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**A PROVA TESTEMUNHAL A PARTIR DE PESQUISAS SOBRE A
CONFORMIDADE DE MEMÓRIA NO ÂMBITO CRIMINAL**

BELO HORIZONTE – MG

2019

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Trabalho apresentado ao Programa de Pós-Graduação em Neurociências como requisito para obtenção do grau de Doutor em Neurociências. Área de concentração: Neurociência Básica. Linha de Pesquisa: Neuropsicologia.

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INTRODUÇÃO GERAL

Grande parte dos crimes ocorrem na presença de diversas pessoas, o que faz com que a prova testemunhal seja o meio probatório mais utilizado em sentenças penais condenatórias. É considerado um meio de prova de baixo custo e conveniente, pois prescinde de exames técnicos de alta complexidade, o que faz com que, no Brasil, a maioria das sentenças criminais se fundamentem nas provas testemunhais (Ministério da Justiça do Brasil, 2015).

No entanto, apesar de ser o meio de prova mais utilizado, a memória das testemunhas está sujeita à inúmeras influências durante e após o crime, fazendo com que narrativas não reflitam necessariamente a realidade vivenciada e possam gerar condenações injustas. Aliás, as informações das testemunhas presenciais direcionam desde o início a investigação policial, posto que reconhecimentos e demais diligências são realizadas a partir disto.

Há décadas que estudos comprovam as inúmeras falhas as quais as memórias estão sujeitas (*e.g.*, LOFTUS & SHACTER, 2013; STEFFENS & MECKLENBRÄUKER, 2007; LOFTUS, 2003). Desde o momento em que o estímulo é apresentado (codificação), até a fase do armazenamento e da evocação, múltiplos fatores atuam de forma a influenciar a memória. Por isso, a defectibilidade da prova testemunhal constitui a principal causa de erros judiciais por condenações indevidas (HUFF, RATTNER, & SAGARIN, 1996; CONNORS, et. al., 1996; WELLS, et al. 1998).

O presente trabalho analisou um dos fenômenos que alteram a memória e afetam diretamente a credibilidade da prova testemunhal, denominado conformidade de memória. A conformidade de memória refere-se à inserção de falsa informação de uma testemunha ao interagir socialmente com outra (WILLIANSO, WEBER & ROBERTSON, 2013), ou seja, mesmo se houver diferenças iniciais na recordação de eventos criminosos, quando duas pessoas que testemunharam o mesmo fato conversam entre si, uma pode influenciar o relato da outra, gerando relatos relativamente mais similares (GABBERT, MEMON & WRIGHT, 2007). No entanto, este fenômeno pode alterar a própria memória a partir da discussão entre duas ou mais pessoas sobre os fatos que presenciaram (HEWITT, KANE & GARRY, 2013).

A partir do âmbito social, a conformidade de memória pode ser explicada pela necessidade que as pessoas possuem de transmitir informações acuradas (CIALDINI & GOLDSTEIN, 2004), caracterizando-se como algo positivo ao permitir que informações de diferentes fontes sejam compartilhadas e melhor absorvidas (HEWITT, KANE & GARRY, 2013). Contudo para o sistema criminal, as consequências são graves e irreversíveis, pois o

relato que não corresponde à realidade frequentemente tem como resultado a condenação de um inocente ou a absolvição de um culpado.

Diversas pesquisas científicas demonstraram nas últimas décadas que a descrição do mesmo evento por duas pessoas pode levar à alteração da memória (WRIGHT, SELF & JUSTICE, 2000; RAJARAM & PEREIRA-PASARIN, 2010), fato este que pode ser influenciado por estereótipos pessoais e até pelas sugestões do entrevistador ou de terceiros (SHECORY, NACHSON & GLICKSON, 2010).

Considerando estudos sobre este fenômeno, conclui-se que as informações fornecidas por testemunhas que tenham conversado entre si não podem ser consideradas como “verdade”, ou seja, quando duas ou mais testemunhas apresentam depoimentos congruentes entre si, não necessariamente estão confirmando o depoimento uma das outras ou desvelando o que de fato aconteceu (WRIGHT, SELF & JUSTICE, 2000).

Países como Estados Unidos e Inglaterra vêm paulatinamente alterando a compreensão de como a prova testemunhal é compreendida, reconhecendo a fragilidade deste meio de prova e relativizando seu valor isolado (WELLS, MEMON & PENROD, 2006; KAPLAN & PURACAL, 2015). Entretanto, apesar de alguns estudos incipientes sobre a matéria, no Brasil o sistema legal é centrado quase que exclusivamente na prova testemunhal, potencializando a possibilidade da ocorrência de erros judiciais.

O transcurso de tempo também foi investigado, eis que é um fator basicamente inédito em pesquisas empíricas sobre conformidade de memória. A grande maioria dos estudos compararam a resposta dos participantes logo após o estímulo com outra resposta após cerca de uma semana. Na presente pesquisa, passaram-se oito meses desde o primeiro experimento (onde o estímulo foi apresentado) e o segundo experimento (onde os participantes responderam sobre o que lembravam).

É sabido que a memória sofre uma diminuição gradual com o tempo, mas o que isso pode significar para o processo penal, onde há uma reconstrução do fato criminoso para determinar a responsabilidade de um determinado sujeito, não foi estudado com rigor científico.

Sendo assim, o objeto do presente estudo foi pesquisar a conformidade de memória na realidade criminal brasileira. Desta senda, foram produzidos três artigos:

(1) O primeiro de revisão, em que a pesquisa existente sobre conformidade é explicitada dentro do recorte temático proposto. Este artigo, denominado “*Memory Conformity and Eyewitness Testimony: A Review*”, foi submetido e aprovado para publicação na Revista Brasileira de Ciências Criminais;

(2) O segundo é um artigo empírico, onde o experimento foi realizado de forma em que

os participantes em duplas assistiram a duas cenas similares que simulam um crime, mas com um elemento central diferente, com o objetivo de identificar e entender possíveis influências na memória de testemunhas. Este artigo foi submetido para a Revista Psico-USF e ainda não foi oferecida resposta sobre sua publicação;

(3) O terceiro estudo, recentemente finalizado, também se trata de um artigo empírico, no qual os participantes do primeiro experimento foram chamados após 8 (oito) meses, com intuito de analisar o efeito do transcurso de tempo na conformidade de memória.

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ESTRUTURA DA TESE

Esta tese está sendo apresentada em formato de artigos científicos, considerando as recomendações do Programa de Pós-graduação em Neurociências da Universidade Federal de Minas Gerais (UFMG):

Estudo 1 - “Conformidade de Memória e Prova Testemunhal”. Trata-se de um artigo de revisão, escrito em idioma inglês, no qual apresenta o fenômeno da conformidade de memória, estabelecendo sua relação com o sistema criminal;

Estudo 2 - “Prova Testemunhal, Conformidade de Memória e Confiança”. Também na língua inglesa, o artigo empírico apresenta os resultados encontrados em um experimento de conformidade de memória em circunstância em que dois participantes assistem a cenas parecidas para que, durante a discussão, houvesse a influência do relato de uma testemunha na outra;

Estudo 3 – “Confiabilidade da Prova Testemunhal e Transcurso de Tempo: Memória e Conformidade”. Este artigo empírico, em idioma nacional, apresenta os resultados de um experimento inédito, onde os participantes são entrevistados oito meses após o estímulo e a conversa entre pares, analisando como se opera a passagem do tempo na memória das testemunhas.

As falhas na memória de testemunhas são objeto de estudos há décadas (*e.g.* LOFTUS & PALMER, 1974; LOFTUS, 1999; CHAN & LAPAGLIA, 2011). Contudo, em nosso país, as pesquisas relacionadas ao âmbito criminal ainda são embrionárias, fazendo com que uma investigação e experimentos que considerem as peculiaridades e o próprio procedimento penal brasileiro sejam bastante relevantes. O fomento deste tipo de estudo é de grande valia para identificar e sugerir medidas de redução de danos, tendo em vista que as consequências destas falhas, muitas vezes derivadas do funcionamento prático da justiça criminal, são gravíssimas para os acusados e para a sociedade.

Estudos sugerem que testemunhas reportam eventos errados quando presenciam outras testemunhas depondo sobre tais fatos (GABBERT et al., 2003 e WRIGHT, SELF & JUSTICE, 2000). Em reconhecimentos realizados após o crime, cerca de 20% das vezes as testemunhas reconhecem alguém que não é suspeito do crime investigado (WRIGHT & MCDAID, 1996) e 25% dos suspeitos identificados em reconhecimentos são inocentes (LEVI, 1998).

O presente trabalho propôs o desenvolvimento de pesquisas empíricas originais e compatíveis à realidade brasileira, investigando a conformidade de memória em depoimentos

logo após o crime em uma experiência de imersão, comparando tais resultados com os encontrados após oito meses do fato. A averiguação das informações pós-evento, a confiança dos participantes e de que forma essas influências se relacionam com o lapso temporal, proporcionou não somente uma melhor compreensão sobre o tema, como servirá como embasamento de outros estudos multidisciplinares entre a neurociência e o Direito.

ARTIGO 1:**CONFORMIDADE DE MEMÓRIA E PROVA TESTEMUNHAL****MEMORY CONFORMITY AND EYEWITNESS TESTIMONY: A REVIEW¹**

Rodrigo Faucz Pereira e Silva

Antonio Jaeger

RESUMO

A defectibilidade da prova testemunhal constitui a principal causa de erros judiciais, sendo que a maioria das condenações indevidas derivam de erros de testemunhas presenciais. Um dos fenômenos que pode alterar a memória e a credibilidade da prova testemunhal denomina-se conformidade de memória, que pode ser conceituado como a influência na memória de uma pessoa ao discutir determinado fato com outra. Pesquisas demonstram que a descrição do mesmo evento por duas pessoas tem como consequência potencial a alteração da própria memória. Neste artigo de revisão, 31 artigos foram selecionados. Os estudos apontam a necessidade de se alterar a percepção de como a prova testemunhal é compreendida no âmbito jurídico. É imprescindível o desenvolvimento de técnicas de interrogatório e treinamento que possam ao menos amenizar o problema das influências sofridas pelas testemunhas e, no âmbito do sistema jurídico brasileiro, necessita-se rever o valor dado a este tipo de prova, principalmente mitigando seu valor como prova isolada para fundamentar sentenças condenatórias.

Palavras-chave: Prova testemunhal, conformidade de memória, condenações indevidas, processo penal, *neurolaw*.

¹ Artigo aceito para publicação na Revista Brasileira de Ciências Criminais (*Qualis A1*), com previsão de publicação na edição número 152 de fevereiro de 2019.

ABSTRACT

Eyewitness evidence is the main cause of miscarriages of justice, with most wrongful convictions resulting from errors in this type of proof. One of the phenomena that can alter memory and the credibility of testimonial evidence is called memory conformity, which is the influence on a person's memory when discussing a particular fact with another person. Studies show that the description of the same event by two people has the potential consequence of changing one's memory. In this review article, 31 empirical studies were selected. The studies indicate the fallibility of the eyewitness memory and, consequently, the need to change the perception of how testimonial evidence is understood. It is essential to develop techniques and training that can at least diminish the problem of influence in witnesses and, principally in the Brazilian legal system, it is necessary to review the value given to this type of evidence, mainly by mitigating its value as isolated evidence to justify convictions.

Keywords: Eyewitness, memory conformity, undue convictions, criminal procedure, neurolaw.

1. INTRODUCTION

Numerous studies demonstrate the fallibility of memory (e.g., LOFTUS, 2003; LOFTUS; SCHACTER, 2013; STEFFENS; MECKLENBRÜCKER, 2007). This imprecision derives from multiple factors that may occur during memory acquisition, storage, or recall, leading to severe implications in the criminal procedure, insofar as most convictions are based on witness statements (LOPES JR., 2013; MINISTRY OF JUSTICE OF BRAZIL, 2015).

The defectibility of witness evidence is the main cause of miscarriage of justice for wrongful convictions (HUFF; RATTNER; SAGARIN, 1996), with the majority of people initially convicted and acquitted after DNA examination, first convicted on account of this type of failure (CONNORS ET AL., 1996; WELLS ET AL., 1998). According to the US Innocence Project, 70% of wrongful convictions stem from errors of face-to-face witnessing².

Moreover, the initial information provided by witnesses influences all investigation into the crime. The police, on the basis of these testimonies, build their line of investigation and subsequently prepare photographs for recognition, searches for possible suspects, take depositions of witnesses, formalize requests for arrest, and other investigations (SHAW; GARVEN; WOOD, 1997). Thus, it is easy to see that even minor errors or failures in the accuracy of witnesses have the potential to tarnish an entire investigation and, consequently, the criminal process that develops from the narration of what has been seen.

One of the phenomena that can alter memory and the credibility of testimonial evidence is called memory conformity. It is the insertion of false information from a witness when talking to another (WILLIANSO; WEBER; ROBERTSON, 2013), or a person's act of changing her/his behavior to correspond to the reports of others (CIALDINI; GOLDSTEIN, 2004). Experiments show that when two or more people discuss what they experienced together, one influences the memory of the other (HEWITT; KANE; GARRY, 2013).

Studies indicate that conformity derives from the very evolution of humans, as an adaptive mechanism inherent in all societies (BUSNELLO, 2012). In the social sphere, one of the explanations of its occurrence comes from the need of people to transmit information precisely (CIALDINI; GOLDSTEIN, 2004). Thus, memory conformity as a social phenomenon is a positive phenomenon since it allows information from different sources to be shared and absorbed (HEWITT; KANE; GARRY, 2013). However, its consequences for the Criminal Procedure can be devastating, because the transmission of inaccurate or wrong

² <https://www.innocenceproject.org/causes/eyewitness-misidentification/>. Visited in 15th January 2018.

narratives about a witnessed crime may result in the conviction of an innocent person or acquittal of a guilty party.

Research shows that the description of the same event by two people has the potential consequence of changing one's memory (WRIGHT; SELF; JUSTICE, 2000; RAJARAM; PEREIRA-PASARIN, 2010), that witnesses report wrong facts after they watch other witnesses reporting about that same fact (GABBERT; MEMON; ALLAN, 2003), that stereotypes and the suggestibility of the person directly affect memory (SHECORY; NACHSON; GLICKSON, 2010), and that memory conformity can occur even without any social interaction and from anonymous sources (JAEGER ET AL., 2012).

Several factors influence memory conformity, among which: (1) when two or more people witness an event, usually the one with the lowest confidence conforms to the one with the greatest confidence in the response (SCHNEIDER; WATKINS, 1996); (2) the credibility of a person who states that s/he has seen a particular detail (positive acknowledgment) is greater than one who says that s/he has not seen any (negative recognition; WRIGHT ET AL., 2000); (3) the greater the credibility of the witness, the more the others tend to conform (WILLIANSON ET AL., 2013); (4) the lesser the confidence in one's own memory, the greater the chance of conformity (GOODWIN; KUKUCKA; HAWKS, 2013; WRIGHT; VILLALBA, 2012); (5) when one person believes that the other better understands or is aware of the facts, he/she tends to conform more easily (GABBERT; MEMON; WRIGHT, 2007); (6) the closer the relationship between witnesses (e.g., friends, romantic partners), the greater the conformity of the memory (FRENCH; GARRY; MORI, 2008; HOPE ET AL., 2007; OEBERST; SEIDEMAN, 2014).

