this dissertation's core: Is cognitive dissonance liable to distort people's memories and perceptions as a means to reach consistency? The existing empirical research on the topic is discussed, generally as a strategy for dissonance reduction and specifically as a strategy for dissonance reduction in the context of intimate experiences and inaccurate allegations of sexual assault.

Finally, we present a qualitative checklist to help the professionals detect and evaluate those elements that may indicate the influence of cognitive dissonance on an individual's memories of an intimate experience that resulted in an allegation of sexual assault.

CHAPTER 1

Theoretical foundations

This first chapter lays the foundations on which this dissertation is built. To answer the question of whether memory distortion can serve as a mechanism of cognitive dissonance reduction in intimate experiences, we first have to outline what the cognitive dissonance theory (Festinger, 1957) postulates and what factors result in the memory of an event being accurate vs. inaccurate. Henceforth, cognitive dissonance theory will be analysed and discussed in the first half of the chapter, whereas, in the second half, the mechanisms of accurately remembering an event will be evaluated.

1. An introduction to Festinger's Theory of Cognitive Dissonance and the wide body of research it generated

In 1957, Leon Festinger published his book *A Theory of Cognitive Dissonance*, in which he formally postulated what later became one of the most influential theories of social psychology: cognitive dissonance theory. Almost 70 years later, this theory still attracts great interest and is the subject of extensive research (e.g., Harmon-Jones, 2019).

1.1. Background

In 1957, the idea that people prefer cognitive consistency (over inconsistency) was hardly new (Morvan & O'Connor, 2017). In fact, several psychologists, including Sigmund Freud and Fritz Heider, had already proposed the idea. Despite the similarities in the topic, the terminology was sometimes different; for example, Heider (1958) called "balance" what Festinger called "consonance" (as opposed to dissonance or unbalance), making him and his colleagues known as "balance" theorists (Schachter, 1994).

However, Festinger took this idea a step further. Not only did he study and apply his theory differently, proposing an extensive body of empirical research in its support and applying it to a broader range of situations, but he also answered *why* people prefer cognitive consistency over inconsistency (e.g., Morvan and O'Connor, 2017).

Festinger (1957) posited that dissonance is a *drive* rather than a simple preference (Cooper, 2007). It follows that we do not have a preference for consistency; quite differently, we *need* to maintain cognitive consistency and, therefore, reduce the existing dissonance, much like we "do not just prefer eating over starving; we are driven to eat" (Cooper, 2007; p. 3).

1.2. Festinger's original theory

Festinger's (1957) original theory springs from the assumption that two cognitions, understood as "pieces of information" (Festinger, 1962; p. 94) or as something that has a "psychological representation" (Cooper, 2007; p. 6) can be either relevant or irrelevant to each other.

Two cognitions that are relevant to one another can be consonant ("if one follows from the other", Harmon-Jones & Mills, 2019; p. 3) or dissonant ("if the obverse (opposite) of one cognition follows from the other", Harmon-Jones & Mills 2019; p. 3).

If two cognitions are relevant to each other but dissonant, cognitive dissonance is generated. As dissonance is psychologically uncomfortable, it prompts people to reduce it, either by avoiding the dissonant information or applying dissonance reduction

strategies (e.g., Harmon-Jones & Mills, 2019; McGrath, 2017; Morvan & O'Connor, 2017). The greater the dissonance (or the number of dissonant cognitions), the greater the pressure to reduce it (Harmon-Jones & Mills, 2019). Aronson later added that the greater the importance of the dissonance for the self, the greater the pressure to reduce it (Aronson, 1968, 1992, 2019).

Cognitions may concern the self or other people or things; they may concern beliefs, behaviours, feelings, attitudes, values, or perceptions (e.g., Morvan & O'Connor, 2017; Harmon-Jones & Mills, 2019). In addition, Festinger (1962) recognises the influence of personal experiences and cultural norms in shaping what determines dissonance.

1.3. Strategies of dissonance reduction

Festinger (1957) posits that cognitive dissonance may be reduced in three main ways:

- By removing the dissonant cognitions (e.g., behaviours, attitudes, beliefs),
- By reducing the importance of the dissonant cognitions, a process some authors referred to as *trivialization* (e.g., McGrath, 2017), or,
- By adding consonant cognitions.

Harmon-Jones and Mills (1999) argue that a fourth way follows logically; that is: increasing the importance of consonant cognitions.

Festinger (1957) then provides an example. The example concerns the instance of a habitual smoker who learns that smoking is harmful to his health. The behaviour (smoking) is dissonant with the cognition that smoking is harmful, generating a psychological state of discomfort, which can be reduced either by:

- Quitting smoking (removing the dissonant behaviour) or ignoring the knowledge that smoking is harmful (removing the dissonant belief),

- Thinking about how many things are harmful to one's health and, yet, he or she is still performing them (reducing the importance of the dissonant cognition),
- Reasoning that smoking may have some positive effects, too, such as decreasing one's appetite and thus weight (adding a consonant cognition), or else
- Thinking that smoking is too important for him or her to give up (increasing the importance of consonant cognitions). As abovementioned, this one was not included in Festinger's original text (1957).

In this example, it is relatively simple to reduce the dissonance as the behaviour (smoking) may be virtually ceased at once. In fact, the dissonance arises from the behaviour being perpetuated despite the knowledge that it harms one's health; hence, in this situation, the dissonance stems from the person replicating the behaviour.

Quite differently, in the situations we are going to discuss in this paper, cognitive dissonance is mainly generated by behaviours (that is, sexual encounters) that cannot be ceased as they already happened and cannot be changed, for we cannot change the past. Given that, as noted before, dissonance is psychologically uncomfortable and needs to be reduced, in these situations, the person will need to find other ways to reduce dissonance for their own well-being.

Although most research on people's strategies of dissonance reduction focused on changing the dissonant cognition (especially attitudes) (e.g., Festinger & Carlsmith, 1959), it is worth noting that there are many more ways people use to reduce the dissonance. Festinger (1999) himself stated that there are "lots and lots of avenues of dissonance reduction" (p. 384). Further research on the matter shed light on several more strategies, including *distraction*, meaning the person does not pay attention to the dissonant cognitions and hence avoid its aversive consequences; *diffusion of responsibility*, which may happen as a way of dissonance reduction in groups; or *denial of responsibility* (e.g., McGrath, 2017; Gosling, Denizeau & Oberlé, 2006) (for a more comprehensive overview of cognitive dissonance reduction strategies, *see* McGrath, 2017).

Festinger (1957) himself discussed denying one's responsibility for the act as a means to reduce cognitive dissonance, but until Gosling, Denizeau, and Oberlé's (2006) article, it

had not been empirically tested. Through three experiments, Gosling et al. (2006) demonstrated that denial of responsibility reduces the discomfort associated with cognitive inconsistency by separating individuals from their actions to preserve the initial self-concept.

A further way of reducing dissonance is through misperception or misremembering of the dissonant cognitions (e.g., Berthold & Blank, 2016; Rodriguez & Strange, 2014, 2015). This strategy will be the focus of this dissertation and will be covered more extensively later in the paper.

Henceforth, people have many strategies to reduce the cognitive dissonance arising from holding dissonant cognitions but often employ the first one available to them (e.g., Gosling et al., 2006; Rodriguez & Strange, 2015).

1.4. Cognitive dissonance theory beyond Festinger's original theory

Moving forward with the establishment of the theoretical basis on which this paper takes form, some key points resulting from Festinger's theory must be mentioned in order to understand better the wide dissemination of the theory to many areas of psychology and even outside (e.g., to enhance the use of condoms among college students, to lessen the climate change denial).

For one thing, dissonance is generated almost every time a decision is made (e.g., Harmon-Jones & Mills, 2019) because the positive aspects of the discarded option are dissonant with the decision, as are the negative aspects of the chosen option. Hence, the more challenging the choice, the greater the dissonance.

Research on this phenomenon has shown that, following a decision, people tend to attribute more positive aspects to their chosen option and more negative ones to the alternatives they rejected to lessen the dissonance (e.g., Morvan & O'Connor, 2017). This, in turn, suggests that the dissonance reduction strategies, in some cases, may imply a misremembering and/or a misinterpretation of past information.

Another key consideration stemming from Festinger's theory results from a study by Festinger and Carlsmith (1959). From cognitive dissonance theory, it follows that a person would normally not engage in a behaviour that is dissonant with a prior cognition (counter-attitudinal behaviour). However, in some occasions, this may not be true; for example, if rewards are given for performing the counter-attitudinal behaviour or punishments are given for not performing the counter-attitudinal behaviour (e.g., Harmon-Jones & Mills, 2019). In such cases, rewards or punishments may provide enough justification for engaging in a behaviour that is dissonant with prior cognitions and, therefore, lessen the dissonance. Dissonance can further be reduced by changing the prior cognition.

Festinger and Carlsmith (1959) found that the smaller the reward they offered their participants for stating (counter-attitudinal behaviour) something they did not believe (prior cognition), the more significant the opinion change was to adapt to what they had said. In other words, when people have a perceived greater degree of freedom to make their choices (e.g., small reward) and nonetheless engage in a counter-attitudinal behaviour, they experience great dissonance. This happens because they do not have sufficient justification to explain the counter-attitudinal behaviour and, therefore, need to engage in dissonance reduction strategies to lessen the discomfort (e.g., Linder, Cooper & Jones 1967). Conversely, when people do not have (or perceive not to have) freedom of choice, and they are hence compelled to act in a certain way, the dissonance is minimal because there is enough justification for the counter-attitudinal action (e.g., Linder et al. 1967; Festinger & Carlsmith, 1959; Cooper, 2007). Hence, the greater the freedom of choice, the stronger the need to change one's opinion to decrease the dissonance. This effect is regarded as the negative-incentive effect (Harmon-Jones & Mills, 2019).

Several revisions stemmed from Festinger's original theory of cognitive dissonance. Morvan and O'Connor (2017) report that, despite the differences, researchers of this theory generally agree that:

- The attitudinal changes resulting from cognitive dissonance are *genuine*, rather than feigned changes made only to appear better to others as theorised by the Impression-Management theory (Tedeschi, Schlenker & Bonoma, 1971),
- These said changes are *motivated* in nature,

- These genuine changes are motivated by a form of psychological discomfort.

One revision proposed by Aronson (1968, 1992, 2019) posits that dissonance is evoked as a consequence of an inconsistency between an act and one's *sense of self*. Given that individuals usually[1] have a positive self-concept, dissonance will arise when they engage in a behaviour they see as immoral, incompetent, and/or irrational. In other words, people usually want to perceive themselves as moral, competent, and capable of anticipating their own behaviour. Aronson (1960) argued that Festinger's theory of dissonance "makes its strongest predictions when an important element of self-concept is threatened" (Aronson, 2019; p. 146). Furthermore, the greater the involvement of the self in the behaviour, the bigger the dissonance and, finally, the psychological need for justification (e.g., Aronson, 2019). Hence, the magnitude of the dissonance is determined by the subjective importance of the cognitions involved. For example, for a very religious person, it might be a really important cognition to still be a virgin at his or her wedding.

Tavris and Aronson (2007), in their book *Mistakes Were Made (but Not by Me),* wrote that: “As fallible human beings, all of us share the impulse to justify ourselves and avoid taking responsibility for actions that turn out to be harmful, immoral, or stupid” (p. 2), especially when the “stakes” (e.g., moral, emotional) are high. In addition, Tavris and Aronson (2007) stated that most people will not cease self-justifying their actions and will not admit their mistakes, not even when faced with evidence of their wrongdoing.

It has been argued that the metacognitive element of the sense of self is not necessary to cause dissonance, as, for example, some studies showed that dissonance happens in non-human animals as well (e.g., Harmon-Jones, Haslam, & Bastian, 2017; Egan, Bloom, & Santos, 2010). This result, which seems to contradict Aronson's revision, only indicates that the self-concept is *not necessary* to evoke dissonance; it does not mean, however, that it does not play a role. In fact, even though Festinger's original theory still stands

[1] Interestingly, some people may hold a negative self-concept, rather than a positive one (Aronson & Carlsmith, 1962). Consequently, moral, competent behaviours may be dissonant with their self-image, whereas immoral, incompetent ones may be consonant. For example, Aronson and Carlsmith (1962) found that, sometimes, college students experienced dissonance when they had success. This shows just how important consistency is for people, as at times they would rather hold a consistent, rather than positive, self-image.

despite these revisions, said revisions, such as Aronson's, helped highlight more cognitions relevant to creating dissonance (Harmon-Jones & Mills, 2019).

Finally, mechanisms of cognitive dissonance have been proven to be effective to address some social and environmental issues, such as water conservation (Dickerson, Thibodeau, Aronson, & Miller, 1992), increase in condom use (Stone, Aronson, Crain, Winslow & Fried, 1994), and reduction of rape myths endorsement (Steinmetz, Gray & Raymond, 2019).

2. The challenges of remembering an event

Memory is a fascinating subject that, in time, attracted extensive research. Many models of the memory, its types, and its neuroanatomic substrates have been designed throughout the years. Indeed, it is widely acknowledged that there are several distinct types of human memory (e.g., Baddeley 1999, 2013; McDermott & Roediger, 2018; Tulving, 1985; Parkin, Reid & Russo, 1990; Gerver, Griffin, Dennis & Beaty, 2023). A striking demonstration of this comes from the extraordinary case of Clive Wearing, a musician whose memory was damaged by a brain infection to the point that he became severely amnesic. Clive cannot retain new information for more than a few minutes; nevertheless, one area of his memory is remarkably well-preserved: the one that concerns music (i.e., procedural; Wearing, 2005).

