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RESEARCH ARTICLE

The influence of event order on the narratives jurors construct and tell in cases of rape

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ABSTRACT

Rape victim testimony may seem incongruent with the 'real rape' stereotype and appear more consistent with typical consensual sex. This research investigated whether having victims describe stereotype-consistent events early in their testimony guides jurors to construct narratives of the evidence that are consistent with rape and depict the defendant as guilty. In Study 1, a convenience sample ($N = 38$, 65.79% female, 34.21% male) watched video testimony in which the victim described the details of the assault first or last, with participants verbalising their thoughts about the testimony as they watched. We then recorded participants' spoken narratives about the alleged rape, which community members ($N = 418$, 41.15% female, 58.61% male, 0.24% gender-fluid) evaluated in Study 2. In Study 1, participants' thoughts in the rape-first condition suggested they attended more to the victim's non-verbal cues to deception than the events described. Consistent with this, participants in Study 2 rated the narratives of those in the rape-first condition as less complete. However, counter to predictions, participants' perceptions of the narratives as typical of rape did not differ based on condition. Further, participants were less likely to find the defendant guilty after listening to the narratives of those in the rape-first condition.

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In rape trials involving a male defendant and a female victim, the rate of conviction is disproportionally lower than in trials for other crimes (Cossins, 2020). One reason for this is that jurors' decisions in these cases can be influenced by extra-legal factors (Anderson & Doherty, 2008). Specifically, jurors may be less likely to believe a victim when her behaviour deviates from stereotypical beliefs about rape and rape victims and seems more typical of consensual sex (Masser et al., 2010; McKimmie et al., 2014b). This problem is exacerbated in most rape trials (which typically involve the rape of a female victim by a male acquaintance; Cossins, 2020), as victims will provide their account of events in a chronological order, potentially starting by describing events that are associated with the consensual sex schema (Buckles, 2007; Sampson, 2011). Jurors' framing of the

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remaining testimony may be influenced by this initial description, and they may view a victim's description of the actual assault (i.e. the rape event) as being more consistent with a consensual encounter (McKimmie et al., 2020). An alternative approach is to have the victim start by describing the events that are more consistent with the rape schema. Through this, jurors may be more likely to evaluate the rape event as rape than as consensual sex (Lee et al., 2021). However, having a victim describe events in a non-chronological order may make it difficult for jurors to organise the events described into a coherent story. This is problematic as jurors often share these stories to persuade other jurors to choose their preferred verdict, and less coherent stories may be less persuasive (Devine, 2012). The aim of this research was to investigate the impact having a victim describe the rape event first in her testimony has on the stories that jurors construct and share with others compared to when a victim describes events in chronological order.

Schemas about rape and consensual sex

Schemas are knowledge structures that represent groups of people (stereotypes), events (scripts) and the roles people play in events (role schemas) that are used to interpret information quickly and effortlessly (Bartlett, 1932; Fiske & Linville, 1980). Perceivers are especially likely to use schemas in complex or ambiguous situations where they cannot carefully attend to and evaluate all the information (Sherman et al., 2000; Tuckey & Brewer, 2003). In most rape trials, the evidence presented is often ambiguous due to the conflicting testimony of the victim and the defendant and the lack of any corroborating physical evidence or other witnesses (Cossins, 2020). Therefore, jurors may draw on their stereotypical beliefs about rape to help them evaluate the evidence.

One set of beliefs are rape myths, which are generally false beliefs and attitudes about rape but are socially shared and serve to justify male sexual violence towards women (Burt, 1980; Lonsway & Fitzgerald, 1994). Research suggests that jury decision-making in rape trials may be influenced by rape myths (Temkin et al., 2018; see St. George et al., 2020, 2021 for evidence in cases of child sexual abuse), with jurors who endorse these beliefs being less likely to find the defendant guilty (see Dinos et al., 2015 for a meta-analysis). One reason for this is that many rape myths prescribe a narrow definition of what is genuine or 'real' rape, which leads to perpetrators being exonerated when their offence deviates from this definition (Payne et al., 1999). Specifically, rape myths draw from beliefs about traditional gender roles and prescribe appropriate behaviours for women and men during a rape (Edwards et al., 2011; O. Smith, 2018). Rape myths include beliefs about how victims should behave (e.g. real victims are not promiscuous), beliefs that excuse the perpetrator (e.g. men cannot control their sexual urges), beliefs that deny most allegations (e.g. most victims fabricate allegations to get back at men) and beliefs that only certain people are involved in rape (e.g. it is not rape if she knows the offender) (Bohner et al., 2009). As such, jurors may rely on rape myths as a general schema about what typically occurs in real rape (Grubb & Turner, 2012).