This study analyzes how faulty the testimonial evidence can be, pointing out the necessity of reviewing the value given to this type of proof, mainly by mitigating its importance as isolated evidence to justify convictions.

2. MEMORY CONFORMITY

According to Koriat, Goldsmith, and Pansky (2005), memory recall is not only a passive reproduction of what is stored, but also an active search based on the interpretation of all information received, including false and imprecise information. It has been widely demonstrated that memory is subject to distortions because it involves reconstructive processes (DOSS; BLUESTONE; GALLO, 2016), that is, as the experiences are stored in fragments or

gaps, when the memory is recalled, we try to reconstruct a history around these fragments (CARPENTER; SCHACTER, 2016; MOURAO JUNIOR; FARIA, 2015).

In the context of memory distortions, a relevant aspect is post-event information. People who witness a fact are usually exposed to reports from other witnesses, media reports, and even questions from law enforcement officers who have information about the crime (OEBERST; SEIDEMANN, 2014). All information about the situation experienced can change the original memory by reshaping, complementing, or creating new memories. According to Wright et al. (2000), eyewitnesses may encounter post-event information in three basic forms: (a) through interrogators' questions; (b) by the repeated description of the event, and; (c) when information is given by other witnesses.

Cialdini and Goldstein (2004) explain that memory conformity is a psychological phenomenon related to the paradigm of social influence and acts profoundly on people's behavior through three main factors: (i) the need to transmit accurate information, (ii) maintain a positive self-image, (iii) and be socially accepted and well-liked.

Three processes directly contribute to the occurrence of conformity (WRIGHT et al., 2000), namely, normative influence, informative influence, and false memory. Normative influence is essentially related to the basic need to be socially accepted, reflecting the costs of divergence in a social relation (ASCH, 1956). Thus, if social harmony has greater value than the accuracy of information, people can purposely convey incorrect information to avoid conflict. In turn, informational influence occurs when one wishes to convey accurate information, one person believes that the other is correct, and thus conforms to it. The false memory also contributes to conformity and occurs when there is a false perception of reality, such as when, for example, the witness believes that s/he saw a certain fact that was actually mentioned by another person (OEBERST; SEIDEMANN, 2014).

In practice, all three factors can occur together. For example, one witness believes that the other is correct (informational influence), while being influenced by information from the media (false memory), and does not want to conflict with a third witness (normative influence).

Considering the deleterious effects of these phenomena for the criminal justice process and in order to mitigate the same, it is not enough to question whether the witnesses talked among themselves about the fact as a form of verification of possible influences, for they may not respond with sincerity. Additionally, in general, from the moment false information is incorporated into memory, people are not necessarily able to identify the real source of that information, that is, they may believe that such information comes from their own memories when it was actually said by third parties (BODNER; MUSCH; AZAD, 2009; MEADE;

ROEDIGER, 2002; MORI; KISHIKAWA, 2014). In addition, it is customary and natural for people to talk to their friends, relatives, and other witnesses about their experiences when they eventually witness or are victims of a crime (WRIGHT; STROUD, 1998).

When observing the vulnerability of memory recall at the time of the testimony, it has been noticed that the witness reports do not necessarily reflect what happened, or even the witness's own perception at the moment of the fact. This is because the narration of the event in a report is concatenated in order to produce coherent descriptions, taking into account all sources of information available to the witness (and this includes untruthful information; WILLIANSON et al., 2013). It also takes into account the experiences, either direct (facts from the witness him/herself) or indirect (exposure to news, films, conversations, short stories). That said, if an individual believes that the event should have occurred in a certain way because of his experiences and predispositions, s/he will probably believe that the fact actually occurred in that way (LACY; STARK, 2013).

Studies also prove that the integration of memory with the processing of personal stereotypes by recalling the details of the event allows predispositions and external influences to be incorporated into the memory (WRIGHT; STROUD, 1998). This is because all personal knowledge and experience is used to filter perception and observation, and later, to build memory (LACY; STARK, 2013). Research by Shecory et al. (2010) showed that when a given interviewer's suggestion corresponds to the stereotype's perception of the witness, it is incorporated into his/her own memory. Knuycky, Kleider, and Cavrak (2014) reaffirmed this finding by showing that biased associations between certain facial features and criminal behavior may contribute to the misrecognition of suspects, because certain faces are considered 'typically criminal.'

From the 1970s and 1980s, countless American experiments and articles have proved memory fallibility, warning about the use of witness evidence (WELLS; MEMON; PENROD, 2006). From the results of these experiments and considering the practically 'natural' occurrence of conformity and other influences in memory, caution should be exercised in the introduction of these elements in the Criminal Procedure because of its direct correlation with convictions. It is necessary to recognize that erroneous testimony from face-to-face witnesses (in relation to facts that did not happen), are easily incorporated into the memory of other witnesses (WRIGHT ET AL., 2000).

2.1. METHOD

To select the most relevant articles for the present study, the Google Scholar and Psycinfo databases were searched using the terms ‘memory conformity,’ ‘criminal system,’ and ‘co-witness’ in the second half of the year 2017. To complement the research, other searches were conducted with articles taken from the bibliographic references of the selected articles.

As the goal of this study was to review articles concerning memory conformity experiments in proceedings relevant to criminal contexts, were excluded studies that (a) did not use criminal scenes as stimuli; (b) that were not applicable to the reality of Brazilian criminal justice, especially regarding the procedure adopted by the police and judiciary; (c) that had objectives focused only on memory or false memories in general; (d) contained the infant testimonial approach; (e) had a focus on education; (f) or analyzed the social benefit of memory conformity.

Thus, we selected articles that met the following requirements: (1) were memory conformity experiments; (2) where the stimuli simulated crime scenes; (3) analyzed the influence of one witness on the other; (4) were empirical experiments; and (5) that the objectives and outcomes address conformity, its consequences, influences, or intensity.

2.2. RESULTS

Initially, after reading the abstracts, 135 articles were chosen with the searched terms. Considering the inclusion and exclusion requirements, 31 referred to empirical experiments and were described and analyzed below.

3. CRIMINAL MEMORY CONFORMITY STUDIES

An important aspect of memory conformity is discrepancies reported by witnesses, such as when they view the crime from different perspectives (e.g., different angles of vision), and then pass this information on to the other witness. One way of researching this question was initially conceived by Wright et al. (2000). In the study developed by these authors, participants were divided into two groups, each group individually receiving a photographic book containing the scene of a theft from different angles. However, in one of the books, there was one person participating in the crime (an accomplice) and not in the other. Everyone then responded to a questionnaire, in which one of the questions was whether there was an accomplice at the event. Subsequently, pairs (one from each group) were formed and they had

to jointly describe the scene to a police investigator, and then respond individually to the same initial form. Of the 19 valid pairs for the research, 15 conformed to their responses, either by saying that there was an accomplice in the crime (despite seeing the scene without the accomplice) or that there was no accomplice in the criminal scene (despite seeing the accomplice).

Using this same experimental approach, Gabbert et al. (2003) presented videos of theft to participants who were later separated into pairs. However, the scenes were arranged such that each of the pair observed a different point of view, with different objects shown in each scene. In fact, one of the angles did not even show a girl committing the theft (casually taking a 10-pound note). After the presentation of the scenes, the participants had to talk in pairs about the event, and try to remember as many details as possible. The participants then responded individually to an open questionnaire. The results showed that 71% of the participants incorporated facts in their responses only from the other witness and that 60% of the participants who did not see the girl committing the theft from the perspective presented, indicated that she would be guilty of the crime.

The same video of the girl committing the theft and a similar design was used in the study by Valentine and Maras (2011), in which half of the participants were divided into pairs and the other half watched individually (control group). After the video, the participants had to answer a questionnaire about the scene; however, those who were in pairs had to answer the questions together. Participants then responded to another questionnaire individually. A result similar to that of the study by Gabbert et al. (2003) was found, because 73% of the participants added in their answers at least one critical item reported by the other witness.

A third experiment was conducted by Bang (2017), who used the same video and methodology in Gabbert et al. (2003), but sought to analyze cultural differences in memory conformity using participants from the United States (who would be more socially independent) and South Korea (who would be more interdependent). The results indicated the occurrence of memory conformity with participants from both countries, without significant differences, indicating that it is an intercultural phenomenon.

Another experiment that used the video and methodology of Gabbert et al. (2003) was by Bodner et al. (2009). In this study, the participants were divided into: (a) couples who discussed the video; (b) pairs in which one could read the other's answers; and (c) participants who watched both videos. This experiment determined whether the participants could correctly identify the sources of the information given in the responses and whether later warnings about false information would decrease the occurrence of conformity. Although the pairs were 74%

compliant, source monitoring showed that 14% of the participants in pairs attributed the false results to the assisted video itself, indicating an effective memory alteration. Alerting participants that later information may be false and that they should only respond to what they actually saw in the video did not eliminate conformity, even though it decreased the incidence of wrong answers by half.

In fact, several experiments have investigated the monitoring of sources to detect if participants can distinguish whether their response comes from their own memory or from a confederate. The results revealed that the participants had great difficulty in discriminating the source of correct information, suggesting that false information provided by third parties in a scene may become part of the participants' own memory.

Meade and Roediger (2002), tested the social influence paradigm with information source monitoring. One of their experiments consisted of the presentation of six photographic scenes. In each session, a participant and a confederate were interviewed together in order to identify the objects in the presented scenes, both of whom had to point to the objects (in alternate order). However, the confederate provided correct and incorrect answers. After this, the participant would respond to an individual questionnaire indicating the objects s/he remembered to be on the scene, with half of the participants being informed that the confederate might have provided incorrect information. The results showed a high index of false recall of items that were not in the scenes and that had been suggested by the confederate. However, the index was reduced (but not eliminated) in those participants who were informed about the possibility of the confederate giving false answers.

The identification of sources by a witness to differentiate between the information seen by the witness and information that comes from another witness was also studied by Paterson, Kemp, and Ng (2011). Participants watched a video of theft on individual computers. Half the participants were assigned to a pair with people who saw the same video and the other half with those who watched a different version, and then discussed pre-defined topics for 10 minutes. A week later, the participants were called for an interview in the same way that a police testimony is held in Australia, with half being told that the member of their pair could have seen a different scene and that they should therefore write down only what they had actually seen. The participants then had to identify in their responses what facts they consciously remembered and which they knew to be true. The data revealed that 42% of the participants falsely conformed with some of the presented information. Further, there was no reduction in conformity when the participants were informed that their partner could have witnessed a different scene, corroborating research that indicates that false information is embedded in memory.

As in the previous study, using a similar methodology, Paterson, Kemp, and McIntyre (2012) tried to reduce memory conformity by warning about false information and with a source monitoring test. However, the results were unsatisfactory, confirming that the information provided by the 'other' witnesses may exert a powerful influence on memory, which makes it difficult to combat.

In an auditory memory study (OEBERST; SIEDERMANN, 2014), students in pairs heard an audio recording in two distinct versions in which a person describes an incident where two men challenge the driver of a pickup truck to a race and end up having to flee to not be killed. Randomly, the participants answered the questions either (a) on their own, (b) with a close friend, or (c) with a stranger, and each participant from the pair heard a different version. The participants answered a questionnaire about the facts first in conjunction with their partner and then individually. After these two questionnaires, the participants were informed that each of the pair heard a different version of the audio recording and asked them to respond to a third test based solely on their own memories. The results indicated the occurrence of memory conformity, and that it was more intense between close friends than between strangers. Moreover, only a little more than 10% of the answers incorrectly mentioned the source of the false information, revealing the participants' ability to distinguish the source in a questionnaire administered shortly after the discussion.

An investigation of memory conformity by the auditory pathway and identification of the source was also conducted by Mori and Kishikawa (2014). The participants, in pairs and with headphones, watched a video where the driver of a car stops alongside a pedestrian to ask for information, at which point a passenger leaves the vehicle and steals something from the pedestrian's bag without being noticed. However, the audio of the scene that each participant heard was different. Afterwards, the participants answered a questionnaire about the scene, discussed with their partners, responded to a new questionnaire individually, and indicated if the response was based on the response of the partner during the discussion. A week later, the participants had to complete the same form again. The results showed that memory conformity also occurs through the auditory pathway. Eighty-five percent of the responses that conformed to that of the partner were correctly identified shortly after the discussion; however, a week later, only 34% of the conformed responses had correctly identified the source, suggesting that, over time, the information was incorporated in the participants' memory.

Shaw et al. (1997) conducted an experiment in which pairs of participants and confederates watched a video of a staging by the local police department where participants were supposed to help test the quality of a new security camera. In the scene, a man and a

woman arrive and leave a vehicle in the parking lot of a diner. While the man stands by the car, the woman enters the property, leaves in twenty seconds, and gives money to the man, after which they get in the car and run away. Subsequently, a camera shows another perspective from inside the diner, which shows the woman approaching the cash register with a gun, taking the money, and leaving. Subsequently, questions were asked to the pairs, who should answer loudly and alternating who answered first. The results indicated that the information given by the confederate directly influenced the participants' responses, especially when the confederate provided incorrect information. However, it was not possible to identify whether the participants conformed to the confederate by internalizing the response given or if it was only that the participant did not want to conflict with the confederate (normative influence).

In a study by Saraiva et al. (2015), two groups of participants had to watch a video depicting a street fight. While one (control) group only responded to a questionnaire individually, the members of the other group, after responding to the questionnaire individually, argued with a confederate who provided incorrect information. Next, the participant and confederate answered a questionnaire jointly, in consensus. The results showed that 77.1% of the participants conformed to some of the incorrect information provided by the confederate. One of the false information was that it had another man in the fight, and 45.8% of the participants agreed with this statement. However, by having the participants and the confederates jointly respond to a questionnaire after the discussion of the scene presented, the methodology employed contributed to the manifestation of normative influence.

In a recent study that also used confederates, Doughty et al. (2017) investigated memory conformity related to the five personality factors described by the lexical method (Big Five). Regardless of whether the results presented conclude that memory conformity is significantly related to the personality of people, the data on conformity itself is relevant. In this experiment, participants watched a criminal scene in which a man enters an apartment, steals some objects, and is then chased by the occupant. The participants formed pairs, each with a confederate, to discuss the video and received a script of issues to be addressed. In this discussion, the confederates mentioned false and true information and, later, the participants had to answer an individual questionnaire about the video. The responses indicated that those who portray personality with a low level of 'openness to experiences,' 'extroversion,' 'neuroticism,' and a high level of 'kindness,' showed greater memory conformity. However, it was concluded that all personalities are subject to some level of memory conformity.

Several studies provide a modulation analysis of the effects and intensity of memory conformity. The credibility of the 'co-witnesses' was the object of study, indicating that the

conformity of memory is more intense the greater the credibility of the 'other' witness (WILLIANS ON ET AL., 2013). In this experiment, students watched a video that showed a robbery of a car and, later, a house. After viewing the video, the participants discussed with a confederate about the witnessed facts and the latter introduced incorrect information. For half of the participants, the confederate was presented as a former police officer and to the other half as an electrician. Those who were paired with the 'ex-police' confederate, had a 13 percent greater conformity rate than those who were paired with the 'electrician.' However, memory conformity in the participants occurred with both confederates.