In this paper, the focus will be on autobiographical memory, or "a person's memory for episodes or experiences that occurred in their own life" (APA Dictionary of Psychology, Updated on 11/15/2023[2]). Autobiographical memory is, therefore, long-term memory for information concerning the self.

Despite the extensive literature on memory, there are many wrong (or at least oversimplified) common-sense assumptions about it. One of these posits that remembering is a re-play process of what happened, much like pressing 'play' on a video

[2] https://dictionary.apa.org/autobiographical-memory

recorder (Simons & Chabris, 2011). However, it is now widely acknowledged that this is not the case. Memory is a reconstructive process, as opposed to a reproductive one, in which information is pro-actively put together to recreate a past event, sometimes adding new pieces of information that may distort the original memory (e.g., Rodriguez & Strange, 2015; Kloft, Monds, Blokland, Ramaekers & Otgaar, 2021). Furthermore, when pieces of information are missing, people are likely to infer them to be consistent with their existing cognitions, which may lead to misremembering and memory distortions (e.g., Davis & Loftus, 2009; Rodriguez & Strange, 2015). Ultimately, this process may result in the establishment of inaccurate and sometimes even completely *false* memories. One mechanism that has been proposed to explain memory distortions is cognitive dissonance (e.g., Scoboria et al., 2014; Rodriguez & Strange, 2014, 2015; Berthold & Blank, 2016).

The task of remembering relies on three distinct processes: encoding, storage, and retrieval (e.g., Baddeley, 2013; McDermott & Roediger, 2018) (**Figure 1**). It follows that we cannot recall an event if one or more of these processes are not correctly carried out.

First, to remember an event, we have to register the information (*encoding*), a process that relies heavily on attention (e.g., Baddeley, 2013; Davis, Hogan & Hart, 2024; White, 2003; Muzzio, Kentros & Kandel, 2009). Given that our attention is limited, those things we do not pay attention to will not be encoded and, therefore, will not be remembered. In addition, this process of encoding information is constructive and elaborative because perception is influenced by the person's expectations, emotions, and knowledge (Davis et al., 2024). Encoding, at any moment, is interpretative and selective, thereby posing a risk for inaccuracy. In other words, what is encoded is an interpretation of what has been selectively observed.

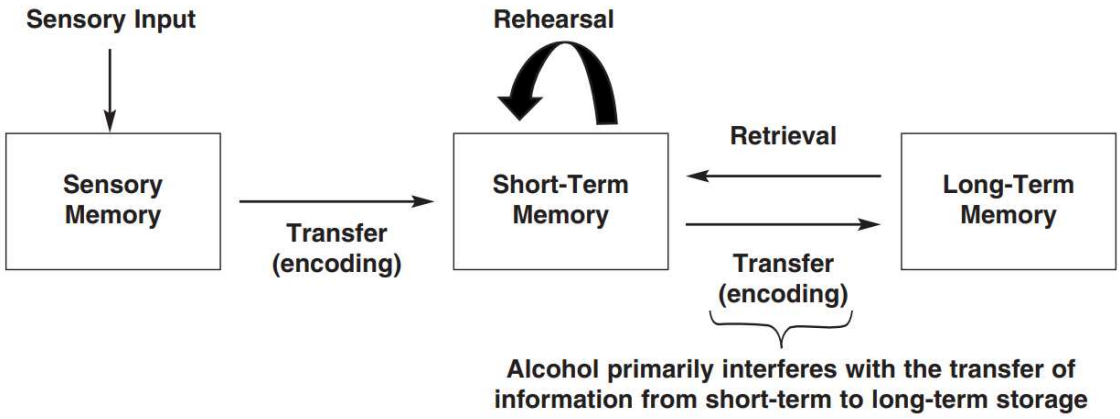

Figure 1. A simplified model of memory formation, from White 2003 (p. 187), built on Atkinson and Shiffrin's (1968) "modal model of memory". This model posits that the information is first held in the sensory memory store. From there, the attended information is transferred to the short-term memory store. Finally, a smaller part of the information will be further processed and transferred to the long-term memory store.

As Davis, Hogan, and Hart (2024) wrote, "Attention provides the opportunity for encoding" (p. 4), yet it does not ensure that said information will reach long-term memory storage, for example, in the case of head traumas or alcohol blackouts.

In fact, in order to retain an event effectively, we must be able to hold the information in long-term storage (*storage*), from which we must be able to retrieve it at will (*retrieval*) (e.g., Baddeley, 2013; White, 2003). It is important to notice that we cannot retrieve what is not stored, yet what we store may not be accessible at any time (Baddeley, 2013). This results in the "on the tip of the tongue" (Baddeley, 2013) effect we all experience in our daily lives.

Nevertheless, assuming all three of these processes occurred is not sufficient to come to the conclusion that the memory of an event is undoubtedly accurate. For one thing, as abovementioned, encoding is interpretative; hence, what we store is a subjective interpretation of the event that occurred. In addition, several other factors may influence the accuracy of remembering (e.g., alcoholic intoxication), affecting one or more of the processes of encoding, storage and retrieval (Davis et al., 2024).

Moreover, memory fades naturally over time, following Ebbinghaus's (1885) Law of Forgetting (Curve of Forgetting, **Figure 2**).

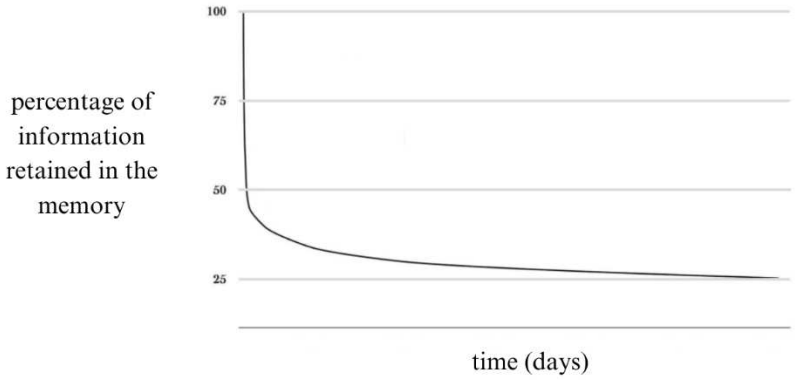

Figure 2. Curve of Forgetting, adapted from Ebbinghaus (1885)

This curve reflects a quick fall in the amount of remembered information about an event, after which the curve levels out over time, remaining mostly unchanged. Nonetheless, the elements of a memory do not fade at the same rate: the core (*gist*) of a memory remains mostly unaltered, whereas the peripheral details are mainly forgotten (e.g., Sartori, 2018a).

2.1. Memory of trauma

Davis et al. (2024) wrote that: "Nothing in the memory literature suggests that any memories, particularly for complex events, can be presumed accurate" (p. 2). This counters a common-sense belief that posits that traumatic experiences[3] are permanently and accurately etched in the memory of the victims (so-called "memory scars"), as stated

[3] Traumatic experiences are described by the Diagnostic and Statistical Manual of Mental Disorders 5 (DSM-5) as the “Exposure to actual or threatened death, serious injury, or sexual violence”.

by James (1890), who wrote that some experiences "are so emotional as to leave a scar upon the cerebral tissues".

A simple demonstration of the fallacy of this belief is provided by the wrongful conviction of Ronald Cotton.

In July 1984, Jennifer Thompson-Cannino was sexually assaulted in her own house by an unknown man. Despite what was happening, Jennifer herself reported she fought back her assailant by memorising his face. Later that night, she pressed charges against unknown. Jennifer was somehow the *perfect witness*: she had had enough time to observe her assailant's face, she had been face-to-face with him, and, above all, she was confident beyond doubt when, in a line-up, she recognised Ronald Cotton as her attacker. Nevertheless, she picked the wrong man. In 1984, Ronald Cotton was arrested for the rape of Jennifer and another woman, and it was not until June 1995 that Cotton was finally cleared of the charges.

Another proof of the fallacy of the "memory scars" assumption comes from the widely recognised *weapon (focus) effect*, which postulates that any atypical element of a situation, such as a weapon, will attract the person's attention, which will therefore not be directed to other elements of the context (e.g., Sartori, 2018b; Fawcett, Russell, Peace & Christie, 2011; Mitchell, Livosky & Mather, 1998). In fact, as aforementioned, attention is limited and thus selective. Not having received attention, the other elements of the context will be scarcely, if at all, encoded in the person's memory. For example, in the aftermath of a robbery later dubbed the "goose robbery", the people who witnessed it had difficulty describing the robber because their attention had been caught by the goose the robber had brought along. Nevertheless, sometimes, even unexpected, salient stimulus may not be noticed if the person's attention is focused on another task, a phenomenon regarded as "inattentional blindness" (e.g., Mack, 2003; Simons, 2000). Taken together, these two phenomena once again highlight the importance of attention to our memory and the fallacy of the memory scars paradigm.

There are many examples proving that trauma memories are not, in fact, indelibly etched in our brains, nor are they always an accurate depiction of what really happened. Nevertheless, most times traumatic experiences are indeed more resistant to forgetting than other types of events (e.g., Schacter, 2002; Baddeley, Eysenck & Anderson, 2009).

This is because many characteristics of effective remembering come together in traumatic experiences. For one thing, traumatic experiences are, most of the time, unique experiences, and therefore, they do not suffer comparison with other similar memories (e.g., Baddeley et al., 2009; McNally, 2005). In addition, traumatic events are frequently capable of significantly influencing our lives (Center for Substance Abuse Treatment, 2014). Moreover, these events are prone to be repeatedly recounted, whether because the victim himself or herself retells them to other people (e.g., relatives, close friends, police) or because he or she hears them from third parties (e.g., TV news) (Baddeley et al., 2009). Repetition, as shown in several studies, helps to consolidate the event in our memory (e.g., Hintzman, 2010). Finally, most of the time, traumatic experiences elicit strong emotions in the victims, which strengthen the memory (e.g., Davis et al., 2024; Reisberg & Heuer, 2020) (a brief overview of the effect of strong emotions on memory is the focus of the next section).

To sum up, a fundamental distinction must be made between memories' resistance to forgetting and their accuracy. In fact, despite being in some ways more resistant to forgetting, memories of trauma are not necessarily accurate (Davis et al., 2024; Wagenaar & Groeneweg, 1990) nor more accurate than those for "normal" events.

Finally, at times, misremembering may be *adaptive*. Some scholars argued that when something that challenges the person's well-being happens, misremembering may be adaptive, meaning helpful in maintaining the person's well-being and functionality; for example, it may be adaptive for children who have been abused by their caregivers (DePrince et al., 2012). Misremembering may also be adaptive when dissonance is evoked following one's engagement in counter-attitudinal behaviours to preserve the person's well-being.

2.1.1. The effect of strong emotions on memory

Strong emotions have been defined as "double-edged sword[s]" (Davis et al., 2024) because, on the one hand, they increase the strength of memory, while on the other, they

raise the risk of errors. Davis et al. (2024) wrote: "Emotion and 'trauma' tend to amplify the strength (as distinct from the accuracy) of encoding of the person's interpretation of the gist of the attended aspects of the experience" (p. 6). This sentence gives a vivid idea of the complexity of remembering generally, and specifically when strong emotions are involved.

Davis et al. (2023) highlight four main ways in which emotion affects memory:

- Emotions cause attention narrowing (so-called "Tunnel Memory Hypothesis", first formulated by Easterbrook, 1959). Therefore, strong emotions lead to attention being directed towards the core elements of an event at the expense of peripheral details. In addition, when the emotions (and stress) are sufficiently strong, memory and cognitive processing may be impaired. Attempts at controlling the emotions may further impair memory for details, whereas memory for emotional arousal may be enhanced (Chang, Overall, Madden, & Low, 2018);
- One's emotional arousal may inform the judgement. In other words, the emotions experienced may be used to infer what happened in a way that is consistent with said emotions. Hence, emotion can shape the way the information is processed;
- Emotions can serve as context in that they are used to contextually activate emotionally consistent patterns that guide the information elaboration process and influence judgements. Thus, emotionally consistent information will be made more available to the person; for example, aversive emotions during a sexual encounter (e.g., disgust, anger) may activate patterns of unwantedness or coercion. Hence, "prolonged post-event elaborative processes […] tends to result in greater emotion-driven bias in judgement and memory" (Davis, Cano, Miller & Loftus, 2023; p. 8);
- Emotions can impair the functioning of the frontal lobe, leading people to rely more heavily on scripts, habits, schemas, and instincts. In fact, the frontal lobe is responsible for monitoring the higher executive functions (e.g., working memory, attention, and cognitive inhibition) (e.g., Stuss, 2011; Stuss & Alexander, 2000). If the frontal lobe is impaired, the person will have to rely on other kinds of information.

2.2. Alcohol's effects on memory

A brief insight into the effect of alcohol on memory is fundamental as many allegations of sexual assault involve alcohol consumption or alcohol intoxication of either the alleged victim or alleged perpetrator or both (e.g., Jozkowski & Hoffacker, 2024; Cornelius et al., 2024; Abbey, 2002; Ullman, Karabatsos & Koss, 1999). Patrick, Maggs, and Lefkowitz (2015) found higher odds of sexual behaviours (i.e., kissing, touching, oral sex, and penetrative sex) when people (especially college students) had been drinking. Hence, there is a relevant general association between alcohol consumption and sexual acts.