Although there are different schemas about rape, the most widely accepted is the real rape script (Estrich, 1987; Krahé et al., 2007; Littleton & Dodd, 2016). This script depicts a stranger who uses force to attack a sober woman in a deserted public place, and although she attempts to physically resist him, she cannot stop the assault (Littleton et al., 2009).

However, this script is inconsistent with the experience of most victims who testify in rape trials. Most victims have consumed alcohol and have not been forcefully assaulted, but instead coerced during a rape that occurs indoors by an acquaintance on a date or in a hook-up context (Edwards et al., 2014; Hequembourg et al., 2021; Millsteed & McDonald, 2017). Further, while the victim does not consent to sexual intercourse, she does not physically resist the assault.

Jurors may acquit the defendant in most rape trials as the central components of the rape schema are likely to be absent from the victim's testimony (McKimmie et al., 2020). For example, research suggests that jurors are less likely to decide a verdict of guilty when the victim does not physically resist (compared to when she does; Schuller et al., 2010; Stuart et al., 2019), is acquainted with the perpetrator (compared to when the assault occurs between strangers; Masser et al., 2010; McKimmie et al., 2014b), and is intoxicated (compared to sober; Lynch et al., 2013; Schuller & Wall, 1998). Therefore, jurors may be unlikely to interpret what commonly occurs in most cases of rape as consistent with what is described in the rape schema. Instead, most cases may seem more congruent with schemas about consensual sex (i.e. dating, seduction and hook-up scripts).

A person's stereotypical beliefs about consensual sex may depend on their attitudes toward gender and sexual behaviour. Like the real rape script, most people's consensual sex schema is drawn from traditional gender roles (Masters et al., 2013). As such, many expect a man to initiate all sexual activity with a woman by pursuing her (Sanchez et al., 2012). In contrast, a woman is expected to play the 'gatekeeper' role by initially rejecting a man's advances before eventually consenting to intercourse. Thus, a victim's testimony in most rape trials may overlap with what is expected to occur in a typical consensual sexual encounter. However, in instances of rape, a victim is likely to testify that she indicated non-consent at the time of the assault (Cook & Messman-Moore, 2018). Therefore, what frequently occurs in cases of rape is ambiguous as it is at least partially congruent with traditional and inaccurate schemas about both rape and consensual sex.

How prosecutors lead a victim's testimony

A jury's verdict may be influenced by the extent to which the victim's description of events is consistent with either the rape stereotype or the consensual sex stereotype. According to the story model (Pennington & Hastie, 1993), jurors choose their verdicts by using their schemas and the evidence to create a story about what occurred during the alleged crime. A juror's schema about either rape or consensual sex may become activated when the victim's testimony is congruent with either of those schemas (Axelrod, 1973; Brewer & Nakamura, 1984). Jurors are then more likely to interpret subsequent evidence as consistent with the gist of the active schema (Bartlett, 1932; Sherman et al., 2000). However, jurors may use a different schema if subsequent evidence no longer fits the schema that was initially activated (Kunda & Thagard, 1996; Rumelhart, 1980). Regardless of which schema or schemas a juror uses to interpret the evidence, the juror may then rely on this interpretation to construct a narrative about the alleged crime (Pennington & Hastie, 1993). The juror will then match this narrative with the verdict that fits best and share this interpretation during deliberation. For example, in a rape trial, a juror who interprets the evidence in light of their rape schema may construct a narrative that is congruent with this schema. A juror who constructs such a narrative is

then more likely to argue during deliberation that the defendant is guilty. Thus, the order in which legal counsel presents their evidence is important as it may determine which schema a juror uses to help build their story.

In a rape trial, prosecutors often aim to lead the victim's testimony in an order that helps the jury build a coherent narrative of what occurred (Studebaker, 2017). One way the prosecution can do this is by asking the victim to describe the events of the alleged rape in chronological order (Pennington & Hastie, 1988, 1992). The victim in most rape trials, however, often testifies that she was on a date or in a hook-up context with the defendant before the assault (Edwards et al., 2014). Thus, having a victim testify in chronological order will first expose jurors to events that are more congruent with the consensual sex schema than the rape schema (McKimmie et al., 2020). Jurors may then use their consensual sex schema to interpret subsequent events and construct a story that is more consistent with consensual sex than it is with rape (Axelrod, 1973; Pennington & Hastie, 1993). Although a victim is likely to indicate non-consent during the rape event (Cook & Messman-Moore, 2018), jurors may still decide that the defendant reasonably believed that she consented to intercourse due to her behaviour that is consistent with the consensual sex schema (e.g. inviting the defendant home for a coffee; Gray, 2015). Jurors who endorse certain rape myths (e.g. a woman who invites a man to her home after a night out wants to have sex; Gerger et al., 2007) may be especially likely to hold a victim accountable if the defendant claims he believed she consented (Payne et al., 1999).