Zajac et al. (2016) investigated the question of the credibility of the co-witness by trying to diminish the trustworthiness of the confederate. For this, in pairs, the participants watched a video that showed a man and a woman committing two thefts. In half of the pairs, the confederates were sober and during the discussion that followed the video, inserted false information about the attended facts. In the other half of the pairs, the confederates ingested alcohol until they exceeded the legal limit for driving (at least, this was informed to the participants) and during the discussion also entered the same false information. After the discussion, the participants answered a questionnaire individually. The results contradicted the hypothesis of the research, considering that the participants conformed with the responses of the 'sober' confederates (45%) as well as the 'drunken' ones (43%), that is, there was no significant difference.

A distinct approach to the credibility of the co-witnesses was taken by Skagerberg and Wright (2009), who analyzed whether information received through other witnesses after recognition of the suspect of a crime influences the level of certainty in the recognition. To that end, the participants, divided into five groups, watched a short video scene that showed a robbery and the face of the perpetrator, and then had to identify the suspect out of six photos presented, and the correct face was not among the six. After picking the photo of the suspect in the screen, it was shown one of following phrase: (a) 97% of police officers recognized the same suspect or (b) 97% of children recognized the same suspect, or (c) 4% of police officers chose the same suspect or (d) 4% of children chose the same suspect, and last still had a control group (e) in which no message appeared. After one of these five messages was shown, respondents responded to a form that questioned, among other things, the level of trust in that recognition. The results showed that the so-called 'feedback effect' occurred only in relation to those who received information from highly credible (police) sources, that is, examining the children's responses did not make any difference to the participants. The confidence rate of

those who received the information that ‘97% of police officers recognized the same suspect’ increased in all questions in the questionnaire.

The credibility of witnesses may also derive from the relationship between them. The results found by Hope et al. (2007) corroborate the claim that conformity is more intense among those who have a bond of friendship or love, than among strangers. Pairs were formed between participants with a bond of love or friendship and strangers, and then watched the video from the study by Gabbert et al. (2003). Asking the participants to imagine themselves as real witnesses waiting for the police to arrive, the pairs were instructed to discuss the fact and then answer a questionnaire together. After the pairs were separated, the participants answered a new questionnaire, this time individually. Although the difference in the error rate between strangers and between acquaintances was not relevant, the results showed that, among strangers, the percentage of conformity was 29% and among those who were known to each other, it was 58% (there was no significant difference between friends and romantic partners).

The study by French et al. (2008) also found this phenomenon. In their experiment, pairs of participants who did not know each other and pairs of participants who were romantically involved watched a slightly different version of a film. The conclusion was that 68% of the romantically involved used incorrect information in the questionnaire, as compared to 45% from those who did not know each other.

It is important to mention the study by Skagerberg and Wright (2009), in which memory conformity and the strength of the relationship between participants were investigated. In this experiment, pairs were organized between siblings, at which time they had to answer a questionnaire to analyze their authority and power. Subsequently, 50 photos of faces to be recognized and then 100 more photographs were shown, and the participants had to answer which of the latter were part of those initial 50. Of these 100 photographs, in random order, one brother answered the first 50 photos and the other the last 50. There was a column on the form for each brother's answer; the second could see the first's answer. The results showed that, although the older sibling was identified as more powerful, there was no difference in the younger sibling's conformity with the older sibling; rather, the second responder was influenced by the first response because of the order of the answer.

The social influence and trustworthiness of witnesses are also points that must be considered in specific circumstances when, for example, the police arrive at the scene of the crime and ask collective questions to those who have witnessed the fact. In this respect, Ost et al. (2008) presented a video of a robbery to participants where one woman had her purse taken by one man while another shoved her to the floor. Participants were placed in a room, either

with a confederate (forming a pair) or with three other confederates (forming a group of four). After watching the video, questions were asked in which the participants and confederates had to respond loudly and in alternating order, as well as stating their level of confidence. The data revealed that 93.75% of the respondents' answers were correct when the confederates also answered correctly; however, when the confederates responded incorrectly, only 62.92% of the answers were correct. Further, the participants were significantly less accurate when they were in the group with three confederates giving wrong answers than with only one. Concerning the confidence expressed by the participants, they were more likely to conform when the confederate declared a high level of confidence, a fact that was accentuated when the group with three confederates declared the same.

In a similar methodology, Dalton and Daneman (2006) investigated social influence on memory conformity, when the participants, after watching a video of persecution and homicide, were divided such that they were either paired (with a confederate) or grouped with 3 or 5 other participants (each group with a single confederate). After watching the video, the participants discussed among themselves, at which time the confederates inserted false information. Finally, the participants answered a questionnaire about the scene while being assisted and discussed individually. The results showed that while the participants who made pairs with a confederate conformed in 68% of the false suggestions, those who were in a group conformed only in 49%. This data indicates that the information of other participants in the groups may have eventually modulated the effect of the false information provided by the confederate.

In a third study related to group testimony (EISEN ET AL., 2017), groups were formed with three participants and two confederates each, who were then shown a video of car theft where it was possible to identify those who were involved. After the video, as witnesses, the participants were asked to describe the criminal act and the suspects aloud. One confederate was placed at each end, the last and the first to speak, at which time they gave false information, including the physical characteristics of the suspect (e.g., that the suspect had a tattoo on his neck despite not having one). The participants were separated such that in 5 minutes, 50 minutes, 48 hours, or even one week after the discussion, they answered a questionnaire about the witnessed crime and recognized the suspect. Two sequences of photos were presented, one containing the image of the real suspect and the other without the photo of the perpetrator. The results showed that in the recognition when the perpetrator was among the photos, in the period up to an hour after the video, 26.9% of participants identified correctly, while 30.8% identified the subject with the neck tattoo. In respondents who answered a week after the scene, 34.4% identified correctly, but 43.8% indicated the suspect with the neck tattoo as the perpetrator.

When the photograph of the perpetrator was not in the sequence presented, in the period up to an hour, 47.8% recognized the subject with the tattoo on the neck and, a week later, 60%.

How much confidence directly impacts the response has been researched by Goodwin et al. (2013), who showed pairs of participants with confederates slides with images of a theft at a bookstore. Twenty minutes later, questions about the presented scene were asked, which were to be answered loudly and in alternating order, while also stating the level of confidence in the response. When they first challenged the confederate, he responded incorrectly (inserting false information). As the other studies have demonstrated so far, the main conclusion is the occurrence of memory conformity, because the response of the first directly affected the response of the second. However, the results also showed that when the confederate responded to incorrect information with high confidence, the level of incorrect responses given by the participant also increased.

In order to verify the difference between age groups in memory conformity, as well as whether direct interaction between witnesses in a conversation is distinct from indirect interaction (e.g., through writing), Gabbert et al. (2004) used participants with a mean age of 20 and 69 years, making them watch a video of theft in a Blockbuster store. Subsequently, all participants had to answer an individual questionnaire and were then divided into: (a) couples with young confederates; (b) pairs of elderly participants and confederates; (c) and participants from both age groups who did not form pairs. Those who were in pairs had to discuss the video and those who were alone received a text that would have been written by another participant (simulation of a confederate), and false information was inserted in both methodologies. Finally, the participants had to answer a questionnaire about what they watched in the video. The results showed that young people were significantly more susceptible to incorrect information inserted by the confederate than the elderly (54.2% and 33.7% respectively), as well as that personal interaction with witnesses generated more conformity than the narrated simulated interaction (55.7% and 41.6% of altered responses, respectively).

Research by Daneman, Thannikkotu, and Chen (2013) also employed young and old participants. First, a confederate was appointed to form pairs, and for half of the youngsters, a young confederate was indicated, and for the other half, an old man, applying the same logic with the elderly participants. The participant pairs watched a video, then discussed it (when the confederate inserted false information on central and peripheral issues), and finally answered a questionnaire. The results showed that the effects were insignificant in relation to the age group of the confederate. However, the study did not find a significant difference between the age of the participants related to the influence of false information on core issues, even though it

indicated that young people are more subject to conformity with peripheral issues than the elderly.

In an attempt to analyze the attribution of guilt and its relation to age groups, in Thorley (2015), the participants watched a video of a crime of receiving stolen goods, where a subject sold a stolen camera to a woman who was sitting at a table with two other people. The participants then received the testimony of 'another' witness, together with a photo (which was of a young woman or an elderly woman). The participants were divided in such a way that (a) one third of them received the information of the testimony without guilt attribution (control group), (b) one third with correct attribution of guilt, and (c) the other third with false attribution of guilt to an innocent, and each of these three groups was still divided in relation to 'another' witness as young or old. Finally, the participants answered a questionnaire about the facts and their perceptions about the 'other' witness. The results showed that while in the control group 7.1% attributed guilt to the innocent woman, in the group in which the incorrect testimony of the young woman was read, this percentage was 42.9%. On the other hand, the conformity presented with the young woman's incorrect testimony did not occur in relation to the elderly woman's testimony (an incorrect attribution of guilt of 7.1%), which indicates that the participants considered the elderly witness unreliable.

The direct and indirect interaction of sources of false information was investigated by Blank et al. (2013), in which participants watched a scene of a robbery at a jewelry store registered by a security camera. Subsequently, the participants were divided such that some of them were given false information by one confederate (in pairs) and others a narrative allegedly written by another witness. The participants then answered a questionnaire individually. A week later, they were called for one more questionnaire session and half of them were emphatically advised that they had received false information previously and that they should respond to the new questionnaire with only the information they actually saw. Unlike Gabbert et al. (2004), no significant difference was found between direct influence (by the confederates) and indirect influence (in writing), nor did the warning they received about false information result in a decrease of conformity.

Ost, Hogbin, and Granhag (2006) found that there is no need for discussion between the participants and the confederate for conformity to occur. In this study, the participants had to answer a questionnaire about a world-famous event at the time: the terrorist attack in Bali in October 2002. One of the questions was whether the participant would have seen the internal camera footage of the establishment that was targeted. Each participant was placed in a room with a confederate to answer the questionnaire and, near the end, the confederate exclaimed

aloud to himself: (a) that he remembered this footage or (b) that he did not remember or kept silent. Of those who heard the exclamation that he remembered the footage, 62.5% said they had watched the video as well. It is interesting to note that, of the total sample of the participants, 39.6% stated that they remembered the footage, which may indicate that the question itself induced the participants to conform.

Without using a criminal situation as a direct methodology, but which nevertheless has implications in this area, was the study by Wright et al. (2008). This research tested the relationship between memory conformity from two distinct criteria of responses by participants: a lenient one, where participants were instructed to describe their memories regardless of making mistakes, omitting no detail; and a strict one, where they should describe only the items that they were sure of having seen. It was concluded that strict instruction reduced the amount of errors of inaccurate information that a confederate had suggested, but also decreased the number of accurate answers. In the lenient condition, 88% of the participants falsely recalled at least one of the critical items discussed, compared to 40% in the strict condition. The importance lies in the fact that in most criminal testimony, the interviewers adopt the lenient criterion of response.

Another study that is relevant to the criminal system, but whose methodology did not directly concern the area, was that by Zawadzka et al. (2016), which concluded that people take into account the reports of third parties when asked to respond about something they have also witnessed. In addition, it was found that even if it is possible for the witness to not answer certain questions, it will still not be possible to eliminate memory conformity, that is, if the interviewer allows the subject to respond only if he/she has a certain level of certainty, information derived from other sources may have already been internalized.

These studies above showed that, although in general there are initial differences in recalling of events, when two people who witnessed the same fact talk to each other, one influences the other, generating similar reports. Memory conformity is widely proven and reveals that the memory of a witness is influenced by a variety of different factors.

Based on these studies, it is concluded that information provided by witnesses who have spoken to each other cannot be considered as true. Even when two or more witnesses presents congruent testimony, they are not necessarily confirming the report of another or revealing facts that actually occurred, since it is possible that false information may have been incorporated in their memories.

4. CRIMINAL PROCESS IN BRAZIL AND MEMORY CONFORMITY

Despite severe criticism from respected jurists (LOPES JR., 2013; MIRANDA COUTINHO, 2008), the Brazilian Criminal Procedure allows the use of testimonies collected during the police investigation as grounds for convictions. This is akin to recklessness because at this stage: (a) the statements are secret (the only participants are the deponent and the investigators themselves); (b) the statements are not recorded; (c) the questions are not transcribed; and (d) the answers are transcribed indirectly by the clerk and therefore do not necessarily reflect the reality or emotions expressed during the act.

As for the questioning, for decades, research has shown that the manner in which the questions are posed impairs the inaccuracy of memory (SHECORY ET AL., 2010), but also has the power to create false memories (WRIGHT; LOFTUS, 1998). Biased or partial questions are capable of affecting the accuracy of memory, which in itself should render it unworkable in convictions, for it annihilates the prospect that the witness will make a verdict in court months or years later³. The fact is that witnesses are significantly suggestible (CONNORS ET AL., 1996).

In order to reduce the influence of one witness report on the other, the Criminal Procedure Code itself warns that witnesses should be separated⁴. However, it cannot be denied that a witness has a tendency to seek to be as accurate as possible, and if s/he perceives the other witness to be more precise than her/himself, s/he tends to change her/his narrative (WILLIANSO ET AL., 2013). It has been emphasized that the separation of witnesses and the need to make contact between them unfeasible is peacefully accepted scientifically as the basic means to avoid memory conformity (SKAGERBERG; WRIGHT, 2009).

Another factor that needs to be evaluated in relation to the Brazilian reality is the passage of time between the fact and the testimony before the judge. According to the Code of Criminal Procedure, a conviction cannot be based exclusively on witness testimony before the police authority⁵ (even if the expression ‘exclusively’ allows the magistrate to base ‘also’ on the basis of such statements). In this way, witnesses are heard again in the judicial phase after months or

³ In the Brazilian Code of Criminal Procedure, witnesses are first heard at a police station. In the course of the proceedings, they must testify before the judicial authority in the presence of the prosecution and defense. However, because of the slowness of the process, witnesses are often heard many years after the crime.

⁴ Although the law provides for the incommunicability of witnesses, this does not prevent them from talking to each other before the date of the hearing, and it is possible (and commonplace) that conversations occur even during the hearing, because the Brazilian Code of Criminal Procedure only certifies that the witness listen to the other witnessing.

⁵ Code of Criminal Procedure. ‘Art. 155. The judge shall establish his conviction for the free evaluation of the evidence produced in a judicial contradictory and cannot base his decision exclusively on the information collected from the investigation, except for the precautionary, non-repeatable and anticipated evidence.’

years of the criminal fact, which leaves them exposed to the most diverse forms of influences and makes it impossible to have a report that is closer to the reality experienced.

This fact is worrying and further demonstrates the fragility of the evidence, because studies indicate that memory distortions can occur simply by repetition in reporting the facts (LACY; STARK, 2013) and by the passage of time (HIRST ET AL., 2009).

5. CONCLUSION

Witnesses are exposed to innumerable external influences during and especially after the fact of the offense. Studies of the mnemonic system indicate that the encoding, storage, and recall processes usually occur in a social environment and in the presence of other people, and their interactions directly affect memory (ZAWADZKA ET AL., 2016). The information provided by eyewitnesses when they have conversed with one another cannot be considered as true, that is, when two or more witnesses present congruent testimony, they are not necessarily confirming one another's testimony (WRIGHT ET AL., 2000).