This is very relevant as alcohol has important effects on memory at all its stages (i.e., encoding, storage, and retrieval). For one thing, alcohol narrows attention to information that is consistent with the intoxicated person's desires (e.g., Steele & Joseph, 1990; Giancola, Josephs, Parrott & Duke, 2010). For example, an intoxicated person willing to engage in sexual activities will be more prone to focus his or her attention on cues favouring the sexual behaviours, at the same time ignoring the cues that disfavour it. As a result, he or she may perceive the partner as more willing to engage in sexual activities (i.e., greater consent) (Davis et al., 2024). This effect has been referred to as "alcohol myopia[4]" (Steele & Joseph, 1990).

Further, the events that happened in a state of alcoholic intoxication may be scarcely encoded, if at all, due, for example, to an alcoholic blackout, meaning the loss of memories of the events that occurred during a state of severe alcohol intoxication (White, 2003). As stated above, an event that is not encoded cannot be remembered. Davis et al. (2024) argued that this effect of alcohol is similar to that of sexual arousal and felt power (for a more extensive discussion, *see* Davis et al., 2024).

[4] Only the cues that are consistent with the person's motivation will be attended to, whereas the inconsistent ones will be overlooked.

Interestingly, alcohol exerts its strongest effects on the consolidation of new long-term memories while having minor effects on the ability to briefly retain information in short-term memory and on previously formed long-term memories (White, 2003). Henceforth, even those elements of the event to which the person paid attention and briefly retained may not be later remembered, as they may not have been transferred to long-term memory storage.

The greater the amount of alcohol that is consumed, the more severe the memory impairment, up to blackout and loss of consciousness, even though other factors play a role too (e.g., expectancies on the effect of alcohol) (e.g., Perry et al., 2006; Hartzler & Fromme, 2003; White, 2003). The difference between blackouts and loss of consciousness is that, in the former, the person does not remember what happened but remains conscious, whereas in the latter, the person is unconscious (e.g., Keller & Seeley, 1958). Nevertheless, both entail a loss of memories of the events that occurred during the intoxication. It has been shown that blackouts are more common than previously anticipated (Rose & Grant, 2010) and that they may entail a loss of memories for a broad range of things that had been done during the intoxication, including unprotected intercourse and vandalism (White, Signer, Kraus & Swartzwelder, 2004).

To sum up, alcohol does not influence only attention; instead, it generally impairs the person's cognitive functioning (e.g., Marinkovic, Halgren & Maltzman, 2004; Davis et al., 2024), resulting in an inability to use pre-existing knowledge to inform the decision-making process, to the point that decisions are taken on the premise of "what you see is all there is" (WYSIATI, Kahneman, 2011).

Given the effects of alcohol on memory, in legal proceedings, it is crucial to know the witness's state of alcoholic consumption at the time the event being investigated took place. It is especially important as, for the Italian penal code, in the absence of objective proof of a crime, the witnesses' memory is assessed based on the criteria for intrinsic trustworthiness on the victim's testimony (Sartori, 2021), which is likely to be affected in cases of alcoholic intoxication.

CHAPTER 2

The delicate boundary between accuracy and inaccuracy: the challenges of assessing the allegations of sexual assault

This chapter aims to provide an overview of the current Italian laws and rulings that define the crime of sexual assault. This is crucial as a lack of awareness of what is legally meant by sexual assault can result in under-reporting and over-reporting (i.e., inaccurate allegations of sexual assault) the crime. The phenomenon of inaccurate allegations of sexual assault is further expressly addressed to understand what may be the motives that lead to them.

Before proceeding with the chapter, we must introduce the terminology we used throughout the paper. First, we hereby talk about the offence of "violenza sessuale" as per article 609-bis of the Italian Penal Code, which we translated as "sexual assault". Further, most of the time, we prefer what we regard as the more sensitive term of "inaccurate" over "false" allegations of sexual assault, especially as we focus on inaccurate allegations made unknowingly by the alleged victim.

1. A definition of the crime of sexual assault

A precondition for talking about sexual assault is the *definition* of the crime of sexual assault (*violenza sessuale*) as per the article, art. 609-bis of the Italian Penal Code[5]:

[5] https://www.brocardi.it/codice-penale/libro-secondo/titolo-xii/capo-iii/sezione-ii/art609bis.html

> **Art. 609-bis**. (Violenza sessuale). Chiunque, con violenza o minaccia o mediante abuso di autorità, costringe taluno a compiere o subire atti sessuali è punito con la reclusione da sei a dodici anni.
> Alla stessa pena soggiace chi induce taluno a compiere o subire atti sessuali:
> 1) abusando delle condizioni di inferiorità fisica o psichica della persona offesa al momento del fatto;
> 2) traendo in inganno la persona offesa per essersi il colpevole sostituito ad altra persona.
> Nei casi di minore gravità la pena è diminuita in misura non eccedente i due terzi.

Hereby, we offer an unofficial translation:

> **Art. 609-bis**. (Sexual assault). Anyone who, with violence or threats or by abuse of authority, forces someone to perform or undergo sexual acts shall be punished by imprisonment of six to twelve years.
> The same punishment shall apply to anyone who induces someone to perform or undergo sexual acts:
> 1. by abusing the physical or mental inferiority of the offended person at the time of the act;
> 2. by deceiving the offended person for having substituted himself with another person.
> In less severe cases, the penalty is reduced by an amount not exceeding two-thirds.

It is worth noting that this article does not provide a definition of sexual consent (nor nonconsent).

Further, article 609-ter[6] defines the aggravating circumstances for the crime of sexual assault, for example, when

- The offended person is underage;
- The offender is one of the victim's *ascendenti* (meaning, a person of which the victim is a descendant, such as a grandparent, parent, or guardian);
- To carry on the offence, the perpetrator implemented weapons, alcohol or drugs;
- The offence is carried out by a person misrepresenting himself or impersonating a public official or a person in charge of a public service.

In all these cases, the sentence shall be increased by one-third (more if the offended person is younger than fourteen[7]).

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[6] https://www.brocardi.it/codice-penale/libro-secondo/titolo-xii/capo-iii/sezione-ii/art609ter.html?utm_source=internal&utm_medium=link&utm_campaign=articolo&utm_content=nav_art_succ_dispositivo (for the whole article 609-ter of the Italian Penal Code)
[7] Ibid.

Hence, as per article 609-ter, the perpetrator's implementation of alcohol (or other intoxicating substances) to carry out the assault worsens the offence. It is less clear, however, the impact of willingly consumed alcohol on the sentence (Wood, Rikkonen & Davis, 2019).

Defining sexual assault is especially important as it helps understand what is *legally* regarded as sexual assault. In fact, research shows that the number of people reporting it is drastically lower than the number of people who suffered it (e.g., Jones, Alexander, Wynn, Rossman, & Dunnuck, 2009). For example, the Italian data from ISTAT (Istituto Nazionale di Statistica) reads that "many women do not regard the suffered violence as a crime" (Dati ISTAT, 2014); for example, "only 35,4% of women who suffered physical or sexual partner violence believes she was the victim of a crime; 44% stated that it was something wrong, *but not a crime*" (2014). Henceforth, it is crucial to increase people's awareness of what sexual assault is, especially in light of the widespread diffusion of rape myths.

Rape myths are stereotypes that inform the person about what *real* sexual assault, *real* victims, and *real* rapists are (e.g., Ryan, 2019; Lonsway & Fitzgerald, 1994; Burt, 1980). Rape myths often operate without the person consciously knowing it (Conaghan & Russell, 2014). For example, some widespread rape myths affirm that

- The victim is at least partly responsible for the violence,
- Men are not raped,
- The real victims of rape show signs of resistance for having opposed the rapist (Ryan, 2019).

ISTAT (2023) showed that 48.7% of the interviewed sample holds at least one stereotype on the crime of sexual violence (Dati Provvisori ISTAT maggio-luglio, 2023[8]; **Figure 3**).

[8] https://www.istat.it/comunicato-stampa/stereotipi-di-genere-e-immagine-sociale-della-violenza-primi-risultati/

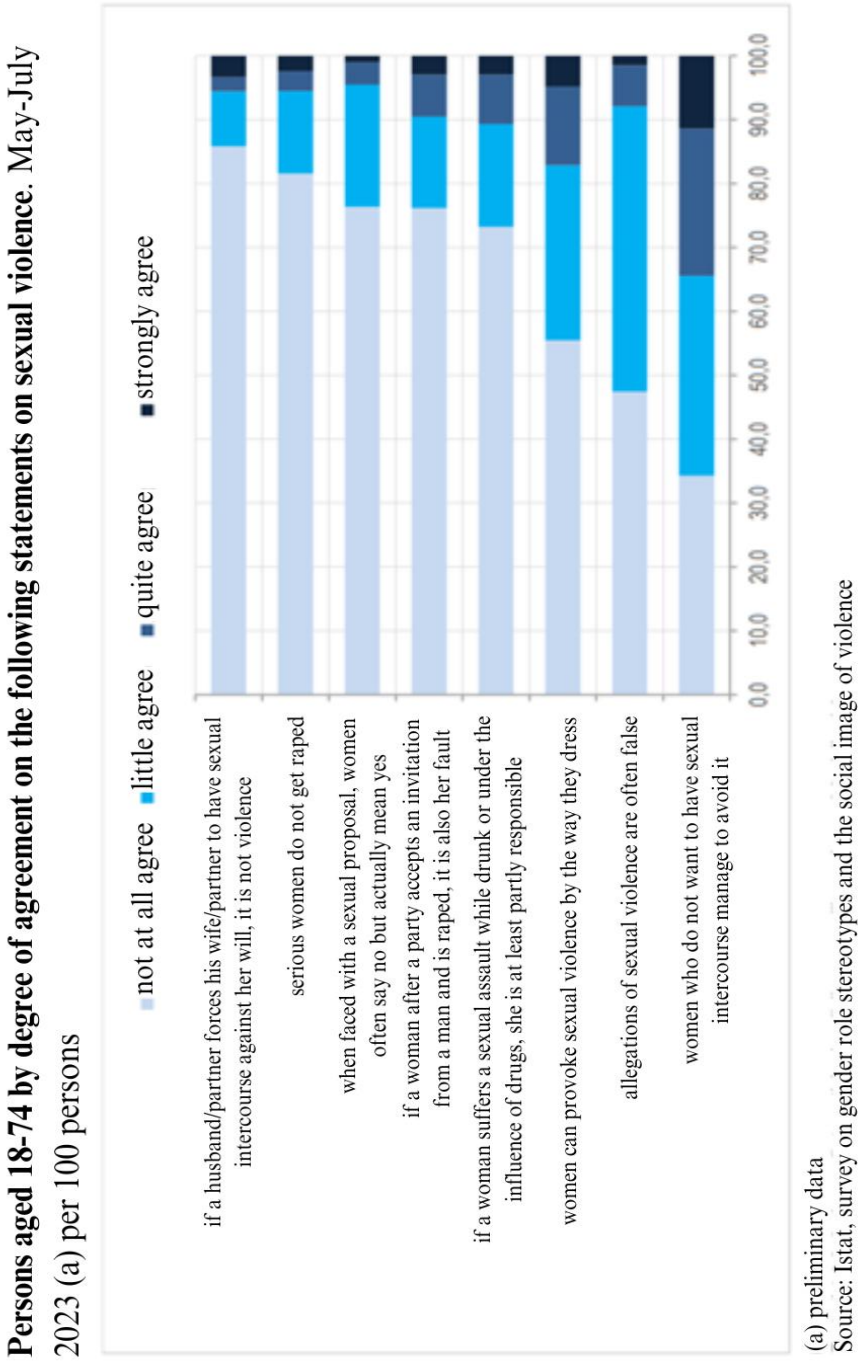

Figure 3. English translation of Dati Provvisori ISTAT maggio-luglio, 2023

This data highlights that, to this day, rape myths are still widely disseminated, especially the one that posits that women who do not want to have sexual intercourse are able to avoid it. Rape myths are extremely dangerous as they may influence the victims'

perception, leading them not to report acts that are, in fact, sexual assaults. Rape myths have also been shown to influence the jury's decisions in rulings of sexual assault (e.g., Leverick, 2020; Dinos, Burrowes, Hammond & Cunliffe, 2015) and cause victim blaming (e.g., Ryan, 2019; Grubb & Turner, 2012).

Another important aspect in the definition of sexual assault is the fact that, as for most criminal offences (unless otherwise specified), to define the crime there have to be both the *actus reus*, or the criminal act, and the *mens rea*, or the criminal intent, as referred to in the UK legal system (Incorporated Council of Law Reporting for England and Wales, ICLR[9]). In the Italian legal system, the *actus reus* is regarded as "elemento oggettivo" (objective or factual element), whereas the *mens rea* is named "elemento soggettivo" (subjective or mental element) (Sammicheli & Sartori, 2015).

Therefore, for a deed to be referred to as sexual assault, it is not enough to demonstrate that there is an *objective* element (i.e., factual criminal act), such as unconsented sexual touching. The crime of sexual assault requires a *subjective* element, too, meaning the deliberate planning and intention of committing the crime (sometimes referred to as "malice aforethought", ICLR[10]), but also negligence or carelessness.