Having a victim describe the rape event first

Given that early information is likely to shape jurors' narratives about the testimony (Pennington & Hastie, 1993), prosecutors may be more effective in persuading jurors by changing the order of the events they ask the victim to describe. Legal counsel may consider asking a witness to describe a key event early in their testimony if they perceive that this event will have a more persuasive impact on the jury (Studebaker, 2017). Perceivers are likely to categorise a victim's behaviour that indicates non-consent during the rape event as more typical of rape than consensual sex when this behaviour is presented outside of a dating context (Littleton & Axsom, 2003). Thus, having a victim describe the rape event at the beginning of her testimony may guide jurors to use their rape schema to interpret subsequent events as typical of rape (Rumelhart, 1980). As such, jurors may be more likely to create a story in which they view the interaction between a defendant and a victim as rape rather than consensual sex (Pennington & Hastie, 1993).

To test this, Lee et al. (2021) asked participants to watch a video of testimony in which a female victim either described the rape event first, followed by the other events in chronological order, or she described all the events in a chronological order. To investigate how specific events influenced interpretations of the victim's account, participants evaluated whether the events depicted rape or consensual sex in real-time as they were presented with the video testimony. Participants interpreted the rape event as more consistent with rape when the victim described it first in her testimony than when she described the events in chronological order. This finding suggests that asking victims about events that are congruent with typical rape early in their testimony may lead to jurors' rape schema becoming more strongly activated (Axelrod, 1973;

Littleton & Axsom, 2003). However, participants in the rape-first condition still evaluated the victim's subsequent description of the events that occurred before the assault (e.g. when the defendant consensually kissed the victim) as more typical of consensual sex (Lee et al., 2021). Therefore, having a victim describe behaviours that are congruent with the rape schema early in her testimony may not guide jurors to categorise as rape the events that are consistent with the consensual sex schema. However, this approach may lead to jurors categorising the rape event as consistent with the rape schema.

Further, Lee et al. (2021) found that participants who watched the rape-first testimony took longer to organise the testimony into a story about what occurred during the alleged rape than those who watched the chronological testimony. Moreover, participants who watched the rape-first testimony showed more variation in their responses when indicating whether the events described depicted rape or consensual sex. Participants also remembered fewer details about this testimony. Perceivers may only remember the overall gist of information that is consistent with their schemas (Sherman et al., 1998). As such, Lee et al. (2021) proposed that participants in the rape-first condition may have remembered fewer details because they encoded the testimony as more congruent with their schemas. Specifically, having the victim describe the rape event first, followed by the events that occurred before the assault, may have resulted in participants using both their rape and consensual sex schemas to interpret the testimony. Therefore, participants may have struggled to reconcile how the events described were at first consistent with the rape schema but became more associated with the consensual sex script as the testimony progressed (Kunda et al., 1990).

Lee et al. (2021) based this conclusion only on participants' evaluations of the events described as rape or consensual sex and their memory of the testimony. As such, it remains unclear why having a victim describe the rape event early in her testimony may interfere with participants' abilities to evaluate and organise the events described. Instead of using measures that restrict participants' responses to the question asked of them, having participants verbalise their thoughts (i.e. think aloud) while watching a testimony may provide insight into how jurors interpret this information in real-time (Ericsson & Lehmann, 1996; Ericsson & Simon, 1998). For example, de Groot (1978) had expert chess players think aloud while playing a game. Based on the players' commentary, de Groot identified the cognitive processes they used to decide each move. Critically, Ericsson and Simon (1980) reviewed the think-aloud literature and concluded that participants who think aloud while completing a task perform no differently than those who complete the same task normally. Therefore, having mock jurors think aloud while watching a rape victim's testimony should result in a running commentary that reflects participants' authentic 'live' interpretations of her account. Analysing this commentary may provide insights into why varying the order of a victim's testimony may influence mock jurors' organisation of the events described as a story. Therefore, in order to investigate why jurors may interpret a victim's testimony differently based on the order in which she describes the events, in the current research, we had participants think aloud while watching the testimony.

Victim testimony order and jurors' spoken narratives

A victim who describes the rape event early in her testimony may guide jurors to evaluate this event as depicting rape (Lee et al., 2021). However, jurors may struggle to organise

the events described into a coherent story. Jurors' stories are important as a juror may recount their story at the start of deliberation to persuade the rest of the jury that what they think occurred during the alleged crime is what actually happened (Conley & Conley, 2009). A juror is more likely to persuade their fellow jurors by telling a coherent and complete story (Devine, 2012). Further, a juror who tells such a story is likely to make a credible first impression and thus be regarded by other jurors as knowledgeable about the case (Levett & Devine, 2017). This impression is important as fellow jurors are more likely to listen to someone they regard as knowledgeable (Devine, 2012). In the end, if a story convinces the jury, they may choose the verdict that fits it best.