The ideal solution would be to interview witnesses individually immediately after the event, without there having been any conversation with other witnesses or third parties. However, this isolation does not match with reality, because social interactions are increasingly dense and instantaneous. It is human nature to share one's experiences, especially when something exceptional occurs, such as witnessing a criminal fact (GABBERT ET AL., 2003). A survey by Skagerberg and Wright (2009) concluded that in 87% of crimes, there is more than one face-to-face witness, as well as 58% of the witnesses talking to one another (data related to the UK).

Based on the studies presented in this article, the report of one witness unduly influences the other witness' memory and/or responses.

An alternative would be to collect of the testimony evidence immediately, but this also raise a question of validity on the angle of the Criminal Procedure since, in the accusatory or adversarial system (systems compatible with the Federal Constitution of Brazil), this proof needs confirmation in a judgment, which subjects the witnesses to the most diverse factors of memory alteration until the later testimony is taken. Witnesses produced during the investigation cannot be used either, because at this stage the principles of due process of law and full defense are not respected, and also because it is secretive, one does not know how witnesses were collected, what influence factors were in play, or how the questions were asked.

It is undeniable to recognize that testimonial evidence is necessary for the clarification of the details of the crime. However, because it is based on memory, it should be valued less, given its fallibility and the innumerable influences that may occur after the criminal event. Hence, the importance not only of studies that illuminate the matter, but also the development of techniques that aim to minimize memory errors.

In recent decades, in the common law countries, a great deal of research has developed on memory defectiveness, which has led to changes in the perception of how testimonial evidence is understood (KAPLAN; PURACAL, 2015; WELLS ET AL., 2006). In 2011, the New Jersey Supreme Court ruled that jurors must be briefed by the presiding judge of the judgment on the fallibility of testimonial evidence, indicating that human memory does not function as a camcorder and is much more complex. Regardless, depending on the case, the judge should point out that ‘even in the best conditions of observation, high stress level may reduce the ability of the witness to recall and make accurate identifications’⁶ (LOFTUS; SCHACTER, 2013).

It is essential to develop interrogation techniques (in addition to training) that can at least alleviate the problem of witness influences, such as the cognitive interview (STEIN; MEMON, 2006) and the self- Administered Interview, PINTO; STEIN, 2017). In the scope of the Brazilian legal system, it is necessary to review the value given to this type of evidence, mitigating its value as isolated evidence. Moreover, the testimonial evidence must be in line with other probative elements of the process for validation of the narrated information, in view of its flaws and instability.

⁶ State v. Henderson (2011). In State v. Lawson (2012), the Oregon State Supreme Court also considered the advances related to witnessing psychology and memory failures.

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ARTIGO 2

**PROVA TESTEMUNHAL, CONFORMIDADE DE MEMÓRIA E CONFIANÇA
TESTIMONIAL EVIDENCE, MEMORY CONFORMITY AND CONFIDENCE⁷***Rodrigo Fauz Pereira e Silva**Antonio Jaeger***RESUMO**

Testemunhas são expostas à inúmeras influências durante e após o crime, o que pode gerar erros severos na memória do fato e contaminar o processo criminal subsequente. No presente estudo, estudantes assistiram um pequeno vídeo de um crime. Eles foram divididos em dois grupos e assistiram a cenas levemente diferentes. Depois de discutirem em pares sobre a cena, os participantes responderam individualmente a um questionário. Os resultados mostraram um forte efeito de conformidade de memória (de 31%). Ademais, a confiança geral demonstrada pelos participantes que conformaram foi equivalente àqueles que não conformaram. Sendo assim, os resultados indicam que informações falsas são lembradas de forma tão confiantes e vívidas quanto as verdadeiras. Enfim, este estudo apresenta evidências que demonstram a temeridade de confiar apenas nas provas testemunhais no processo penal.

Palavras-chave: Prova testemunhal; conformidade de memória; Processo Penal; pesquisa imersiva.

⁷ Artigo submetido para o periódico Psico-USF. Ainda está em avaliação.

ABSTRACT

Eyewitnesses are exposed to innumerable influences during and after the crime, which can generate severe errors in remembering the facts of the crime and contaminate subsequent criminal proceedings. In these study, undergraduate students watched a short movie about a crime. They were divided in two groups and watched a slightly different scene from each other. After discussing in pairs about the crime scene watched, the participants answered individually to a questionnaire. The results showed a strong memory conformity effect (of 31%). Furthermore, the mean confidence shown by the conformed participants in their responses was equivalent to the confidence of the participants who did not conform their responses. Thus, the current results show that false information frequently found in criminal contexts is remembered as readily as authentic information, and with similar confidence rates. Therefore, this study presents evidence demonstrating the inadequacy of relying solely on testimonial evidence during criminal procedures.

Key words: Eyewitness; memory conformity; criminal procedure; immersive research.

1. INTRODUCTION

Eyewitness testimonies are exposed to innumerable influences during and after witnessing the delict. Such exposition can lead to severe errors in the memory reports of the facts of a crime, and to the consequent contamination of the criminal proceedings. At the outset, the information provided by witnesses influences the line of investigation initiated by the investigators, who accordingly prepare photographs for recognition, search for the named suspects, take testimony from further witnesses, and formalize the requests for arrests in court, among other measures (Shaw, Garven, & Wood, 1997). Thus, any errors or flaws in the memory reports can have serious consequences on the demarcation of the cause of the crime.

Several studies have shown that, although there are initial differences in the recall of events, when two people who witnessed the same event talk to each other, each influences the other, generating relatively similar reports (e.g., Gabbert, Memon, & Wright, 2007). This phenomenon is known as memory conformity, whereby a person's response to a particular fact is affected by another person's account (Jaeger, Lauris, Selmeczy & Dobbins, 2012; Wright & Villalba, 2012). Based on conformity studies, it has been suggested that information provided by witnesses who have spoken to each other cannot be considered accurate. That is, when two or more witnesses present congruent accounts of an event, they are not necessarily revealing facts that actually occurred (Wright, Self, & Justice, 2000).

Misconceptions and failures in testimonial evidence are the main cause of miscarriages of justice, as incorrect convictions (Huff, Rattner, & Sagarin, 1996), whereby the majority of persons initially convicted and then acquitted after DNA examination were initially convicted through this type of error (Connors, Lundregan, Miller, & McEwen, 1996; Wells et al., 1998). A survey by the US Innocence Project found that about seventy percent of undue convictions stem from witness errors.

In the last decades, especially in the United States and England, research on memory defectiveness has grown, leading to changes in the perception of how testimonial evidence is understood (Kaplan & Puracal, 2015; Wells, Memon, & Penrod, 2006). The view of human memory as a complex process, which is vulnerable to interference (Lacy & Stark, 2013) has been increasingly considered by the legal systems of these countries. In most other countries, however, the legal system is heavily centered on testimonial evidence, which might increase the probability of judicial errors.

Thus, the goal of the current experiment is to study memory conformity by presenting a situation as close as possible to real criminal situations to participants. Specifically, the

participants were assigned to two groups, which watched two similar short movies of a simulated crime, but with one different central element, namely, in one of the movies the aggressor acts alone, whereas in the other he acts with the help of an accomplice. After they watched the short movies, participants from the two groups were paired, and were instructed to discuss what they saw in the movie. Their memories of the simulated crime showed in the movie was then assessed, as well as their confidence in their responses.

Importantly, the present experiment differs from those of Wright et al. (2000), Goodwin, Kukucka, and Hawks (2013), and Meade and Roediger (2002), which used photographs as stimulus. It also differed from the studies reported by Mori and Kishikawa (2014) and Oeberst and Siedemann (2014), since they used auditory stimuli. The current work also differs from those studies that used confederates (simulating the interaction of the “other” witness) and did not use two different versions of the video, as in the studies of Saraiva et al. (2015), Shaw et al. (1997), Williamson, Weber, and Robertson (2013), Doughty, Paterson, MacCann, and Monds (2017), Daneman, Thannikkotu, and Chen (2013), Dalton and Daneman (2006), Goodwin et al. (2013), Eisen, Gabbert, Ying, and Williams (2017), Gabbert, Memon, Allan, and Wright (2004), Ost, Hogbin, and Granhag (2006), Blank et al. (2013), Zajac, Dickson, Munn, and O’Neill (2016), and Meade and Roediger (2002).

The current study is an addition relative to the studies reported by Gabbert, Memon, and Allan (2003), Valentine and Maras (2011), Bang (2017), Bodner, Musch, and Azad (2009), Zajac et al. (2016), Hope, Ost, Gabbert, Healey, and Lenton (2007), French, Garry, and Mori (2008), and Saraiva et al. (2015), because in those studies participants watched videos without sound, a fact that might have reduced the immersive experience. The current study is also an addition relative to the studies reported by Gabbert et al. (2003), Hope et al. (2007), Saraiva et al. (2015), Blank et al. (2013), French et al. (2008), and Paterson, Kemp, and Ng (2011), since in those studies participants received a questionnaire during the pair conversations to support the discussion topics or to be answered together, while here the participants talked freely about what they have experienced.

This experiment also departs from those of Paterson, Kemp, and McIntyre (2012) and Paterson et al. (2011), because participants in those studies were informed that they might receive false information. On the other hand, in the studies of French et al. (2008), Gabbert et al. (2004), Paterson et al. (2012), and Paterson et al. (2011), the critical stimuli were not evident in the scene (whether or not there was an accomplice). Another important distinction is that in Shaw et al. (1997), Williamson et al. (2013), Dalton and Daneman (2006), Blank et al. (2013), Daneman et al. (2013), and French et al. (2008), participants were placed in the position of a

third person, being shown footage from a security camera or a movie scene.

Taking into consideration the variables and methods used in prior studies about this topic, the present experiment proposes an approach wherein (a) participants are exposed to an immersive experience, with audio and high definition video; (b) a face-to-face eyewitness discussion is held in the first person; (c) confederates or researchers are not involved in the paired discussions, ensuring a more legitimate social interaction; and (d) the stimuli are well-defined and presented centrally to the visual field of the participants. Thus, we expected to replicate the memory conformity effect in this context, and focused specifically in the memory of participants about the presence or absence of an accomplice to the aggressor.

2. METHOD

Participants. Eighty-five students from business, accounting, and law undergraduate courses were invited to participate. The experiment was conducted at FAE University, in southern Brazil, and lasted approximately 50 minutes. It was approved by the Institutional Review Board of the Universidade Federal de Minas Gerais. With respect to ensuring individual autonomy, a consent form was read, explained, and distributed to all participants. After clarifications, 61 students agreed to participate in the experiment, signed the consent forms, and were sent to two different rooms. In order for pairs to be formed in the second part of the experiment, 1 participant was eliminated randomly from the experiment, leaving a total of 60 participants. From the 60 consent forms answered after the video, 2 of them were printed incomplete and did not contain a front and back, one from Group A and the other from Group B, and both were discarded. Thus, the results are relative to 29 participants from each group ($n = 29$ for each group, $n = 58$ in total).

3. MATERIALS

Stimulus: Movie 1. Movie 1 begins with the camera walking towards three people (one man and two women) sitting around a wooden table, apparently studying. About six meters away from this table (farther away than the camera), there is a man sitting on a ladder checking his cell phone, as well as another man on foot, also checking his cell phone. The man sitting on the stairs wore jeans and had a beard and hair bun, while the one standing was dressed in a black T-shirt, dark jeans, and sunglasses.

The film is in the first person perspective, and proceeds for about twenty seconds as if

the witness were walking. An offensive shout aimed at the standing man is heard, whereupon the footage is redirected to show another man with short hair, blue jeans, and a striped gray shirt entering the scene. This man walks toward the standing man and starts a discussion in which the argument is related to a car crash.

At this moment, the man sitting on the stairs stands up and comes toward the two men for an instant, as if to intervene, but then leaves the scene. The discussion, from the moment of the initial shout to the end (when the aggressor apparently pushes an object into the victim) lasts about twenty seconds. Upon receiving the blow, the victim falls, and the attacker throws the object used in the attack on the ground and runs off, gets into a vehicle, and drives off. The three people who were sitting studying at the table also leave after witnessing the occurrence. The total video time is 57 seconds.

Stimulus: Movie 2. In Movie 2, the footage is very similar to Movie 1, especially its beginning. In this scene, the camera walks in the direction of three people (one man and two women) who are sitting around a wooden table, apparently studying. About six feet away from the group (farther away than the camera), there is a man standing, dressed in a black T-shirt, dark jeans, and dark glasses, tinkering with his cell phone. Thus, the first difference between the two videos is that in Movie 2, there is no one sitting on the stairs.

The image continues for about nineteen seconds, as if the witness were walking. An offensive shout directed at the standing man is heard, and following the sound, the footage is redirected to show two men entering the scene. One of the men has short hair, blue jeans, and a striped gray shirt, the other wearing a pair of jeans, with a beard and a bun in his hair. Both go toward the man who was standing and an argument begins, in which the screams are related to a car crash.

The central difference between the movies is explicit at this point because the main aggressor appears with an accomplice, whereas in Movie 1 he was the man sitting on the stairs. That is, in this second video, the man dressed in jeans with a bun in his hair is no longer a mere spectator but rather pushes the victim, thus assuming from the beginning the position of the accomplice of the aggressor.

In the rest of the scene, the man in the gray striped shirt pushes an object into the victim, who falls to the ground, while the attacker discards the object used in the attack and runs off with his accomplice, entering a vehicle. The discussion, from the moment of the initial shout to the end (when the subject apparently pushed an object into the victim) lasts about 24 seconds. The three people who were sitting studying at the table also leave after witnessing the event. The total video time is 58 seconds.

Questionnaire. After watching the movie and discussing it with a partner, participants filled in a form, named the Interview Form (see appendix), which asked for the following details about the movie, (1) in what time of day it occurred, (2) what the weather was like, (3) whether there was an argument, (4) in the case there was an argument, what was the reason for the argument, (5) whether the attacker had an accomplice (6) how many people witnessed the argument or aggression, (7) how long the argument lasted, and, finally, (8) an open-ended question to describe the parties involved in the crime. Participants also had to indicate their confidence in each response on a 5-point Likert scale: 1 = “very low confidence in your response,” 2 = “low confidence in your response,” 3 = “medium confidence in your response,” 4 = “high confidence in your response,” and 5 = “very high confidence in your response.”

4. PROCEDURES

The 60 students were separated into two rooms, with 30 participants in each, which were named Group A and Group B. Participants were told that separation in two different rooms was necessary for reasons of space, since the 60 participants would not fit comfortably in the same room. The two rooms used were equipped with a video projector, audio device, and seating arrangement for each participant. To ensure that the instructions of the experiment were followed correctly and to prevent undue conversation in the course of the experiment, there was an assistant in each room in addition to the responsible researcher. After being separated into the two groups, participants were asked not to communicate in any way during or after the short movie.

Unaware that the videos were distinct, the 30 participants of Group A attended to Movie 1, while the 30 participants of Group B attended to Movie 2.

After the videos were shown, pairs were formed between participants from each of Groups A and B. The pairs were formed with people who did not know each other and who were instructed to talk exclusively about the scene they had viewed for six minutes in the following terms: “Now you will talk to each other about the crime you have just witnessed, and after the discussion, for which you will be given six minutes, you will be asked questions about the scene.”