Another relevant element in defining what is legally considered sexual assault in Italy are the sentences from the Corte Suprema di Cassazione. The Corte Suprema di Cassazione is Italy's highest court, responsible for the uniformity in the interpretation and application of the law. The sentences from the Corte Suprema di Cassazione often result in "massime"[11], which are legally relevant statements used to inform further proceedings on the same or similar matters. "Massime" are issued by the Ufficio del Massimario e del Ruolo[12]. They do not constitute laws, but they influence court decisions.

Below are listed some of the most recent "massime" on the crime of sexual violence.

First, one "massima" states that also less "penetrating" (compared to intercourse) sexual acts such as kissing and hugging can labelled as sexual assault since "both types [kissing

[9] https://www.iclr.co.uk/knowledge/glossary/mens-rea-and-actus-reus/
[10] https://www.iclr.co.uk/knowledge/glossary/mens-rea-and-actus-reus/
[11] https://www.cortedicassazione.it/resources/cms/documents/SINTESI_CRITERI_DELLA_MASSIMAZIONE_CIVILE_E_PENALE.pdf
[12] https://www.cortedicassazione.it/it/massimario.page

and hugging] are suitable for damaging the freedom and sexual integrity of the passive subject"[13] (Cassazione penale, sez. III - 26/11/2014, n. 964; Cassazione penale, sez. III - 01 agosto 2023, n. 33697). This "massima" highlights what is relevant to the crime of sexual assault, which is not only physical harm but also (and mostly) harm to the person's "freedom and sexual integrity". Consequently, even an unconsented kiss or hug constitutes sexual assault. This is very important as people may understand sexual assault mainly as physical harm and thus may fail to realise they either suffered or caused sexual violence.

For what concerns the testimony of the declarant in cases of sexual assault, ruling no. 21135 of 2019 (Cassazione penale sez. V - 15/05/2019, n. 21135) reiterates that the offended person's declarations may "be used, even alone, as the basis for the defendant's criminal liability, once the declarant's subjective credibility and the intrinsic reliability of his account have been established"[14]. If external evidence (i.e., evidence that is independent of the witness statement, e.g. text messages, video recordings) is required, it only needs to be sufficient to "exclude the defamatory intent of the declarant"[15] rather than to constitute evidence of the offence.

A further ruling by the Corte di Cassazione establishes that, among the conditions of mental inferiority, which constitute an aggravating circumstance for the crime of sexual assault, is also the consumption of alcohol or drugs, because in these cases the "victim's impairment, regardless of who caused it, can be exploited for the satisfaction of the active subject's sexual impulses"[16] (Cassazione penale sez. III - 13/02/2018, n. 16046). This massima addresses the gap in the law regarding the impact on the punishment of voluntarily consumed alcohol by the alleged declarant.

Finally, ruling no. 12628 of the 17th of December 2019 reads that "it is not possible to detect any legal indication that would impose on the passive subject a duty, not even implicit, to express nonconsent upon the intrusion of third parties into his or her sexual

[13] *«entrambe le tipologie sono idonee a ledere la libertà e integrità sessuale del soggetto passivo»*
[14] *«essere poste, anche da sole, a fondamento dell'affermazione di responsabilità penale dell'imputato, previa verifica […] della credibilità soggettiva del dichiarante e dell'attendibilità intrinseca del suo racconto»*
[15] *«escludere l'intento calunniatorio del dichiarante»*
[16] «*situazione di menomazione della vittima, a prescindere da chi l'abbia provocata, può essere strumentalizzata per il soddisfacimento degli impulsi sessuali dell'agente*»

intimacy, since, on the contrary, nonconsent is to be presumed, and it is, therefore, necessary, to rule out the criminal nature of the act, the passive subject's manifestation of consent, which [consent], even if not [verbally] expressed, has to show clear and unambiguous signs that allow it to be considered tacitly expressed"[17] (Cassazione penale sez. III - 17/12/2019, n. 12628). Thus, for the sexual act to constitute a crime, the passive subject does not need to express his or her nonconsent, as nonconsent is always presumed unless there is explicit consent (verbal or non-verbal). Therefore, "for the existence of the *subjective element* of the offence of sexual assault, it is sufficient for the active subject to be aware that the passive subject's consent to the performance of sexual acts on him or her was not clearly manifested"[18] (Cassazione penale sez. III - 19/11/2021, n. 1559). This sentence sheds light on a particularly important element for this dissertation. In fact, in most, if not all, the cases this paper refers to the core element of debate between alleged victim and alleged perpetrator is whether there was or not consent (consent will be further discussed in the third section of this chapter; pp. 28-31).

In this wake, it has to be taken into consideration the substantial legal difference between sexual assault (and rape) and unwanted but consensual sex, referred to as *compliance* (e.g., Benoit & Ronis, 2022; Impett & Peplau, 2003; Vannier & O'Sullivan, 2010; Rubinsky, 2020). In other words, sexual compliance is the agreement to take part in unwanted, undesired sexual acts. There are many reasons for engaging in sexual compliance, such as to preserve intimacy with the partner or to increase the partner's pleasure (e.g., Impett & Peplau, 2003; Vannier & O'Sullivan, 2010), and therefore to *gain* something. On the other hand, compliance may also result from attempts to *avoid* something, such as to avoid upsetting the partner or losing the partner's interest (e.g., Impett & Peplau, 2003; Vannier & O'Sullivan, 2010).

[17] «*non è ravvisabile [...] un qualche indice normativo che possa imporre, a carico del soggetto passivo del reato [...] un onere, neppure implicito, di espressione del dissenso alla intromissione di soggetti terzi nella sua sfera di intimità sessuale, dovendosi al contrario ritenere [...] che tale dissenso sia da presumersi e che pertanto sia necessaria, ai fini dell'esclusione dell'offensività della condotta, una manifestazione di consenso del soggetto passivo che quand'anche non espresso, presenti segni chiari ed univoci che consentano di ritenerlo esplicitato in forma tacita.*»

[18] «*ai fini della sussistenza dell'elemento soggettivo del reato di violenza sessuale, è sufficiente che l'agente abbia la consapevolezza del fatto che non sia stato chiaramente manifestato il consenso da parte del soggetto passivo al compimento degli atti sessuali a suo carico*»

The prevalence of compliance differs from article to article; for example, Benoit and Ronis (2022) reported a prevalence ranging between 6 and 38%, whereas Rubinsky (2020) reported that compliance ranges between 9 and 50%. Both these studies report high percentages of compliance, especially among females (Benoit & Ronis, 2022).

The difference between sexual assault and compliance is crucial as compliance at times conveys negative emotions (e.g., Impett & Peplau, 2003), such as anger, shame, or disgust, without legally meeting the standards for the offence of sexual assault. Nevertheless, negative emotions provoked by sexual acts can activate patterns of unwantedness or coercion, as seen in Chapter 1 (Davis et al., 2023). These emotions may lead the person to feel he or she was subjected to unconsented sexual acts, thus prompting the person to make an allegation of sexual assault when, in fact, the act does not qualify as sexual assault.

Research showed that, at times, inaccurate allegations of sexual assault are made (i.e., several articles converge towards around 5% of inaccurate/false allegations *vs*. 95% of accurate/true allegations, e.g., Ferguson & Malouff, 2016; Lisak, Gardinier, Nicksa & Cote, 2010). Compliance may be one pathway towards inaccurate allegations of sexual assault, but it is not the only one.

2. Exploring inaccurate allegations of sexual assault

In time, scientific research limitedly focused on the issue of inaccurate allegations of sexual assault, despite its usefulness in discerning accurate from inaccurate allegations. Given that the Italian legal system works on the basis of conviction only "beyond any reasonable doubt" (BARD principle), even the slightest rate of inaccurate allegations of sexual assault resulting in unfair convictions should be a relevant and researched issue.

Among the consequences of this relatively little interest in the topic of inaccurate allegations of sexual assault are the important methodological limitations, including the difficulty in operationalizing the construct of inaccurate allegations of sexual assault. For

one thing, inaccurate allegations must be distinguished from unsubstantiated ones (O'Donohue, 2019) or those where the amount of evidence is not enough to meet the BARD (*beyond any reasonable doubt*) principle used by the Italian legal system.

O'Donohue (2019) proposed that, to investigate the rates of inaccurate allegations of sexual assault in a scientific and reliable way, the research question should contain the following information:

- how the constructs being investigated were operationalised;
- what was the target population (and what are its crucial characteristics);
- what are the limitations of the sample;
- who is the target of the allegations (who is the accused person);
- what is the time of the allegations;
- at what stage of the investigatory process were the allegations made;
- what is the interrater-reliability;
- what are the eventual researcher biases;
- what is the general error rate (for a more extensive discussion, *see* O'Donohue, 2019).

For example, Lisak et al. (2010) defined inaccurate (*false*) reports as fully examined cases in which the preponderance of evidence suggests that sexual assault did not take place.

After converging towards a definition of inaccurate allegations of sexual assault, the reasons why an individual would file one need to be addressed. In this regard, several researchers have defined a different number of pathways that can lead to inaccurate reports of sexual violence (e.g., Engle & O'Donohue, 2012; De Zutter, Horselenberg & van Koppen, 2018). For example, De Zutter, Horselenberg and van Koppen (2018) listed eight motives that may lead to inaccurate allegations of sexual abuse, that are:

- revenge;
- regret;
- mental health diagnoses;
- creating an alibi;
- gaining sympathy;
- relabelling;

- attention gain; and
- material gain.

Interestingly, they reported a further 20% of accusers who could not provide a reason for filing the inaccurate allegations of sexual abuse, which suggests there are likely to be additional, unlisted pathways leading to inaccurate allegations.

Hence, there are many reasons for making inaccurate allegations of sexual assault, but first, we must distinguish between inaccurate allegations of which the person is aware (i.e. deliberate lies) and false allegations of which the person is not aware (i.e., "honest" mistakes; e.g. false memories) (Demarchi, Tomas, Franchi & Fanton, 2020). Deliberate lies serve many purposes (e.g., Hample, 1980), such as monetary gain or revenge, but they are not the focus of this dissertation. In fact, this paper focuses on the possibility of inaccurate allegations of sexual abuse stemming from a genuine misperception or misremembering of the intimate experience.

Researchers have also reported varying rates of inaccurate allegations of sexual assault, though most of them agree that the majority of allegations are true, with percentages of inaccurate allegations ranging between 1.5% and 10.9% (O'Donohue, 2019). For example, in their research, Lisak et al. (2010) found a percentage of 5.9% of inaccurate allegations among university students. This rate is similar to that found in the general population by other studies (e.g., Ferguson & Malouff, 2016).

Moreover, Kelly, Lovett and Regan (2005) examined 3527 allegations of sexual assault, of which 216 (6.12%) were labelled as "false allegations". They found that inaccurate claims of sexual assault were most likely when they involved:

- unemployed individuals;
- individuals between 16-25 years of age;
- disabled individuals;
- individuals with mental health conditions;
- individuals (victim and perpetrator) with no prior relationship; and/or
- victims who had previously made allegations to the police.

Despite the challenges of researching inaccurate allegations of sexual assault, such as converging on a common definition of inaccurate allegations for sexual assault and

understanding the motives for filing one, it is crucial to deepen our insight on the matter as inaccurate accusations cause significant damage to the innocently accused.

3. Distinguishing accurate from inaccurate allegations of sexual assault

Not only do we have to understand what inaccurate allegations of sexual assault are, but we also have to discern them from accurate allegations.

Self-reports of sexual assault are prone to two opposite errors: false negatives and false positives (O'Donohue, 2019). In fact, on the one hand, some people under-report the suffered sexual assaults (false negatives); on the other hand, some of the reported sexual assaults may not meet the legal standards to define sexual assault or may be lies (false positives). Hence, the estimated prevalence of sexual assault may not be as accurate as one could think.

In addition, the broad and different definitions of sexual assault used in research increase the inaccuracy of the estimates of inaccurate allegations, as does the fact that allegations are often made of "complex set of claims", some of which may be accurate, while others may be some inaccurate (O'Donohue, 2019). Thus, it should be borne in mind that allegations can be accurate, inaccurate, or *partly* accurate (Goodyear-Smith, 2016), rather than simply "true or false".

Davis and Loftus (2015) begin their article by proposing a question posited by Sandy Banks (Los Angeles Times reporter) on the 10th of July 2014, which reads:

> What do you do when two young people, both drunk and amorous, have sex that neither completely remembers, both belatedly regret and each sees through a different lens the morning after?

Davis and Loftus (2015) proceed to outline a case illustrating the difficulties of dealing with this matter. In said case, a girl sued her former boyfriend for sexual assault after they spent the night together when they had already broken up. They had run into each other

at a party by chance and spent the evening catching up with each other. At 11 p.m., they left together and went to the boy's apartment, where eventually they had sex. At that time, the girl had a new boyfriend of whom she was very fond. Their accounts of the evening are almost identical up until the moment they performed sexual activities. In fact, the girl states that she had no interest in engaging in sexual activities and was forced to have sex with him, while he reports they had consensual sex.

The case reported by Davis and Loftus (2015) highlights the difficulties of disentangling truth and lies in similar cases of alleged sexual assault.

As stated above, a minority of all allegations of sexual assault are inaccurate. Of these, some are deliberate lies, while others are "honest" mistakes. Therein arises the question of how to distinguish accurate allegations from "honest" mistakes, given that in both cases, the accuser truly believes he or she has been sexually assaulted.

First, one must be *aware* that, despite the fact that the accusation is accurate (or, in a few cases, a deliberate lie) in the vast majority of cases, in some other cases it could be an involuntary but inaccurate allegation. Awareness is a fundamental first step for accounting for this issue.