It was decided not to apply an initial form before the discussion for three reasons: (1) responding to a questionnaire shortly after watching the video would not reflect authentic social interactions (the goal of this research) because normally when a crime is witnessed, witnesses begin talking about it immediately, and only later they report what they saw to the police

authorities; (2) responding to a questionnaire immediately after the fact can lead the participants to consolidate their experiences and avoid changing their responses as they remember what they have answered; and (3) for the purposes of comparing the answers (right or wrong), the participants had already been qualified, that is, it was known which video each participant watched.

There was no intercurrent during the discussion, and all the pairs effectively discussed the scene during the time provided. After the discussion in pairs, the participants were informed that they could no longer talk to each other. Then, the participants received the Interview Form, which was to be filled individually and based exclusively on their own perceptions, as if they were providing a deposition to a police authority. Such an instruction was intended to eliminate the effect of normative influences so that the answers could more accurately elicit the participant's own memory.

5. RESULTS

For the analysis, we focused on the critical question of the experiment, which was Question 5: "Did the aggressor have an accomplice?". This question is frequently important to criminal processes, and it is not a mere detail of the scene, but a pivotal factor highlighted by the videos. In general, memory conformity experiments do not use criminal situations that are similar to actual situations, but focus on a wide variety of central and peripheral elements that are usually difficult for the participants to identify (e.g., Doughty et al., 2017; French et al., 2008; Gabbert et al., 2003 Paterson, Kempen, & McIntyre, 2012). Studying such a clear and central element (whether or not there was an accomplice under circumstances with clear visibility), which can be easily remembered by the witnesses, can be indicative of the credibility of the testimonial evidence as a whole, especially considering that the central elements tend to generate lower conformity than peripheral elements (Dalton & Daneman, 2006).

The results show that in the current paradigm a strong memory conformity emerged. Specifically, 31% of the participants who watched the "no accomplice" movie (Group A), stated in the questionnaire having seeing an accomplice with the aggressor at the time of the aggression. That is, 9 out of 29 subjects of Group A stated that the aggressor acted with an accomplice. Interestingly, however, none of the participants who watched the movie in which the aggressor is actually accompanied by an accomplice (Group B) stated not seeing the accomplice at the aggression scene. The memory conformity found here, therefore, consisted only in adding a person to the witnessed event, and not to "forgetting" seeing a person in that

event.

Furthermore, considering exclusively the responses to the critical question given by the participants of Group A (i.e., without accomplice), the average confidence of the nine participants who incorrectly conformed their answers was 4.11, while the average confidence of the participants who did not conform their answers was 4.31. The difference between these two means is not significant, $t(84) = 0.19, p = 0.85$. Thus, these data suggest that confidence scores are not necessarily a reliable indicator that the testimony report is accurate. The implications of this finding are extremely relevant to the proper conduct of witness interviews and will be discussed in the next section.

6. DISCUSSION

In the current study, we investigated memory conformity in the context of witnessing a crime. More specifically, we investigated whether information shared by two witnesses who watched different scenes can cause the witnesses to influence each other's memory. In addition to using two very clear movies, with few peripheral elements in order to preclude dubious interpretations regarding the participation of an accomplice, we sought to eliminate most of the influences indicated in research on memory conformity, such as the manipulation of credibility and the age and relationship of the participants.

The notable result that 31% of the participants who attended to the scene with a single perpetrator but claimed that the perpetrator acted with an accomplice is similar to data reported by prior studies, which used different experimental procedures: Saraiva et al. (2015) when analyzed multiple false information inserted by a confederate, found that 77.1% of the participants conformed with at least one of the information, similar numbers appointed by Gabbert et al. (2003), that showed that 71% of the participants incorporated at least one piece of information from among those that had not originally been provided to them. Similar findings were reported by Paterson et al. (2011), who found that 42% of the participants conformed with some false information presented by other participants, and Zajac et al. (2016) and French et al. (2008), who found that 45%, exhibited memory conformity when pairs were formed by participants who did not know each other. In addition, the findings are similar to those reported by Wright et al. (2000), who pointed out that in 19 valid pairs of participants, in a study that used two distinct versions of photographs, memory conformity was yielded in 15 pairs of participants.

The fact that in the present research no participant who watched the movie with an

accomplice (Group B) presented memory conformity is not an unprecedented finding. In the experiment reported by Wright et al. (2000) it was found that a person who claims to have seen something (positive recognition) has a higher level of credibility than a person who does not claim to have seen something (negative recognition). Thus, in the current study, the appearance of the accomplice is very central to the scene, making the encoding of the accomplice very likely (Mather, 2007). Were the scenes used here more ambiguous, perhaps with further individuals getting involved in the aggression, we could speculate that these results would have turned out different.

It should be noted that three processes typically contribute to memory conformity: normative influences, informative influences, and false memory (Wright et al., 2000). Normative influence occurs because of the need to be socially accepted, so that people transmit incorrect information to avoid social conflict. Informative influence, however, is related to the person's willingness to convey accurate information, and thus by believing that the other person is more correct than she is or he is, conforms to the other person responses. Finally, there is the possibility of creating actual false memories during memory judgments by incorporating the other person responses as if they were true occurrences.

As the instructions to the participants clarified that the responses should be based exclusively on their own perceptions and that no other participant should be consulted or communicated with while filling the form, we can assume the absence of normative influence. This is because we did not create an experimental situation in which the participant should consider the costs of a divergence with his partner in his answer. However, it is not possible to conclude with certainty whether the conformity found was due to the influence of the information derived from the judgment that the partner was more accurate and thus to the desire to present correct information, or if in fact the information provided by the other became the false memories. However, given that the participants would respond according to what they paid attention to, it is possible that the answers derive from false memories.

To identify whether the divergent issues between Movie 1 and Movie 2 (which would inevitably be discussed) would modulate the participants' confidence on their responses, a confidence scale was included for each response. This scale is relevant because prior research indicates that confidence in the response may be a factor indicating that the witness would have altered his response through external suggestions, as well as why judges and jurors believe that the higher the confidence exposed by witnesses, the more accurate the testimony is (Lacy & Stark, 2013; Wells, Lindsay, & Ferguson, 1979).

In this sense, an important result arises from the analysis of the average of confidence

presented by the participants who conformed (belonging to Group A), for while they did not attend to the scene with an accomplice but answered that the aggressor had one, they presented an average confidence in the critical question of 4.11. This value is close to the confidence of those who did not conform (4.31) to Question 5. In other words, the average for those who acquired information from their partner was similar to the average for those (from the same group) who were not influenced by their partner for this question. This result contradicts the finding of Gabbert et al. (2003), who pointed out that when the participants used information acquired by another witness, their mean confidence was significantly lower.

It can be interpreted from these data that people who do not experience a situation, report it with a similar level of confidence to those who experience it. The consequences of these results for criminal procedure are serious, for even those witnesses who show great confidence in the circumstances of the crimes they are deposing may not be narrating facts that actually happened, but rather referring to information that they have gained from other sources. This conclusion is similar to the findings of other studies that indicate that eyewitnesses may be wrong (even without receiving any false information) and yet display a high degree of confidence (Roediger, Wixted, & Desoto, 2013).

Research that indicates that when two or more subjects witness an event, the one who demonstrates lower confidence usually conforms to the person who demonstrates higher confidence (e.g., Schneider & Watkins, 1996) are not compatible with the present experiment, since in this experiment the participants' confidence in relation to their response (in a form delivered after the discussion) was analyzed but their confidence was not measured before the conversation began. Moreover, the study by Horry, Palmer, Sexton, and Brewer (2012) demonstrated that when participants' perceptions are strong enough, contrary information they receive is discarded, revealing that conformity occurs for information that they are relatively unconfident about. However, as the present research found a high confidence of the participants that conformed, the confidence that they presented before the discussion with their pair might have been greater, because there is a tendency for a decrease of confidence in those who conform.

The analysis of confidence corroborates the conclusion that the participants internalized the false information in their memories, because if informational influence had occurred the participants would have reported lower levels of confidence, since they would know that they would not be responding to what they saw (Williamson et al., 2013).

7. CONCLUSION

The present experiment found that 9 out of 29 participants, despite having seen a scene where the perpetrator did not have an accomplice, conformed with the information that the perpetrator did have an accomplice after discussing the event with another participant who had attended to a similar scene that did involve an accomplice. In this way, 31% of the participants were influenced by the information of the “other” witness, and they came to believe they had seen a second criminal who had not in fact appeared. As there was no interaction with the other witness when they filled out the form, the participants answered based on what they saw and not so as to avoid conflicts (normative influence). Further than confirming the influence of the reports of one witness on the memory of others, the current results also indicate that false information is remembered with similar confidence as true information. Thus, we show empirical elements that strongly suggest the limitations of the use of eyewitness testimony in criminal proceedings.

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ARTIGO 3

CONFIABILIDADE DA PROVA TESTEMUNHAL E TRANSCURSO DE TEMPO: MEMÓRIA E CONFORMIDADE

RESUMO

No Processo Penal brasileiro o meio de prova mais utilizado na fundamentação das sentenças é a prova testemunhal, não obstante vítimas e testemunhas estarem expostas a inúmeros fatores que podem alterar suas memórias antes e após o fato delitivo, o que pode gerar graves erros na lembrança do fato e contaminação do processo penal subsequente. Nesta pesquisa, 38 participantes foram divididos em dois grupos, sendo que um assistiu à um vídeo em que mostrava uma cena de um crime em que o agressor agia sozinho e um grupo assistiu a um vídeo em que o agressor agia com um comparsa. Após o vídeo, foram formadas duplas com um participante de cada grupo, os quais discutiram sobre o crime. Oito meses depois os participantes responderam a um questionário e os resultados confirmaram a existência da conformidade de memória, pois 88,89% dos participantes que assistiram à cena sem um comparsa afirmaram que o agressor estava na companhia de um cúmplice no momento da agressão. Por outro lado, 16,67% dos participantes que assistiram à cena com um comparsa, afirmaram que o agressor agiu sozinho. Os resultados do experimento confirmam a considerável influência dos relatos de uma testemunha na memória de outras, indicando que há uma potencialização da conformidade em longo prazo (situação que se aproxima à realidade brasileira, onde a oitiva de testemunhas e vítimas ocorrem muitos meses após o fato). Sendo assim, há elementos científicos que indicam não apenas a falibilidade da prova testemunhal, mas também a temeridade de se produzir tais provas após longo decurso de tempo.

Palavras-chave: Prova testemunhal, conformidade de memória, transcurso de tempo.

ABSTRACT

In the Brazilian Criminal Procedure, the testimonial evidence is the most used means of proof to convict a defendant, although victims and witnesses are exposed to numerous factors that can alter their memories before and after the crime, which may generate serious errors in the memory of the fact and contamination of subsequent criminal proceedings. In this research, 38 participants were divided into two groups, one of whom watched a video showing a scene of a crime in which the perpetrator acted alone and one group watched a video in which the aggressor acted with an accomplice. After the video, they formed pairs with one participant of each group, who discussed about the crime. Eight months later the participants responded to a questionnaire and the results confirmed the existence of memory conformity, as 88.89% of the participants who attended the scene without an accomplice stated that the perpetrator was in the company of one at the time of the aggression. On the other hand, 16.67% of the participants who attended the scene with an accomplice, answered that the aggressor acted alone. The results of the experiment confirm the considerable influence of the reports of one witness in the memory of others, indicating that there is a long-term enhancement of conformity (a situation that is close to the Brazilian reality, where witnesses and victims appear many months after the fact in front of the judiciary). Thus, there are scientific elements that indicate not only the fallibility of the testimonial proof, but also the reckless to produce such evidence after a long period of time.

Key words: Eyewitness; memory conformity; time lapsed.

INTRODUÇÃO

Pesquisa do *Innocence Project*, dos EUA, revelou que cerca de 70% das condenações indevidas derivam de erros de testemunhas presenciais⁸, sendo que a maioria das condenações revertidas após exame de DNA ocorreram por conta deste tipo de erro (CONNORS, et. al., 1996; WELLS, et al. 1998). A falibilidade das provas testemunhais é considerada a principal causa de erros judiciários de condenação indevida (HUFF, RATTNER, & SAGARIN, 1996).

Por conta desta constatação e ainda considerando suas nefastas consequências, nas últimas décadas, principalmente nos Estados Unidos e Inglaterra, inúmeras pesquisas sobre a defectibilidade da memória foram desenvolvidas, o que gerou alterações na percepção de como a prova testemunhal é compreendida (WELLS, MEMON & PENROD, 2006; KAPLAN & PURACAL, 2015). A percepção geral da população leiga, de que a memória humana funcionaria como uma câmera filmadora (SIMONS & CHABRIS, 2011; LACY & STARK, 2013; PORTER, BRINKE, RILEY & BAKER, 2014), esbarra nas pesquisas científicas que demonstram a falibilidade da memória (STEFFENS & MECKLENBRÄUKER, 2007, WRIGHT & STROUD, 1998).

No processo penal brasileiro, a prova testemunhal é o meio de prova mais utilizado, fundamentando a maioria das sentenças penais (Ministério da Justiça do Brasil, 2015). Em relação ao momento de tomada dos depoimentos, as testemunhas e vítimas no Brasil, via de regra, são ouvidas primeiramente na delegacia de polícia – normalmente em um período curto de tempo após o fato – e, posteriormente, são ouvidas em audiência, perante a autoridade judiciária e as partes no processo – fase que normalmente ocorre muitos meses, quiçá anos, após o fato presenciado.

Apesar da prova testemunhal desempenhar papel central no processo penal, pesquisas comprovam que a memória está exposta a inúmeros fatores de influência durante e após o fato delitivo (SUTTON, 2011), o que pode gerar erros severos na lembrança do fato criminoso e contaminação do processo penal que decorre do inquérito policial.

Um dos fenômenos que afetam diretamente a memória e os relatos testemunhais é conhecido como conformidade de memória, isto é, embora possa haver diferenças iniciais na recordação de eventos, quando duas testemunhas conversam entre si, uma influencia a outra (WRIGHT & VILLALBA, 2012; GABBERT, MEMON & WRIGHT, 2007), ou ainda, mesmo se os depoimentos forem coerentes, não necessariamente significa que os fatos relatados sejam

⁸ *Innocence Project*: <https://www.innocenceproject.org/causes/eyewitness-misidentification/>. Acessado em 09.12.2018.

verdadeiros (WRIGHT, SELF & JUSTICE, 2000; DALTON & DANEMAN, 2006).

No entanto, um fator de fundamental importância necessita ser melhor explorado: o transcurso de tempo entre o crime e o relato da testemunha. Isso porque a memória decai com passar do tempo (STERNBERG, 2016), fazendo-nos esquecer ou distorcer experiências vivenciadas (LACY & STARK, 2013).

O objeto deste experimento é o estudo da conformidade de memória em uma situação experimental que simula a realidade criminal brasileira. Este estudo utiliza como base o mesmo estímulo que um experimento aplicado anteriormente, no qual os participantes assistem em duplas à duas cenas similares que simulam um crime, mas com o elemento central diferente (em uma das cenas o agressor age sozinho e, na outra, com o auxílio de um comparsa). Após discutirem o fato assistido no vídeo, os participantes responderam a um questionário. Os resultados daquele experimento⁹ indicaram a ocorrência da conformidade de memória em 31% dos participantes que assistiram ao vídeo no qual o participante agiu sozinho. No presente experimento, passado um intervalo de 8 meses, estes participantes foram novamente recrutados. Nesta ocasião, foi aplicado novo questionário para estudar a correlação com o transcurso de tempo na conformidade de memória. Também foi analisada a confiança nas respostas dos participantes como forma de entender outras influências na eventual conformidade.