In fact, once there is awareness of this potential mechanism of misperception and/or misremembering of the intimate experience, one can start exploring when, why, and in what cases, this distortion is most likely to happen. We argue that one of these cases is when the sexual encounter evokes cognitive dissonance.

There are many challenges in distinguishing accurate from inaccurate allegations of sexual assault, stemming from two basic facts. First, most of the time, the only witnesses to the sexual encounter are the alleged victim and the alleged perpetrator, who present two opposite recounts of the same event. Hence, judgement is based on accounts of the kind of "he said, she said" (e.g., Wood et al., 2019). Second, in many cases, the recounts differ only in the presence or absence of consent.

Generally, sexual consent can be understood as a conscious and voluntary desire to participate in a sexual act (e.g., Willis, Blunt-Vinti & Jozkowski, 2019). The most popular definitions of consent define it as ongoing, meaning that a person can withdraw his or her

consent at any moment during the sexual acts (Benoit & Ronis, 2022). It is also specific, both for the action to which it is addressed and for the time it is given.

Further, consent can be divided between internal and external (e.g., Benoit & Ronis, 2022; Willis et al., 2019). The former refers to the person's internal feelings of willingness to engage in the behaviour, whereas the latter refers to the external manifestations of said willingness. Internal and external consent do not always coincide (e.g., Willis et al., 2019; Davis et al., 2024). For example, sometimes, people who give their external consent engage in internally unwanted sexual behaviours (i.e., compliance). Cornelius et al. (2024) read: "Because it is impossible to know the internal thought process of another person, external communications of consent are mechanisms through which a potential sexual partner typically deciphers their partner's willingness to engage in sexual" (p. 5).

Consent is, by its nature, ambiguous and open to interpretation (e.g., Davis et al., 2023; Muehlenhard, Humphreys, Jozkowski & Peterson, 2016; Benoit & Ronis, 2022). For example, Benoit and Ronis (2022) read: "The process of obtaining and providing sexual consent remains ambiguous" (p. 578). In addition, consent is often channelled indirectly, passively, and non-verbally (Wood et al., 2019), and therefore, it is keener to misremembering and misperception as it has to be inferred from others' behaviours. Further, since, as stated before, many elements (e.g., alcohol consumption, sexual arousal) of the context may direct one's attention to desire-consistent cues and avert it from desire-inconsistent cues, this may contribute to the misperception of consent.

The ambiguity inherent in providing and receiving consent in many intimate interactions allows for involuntary differences in the interpretation of consent and emotion-related biases in the event's interpretation and memory (e.g., Davis et al., 2023).

Consent may be miscommunicated due to several factors, such as rape myths, individual differences, or cultural sexual scripts (Davis et al., 2024). The latter are culturally endorsed, gendered norms that direct sexual behaviours (e.g., Scappini & Fioravanti, 2022; Simon & Gagnon, 1986); for example, the idea that women have to satisfy the partner or that women are in charge of the consent communication, and therefore responsible for communicating their consent or nonconsent.

Additionally, sexual encounters involve (strong) emotions (e.g., Davis et al., 2023; von Sadovszky, McKinney & Keller, 2006). Emotions, especially when combined with alcohol consumption, may facilitate both "honest" but inaccurate allegations of sexual assault or "honest" but inaccurate denials of sexual assault (Davis et al., 2023). Thus, memory distortion may "lead to injustice for the innocently accused or the disbelieved victim" (Davis et al., 2023; p. 11).

Male sexual arousal is one further variable that can lead men to perceive the partner as more willing to engage in sexual activities (e.g., Rerick, Livingston & Davis, 2020, 2024), similar to alcohol consumption/intoxication (i.e., "alcohol myopia"). Additionally, Jozkowski & Peterson (2013) found that men reported they were more likely to actively carry on sexual activity until they perceived nonconsent; on the other hand, women reported they were more likely to express their consent, if any, after their partner has initiated the sexual activity.

Another difficulty in distinguishing accurate from inaccurate allegations is due to the fact that there are no markers[19] of either accurate or inaccurate accounts (O'Donohue, 2019). In fact, not even recantation, understood as the withdrawal of a previously made allegation on sexual assault, is a conclusive marker of inaccurate allegations of assault, as the person may have been coerced into withdrawing the accusation or may be too scared to go to trial.

All these data together highlight the inherent vulnerability of intimate experiences to individual interpretation and, consequently, the fragility of the claim that each side's account of the matter will be entirely accurate. As a result, in some cases, no matter how strong the emotions of the alleged victim are, nor how sure he or she is that he or she was sexually assaulted, the sexual encounter may not legally qualify as sexual assault (Davis et al., 2024).

[19] Meaning a property that, if present, guarantees that an allegation is accurate or, conversely, inaccurate.

3.1. Effects of alcohol on sexual willingness and consent

As aforementioned, alcohol is often implicated in the context of sexual acts and in instances of sexual assault (Jozkowski & Hoffacker, 2024; Cornelius et al., 2024; Abbey, 2002; Ullman et al., 1999). That being said, a brief, specific insight into the effects of alcohol on the ability to give consent and on the willingness to engage in sexual behaviour is crucial.

Much research has been carried out on this topic. For one thing, from Steele and Josephs's (1990) research on "alcohol myopia" several studies were conducted that highlight how alcohol may cause behavioural disinhibition in sexual contexts. In fact, on the one hand, the men (as the gender most likely to be the perpetrator of sexual assaults) who had been drinking have been found to pay less attention to inconsistent (i.e., inhibitory) cues, meaning they interpreted the partner's behaviour as showing greater willingness and took longer to recognise the nonconsent (e.g., Gross, Bennett, Sloan, Marx & Juergens, 2001; Marx, Gross & Adams, 1999). On the other hand, women (as the gender most likely to be the victim of sexual assaults) who had been drinking have been found to pay less attention to inconsistent (i.e., inhibitory) cues, in that they failed in quickly recognising risk cues, and showed a decreased ability to resist the undesired sexual advances and less effective ways of communicating their nonconsent (e.g., Abbey, 2002; Nurius, 2000). Further, a key role in alcohol myopia is played by alcohol expectancies, other than by the actual physiological effects of alcohol (e.g., Pumphrey-Gordon & Gross, 2007; Seto & Barbaree, 1995).

Moreover, when intoxicated, the reasons for nonconsent become less relevant, yet they may go back to being very important once the intoxication is over (Davis et al., 2023). This may play a role in shaping the perception and memory of the sexual encounter in the aftermath of the event (i.e., when the person becomes sober). For example, in the case of a person engaging in sexual activities with someone other than the partner, the importance of avoiding cheating on one's boyfriend or girlfriend may fade into the background during the alcoholic intoxication, but go back to being preponderant once the person is sober. In other words, the relevance of the reasons for not engaging in a sexual act may be postponed during the intoxication.

A further concern with the implication of alcohol during sexual encounters is “How drunk is too drunk to consent?” (Jozkowski & Hoffacker, 2024). Hence, how can one distinguish between a person intoxicated but still able to consent to the sexual act freely and one too intoxicated to give consent, understood as free will to take part in the sexual activity? This question remains open, and its investigation challenging.

Taken together, these data highlight the complex connection between alcohol intoxication and willingness and ability to consent to sexual activities. This, in turn, stresses once more the difficulties of investigating the allegations of sexual assault, especially those where alcohol consumption is implied. Much more research and data exist on the links between intoxication, sexual activity and assault, but a comprehensive review of the existing literature goes beyond our aim.

CHAPTER 3

Cognitive dissonance as a source for inaccurate rape allegations

In the first chapter, we outlined the theoretical basis on which this dissertation is built. First, we discussed the core assumptions of Cognitive Dissonance theory, which postulates that when a person comes to hold two dissonant cognitions (i.e., beliefs, behaviours, feelings, attitudes, values, and perceptions), he or she will experience dissonance that results in a certain degree of psychological discomfort. The more important the involved cognitions are for the person, the greater the discomfort he or she will experience. The greater the discomfort, the greater the efforts to lessen it (Festinger, 1957, 1962; Morvan & O'Connor, 2017).

We further discussed the pathways through which dissonance can be reduced by changing cognitions. In some situations, as in Festinger's smoker example, dissonance can be reduced by *simply* ceasing a behaviour that is dissonant with another cognition (i.e., quitting smoking). However, when what causes the dissonance is a past event (an event that cannot be changed), as in the cases this dissertation focuses on, the person will have to resort to different dissonance reduction strategies. Finally, we argued the importance of the self-concept for the dissonance (Aronson, 1968, 1992, 2019).

Second, we discussed the challenges of accurately remembering a past event. In fact, remembering is inherently subjected to people's interpretations, thus being a reconstructive rather than reproductive process. Further, for an event to be remembered, a person must first be able to encode it, meaning it has to attract the person's attention, which is selective and elaborative; then stored or moved to long-term storage; and finally retrieved from said long-term storage at will.

Many factors influence memory construction, such as alcohol consumption or strong emotions. Alcohol can interfere with memory formation at all its stages; for one thing, it

leads to the so-called "alcohol myopia", which implies that intoxicated persons will pay more attention to cues consistent with their attitudes while avoiding inconsistent ones. As alcohol intake increases, it can ultimately result in blackouts and loss of consciousness, two instances that imply a loss of memory for the events that occurred during the intoxication.

For what concerns strong emotions, they have many important effects on memory, and have been described as "double-edged swords" by Davis et al. (2024) as they strengthen the memory's resistance to forgetting while increasing the risk for errors. All memories fade naturally over time, even those for strongly emotional events (e.g., Laney & Loftus, 2005; Davis et al., 2024), with a stronger resistance for the core (*gist*) of the event, at the expense of peripheral details (Sartori, 2018a; Davis et al., 2024).

One particular case that entails strong emotions is traumatic experiences, which have long been believed to be "memory scars". Nevertheless, research has proven that memories of traumatic experiences should not be presumed accurate, not even when the victim is confident he or she is remembering the past event accurately. In fact, confidence does not always imply accuracy (e.g., Moore, Pennekamp & Zwemer, 2024).

In the second chapter, we examined articles 609-bis (sexual assault) and 609-ter (aggravating circumstance for the crime of sexual assault) of the Italian penal code and the recent rulings of the Corte Suprema di Cassazione on the offence of sexual assault. We further discussed the issue of inaccurate allegations of sexual assault (deliberate lies *vs*. "honest" mistakes) and the difficulties in differentiating inaccurate accusations from accurate ones.

We particularly focused on those cases where the debate on whether there was or not sexual assault was defined by the absence/presence of consent, as consent is often implicit and non-verbally conveyed. Therefore, most times it has to be inferred by the person's behaviour, and is thus open to interpretation. This, in turn, means that different people may interpret the same behaviour differently; hence, especially in light of some situational factors (e.g., state of sexual arousal, gender, state of alcoholic intoxication), people could misinterpret the communication of consent.

Additionally, the complicated process of providing and obtaining sexual consent often does not represent the core element of a memory, which has been shown to be more resistant to forgetting than peripheral details. Consequently, in many cases of debated allegations of sexual assault, the details are most relevant. This should always be borne in mind by those who work in the legal field.

A further fundamental distinction has to be made between internal and external consent. In some cases, a person may fail to communicate effectively his or her internal nonoconsent, so that there is external consent. In this cases, the sexual encounter does not meet the legal standards to be labelled as sexual assault, no matter how strongly the person may feel she was assaulted. However, these cases often elicit strong negative emotions (e.g., anger, shame, disgust).

Another situation where several aversive emotions occur within consensual sexual encounters is compliance (i.e., consensually engaging in unwanted sexual activities) (Davis et al., 2024). This is most relevant as the emotions elicited during or even after an event (when recalling it, for example, while talking to a friend) may distort the memory of the event itself (e.g., Davis et al., 2024; Davis et al., 2023). For example, emotions may affect retrospective judgements on whether and how consent was communicated.

As argued in Chapter 1, misremembering the past can be adaptive (e.g., DePrince et al., 2012). In this chapter, we will explore *how* cognitive dissonance evoked in sexual encounters may yield an adaptive memory distortion as a way of lessening an internal state of psychological discomfort. To address this topic, we first need to establish that cognitive dissonance can lead to memory.

1. The potential of cognitive dissonance to affect perceptions and memories

Several models of memory regard the need for *consistency* as a crucial constituent of memory construction, which can at times lead to memory errors (e.g., Rodriguez &

Strange, 2015). For example, it is widely recognised that, when people experience a memory gap, they will fill it with information that is consistent with their other beliefs, behaviours, and attitudes (e.g., Hirt, 1990). This need for consistency is in line with Festinger's (1957) theory of cognitive dissonance. Yet, so far, little empirical research has focused directly on the link between cognitive dissonance and memory errors, albeit reasonable and hypothesised.

Much research focused on the causal relations between free-choice decisions and changes in the person's preferences in a way that is consistent with the choice (e.g., Brehm, 1956; Sharot, Velasquez & Dolan, 2010; Arad, 2013; Nakamura & Kawabata, 2013; Holden, 2013), even lost-lasting changes (e.g., Sharot, Fleming, Yu, Koster & Dolan, 2012). Free-choice has been proven to evoke cognitive dissonance (e.g., Brehm, 1956; Harmon-Jones & Mills, 2019). In fact, when freely choosing between two options (especially equally attractive options), dissonance is evoked. The drive to reduce dissonance results in implicit cognitive strategies that make the chosen alternative more likeable and the non-chosen one less likeable. In other words, people tend to perceive and remember the chosen alternative more favourably and the disregarded one less favourably. Hence, it is well-established in the scientific literature that choices shape preferences, just like preferences inform choices.

Otgaar, Mangiulli, Battista and Howe (2023) proposed cognitive dissonance as the mechanism that can lead both external (e.g., suggestion) and internal (e.g., feigning amnesia, fabrication, false denials) influences to cause memory distortion. Interestingly, they showed that lying (internal) can influence memory in many ways, up to false memories, similar to what external influences do (Otgaar, Mangiulli, Battista & Howe, 2023). This is especially important in the legal field, as suggested by Otgaar et al. (2023), as oftentimes wrongful convictions result from a memory error (e.g., about 70% of wrongful convictions result from eyewitness misidentification, Innocence Project, 2020). This data highlights why it is so important to focus on memory distortion.

The idea that cognitive dissonance can cause memory distortion for past events has often been addressed as if it were established (Rodriguez & Strange, 2014, 2015), yet there is a glaring shortage of empirical research investigating *directly* how cognitive dissonance can shape perceptions and memories.

A few empirical studies focused specifically on how the need for cognitive dissonance reduction can cause memory distortion. In time, there have been some attempts at investigating this link, yet many had severe methodological limitations that did not allow convincing conclusions (e.g., Goethals & Reckman, 1973). The first compelling evidence came from Bem and McConnell (1970). In addition, recently, Rodriguez and Strange (2014, 2015) conducted two studies that directly test the possibility of memory errors resulting from dissonance reduction strategies. Rodriguez and Strange's studies will serve as the starting point for the following overview as they are, to our knowledge, the most specific and comprehensive studies conducted on the subject. Additionally, we present more studies pertinent to the theme of consistency-driven memory distortions to explore this phenomenon further.

An analysis of the existing literature on the empirical causal connection between cognitive dissonance and memory distortion has been conducted. First, in paragraph 1.1., we report the methodology of literature search and articles selection we carried out. A brief summary of our findings is listed below, in paragraph 1.2. Finally, in paragraph 1.3., we discuss the concept of "motivated misremembering", which we argue could be a way of addressing the misremembering that happens as a strategy for dissonance reduction.

1.1. Literature search methodology

We conducted a search of the existing literature implementing EBSCO and APA PsycNet databases. The following words were used: "cognitive dissonance", "dissonance", "dissonant cognitions" and "memory", "false memory", "false memories" "memory distortion", "misremembering", "motivated misremembering". In the following overview, we included the papers that identified cognitive dissonance as the motivated force (i.e., *drive*) that leads to memory errors and misremembering, and excluded those that took into consideration other mechanisms that can yield memory distortions, such as the hindsight bias (e.g., Hoffrage, Hertwig & Gigerenzer, 2000). The papers we take into

consideration are peer-reviewed articles and book chapters. Finally, we reviewed the examined papers' reference list for further relevant literature.

1.2. An overview of the existing literature

Rodriguez and Strange (2014, 2015) were among the firsts to directly test the hypothesis that dissonance can result in memory errors and memory distortions. In order to do so, they used two classical paradigms for cognitive dissonance research: the induce-compliance paradigm (Festinger & Carlsmith, 1959) and the free-choice paradigm (Brehm, 1956). The former consists of getting the participant to engage in a counter-attitudinal behaviour, which is an action contrasting with a pre-existing cognition. This can be either done by providing a reward (small reward *vs*. large reward) (e.g., Festinger & Carlsmith, 1959) or by manipulating the perceived choice of engaging in the behaviour (little freedom of choice vs. great freedom of choice) (e.g., Rodriguez & Strange, 2015). In both cases, performing a counter-attitudinal action obviously elicits dissonance. Making participants write a counter-attitudinal essay has been the most widely implemented task (Vaidis et al., 2024).

Instead, in the free-choice paradigm, participants are given a number of options to evaluate and then asked to choose between two of them. The choice is either easy or difficult to make, depending on the two options the participant is given (i.e., if the options are similarly likeable, the choice is considered *difficult*; if one option is clearly more likeable than the other, the choice is considered *easy*). After they reach a decision, participants are asked to evaluate again the options. What is typically observed is that the participants who made a difficult choice misremember the chosen option more positively and the disregarded option more negatively. This effect is regarded as the *spread-of-alternatives* effect and is explained by dissonance theory by postulating that difficult choices generate greater dissonance than easy choices. Henceforth, to reduce the dissonance, the person can either add consonant cognitions (i.e., add positive aspects to the chosen option or add negative aspects to the disregarded option) or reduce dissonant

cognitions (i.e., reduce negative aspects of the chosen option or reduce positive aspects to the disregarded option).

Rodriguez and Strange (2015) implemented the induce-compliance paradigm to analyse 121 undergraduates. In their experiment, the participants first completed an online questionnaire on their attitudes toward some school policies. The questionnaire included three target items about an increase in tuition fees. The authors found that, initially, all participants were unfavourable to the fee increase. Two days later, the participants were asked to write a counter-attitudinal essay (i.e., an essay in favour of an increase in tuition fees), in either a high-choice condition (i.e., participants were told that the committee only needed essays on the reasons to increase the tuition, but that the participation was "completely voluntary") or a low-choice condition (i.e., participants were told they had been "randomly assigned" to writing the essay favouring the tuition increase). In either condition, the cognitive dissonance was evoked by engaging in the counter-attitudinal behaviour, but with different degrees of perceived choice.

After writing the essay, the participants completed another questionnaire. Finally, they filled in a memory questionnaire, where they were asked to answer the same items from the first questionnaire in the same way they had answered at the time.

Rodriguez and Strange (2015) found that the participants in the high-choice condition were more prone to memory errors as they were more likely to misremember themselves as having been more favourable of a fee increase in the first place. Hence, cognitive dissonance can distort memory for prior attitudes. These findings are coherent with the long-existing literature on people's tendency to remember incorrectly elements of the past in light of the present attitudes (e.g., Schacter, 2002).

Rodriguez and Strange (2015) further argued that some situations that elicit cognitive dissonance may yield a greater potential of memory distortion. Particularly, they posited that situations related to one's concept of self may be more prone to misremembering rather than goal-related situations.

Rodriguez and Strange (2014) examined the effects of post-choice strategies of dissonance reduction on choice memory. They did so by adding a memory test to the free-choice paradigm. They analysed 123 undergraduates during two sessions. During the first

session, participants were given eight cell phone profiles, of which they had to indicate desirability, attractiveness, quality, and value. After, participants were asked to choose between two of the cell phones, in either a difficult decision condition (i.e., the two cell phones had been given similar rankings by the participant) or an easy decision condition (i.e., the two cell phones had been given different rankings by the participant). The former condition elicited greater dissonance.

After, participants were asked to rate their confidence, satisfaction, and ease in making the decision, which was then used by the authors as the baseline against which to compare the participant's memory.

In the second and last session, participants were presented with the pictures of two cell-phones and encouraged to recall which they had previously chosen and how they had felt about their decision when they made it (i.e., their confidence, satisfaction, and ease). The second session could either immediately follow the first one or be delayed by two days; yet, this manipulation did not produce significant effects, maybe because a one-week delay is too short.

Rodriguez and Strange's (2014) findings are coherent with their previous results obtained with the induce-compliance paradigm. In fact, they found that participants in the difficult choice condition, who displayed a greater *spread-of-alternatives* effect, were more prone to remember their choice as more satisfying and easier to make than the participants in the easy choice condition.

Generally, these findings are consistent in indicating that dissonance is one force that may result in misremembering.

Before Rodriguez and Strange's studies, there were some attempts at empirically researching the link between cognitive dissonance and memory distortion, such as Goethals and Reckman (1973) and Scheier and Carver (1980). However, the methodological issues in both studies did not allow the authors to conclude that the memory distortion they found was genuine nor that it resulted undoubtedly from cognitive dissonance (e.g., Rodriguez & Strange, 2014, 2015).

However, a compelling first attempt at addressing this literature gap was made by Bem and McConnell in 1970, using a "force-compliance experiment" (i.e., what we described

as the induce-compliance paradigm). They drew on the hypothesis that the incoming behaviour is used to "update" the information, thus overriding pre-existing conflicting information. In their study, male university students took part in two experimental sessions. In the first session, the participants answered a questionnaire about their attitude on the degree of control students should have on their curriculum. In the second session, which took place a week after the first one, the participants were asked to write a counter-attitudinal essay either in a condition of perceived choice or in a condition of no choice.

After writing the essay, participants in both conditions answered questions about their final opinions (i.e., attitude-change experiment) and were asked to remember their attitudes at the first session (i.e., attitude-recall experiment). Additionally, experimental participants in both conditions were asked about the degree of freedom of choice they perceived and whether or not they thought they had changed their attitude.

Finally, a control group took part in separate group sessions where they had to complete pre-test and post-test questionnaires about their attitudes on the degree of control students should have on their curriculum, and the measures of attitude-recall.

First, Bem and McConnell (1970) replicated the finding from Festinger and Carlsmith (1959), showing that greater perceived freedom of choice to act in a way that is in contrast with previously held cognitions results in a greater attitude change than when the perceived freedom of choice is lower and in the control situation. Further, Bem and McConnell (1970) confirmed their hypothesis that incoming behaviour is used to "update" the information by the experimental participants. The control group did not show this memory distortion effect. Bem and McConnell (1970) also found that most participants who showed a change in their attitudes did not perceive it and reported not having changed their attitudes.

Salti, Karoui, Maillet and Naccache (2014) conducted two experiments to investigate whether the free-choice paradigm of cognitive dissonance results in genuine, choice-induced changes in preferences. In the first experiment, the participants were divided between a "reminder" group and a "no reminder" group and presented with 120 stimuli (i.e., pictures of potential holiday destinations). The experiment consisted of five blocks, two of which were "rating" blocks, two were "choice" blocks and one "memory" block for the "no reminder" group. The procedure proceeded as follows: Rating 1, Choice,

Rating 2, PostEx Choice, Memory Test. In the "rating" blocks, participants had to rate the attractiveness of a holiday destination from 1 (i.e., "I do not want to go there at all") to 8 (i.e., "I definitely want to go there"). In the Rating 2 stage, participants in the "reminder" group were reminded of the previous choice made in the Choice 1 stage, either by them or by the computer. In the "choice blocks", participants had either to choose between two holiday destinations (i.e., "You choose") or observe the computer's choice (i.e., "Computer chooses"). The choice was manipulated on the basis of the previous "rating" block to create three conditions: "self-easy" (i.e., one option had received a low rate while the other had received a high rate from the participant), "self-difficult" (i.e., both options had received high rates from the participant) and "computer" (i.e., both options had received high rates from the participant). In the PostEx Choice stage, participants had to choose between couples of pictures previously used in the "computer" condition in the Choice 1 stage. Finally, participants in the "no reminder" group had to recall the choices made in the Choice 1 stage, either made by them or by the computer.

A second experiment was conducted by Salti et al. (2014). The procedure was similar, with a few relevant differences, one of which was that in the memory test participants had to recall whether they had rejected or chosen the item during one of the two "choice" blocks.

First, Salti et al. (2014) replicated the previous results obtained by Izuma et al. (2010), showing that participants in the "reminder" group displayed a reduced preference for the destinations they rejected in the "self-difficult" condition compared to the "self-easy" and "computer" condition. Moreover, their results indicate the occurrence of genuine choice-induced changes in the participants' preferences due to the free-choice paradigm. In other words, they empirically demonstrated the widespread understanding derived from cognitive dissonance that one's past choices *genuinely* affect present preferences. Further, Salti et al. (2014) found that choice-induced changes are related to episodic memory.

Drawing on Salti et al.'s (2014) article, Chammat et al. (2017) demonstrated that cognitive dissonance depends on conscious episodic memory. Specifically, using intra-cranial electrophysiological measures and functional Magnetic Resonance Imaging (fMRI), they demonstrated that choice-induced preference change was immediately preceded by a modification of left hippocampus activity (i.e., an episodic memory

retrieval hub). Hence, Chammat et al. (2017) suggested that choice-induced preference change ought to be a "rather high-level complex cognitive process" (p. 6). Finally, Chammat et al. (2017) propose that said relation between memory for past choices and current change in preferences "may reflect a metacognitive process aiming at assuring a homeostatic regulation of conscious coherence between our past remembered actions and our current beliefs, values and behaviors" (p. 7).

Scoboria and Henkel (2020) in their article depict the "SCOboria social-cognitive dissonance model of challenges to memory" and provide some preliminary empirical support to it. The model describes how people process the information, given by others, that a remembered event did not occur. The authors state that the information that challenges the person's memory evokes both intra-personal and inter-personal dissonance, which people will try to reduce either by:

- denying the feedback that contrasts with the memory;
- defending the memory;
- complying with the feedback; or
- relinquishing the memory.

Hence, the person evaluates the challenging information and the memory, and acts accordingly to resolve the dissonance. Scoboria and Henkel (2020) propose that this process may ultimately result in the person retaining or diminishing the belief of the occurrence of the event. Hence, it can result in memory distortion.

Other than giving further insight on the potential of cognitive dissonance of distorting memories for past events, Scoboria and Henkel's (2020) article suggests a fundamental legal issue, that is, the influence of other people's feedback on the person's memory. In fact, several studies demonstrated that both direct and indirect feedback from the interviewer can affect witnesses' memory of the offence they are testifying on (e.g., Henkel, 2017).