Ao introduzir o elemento temporal, este experimento se distingue dos experimentos de conformidade de memória aplicados por WRIGHT, SELF & JUSTICE (2000), GOODWIN, KUKUCKA & HAWKS (2013), MEADE & ROEDIGER (2002), OEBERST & SEIDEMANN (2014), GABBERT, MEMON & ALLAN (2003), BANG (2017), BODNER, MUSCH & AZAD (2009), ZAJAC, et. al. (2016), HOPE et. al. (2008), FRENCH, GARRY & MORI (2008), SARAIVA et.al. (2015), WILLIANSON, WEBER & ROBERTSON (2013), DALTON & DANEMAN (2006), BLANK et. al. (2013), DANEMAN, THANNIKKOTU & CHEN (2013), DOUGHTY et. al. (2017), GABBERT et. al. (2004), OST, HOGGIN & GRANHAG (2006), PATERSON, KEMP & NG (2011), PORTER, BRINKE, RILEY & BAKER (2014).

Diferencia-se dos experimentos de COMPO & PARKER (2009), SCOBORIA, MAZZONI, JARRY & BERNSTEIN (2012) e BURATTI, ALLWOOD & JOHANSSON (2014), vez que estes não foram relacionados a situações criminais.

Em relação à quantidade do decurso de tempo entre o estímulo e a entrevista, o experimento difere dos de FROST et. al. (2013), EISEN, GABBERT, YING & WILLIAMS (2017), THORLEY (2015), BURATTI, ALLWOOD & JOHANSSON (2014), PALMER,

⁹ Os resultados deste estudo foram reportados em artigo submetido para o periódico Psico-USF.

BREWER, WEBER & NAGESH (2013), EVANS & FISHER (2011), FROST (2000), PEZDEK, LAM & SPERRY (2009), MORI & KISHIKAWA (2014), PATERSON, KEMP & MCINTYRE (2012), os quais o transcurso utilizado foi de uma semana. Em SHAW, GARVEN & WOOD (1997), o transcurso foi de dois dias. Em VALENTINE & MARAS (2011), o decurso analisado foi de quatro semanas. Em TUCKEY & BREWER (2003), o lapso de tempo estudado foi primeiramente quatro semanas e, posteriormente, oito semanas. Em COMPO & PARKER (2009), além de se utilizar crianças como participantes, foram analisadas respostas a partir da defluência de um e de seis meses. SCOBORIA, MAZZONI, JARRY & BERNSTEIN (2012), examinou respostas após transcurso de uma semana e de um mês. BURATTI, ALLWOOD & JOHANSSON (2014), utilizaram o transcurso de até três semanas. ZHU, CHEN, LOFTUS, LIN & DONG (2009) analisou as falsas memórias no decurso de um mês. Em SCHMOLK, BUFFALO & SQUIRE (2000), a “flashbulb memory” relacionado aos espectadores do julgamento de OJ Simpson, analisou as respostas após 15 meses e novamente após 32 meses. Em estudo sobre doenças relacionadas à memória ANDREW, et. al. (2007) testou o transcurso de três meses e de um ano.

Em YULLIE et. al. (1994), EVANS & FISHER (2011), TUCKEY & BREWER (2003), SCHMOLK, BUFFALO & SQUIRE (2000), BUDSON et. al. (2007), PEZDEK, LAM & SPERRY (2009), ANDREW, et. al. (2007) os efeitos da defluência de tempo na memória não foram relacionados ao fenômeno da conformidade de memória.

Dessa forma, considerando a metodologia empregada nas outras pesquisas, este experimento aborda de forma inédita a correlação direta entre conformidade de memória e o transcurso de tempo superior a 6 (seis) meses, simulando a realidade brasileira, na qual as testemunhas são reinquiridas muitos meses ou anos depois do crime.

1 EXPERIMENTO

Um primeiro experimento realizado oito meses antes teve como foco a conformidade de memória nos relatos testemunhais e sua correlação com a confiança dos participantes. Por outro lado, o presente trabalho visa analisar o transcurso de tempo como elemento central, vez que não há nenhum estudo empírico que reflita, mesmo que precariamente, a realidade forense brasileira.

A cena utilizada como estímulo foi filmada em alta resolução em primeira pessoa com o intuito de que os participantes se colocassem efetivamente no lugar do *câmera* e, junto com áudio de alta qualidade, possibilitou uma experiência de imersão. Com duração de

aproximadamente um minuto, o vídeo mostra uma pessoa (o *câmera*) caminhando em um *campus* de uma faculdade quando, ao passar por uma mesa onde três pessoas estão sentadas estudando, um fato criminoso começa a ocorrer a cerca de uns dez metros de distância. Trata-se de uma discussão sobre um acidente de carro que culmina com uma grave agressão e fuga do(s) agressor(es) que, desde quando se inicia, o foco da pessoa (da *câmera*) passa a ser esta.

1.1 MÉTODO

1.1.1 Participantes

Inicialmente, sessenta e um estudantes da FAE Centro Universitário, do *campus* de São José dos Pinhais, do Estado do Paraná, participaram do primeiro experimento realizado em setembro de 2017. No começo e ao final do experimento foi explicado que eles poderiam ser chamados em seis meses para perguntas complementares (informação que constava expressamente no Termo de Consentimento Livre e Esclarecido assinado por todos os participantes – anexo 1). Deste total de participantes que concordaram em participar, um foi eliminado aleatoriamente, pois era necessário a formação de pares.

No final do mês de maio de 2018, portanto, oito meses depois, os participantes foram contatados para responderem a mais um formulário sobre a cena criminosa que testemunharam. Desta vez, quarenta participantes foram encontrados e concordaram em participar deste novo experimento, vez que já haviam assinado o TCLE respectivo. Destes, 38 responderam todo formulário e, principalmente, a pergunta crítica. Considerando que no primeiro experimento os participantes tinham sido divididos em GRUPO A e GRUPO B, computando as informações, chegou-se ao número de 18 participantes do GRUPO A ($n=18$) e 20 participantes do GRUPO B ($n=20$).

1.1.2 Procedimento

No primeiro experimento, cujo relato foi submetido e está em revisão na revista *Psico USF*, os participantes foram separados em duas salas distintas, com trinta participantes em cada sala, denominados GRUPO A e GRUPO B.

Os participantes do GRUPO A, assistiram à Cena 1, na qual se inicia com o *câmera* andando em direção a três pessoas (um homem e duas mulheres) que estão sentados ao redor de uma mesa de madeira, aparentemente estudando. Cerca de seis metros ao lado desta mesa

(mais distante do que o *câmera*), é possível ver um homem sentado em uma escada, mexendo em seu celular, bem como um outro homem (distante cerca de 1,5 metro) deste outro, em pé, também mexendo no celular. A imagem, filmada em primeira pessoa, prossegue por cerca de vinte segundos como se a testemunha estivesse caminhando.

Em seguida, um grito ofensivo direcionado ao homem que estava de pé é ouvido e, seguindo o som, a filmagem é redirecionada, surgindo na cena outro homem. Este último vai em direção ao sujeito que estava de pé e inicia uma discussão, na qual os gritos são relacionados a uma batida de veículo. Neste momento, o homem que estava sentado na escada se levanta e se aproxima por um instante, como se fosse intervir, mas sai em seguida da cena. A discussão, desde o momento do grito inicial, até o final (quando o sujeito aparentemente enfia um objeto na vítima) dura cerca de vinte segundos. Ao receber o golpe a vítima cai, ao tempo em que o agressor joga o objeto utilizado no ataque no chão e sai correndo, entra em um veículo e arranca em disparada. As três pessoas que estavam sentadas estudando na mesa, após presenciarem o ocorrido também saem do local. O tempo total do vídeo é de 57 segundos.

Por outro lado, os participantes do GRUPO B, assistiram à Cena 2, cuja a filmagem é bastante parecida com a Cena 1, principalmente o seu início. Nesta, o *câmera* anda na direção de três pessoas (um homem e duas mulheres) que estão sentados ao redor de uma mesa de madeira, aparentemente estudando. Cerca de seis metros ao lado do grupo (mais distante do que o *câmera*), é possível ver um homem em pé, mexendo no celular. Sendo assim, a primeira diferença entre os dois vídeos é que na Cena 2, não há ninguém sentado nas escadas.

A imagem prossegue por cerca de dezenove segundos, como se a testemunha estivesse caminhando. Um grito ofensivo direcionado ao homem que estava de pé é ouvido e, seguindo o som, a filmagem é redirecionada, surgindo na cena dois homens. Eles vão em direção ao sujeito que estava de pé e inicia-se uma discussão, na qual os gritos são relacionados a uma batida de veículo.

A diferença central entre as cenas é explicitada neste momento pois o agressor principal surge com um comparsa, o qual na Cena 1 era representado pelo homem que estava sentado na escada. Isto é, neste segundo vídeo, este sujeito não é mais um mero espectador, na medida em que atua empurrando a vítima, assumindo assim desde o início a posição de comparsa do agressor. Em continuidade, o agressor desfere um golpe na vítima, que cai no chão, ao tempo em que o suspeito se desfaz do objeto utilizado no ataque e sai correndo com seu cúmplice, entram em um veículo, arrancando em disparada.

A discussão, desde o momento do grito inicial, até o final (quando o sujeito aparentemente enfia um objeto na vítima) dura cerca de 24 segundos. As três pessoas que

estavam sentadas estudando na mesa, após presenciarem o ocorrido também saem do local. O tempo total do vídeo é de 58 segundos.

Após assistirem às cenas, sem que soubessem que tinham visto vídeos distintos, foram formadas duplas entre um participante do GRUPO A e um participante do GRUPO B, que não se conheciam entre si. As duplas foram instruídas a conversar apenas sobre a cena que assistiram pelo prazo de seis minutos, vez que posteriormente seriam feitas perguntas sobre a cena.

Depois da discussão em duplas, os participantes foram separados e receberam um “Formulário de Entrevista” (anexo 2), o qual foi respondido individualmente e baseado apenas em suas próprias percepções, como se estivessem depondo para uma autoridade policial – instrução na qual buscou eliminar o efeito da influência normativa para que as respostas pudessem refletir com maior acurácia a evocação da própria memória do participante. Em cada uma das perguntas os participantes também apontaram seus níveis de confiança na resposta.

No presente experimento, oito meses após a primeira entrevista, 40 participantes foram encontrados e concordaram em participar. Todos receberam um “Formulário de Entrevista” (anexo 3) e receberam a instrução de responderem de forma individual, confiando apenas em suas próprias memórias sobre o fato que assistiram. Os participantes foram supervisionados enquanto respondiam ao questionário, inviabilizando qualquer conversa entre eles.

O formulário continha perguntas sobre os detalhes da cena que assistiram, mais especificamente, sobre em qual momento do dia ocorreu, como estava o tempo, se ocorreu uma discussão, qual foi o motivo, se o agressor tinha um comparsa, quantas pessoas presenciaram a discussão, quanto tempo durou a discussão, qual foi o carro utilizado na fuga e, por último, uma pergunta aberta para que descrevessem os envolvidos no crime. Ademais, em cada uma das perguntas, os participantes apontaram o nível de confiança em suas respostas em uma escala de 1 a 5, sendo: “1” como muito baixa confiança em sua resposta; “2” baixa confiança em sua resposta; “3” confiança média em sua resposta; “4” confiança alta em sua resposta, e; “5” confiança muito alta em sua resposta.

Não foi estipulado limite de tempo, possibilitando aos participantes evocar suas memórias com tranquilidade. Após responderem ao formulário, os participantes foram liberados.

2 ANÁLISE DOS RESULTADOS

O formulário utilizado foi basicamente o mesmo que o do experimento inicial, com

apenas uma adição: uma pergunta tangencial sobre o carro utilizado na fuga pelo(s) autor(es) do crime. A escolha pelas mesmas perguntas se deu pela necessidade de se comparar os relatos das testemunhas logo após a cena (experimento anterior), com os relatos do presente experimento (aplicado oito meses e nove dias depois).

Sendo assim, optou-se por perguntas simples e afirmativas no intuito de não induzir respostas ou mesmo para evitar a criação de memórias por meio das perguntas. Diversos estudos apontam que a forma em que as perguntas são realizadas possuem o condão de alterar a memória e seu relato (LOFTUS & PALMER, 1974, SHAW, GARVEN & WOOD, 1997; VALENTINE & MARAS, 2011; SHECORY, NACHSON & GLICKSON, 2010; PORTER, BRINKE, RILEY & BAKER, 2014). Deste modo, para evitar a formação de falsas memórias, no presente trabalho as perguntas não contêm qualquer carga de indução.

No formulário, a pergunta crítica do experimento foi a de número cinco: “o agressor tinha um comparsa?”. Perceba-se que se trata de um elemento claramente identificável, onde não há margens de interpretação: ou o participante assistiu a cena em que havia um agressor ou assistiu à cena com dois agressores. Trata-se, pois, de um elemento central do vídeo.

O objetivo em simular um vídeo em realidade imersiva e questionar a respeito de um fato central e inconfundível foi de evitar experimentos que parecessem testes de memória (*e.g.* FROST, 2000, FRENCH, GARRY & MORI 2008, GABBERT et. al., 2004, PATERSON, KEMP & MCINTYRE, 2012; DOUGHTY et. al., 2017). Ademais, como o foco deste experimento é analisar como a conformidade se manifesta a partir do decurso de tempo, os elementos periféricos poderiam gerar dificuldade adicional, sem contar que são mais propensos a gerar conformidade ante os elementos centrais (WRIGHT & STROUD, 1998, DALTON & DANEMAN, 2006).

O resultado do primeiro experimento confirmou a ocorrência do fenômeno da conformidade de memória, pois 31% dos participantes que não assistiram à cena em que havia um comparsa afirmaram que o agressor estava na companhia de um cúmplice no momento da agressão. Contudo, nenhum dos participantes que assistiu à cena na qual o agressor possuía um comparsa, conformou com aqueles que não assistiram. Em relação aos sujeitos que conformaram, a média de confiança na pergunta crítica foi de 4,11, enquanto a média de confiança nas respostas para esta mesma pergunta entre os sujeitos que não conformaram foi de 4,31. A diferença entre estas duas médias não foi significativa $t(84) = 0.19, p = 0.85$.

No presente experimento, o mesmo formulário foi aplicado pouco mais de 8 meses após o primeiro experimento, e os resultados corroboraram com a ocorrência da conformidade em um nível ainda mais robusto. Os participantes do GRUPO A, os quais assistiram o vídeo em

que o acusado agiu sozinho, apresentaram um nível de conformidade de 88,89%. Isto é, 88,89% daqueles que não viram a cena com um comparsa, passaram a recordar a cena como se houvesse um segundo agressor. Os participantes do GRUPO B, os quais assistiram o vídeo em que o acusado agiu com um comparsa, também apresentaram conformidade, pois 16,67% relataram ter visto apenas um agressor.

No GRUPO A, a média de confiança apresentada na pergunta crítica foi de 3,33. A média de confiança daqueles que conformaram ($n=16$) foi de 3,31 e a média dos que não conformaram ($n=2$) foi de 3,5. Já entre os participantes do GRUPO B, a média de confiança na pergunta crítica de 4,10, sendo que a média relacionada apenas àqueles que conformaram ($n=3$), foi de 3,33 e, entre os que não conformaram ($n=17$), a média de confiança foi de 4,25. Devido ao baixo número de itens para algumas das condições experimentais de interesse, não foi possível conduzir comparações estatísticas nos dados de confiança.

As implicações dos dados encontrados são relevantes para análise da prova testemunhal como um todo e serão discutidas a seguir.

3 DISCUSSÃO

O presente experimento investigou a relação entre a conformidade de memória na seara do testemunho de cenas criminosas e o transcurso de tempo entre o fato e a entrevista. Sendo assim, buscou-se analisar, primeiramente, a ocorrência da conformidade de memória e qual a sua intensidade após transcorrido oito meses a partir do estímulo.

A importância para o sistema criminal reside não apenas no fato de que as pessoas em geral, juízes e jurados acreditam que a memória humana é imune a falhas (SIMONS & CHABRIS, 2011, LACY & STARK, 2013), ou que as pessoas tendem a acreditar que o crime foi mais grave do que realmente foi se a cena for lembrada por um longo período (SMITH & SCHWARZ, 2016), mas principalmente porque se trata do primeiro experimento que se aproxima da realidade brasileira no que se refere ao tempo entre o fato e o relato perante uma autoridade judicial.

Uma mesma cena criminosa testemunhada por mais de uma pessoa, poderá ser codificada e internalizada pela memória de forma distinta, sendo que existem fatores que contribuem para isso, por exemplo: (1) localização física das testemunhas em relação ao fato; (2) foco distinto em detalhes da cena; (3) nível de estresse ao presenciar um crime (YULLIE et. al., 1994); (4) experiências anteriores diretas – fatos acontecidos com a própria testemunha anteriormente; (5) experiências indiretas – exposição a notícias, filmes, conversas, contos, etc.;

(6) a integração da memória com o processamento de estereótipos pessoais, os quais permitem que as predisposições e influências externas sejam também incorporadas (WRIGHT & STROUD, 1998); (7) além de falsas informações após o crime.

Os estudos sobre memória indicam ser o esquecimento algo natural (STERNBERG, 2016), ou que, com o passar do tempo, a memória é readequada para manter um nível de precisão (EVANS & FISHER, 2011). O transcurso também gera o esquecimento da fonte da informação, fazendo com que as testemunhas relatem dados que não foram vivenciados (FROST, 2000).

Neste experimento, além de se utilizarem dois vídeos imersivos bastante claros, com poucos elementos periféricos, de forma a impossibilitar interpretações dúbias sobre a participação de um comparsa, buscou-se eliminar a maior parte de influências indicadas nas pesquisas sobre conformidade de memória, como manipulação de credibilidade, idade e relação dos participantes.

O expressivo resultado de que, passado oito meses, 88.89% dos participantes que assistiram à cena com um único autor do crime apontaram que ele agiu em conjunto a um cúmplice, demonstra a alta falibilidade da prova testemunhal até mesmo em elementos centrais e bem identificados. O experimento de MORI & KISHIKAWA (2014), por exemplo, o qual utilizou apenas estímulo auditivo, apontou um índice de conformidade de 15% logo após o estímulo e de 66% uma semana após.

Diferentemente dos relatos imediatamente colhidos após terem assistido ao vídeo oito meses antes, quase 17% dos participantes que assistiram à cena com um comparsa também apresentaram conformidade de memória.

Os resultados indicam uma ampliação vigorosa na alteração da memória das testemunhas com o passar do tempo. Isto é, após um grande período de tempo, provavelmente em decorrência do esquecimento natural dos fatos e das influências externas, a memória de determinados eventos podem apresentar graves falhas, minando sua credibilidade para utilização como prova idônea.

Do mesmo modo, a análise da confiança apresentada possui relevância prática, pois juízes e jurados acreditam que quanto mais alta a confiança exposta pela testemunha, mais acurada ela está sendo (WELLS, LINDSAY & FERGUSON, 1979; LACY & STARK, 2013).

Pode-se interpretar a partir dos dados sobre confiança, que as pessoas reportam situações não vivenciadas com alta confiança, tão alta quanto aquelas vivenciadas. Para o Processo Penal, os reflexos desses resultados são preocupantes, visto que as testemunhas que demonstram estar confiantes sobre os fatos relatados, podem estar narrando situações que não ocorreram

efetivamente. Tal conclusão se aproxima de outras pesquisas que indicam que testemunhas oculares podem estar erradas (mesmo sem ter recebido qualquer tipo de falsa informação) e, ainda assim, apresentar um alto grau de confiança (ROEDIGER, WIXTED & DESOTO, 2013).

Este experimento corrobora com outros (como os de VALENTINE & MARAS, 2011; SCHMOLK, BUFFALO & SQUIRE, 2000; e TUCKEY & BREWER, 2003) que apontam a fragilidade da memória das testemunhas após decurso de tempo. Um dos fatores que poderia mitigar esse grave problema, além de entrevistar individualmente as testemunhas presenciais sem que tenha havido qualquer conversa com outras testemunhas ou terceiras pessoas (buscando suprimir a conformidade de memória), seria a de buscar o desenvolvimento de ferramentas que permitam ouvir os envolvidos no menor período de tempo após o crime, vez que a prova testemunhal pode ser confiável desde que colhida em condições ideais (WIXTED, 2018).

Destarte, na medida do possível, as testemunhas devem ser separadas e advertidas para não conversar sobre os fatos presenciados e, para isso, é necessário utilizar métodos de extração de relatos mais fidedignos possíveis (inclusive com gravação por áudio e vídeo de todo procedimento, para controle posterior), assim como a entrevista cognitiva (STEIN & MEMON, 2006) e ou a *Self-Administered Interview* (PINTO & STEIN, 2017). Ademais, considerando o enfraquecimento da memória com o passar do tempo, é pertinente facultar às testemunhas que respondam “eu não sei” ou “eu não me lembro”, visto que assim poderão monitorar seu conhecimento sobre o fato de maneira a não fornecer falsas informações (EVANS & FISHER (2011), além de evitar falsas confabulações derivadas de pressionar a testemunha por respostas (PEZDEK, LAM & SPERRY, 2009; STOLZENBERG & PEZDEK, 2013).

CONCLUSÃO

Investigou-se a ocorrência da conformidade de memória em uma experiência de imersão de um fato criminoso de alta carga emocional relacionando-a ao transcurso de tempo de oito meses. Estudos sugerem que as distorções da memória também podem ocorrer pela própria repetição em relatar os fatos (LACY & STARK, 2013, VALENTINE & MARAS, 2011) e pelo transcurso do tempo (HIRST, et al., 2009, EVANS & FISHER, 2011, MORI & KISHIKAWA, 2014), situação que se assemelha à realidade forense.

O presente experimento apontou que 16 dentre 18 participantes, apesar de terem assistido à uma cena em que o autor do crime não possuía um cúmplice, oito meses após ser exposto ao estímulo e ter conversado com outro participante que assistiu ao vídeo com um

comparsa, conformaram com essa informação. Desta forma, 88,89% dos participantes foram influenciados pela informação da “outra” testemunha, e passaram a acreditar terem visto um segundo criminoso que (ao menos para eles) não foi mostrado.

Outro dado que merece destaque foi o de que 37,5% dos participantes que conformaram, mesmo tendo assistido ao vídeo em que o agressor age sozinho, apresentaram um índice de confiança alto ou muito alto, confirmando que as testemunhas podem relatar situações não vivenciadas com alta confiança, como se efetivamente tivessem vivenciado o fato. Sendo assim, a confiança não pode servir como base de juízo de *verdade* pelos julgadores no momento do veredito (BREWER & WELLS, 2006).

Sem afastar a importância da prova testemunhal para o esclarecimento do fato criminoso, por ser baseada na memória, este meio de prova deve ter seu valor relativizado, pois o arcabouço científico que demonstra sua falibilidade e suas interferências é sólido e não pode ser rechaçado. Os resultados do presente experimento além de confirmar a considerável influência dos relatos de uma testemunha na memória de outras, constatou a necessidade de diminuir o lapso temporal entre o evento criminoso e o depoimento judicial em audiência. Sendo assim, considerando a longa duração do processo, há elementos empíricos robustos a indicar a temeridade da utilização inadequada da prova testemunhal no processo penal.

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CONCLUSÃO GERAL

Diversos fatores favorecem para que a prova testemunhal seja a mais utilizada no Processo Penal brasileiro como, por exemplo, a carência estrutural da polícia científica. Provas periciais bem elaboradas e com tecnologia de ponta, por terem um dispêndio financeiro elevado, são utilizadas apenas em casos de grande repercussão. Por outro lado, por ser uma prova barata e conveniente, a prova testemunhal é o meio de prova mais utilizado no Brasil (BADARÓ, 2016), fundamentando a maioria das sentenças penais (Ministério da Justiça do Brasil, 2015).

Contudo, as testemunhas estão expostas a inúmeras influências a partir do momento em que o crime ocorre. Diversos estudos evidenciam que as informações fornecidas por testemunhas presenciais quando elas conversaram entre si, não podem ser consideradas como verdade, ou seja, quando duas ou mais testemunhas apresentam depoimentos congruentes, não necessariamente estão confirmando o depoimento uma das outras (WRIGHT, SELF & JUSTICE, 2000).

Como as pesquisas indicam que as informações que as testemunhas são expostas após o crime alteram suas próprias memórias, apenas com o isolamento absoluto da testemunha logo após o fato é que se teria, em tese, a diminuição de influências indevidas. No entanto, é da natureza humana compartilhar suas experiências, ainda mais quando ocorre algo excepcional, como presenciar um delito (GABBERT, MEMON & ALLAN, 2003).

A necessidade de se extrair as informações das testemunhas imediatamente após o fato criminoso esbarra no sistema processual penal acusatório, o qual protege os direitos e garantias individuais dos cidadãos. Isso porque qualquer prova deve ser produzida na presença do juiz, Ministério Público e defesa, tudo sob o crivo dos princípios do contraditório e da ampla defesa. Porém a morosidade da justiça brasileira funciona como um fator agravante, fazendo com que o declínio natural da memória opere, como também abrindo a possibilidade de que inúmeras influências afetem a memória e a narrativa das testemunhas.

É fundamental que os operadores do direito conheçam os fatores que alteram a memória, até mesmo para diferenciar as testemunhas que faltam com a verdade de forma deliberada, daquelas que sofreram influências no sistema mnemônico. Por mais que se reconheça que a prova testemunhal é necessária para o esclarecimento dos detalhes do crime, por se basear na memória, deve ter seu valor mitigado.

Nos países da *common law*, desenvolveu-se bastante o campo da psicologia do testemunho, o qual, em conjunto a pesquisas sobre a defectibilidade da memória, levou a alterações na percepção de como este meio de prova é compreendido (WELLS, MEMON &

PENROD, 2006; KAPLAN & PURACAL, 2015). A Suprema Corte de Nova Jersey, em decisão de 2011, determinou que o juiz presidente deve instruir os jurados sobre a falibilidade da prova testemunhal, indicando que a memória humana possui uma complexidade muito maior do que uma câmera filmadora (LOFTUS & SHACTER, 2013), sendo que os jurados devem ponderar as possíveis influências sofridas pelas testemunhas no momento de dar o veredicto.

Nos últimos anos diversas técnicas de interrogatório foram concebidas para amenizar o problema das influências sofridas pelas testemunhas, como, por exemplo, a entrevista cognitiva (STEIN & MEMON, 2006) e a entrevista investigativa autoaplicável (*Self-Administered Interview*, PINTO & STEIN, 2017).

O objetivo da presente tese foi investigar a conformidade de memória com participantes brasileiros em uma experiência de imersão de um fato criminoso, como parte de uma pesquisa mais ampla que visava interligar as respostas apresentadas em um experimento com aquelas que foram encontradas após longo transcurso de tempo. Para isso, no “Artigo 1” foi feita uma ampla análise sobre o fenômeno conformidade de memória, apresentando diversos estudos empíricos e doutrinários. O segundo artigo descreveu um experimento empírico inédito sobre conformidade de memória, fazendo com que participantes conversassem entre si em duplas após cada um deles terem assistido a cenas distintas.

O primeiro experimento apontou que 9 dentre 29 participantes, apesar de terem assistido a uma cena em que o autor do crime não possuía um cúmplice, após discutir com um outro participante que assistiu cena semelhante só que com um comparsa, conformaram com essa informação. Sendo assim, 31% dos participantes sofreram interferência pela informação da “outra” testemunha, passando a acreditar terem visto um segundo criminoso que (ao menos para eles) não foi mostrado. Ainda, importante salientar que os formulários foram respondidos individualmente, de forma que, ao menos em tese, os participantes responderam sobre aquilo que evocaram de suas memórias e não para evitar conflitos (o que caracterizaria a influência normativa).

Os resultados obtidos no segundo experimento e apresentados no terceiro artigo, corroboraram a ocorrência do fenômeno da conformidade da memória em um nível ainda mais elevado. Neste, 16 dentre 18 participantes, apesar de terem assistido a uma cena em que o autor do crime não possuía um cúmplice, oito meses após ser exposto ao estímulo e ter conversado com outro participante que assistiu ao vídeo com um comparsa, conformaram com essa informação. Estes dados revelam que quase a totalidade dos participantes (88,89%) foram influenciados pela informação da “outra” testemunha, e passaram a acreditar terem visto um segundo criminoso que não existia.

Schacter (1999) defende que a memória possui sete pecados básicos, sendo três deles relacionados diretamente ao esquecimento: a *transience* – fato de que os eventos naturalmente passam a ficar menos acessíveis com o passar do tempo –, a *absent-mindedness* – que ocorre pela falta de atenção no estímulo no momento de codificá-lo ou de recuperá-lo –, e o *blocking* – quando a memória está temporariamente inacessível. Isto é, o esquecimento é algo natural, mas a influência do transcurso de tempo nos relatos testemunhais é um fator fundamental e que necessita de maiores pesquisas.

Os outros experimentos de conformidade de memória que testaram a relação com o transcurso de tempo utilizaram um lapso médio de uma semana entre o estímulo e a entrevista, sendo que isto não reflete a realidade do sistema judicial penal brasileiro, pois além de eventual questionamento inicial logo após o fato, as testemunhas são ouvidas após muito meses, tornando-as sujeitas a influências de maior intensidade e afetando suas memórias. A hipótese inicial de que a passagem do tempo acarretaria em um maior índice de conformidade foi confirmada pelo experimento aplicado.

Os resultados exibidos, além de confirmarem considerável deturpação dos relatos de uma testemunha na memória de outras, também demonstraram que as falsas informações são lembradas de forma tão segura quanto as reais, eis que o nível de confiança apresentado por aqueles participantes que conformaram foi similar aos que não conformaram. Ademais, o transcurso de tempo maximizou os erros e influências, demonstrando a necessidade premente de diminuir o lapso entre o depoimento e o evento criminoso.