Finally, some interesting empirical evidence comes from the studies conducted under the umbrella of Cognitive Balance theory. This theory, which was proposed by Heider (1946, 1958), much like cognitive dissonance theory, posits that people strive for consistency or

balance, and that, when people experience inconsistency (or unbalance), they will try to resolve it.

Heider (1958) himself suggested that people remember better balanced cognitions than unbalanced ones, thus implying a correlation between memory and cognitive balance. Heider (1958) stated: “The balanced situations should be more stable and therefore better remembered" (p. 181). Some research found interesting results that were coherent with Heider’s hypothesis (e.g., Cottrell, Ingraham & Monfort, 1971; Von Hecker, 1993). More relevantly, Berthold and Blank (2016) conducted two studies that directly tested whether memory distortion may be regarded as one pathway towards *cognitive balance*.

In their first study, Berthold and Blank (2016) investigated their participants’ attitudes towards national pride and the importance they attributed to the topic with a first set of questions. Afterwards, participants were given photographs of 16 communicators and asked questions about how they liked them. Participants were then shown video messages of each one of the communicators where they shared their opinions on national pride. Following a brief filler task, participants completed a memory assessment of the communicators’ opinions. Finally, one week later, participants were asked once more their opinion on national pride, their liking of the communicators, and their remembering of the communicators’ opinions. In this experiment, Berthold and Blank (2016) investigated both attitude changes and memory errors as pathways towards balance. They found that participants reduced the perceived dissonance by increasing the liking of the communicators who made statements in line with the participant’s initial opinion and decreased the liking of those who made statements that counter the participant’s initial opinion. Hence, they used attitude change as a strategy to reduce the dissonance. More interestingly, participants also reduced the dissonance through misremembering, in that they failed to remember the communicator's statements or incorrectly remembered them to be more in line with their opinions of the liked communicators.

In a second experiment, Berthold and Blank (2016) tried to replicate and expand their results. In this study, first participants were to rank their liking of 12 celebrities and give their own opinion on climate protection promotion. Afterwards, participants were presented with photographs of the same 12 celebrities with their statements on climate change protection. A second appraisal of participants’ liking of the celebrities followed.

Finally, participants' memory of the celebrities' statements was assessed. Similarly to the first study, one week later, participants were asked once more for their opinions on climate protection promotion, their liking of the celebrities, and their remembering of the celebrities' statements. The findings of this second study are similar to the first one, with a relevant consistency gain due to attitude change and a smaller one due to memory distortion.

Overall, Berthold and Blank (2016) demonstrated that memory distortion is one more way of reducing the inconsistency. Further, they found relevant differences in the way attitude-change and memory-distortion operate. Specifically, they found that memory distortion operates more slowly and less efficiently than attitude change.

Taken together, these studies suggest that cognitive dissonance has a relevant potential of genuinely shaping perceptions and memory, up to misremembering and false memories.

1.3. Motivated misremembering

Finally, a brief section on the empirical research about motivated misremembering is included, as cognitive dissonance may be interpreted as one way of engaging in a motivated type of reasoning that may ultimately lead to misremembering. Henceforth, we argue that Festinger's theory of cognitive dissonance may well explain why people engage in motivated misremembering.

Motivated misremembering has been the focus of several studies (e.g., DePrince et al., 2012; Carlson, Maréchal, Oud, Fehr & Crockett, 2020). For example, Carlson, Maréchal, Oud, Fehr, and Crockett (2020) argue that one way for people to preserve their self-concept as moral, honest beings is misremembering. Carlson et al. (2020) suggest that, at times, people would rather be seen as moral than actually behaving consistently with their moral principles. In their article, they pose the question: "How can people preserve their moral self-image while simultaneously behaving selfishly?" (Carlson et al., 2020; p. 2). The pathway they investigated is through subconscious distortion of memory to avoid

having to rationalize their selfish actions. In other words, motivated misremembering could be a way for people to avoid threats to their psychological well-being when they do not live up to their own moral principles and values.

Through five experiments, Carlson et al. (2020) empirically demonstrated that "when people perceive their own actions as selfish, they are motivated to misremember having acted more equitably, thereby preserving their moral self-image" (p. 2). Accordingly, the participants remembered acting more generously in the past than they actually did. Interestingly, this effect of memory distortion was present only among those who initially gave the anonymous partner less than what they personally regarded as fair and disappeared when there was no threat to one's self-image in fairness violation, which highlights that the misremembering is motivated.

Carlson et al.'s (2020) results are coherent with those from Kouchaki and Gino (2016) who found that "engaging in unethical behavior produces changes in memory so that memories of unethical actions gradually become less clear and vivid than memories of ethical actions or other types of actions that are either positive or negative in valence" (p. 6166). Kouchaki and Gino (2016) referred to this effect as "unethical amnesia".

Both Carlson et al. (2020) and Kouchaki and Gino's (2016) studies found some kind of motivated memory distortion for what people *personally* regard as unethical behaviour. What is labelled as unethical, whether fairly stable across different people, may not be entirely the same. For example, some people may believe having extramarital sex is unethical, whereas others may not regard it as unethical. In this case scenario, it is reasonable to presume, given Carlson et al. (2020) and Kouchaki and Gino's (2016) findings, that those who engage in extramarital sex even though they believe it to be unethical may incur in some kind of memory distortion.

2. Cognitive dissonance in intimate experiences

Cognitive dissonance is evoked in a great number of situations. As aforementioned, the greater the importance of the cognition, the greater the dissonance, and the stronger the drive to resolve it.

Cognitive dissonance can also stem during or while recalling a sexual experience for many different reasons. For example, if the sexual activity is unpleasant or unwanted but consensual. At times, it may be evoked by rather relevant cognitions, as in the case described by Demarchi, Tomas, Franchi, and Fanton (2020).

Demarchi et al. (2020) described a case of cognitive dissonance due to a sexual encounter between a young woman and an elderly man. The woman reported being sexually assaulted by the man, who had allegedly forced her to engage in sexual acts with him at a retired man's residence. When interviewed, the alleged perpetrator admitted engaging in several sexual acts but reported that they were all consensual and that, due to his health condition, he could not have possibly made a young woman undergo such acts by force. Later, during a confrontation between the alleged victim, the alleged perpetrator, and two investigators, the woman confessed that she had made a false allegation of sexual assault.

Demarchi et al. (2020) propose that the false accusation was a consequence of the woman's regret of the sexual acts, due to her religious beliefs and the age difference between her and the man. In other words, they proposed that the cognitive dissonance that stemmed from engaging in a behaviour (i.e., sexual acts) dissonant with her cognitions (i.e., age difference, religious beliefs) caused the negative arousal that led to the false accusation.

In this case, the woman reduced the experienced regret by denying her responsibility for the act, which is coherent with what Gosling et al. (2006) stated, that is: "Denial of responsibility is an efficient mode of reduction when emotions such as guilt, shame, or disgust at oneself are activated by a counter-attitudinal behaviour" (p. 731) (Demarchi et al., 2020).

For many years, regret has been studied as a possible pathway to inaccurate allegations of sexual assault only as a result of social, environmental pressure (i.e., interpersonal) (e.g., Veraart, 1997, 2006; De Zutter et al., 2018). For example, relatives or friends may encourage the relabelling of a consensual sexual act as rape if they notice the expression

of negative feelings by the future complainant when recalling the event. Recently, intrapersonal factors have been proposed as a source of regret. One intrapersonal factor that elicits regret may be cognitive dissonance. Here, regret is understood as a "counterfactual emotion" due to an "internally experienced discrepancy between the experienced events (i.e., a sexual encounter) and the expected or desired events" (Demarchi, Tomas & Fanton, 2021; p. 2068).

Demarchi, Tomas and Fanton (2021) present a model that explains how the dissonance elicited by consensual but regretted sexual encounters may result in inaccurate allegations of sexual assault (**Figure 4**).

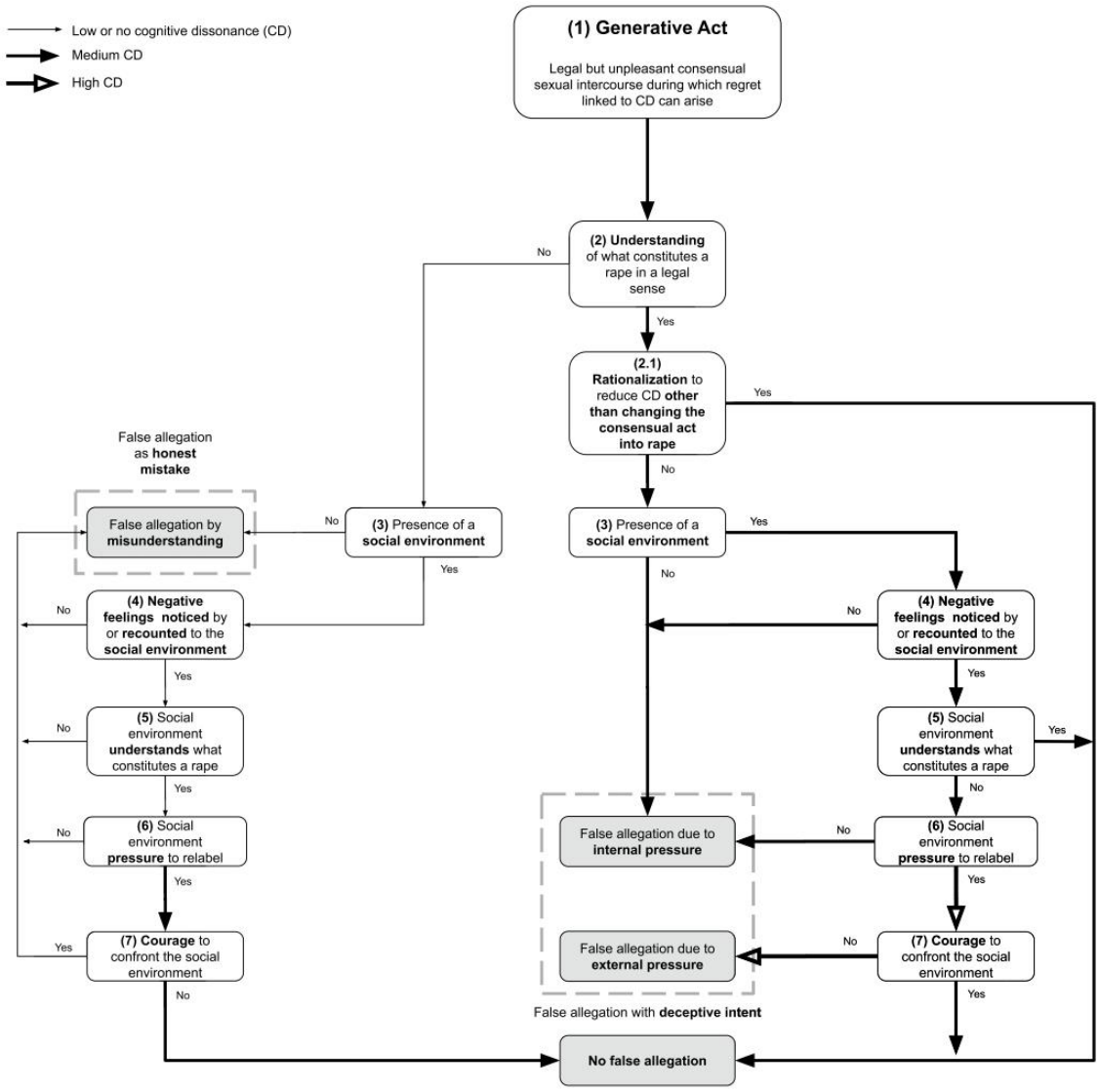

Figure 4. The model presented by Demarchi et al. (2021; p. 2071) to outline how regret experienced in the context of consensual sexual interactions can lead to inaccurate allegations of sexual assault.

This model has been constructed to incorporate all the pre-existing conceptualizations of regret (Demarchi et al., 2021). In this model, the authors outline the temporal and causal order with which all the factors that may lead to regret in consensual sexual interactions come together to explain regret as a motive for inaccurate allegations of sexual assault.

Demarchi et al. (2021) propose that, on the one hand, the inaccurate allegations may be made with "deceptive intent", for either internal or external pressure, which means that, when filing the false accusation, the person is aware of lying. On the other hand, inaccurate allegations may be "honest mistakes" or due to misunderstanding of what legally constitutes rape. We propose that "honest mistakes" may also result from genuine memory and perception errors.

In summary, in the context of sexual encounters, cognitive dissonance is evoked by a freely performed sexual behaviour and a previously held dissonant cognition (e.g., values, religious beliefs of chastity, social norms). Said dissonance may result in inaccurate allegations of sexual assault. For example, intrapersonal regret (i.e., due to dissonance) can be a source of inaccurate allegations of sexual assault, which in turn lessen the dissonance.

3. General Discussion

Sex can be both physically and emotionally unpleasant, thus evoking negative emotions even when the encounter is consensual, for example, in cases of compliance and in cases where the internal nonconsent is not effectively communicated and thus results in external manifestations of consent (e.g., Benoit & Ronis, 2022; Impett & Peplau, 2003; Vannier & O'Sullivan, 2010).

We have previously seen that emotions, especially when strong (e.g., traumatic experiences), can shape people's interpretations of the events not only as they are unfolding but also when they are recalled (i.e., retrospectively) (Davis et al., 2023). For one thing, strong negative emotions evoked in a sexual context can activate the mental constructs of coercion and/or unwantedness (Davis et al., 2023). Additionally, when recounting the events to other people, they may involuntarily end up encouraging the relabelling of the sexual act as coercive (e.g., De Zutter, Hoselenberg & van Koppen, 2017). Davis, Cano, Miller and Loftus (2023) consider the influences of adverse emotions on the interpretation of the original event, up to inaccurate memories of coercion.