Há elementos científicos seguros a indicar a temeridade da utilização inadequada da prova testemunhal no processo penal brasileiro e, desde já, deve-se ressaltar que este meio de prova precisa estar em consonância com outros elementos probatórios do processo para validação das informações narradas, vez que suas falhas e instabilidade estão empiricamente constatadas.

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ANEXOS

Lista de Anexos:

Anexo 1 – Termo de Consentimento Livre e Esclarecido.

Anexo 2 – Formulário de Entrevista. Artigo 2.

Anexo 3 – Formulário de Entrevista. Artigo 3.

Anexo 4 – Parecer Consubstanciado de aprovação do Comitê de Ética da UFMG.

Termo de Consentimento Livre e Esclarecido - TCLE

Título da Pesquisa: *Conformidade de Memória no Processo Penal.*

Prezado (a),

Este é um convite para você participar *voluntariamente* em uma pesquisa que irá investigar a conformidade de memória no processo penal. Estamos à disposição para esclarecer quaisquer dúvidas em relação à pesquisa antes e durante a execução da mesma. Certifique-se que você compreendeu todas as informações abaixo antes de expressar ou não o seu consentimento para participar da pesquisa.

1. Objetivos e justificativa do estudo

O objetivo desta pesquisa é investigar a conformidade da memória, analisando os dados das respostas fornecidas pelos participantes.

2. Procedimentos da avaliação

Caso você concorde em participar deste experimento, você assistirá um vídeo e posteriormente serão feitas discussões e perguntas a respeito dele. Seis meses depois você poderá ser contatado(a) para responder à outras perguntas. O experimento terá a duração aproximada de 1 hora no primeiro dia e de 30 minutos quando, e se, chamado(a) 6 meses depois.

3. Realização da Pesquisa

A pesquisa está sendo liderada pelo Professor Antônio Jaeger, vinculado ao departamento de Psicologia da Faculdade de Filosofia e Ciências Humanas (FAFICH) da Universidade Federal de Minas Gerais (UFMG).

4. Participação voluntária e sem compromisso financeiro

Sua participação é voluntária e não implica em nenhum compromisso financeiro entre você e a equipe da UFMG.

5. Liberdade de recusa e de desistência

Você poderá negar o consentimento ou mesmo desistir de participar durante qualquer fase da pesquisa, sem nenhum prejuízo e sem necessidade de se justificar.

6. Garantia de sigilo

Os resultados da pesquisa serão utilizados em trabalhos científicos publicados ou apresentados oralmente em congressos e palestras, sem revelar a sua identidade ou quaisquer informações particulares, ou que possam de qualquer maneira identificá-lo(a).

7. Riscos

Os riscos envolvidos são mínimos, estando relacionados principalmente a cansaço durante a testagem psicológica. Todo esforço será feito no sentido de atentar para o bem-estar físico e psicológico dos participantes, interrompendo-se a testagem aos menores sinais de desconforto.

8. Benefícios em participar da pesquisa

Você não terá nenhum benefício direto por participar desta pesquisa. Você terá o benefício indireto de estar auxiliando no desenvolvimento da ciência, e auxiliando no desenvolvimento futuro de uma maior compreensão do fenômeno da neurociência.

Atenciosamente,

Prof. Dr. Antônio Jaeger

Coordenador da Pesquisa

Professor Adjunto do Departamento de Psicologia da UFMG

Av. Antônio Carlos, 6627, FAFICH-UFMG, Sala 4060

Laboratório de Neuropsicologia do Desenvolvimento

Tel: (31)34096295 / E-mail: antonio.jaeger@gmail.com

Para maiores esclarecimentos sobre dúvidas éticas você pode consultar também o Comitê de Ética em Pesquisa (COEP-UFMG), na Av. Antônio Carlos, 6627 – Unidade administrativa II, 2º andar/ Campus Pampulha- UFMG, Tel: (31)34094592/ E-mail: coep@prpq.ufmg.br ou a Comissão Nacional De Ética Em Pesquisa (CONEP), na SEPN 510 NORTE, BLOCO A 1º subsolo, Edifício Ex-INAN - Unidade II - Ministério da Saúde, Tel:(61) 3315-5878

Eu, _____,
abaixo assinado(a), declaro ter sido informado(a) e esclarecido todas as minhas dúvidas sobre os procedimentos e propostas da pesquisa '*Conformidade de Memória no Processo Penal*' e concordo em participar voluntariamente da mesma.

Assinatura

São José dos Pinhais, _____ de _____ de _____ .

Contato telefônico (Preenchimento não obrigatório): (____)

FORMULÁRIO DE ENTREVISTA (Marque com um X o quanto você está confiante, ou tem certeza, de suas respostas e de suas descrições);

1) O crime ocorreu durante o dia ou noite?

(1) = muito baixa confiança em sua resposta, (2) = baixa confiança em sua resposta, (3) = confiança média em sua resposta, (4) = confiança alta em sua resposta, (5) = confiança muito alta em sua resposta.

2) Como estava o tempo?

(1) = muito baixa confiança em sua resposta, (2) = baixa confiança em sua resposta, (3) = confiança média em sua resposta, (4) = confiança alta em sua resposta, (5) = confiança muito alta em sua resposta.

3) Ocorreu uma discussão?

(1) = muito baixa confiança em sua resposta, (2) = baixa confiança em sua resposta, (3) = confiança média em sua resposta, (4) = confiança alta em sua resposta, (5) = confiança muito alta em sua resposta.

4) Qual o motivo do crime?

(1) = muito baixa confiança em sua resposta, (2) = baixa confiança em sua resposta, (3) = confiança média em sua resposta, (4) = confiança alta em sua resposta, (5) = confiança muito alta em sua resposta.

5) O agressor tinha um comparsa?

(1) = muito baixa confiança em sua resposta, (2) = baixa confiança em sua resposta, (3) = confiança média em sua resposta, (4) = confiança alta em sua resposta, (5) = confiança muito alta em sua resposta.

6) Quantas pessoas presenciaram a discussão?

(1) = muito baixa confiança em sua resposta, (2) = baixa confiança em sua resposta, (3) = confiança média em sua resposta, (4) = confiança alta em sua resposta, (5) = confiança muito alta em sua resposta.

7) Quanto tempo transcorreu entre o começo da discussão e o momento em que o agressor foge?

(1) = muito baixa confiança em sua resposta, (2) = baixa confiança em sua resposta, (3) = confiança média em sua resposta, (4) = confiança alta em sua resposta, (5) = confiança muito alta em sua resposta.

8) Descreva os envolvidos no crime.

(1) = muito baixa confiança em sua resposta, (2) = baixa confiança em sua resposta, (3) = confiança média em sua resposta, (4) = confiança alta em sua resposta, (5) = confiança muito alta em sua resposta.

FORMULÁRIO DE ENTREVISTA (Marque com um X o quanto você está confiante, ou tem certeza, de suas respostas e de suas descrições);

1) O crime ocorreu durante o dia ou noite?

(1) = muito baixa confiança em sua resposta, (2) = baixa confiança em sua resposta, (3) = confiança média em sua resposta, (4) = confiança alta em sua resposta, (5) = confiança muito alta em sua resposta.

2) Como estava o tempo?

(1) = muito baixa confiança em sua resposta, (2) = baixa confiança em sua resposta, (3) = confiança média em sua resposta, (4) = confiança alta em sua resposta, (5) = confiança muito alta em sua resposta.

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(1) = muito baixa confiança em sua resposta, (2) = baixa confiança em sua resposta, (3) = confiança média em sua resposta, (4) = confiança alta em sua resposta, (5) = confiança muito alta em sua resposta.

7) Quanto tempo transcorreu entre o começo da discussão e o momento em que o agressor foge?

(1) = muito baixa confiança em sua resposta, (2) = baixa confiança em sua resposta, (3) = confiança média em sua resposta, (4) = confiança alta em sua resposta, (5) = confiança muito alta em sua resposta.

8) Descreva os envolvidos no crime.

(1) = muito baixa confiança em sua resposta, (2) = baixa confiança em sua resposta, (3) = confiança média em sua resposta, (4) = confiança alta em sua resposta, (5) = confiança muito alta em sua resposta.

9) Qual veículo foi utilizado na fuga?

(1) = muito baixa confiança em sua resposta, (2) = baixa confiança em sua resposta, (3) = confiança média em sua resposta, (4) = confiança alta em sua resposta, (5) = confiança muito alta em sua resposta.

UNIVERSIDADE FEDERAL DE
MINAS GERAIS



PARECER CONSUBSTANCIADO DO CEP

DADOS DO PROJETO DE PESQUISA

Título da Pesquisa: Conformidade de Memória no Processo Penal

Pesquisador: antonio jaeger

Área Temática:

Versão: 2

CAAE: 91100716.1.0000.5149

Instituição Proponente: PRO REITORIA DE PESQUISA

Patrocinador Principal: Financiamento Próprio

DADOS DO PARECER

Número do Parecer: 2.892.303

Apresentação do Projeto:

A pesquisa visa examinar a conformidade de memória através de 4 experimentos. A pesquisa trata de simular as condições de memória e conformidade de memória que ocorrem com testemunhas oculares de crimes. Conforme o autor do projeto a “conformidade de memória é a influência do julgamento de memória de um determinado indivíduo sobre o julgamento de memória de outro indivíduo. Serão desenvolvidos experimentos no intuito de comprovar/analisar tanto a conformidade de memória em si (em pesquisas com palavras emocionalmente negativas), bem como sua ocorrência no contexto do processo criminal, correlacionando a conformidade de memória com o transcurso de tempo. Será realizada pesquisa experimental e de revisão bibliográfica sobre o assunto. Em relação aos participantes dos experimentos, nos experimentos UM e DOIS serão recrutadas 100 pessoas com idade entre 18 e 35. O grupo será formado por acadêmicos (discentes) da Universidade Federal de Minas Gerais (UFMG), que assinarão o termo de consentimento

livre e esclarecido respectivo. Já nos experimentos TRÊS e QUATRO, haverá a seleção de 120 pessoas adultas, sendo 60 homens e 60 mulheres. O grupo será formado por acadêmicos (discentes) da Universidade Federal de Minas Gerais (UFMG), aos quais serão oferecidas certificado com horas complementares pela participação, e também assinarão termo de consentimento livre e esclarecido respectivo.”

Endereço: Av. Presidente Antônio Carlos, 6627 2º Ad SI 2005

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UNIVERSIDADE FEDERAL DE
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Continuação do Parecer: 2.892.303

Objetivo da Pesquisa:

O objetivo principal do projeto segundo o autor é: “Investigar o fenômeno da conformidade de memória em um contexto penal simulado.”

Os objetivos secundários para a pesquisa são: estudar como atua a conformidade de memória (memory conformity) e sua correlação com emoções negativas; pesquisar os efeitos das discussões e informações pós-eventos (postevent information) na memória; e investigar o efeito do lapso temporal na memória e na confiança desta memória das testemunhas, relacionando-o à conformidade de memória.”

Avaliação dos Riscos e Benefícios:

No resumo do projeto, são descritos os riscos possíveis da pesquisa e as ações a serem tomadas na pesquisa da seguinte forma: “Os riscos envolvidos são mínimos, estando relacionados principalmente a cansaço durante a testagem psicológica. Todo esforço será feito no sentido de atentar para o bem-estar físico e psicológico dos participantes, interrompendo-se a testagem aos menores sinais de desconforto. Ademais será elaborado em linguagem acessível Termo de Consentimento Livre e Esclarecido - TCLE, informando ao participante os riscos e benefícios do experimento.”

Segundo o pesquisador o benefício da pesquisa é: “o benefício indireto de estar auxiliando no desenvolvimento da ciência, e auxiliando no desenvolvimento futuro de uma maior compreensão do fenômeno da neurociência.”

Comentários e Considerações sobre a Pesquisa:

Pesquisa relevante para a área de Neurociências com previsão de término em 08/03/2019.

As solicitações do COEP foram atendidas: 1) Foi apresentado um TCLE para os participantes dos experimentos 3 e 4; 2) Foi incluído texto nos TCLEs que as dúvidas referentes à pesquisa ao pesquisador responsável e que uma via do termo será entregue para o participante e outro ficará com o pesquisador; 3) foi esclarecido na carta resposta e resumo do projeto quem são os “acadêmicos” que serão participantes da pesquisa e o procedimento de recrutamento dos mesmos; 4) Foram atualizados as datas do cronograma.

Considerações sobre os Termos de apresentação obrigatória:

Foram apresentados os seguintes termos: folha de rosto, projeto completo, resumo do projeto, TCLE para os participantes dos experimentos 1 e 2, TCLE para os participantes dos experimentos 3

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e 4, e parecer consubstanciado.

Recomendações:

Recomenda-se a aprovação do projeto de pesquisa. Por gentileza, acrescenta na primeira página dos TCLEs um espaço para o rubrica do participante e pesquisador, já que todos os TCLEs são mais que uma pagina.

Conclusões ou Pendências e Lista de Inadequações:

Somos favoráveis à aprovação do projeto "Conformidade de Memória no Processo Penal" do pesquisador responsável Prof. Dr. Antonio Jaeger.

Considerações Finais a critério do CEP:

Aprovado conforme parecer.

Tendo em vista a legislação vigente (Resolução CNS 466/12), o COEP-UFMG recomenda aos Pesquisadores: comunicar toda e qualquer alteração do projeto e do termo de consentimento via emenda na Plataforma Brasil, informar imediatamente qualquer evento adverso ocorrido durante o desenvolvimento da pesquisa (via documental encaminhada em papel), apresentar na forma de notificação relatórios parciais do andamento do mesmo a cada 06 (seis) meses e ao término da pesquisa encaminhar a este Comitê um sumário dos resultados do projeto (relatório final).

Este parecer foi elaborado baseado nos documentos abaixo relacionados:

Tipo Documento	Arquivo	Postagem	Autor	Situação
Informações Básicas do Projeto	PB_INFORMAÇÕES_BÁSICAS_DO_PROJETO_777753.pdf	02/08/2018 09:42:24		Aceito
Outros	RESPOSTA_Parecer.pdf	02/08/2018 09:36:33	Rodrigo Fauz Pereira e Silva	Aceito
TCLE / Termos de Assentimento / Justificativa de Ausência	TCLE_Experimento_3_e_4.docx	02/08/2018 09:30:35	Rodrigo Fauz Pereira e Silva	Aceito
TCLE / Termos de Assentimento / Justificativa de Ausência	TCLE_Experimento_1_e_2.docx	02/08/2018 09:30:22	Rodrigo Fauz Pereira e Silva	Aceito
Outros	Parecer_camara.pdf	30/08/2017 09:51:21	Rodrigo Fauz Pereira e Silva	Aceito
Projeto Detalhado / Brochura	ProjetoD.docx	09/11/2016 00:11:15	Rodrigo Fauz Pereira e Silva	Aceito

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Investigador	ProjetoD.docx	09/11/2016 00:11:15	Rodrigo Fauz Pereira e Silva	Aceito
Folha de Rosto	folha_rosto.pdf	09/11/2016 00:09:33	Rodrigo Fauz Pereira e Silva	Aceito

Situação do Parecer:

Aprovado

Necessita Apreciação da CONEP:

Não

BELO HORIZONTE, 13 de Setembro de 2018

Assinado por:

Eliane Cristina de Freitas Rocha
(Coordenador)

Endereço: Av. Presidente Antônio Carlos, 6627 2º Ad SI 2005

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