Hence, when a consensual but unpleasant or unwanted or regretted sexual interaction takes place, a process of labelling (or re-labelling) can happen, thus leading the individual to believe he or she was assaulted when the act does not qualify as it.

Cognitive dissonance is a mental phenomenon that entails negative emotions when a person holds two cognitions that are dissonant to each other. For example, dissonance is evoked when a person freely participates in counter-attitudinal behaviour, that is a behaviour that goes against previously held attitudes and beliefs. Usually, people do not engage in counter-attitudinal behaviours, yet at times they do (e.g., Carlson et al., 2020).

One reason why people may engage in counter-attitudinal behaviours is a state of alcoholic intoxication, which is very important in cases of sexual assault as many times they involve alcohol consumption (e.g., Jozkowski & Hoffacker, 2024; Cornelius et al., 2024; Abbey, 2002; Ullman et al., 1999). During the intoxication, in fact, the reasons not to give consent (e.g., being in a satisfying relationship with someone else, desire not to have sex before marriage) become momentarily less important. Once the intoxication is over, however, said reasons become once again very important for the person. Given that alcohol can also impact encoding and memory consolidation, the interpretation of the sexual encounter may be of higher coercion than it actually was. In other words, the reasons for nonconsent that were "less salient" during the intoxication go back to being (very) salient once the person is sober, thus allowing space for cognitive dissonance to emerge.

Another reason to engage in counter-attitudinal behaviours is either to avoid a punishment or to gain a reward. If the punishment or reward is big enough to externally justify the

behaviour, then the dissonance will be little, if at all, present. However, if the punishment or reward is not sufficient to externally justify the behaviour, the person will experience great dissonance due to the fact that he or she *freely* took part in the counter-attitudinal behaviour (e.g., Festinger & Carlsmith, 1959).

To this, Aronson (1968, 1992, 2019) added that Festinger's theory of cognitive dissonance makes its strong predictions when the sense of self is threatened. For example, in the case reported by Demarchi et al. (2020), a woman engaged in sexual behaviours that threatened her self-image as a person observant of her religious beliefs. In other words, her sexual behaviour was dissonant with her religious beliefs. The resulting cognitive dissonance, being psychologically uncomfortable, motivates the person to reduce it. Hence, the inaccurate allegation of rape she made was a way of resolving the dissonance; in fact, by denying her responsibility for the act, the woman avoided the discomfort caused by holding two dissonant cognitions.

Hence, given the state of psychological discomfort that comes with dissonance, people will *strive* to reduce it. There are many ways of doing so other than denial of responsibility. One way is through memory distortion (e.g., Rodriguez & Strange, 2014, 2015; Bem & McConnell, 1970; Salti, Karoui, Maillet & Naccache, 2014; Chammat et al., 2017; Scoboria & Henkel, 2020; Berthold & Blank, 2016).

Davis and Loftus (2015) suggest that one of the motives why memory for sexual consent may be unintentionally distorted is the need for self-esteem maintenance and self-justification. For example, in the scenario Davis and Loftus (2015) described, the alleged victim's regret or shame for having cheated on her new boyfriend (of whom she was very fond) may have led her to reduce her perceived consent to the sexual activity. This is, of course, only an example made to outline the situations on which this paper focuses, as Davis and Loftus (2015) did not settle whether the allegation of sexual assault they reported was accurate or inaccurate.

To sum up, if we accept the fact that, as previously shown, cognitive dissonance can be aroused during intimate experiences and that it has the potential to shape people's perceptions and memories, it is reasonable to infer that it may result in memory errors and memory distortion for the intimate experience itself, especially when combined with alcohol consumption.

Given that, at times, the offence of sexual assault is to be judged on whether the alleged victim had or had not consented to the sexual act, rather than on whether a sexual act did or did not occur, in these cases, misremembering the way (often non-verbal and implicit) consent was conveyed, may lead to errors in judging whether or not the legal criteria for defining the offence of sexual assault are met.

This applies in both directions. Namely, the alleged victim may honestly believe he or she communicated his or her non-consent, whereas his or her behaviours were reasonably understandable as consent, which would, in turn, implicate that there is no subjective element of the offence, as the alleged perpetrator would have reasonably believed that he had the other person's consent.

On the other hand, the perpetrator may genuinely believe he or she had the victim's consent, when he or she, in fact, did not; nor should he or she had *reasonably* believed to have the victim's consent.

In this paper, we focused on the cases where the alleged victim honestly misremembers having communicated his or her non-consent, but on no account do we seek to undermine the validity of allegations of sexual abuse nor to overshadow the possibility that the alleged perpetrator honestly misremembers having received consent due to dissonance.

We argue that cognitive dissonance may be one psychological mechanism that, in some cases, causes, and therefore explains, the memory errors that result in honest but inaccurate allegations of sexual assault. However, we also argue that further *specific* research is needed to better investigate and understand the way and extent to which this phenomenon can operate. Direct empirical research is needed to provide more concreteness to the assumptions made in this paper, which in our opinion are crucial for the legal field.

Finally, in dubious allegations of sexual assault, especially when there are clear reasons for great cognitive dissonance to arise (e.g., strong religious beliefs), the possibility that memory distortion may have been unintentionally used as a cognitive strategy to reduce the negative arousal of dissonance should be investigated.

Conclusion

Despite the extensive research on cognitive dissonance theory since Festinger's (1957) first theorization, little has been done to investigate memory distortion as a strategy for dissonance reduction directly. However, some interesting empirical research shows preliminary evidence of memory distortion as one pathway towards consistency (e.g., Rodriguez & Strange, 2014, 2015; Bem & McConnell, 1970; Salti et al., 2014; Chammat et al., 2017; Scoboria & Henkel, 2020; Berthold & Blank, 2016).

At times, it may be used when dissonance is evoked in the context of intimate experiences, for example, due to religious beliefs or engaging in sexual activities while being in a satisfying relationship with someone else. In such cases, the sexual behaviour is counter-attitudinal as it contrasts (i.e., is dissonant) with another, pre-existing cognition.

In these cases, using a memory distorting strategy to lessen the dissonance, may result in the experience being relabelled as unconsented and coercive. This, in turn, may lead to inaccurate allegations of sexual assault. Given the disastrous outcome that an inaccurate allegation has on the lives of both the alleged victim and the alleged perpetrator, this phenomenon should be kept in mind in the legal field and further investigated in the academic field.

Further research

First and foremost, as mentioned above, *empirical* research on how dissonance can shape perceptions and memories, specifically in cases of intimate experiences, is needed despite the challenges of investigating this topic. This is crucial to consolidate the previous hypotheses and less specific research.

Further, it should be better established in which way and to what extent memory and perception can be influenced by dissonance. Specifically, if said distortions are independent strategies of dissonance reduction or consequences of another strategy.

Throughout the dissertation, many strategies of dissonance reduction have been considered, such as denial of responsibility or trivialization. It may be argued that most, if not all, of these strategies entail a change in the person's perceptions and/or memories. For example, going back to the example of the habitual smoker (*see* paragraph 1.3 of Chapter 1), one of the strategies for reducing the dissonance between smoking and the knowledge that smoking is harmful to one's health is *trivialization*. Trivialization implies reducing the importance of the dissonant cognitions, for example, by reasoning that many people who have been smoking for years are still healthy; hence, "smoking cannot be too harmful". It can be argued that this process entails a diminished perception of the risks of smoking.

Another way of reducing dissonance is through *distraction* and *forgetting* (McGrath, 2017). In this case, as implied by the strategy's name, some kind of motivated memory loss is involved to lessen the dissonance.

Denying one's responsibility for participating in the counter-attitudinal behaviour (*denial of responsibility*), too, should involve some kind of misperception or misremembering of one's degree of freedom or, rather, willingness. In fact, if the misrepresentation of one's responsibility were not genuine, the dissonance would not be reduced, as dissonance is an *internal* state of discomfort. Hence, the dissonance cannot be reduced if the person does not believe he or she had no responsibility.

Finally, a more rigorous operationalisation of the constructs of memory distortion and perception distortion is also fundamental.

CHECKLIST for Evaluating the Influence of Cognitive Dissonance on Allegations of Sexual Assault

Hereby, we summarised the main elements drawn from this dissertation in a checklist. Said checklist is intended as a qualitative tool to evaluate those factors that may indicate the influence of cognitive dissonance on an individual's memories of an intimate experience that resulted in an allegation of sexual assault. Each item should be examined in light of the available evidence and discussed in the context of the specific case.

The checklist is meant as an aid for forensic experts and legal professionals to prompt a thorough and systematic evaluation of the allegations of sexual assault; therefore, it is not meant to be an isolated diagnostic tool. Adjustments will be necessary in light of ongoing research on memory distortion and cognitive dissonance.

I. Pre-Event Elements

1. Pre-existing Cognitions. The cognitions (i.e., attitudes, beliefs, behaviours, feelings, values, perceptions) on sexual behaviours and intimate experiences held by the individual prior to the event should be assessed to evaluate whether there are elements of dissonance with the intimate experience being investigated. For example, a significant age gap may be an element of dissonance, as in the case reported by Demarchi et al. (2020). By investigating the pre-existing cognitions, it is possible to understand whether the sexual encounter being investigated may have generated cognitive dissonance and to what degree. Thus, it would help to understand if the alleged victim may be *motivated* (knowingly or unknowingly) to misremember the event to ease the distress caused by dissonance. However, the fact that there is reason to misremember does not automatically imply that the person is misremembering.

2. Pre-Event Emotional Condition. The emotional condition of the person filing the allegation of assault prior to the event should be investigated, as experiencing severe

emotional distress may increase potential dissonance when dissonant cognitions are encountered.

II. Elements of the Event

3. Ambiguity/Interpretability of the Event. The ambiguity of the event should be evaluated to differentiate between the events with little potential for ambiguity and interpretation and those with great potential for ambiguity and interpretation. The ambiguous events are open to different interpretations and repeated over time, and therefore, liable to be confused with each other. In the case of events with great potential for interpretation, dissonance may influence the memories and perception of the event. Hence, ambiguity may increase the experienced dissonance. It should be borne in mind that, most times, the process of obtaining and providing sexual consent is ambiguous and interpretative (e.g., Davis et al., 2023; Muehlenhard et al., 2016).

4. Condition of the Alleged Victim and Alleged Perpetrator During the Event. Many elements may interfere with memory formation and accuracy; therefore, it is crucial to ascertain the condition of the alleged victim and alleged perpetrator at the time the events being investigated unfolded. Particularly, it is important to investigate the eventual consumption of alcohol and alcoholic intoxication (i.e., of the alleged victim, the alleged perpetrator, or both). In fact, many studies showed that alcohol has important effects on many cognitive functions including attention (i.e., “alcohol myopia”, Steele and Joseph 1990) and memory (e.g., Davis et al., 2024; White, 2003). Further, the state of sexual arousal should be evaluated as it may influence attention, similarly to alcohol, directing it to cues consistent with a person's sexual desires (Davis et al., 2024). One more relevant element is the person’s emotional condition, as emotions have an important impact on memory (e.g., Chang et al., 2018). Importantly, strong emotions aroused during the event may restrict the focus of attention to the core (*gist*) of an event, at the expense of those peripheral details that may be crucial in a legal proceeding (e.g., the way in which consent was, or was not, conveyed).

III. Post-Event Elements

5. Recounting of the Event and Third Parties' Role. The times and ways the event being investigated was recounted should be assessed for several reasons. For one thing, repetition helps to consolidate the memory of the event without increasing accuracy. In that, repetition may reinforce potential memory distortions driven by a need to reduce dissonance. Furthermore, the person listening to the narration can play an important role; for example, they may inadvertently encourage the relabelling of the event as coercive (e.g., De Zutter et al., 2018). Hence, potential external pressures, such as from relatives, friends, media, or even therapeutic and investigative interventions and techniques, should be taken into consideration.

6. Post-Event Emotional Condition. The emotional condition of the person filing the allegation of assault after the event should be investigated, as negative feelings experienced during and after the event may prompt the person to recall the event as more coercive than it was, up to sexual assault. Additionally, individuals who are told about an intimate experience and perceive that the teller displays negative emotions about it can favour this relabelling (e.g., De Zutter et al., 2018).

7. Evidence of Dissonance Reduction Strategies. Evidence of a cognitive need for dissonance reduction and/or implementation of dissonance reduction strategies should be noticed to determine whether the recounting may be more self-justifying and consonance-seeking than objective. For example, a narrative that denies any interest of the alleged victim in the alleged perpetrator when objective evidence (e.g., SMS) says otherwise may be an attempt at reducing dissonance through a strategy of denial of responsibility (Gosling et al., 2006). It should be always remembered that confidence is not always equivalent to accuracy (e.g., Sartori, 2020).

8. Time Gap Between the Event and the Allegation. The time between the event and the allegation of sexual assault has an important role in that it allows time for cognitive dissonance to be evoked and for cognitive dissonance reduction strategies to operate, other than for more repetitions of the recounting of the event. Additionally, as predicted by Ebbinghaus's (1885) *Law of Forgetting*, all memories fade naturally over time, with a

heightened degree of forgetting in the first week, especially for the peripheral details of the event.

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