Having a victim describe the rape event first in her testimony may lead jurors to struggle to construct a coherent story and therefore be less likely to tell a complete and persuasive account of the alleged rape (Devine, 2012; Lee et al., 2021). However, jurors who watch a rape-first version of a testimony may evaluate the rape event as typical of rape (Lee et al., 2021). As such, a juror may use this interpretation to build and tell a story that is consistent with the rape schema (Pennington & Hastie, 1993). A juror who communicates such a story may convince their fellow jurors that the defendant is guilty. Using the story model as a theoretical framework, Ellison and Munro (2015) explored the impact of mock jurors' spoken narratives on deliberations in a mock rape trial. Results showed that participants relied on schemas about rape and consensual sex to construct and verbalise stories during deliberation. A mock jury's final verdict was largely determined by the extent to which jurors' spoken narratives were consistent with either the rape or consensual sex schema. In the current research, we will test whether having a victim describe the rape event first in her testimony influences how jurors tell stories and if other jurors perceive these stories as more typical of rape – but as less coherent – compared to when the victim describes the events in chronological order.

The current research

The aim of the current research was to investigate whether varying the order in which a victim describes the events in her testimony influences how mock jurors think about this evidence in real-time and verbalise narratives about the alleged rape. A further aim was to assess how a different group of mock jurors react to and evaluate narratives that are generated by varying the order of a victim's testimony. To examine both research questions, we conducted two studies. In Study 1, participants watched a video of testimony in which the victim either described the rape event first followed by the other events in chronological order, or she described all the events chronologically. While watching this video, participants were instructed to think aloud (Ericsson & Simon, 1980). Having recorded participants' commentary during this task, we conducted an exploratory analysis of the differences in the types of thoughts participants had about the victim's testimony based on the order in which it was given. After participants watched the testimony and gave their live commentary, we asked them to describe what happened on the night of the alleged rape, and we recorded these stories. To investigate the influence varying victim testimony order may have on how mock jurors verbalise their stories, another group of participants acted as independent raters in Study 2 by listening to and evaluating the content of these narratives. Further, having different participants

evaluate the narratives provided insight into the influence these stories may have on other mock jurors' perceptions of the case.

Study 1

Method

Participants and design

We recruited a convenience sample of participants, which comprised undergraduate students at a university campus (who participated for course credit; $N = 24$) and community members (who volunteered their time; $N = 15$).[1] Data collection for this study commenced in a laboratory located at the university. However, following the closure of campus for research during the COVID-19 pandemic, the study was conducted online using Zoom videoconferencing software.[2] One participant in this phase of data collection was excluded due to a software error that eliminated the audio from the victim's testimony. The final sample comprised 38 participants (25 women, 13 men) aged 18–46 years ($M = 22.92$, $SD = 5.17$). The size of this sample ensured that an adequate number of narratives would be available to sufficiently power Study 2 (an a priori power analysis is reported in the Study 2 Method). Ethical approval for Study 1 was obtained from The University of Queensland Human Research Ethics Committee A (Approval Number: 2019000279).

Participants were randomly allocated to one of two conditions formed by the between-subjects manipulation of testimony order (chronological testimony vs. rape-first testimony). Key dependent variables included participants' thoughts as they watched the testimony and their narratives. The method for this study was pre-registered on the Open Science Framework: https://osf.io/a43y7.

Materials and procedure

Participants were told before commencing that the study involved thinking aloud while watching a witness's testimony in an alleged rape case. After providing informed consent, all participants indicated their age and gender. Next, participants completed a tutorial, which explained to them the think-aloud procedure. This tutorial included watching a video of an actor thinking aloud while solving an anagram. Next, participants answered two questions unrelated to the study while thinking aloud. Ericsson and Simon (1980) recommend this tutorial to help participants verbalise their thoughts during the actual think-aloud task.

Testimony think aloud measure. Participants were then asked to imagine themselves as jurors in a trial where the defendant (Neil) is accused of raping Janine. Next, participants watched a 6-min video of Janine testifying about what occurred during the evening of the alleged rape. While watching this video, participants were asked to speak their thoughts aloud as they listened to Janine's testimony.

Video of the victim's testimony. Testimony order was manipulated by varying the order in which Janine described the events in the video testimony. The actress who played Janine was a young (<30-year-old) woman with long, straight brown hair, while no information was provided about the defendant's age or appearance. In this video, the

prosecution's lawyer called Janine to the stand to testify and asked her about the night of the alleged rape. For the chronological testimony, Janine first described how she went to a bar to have some drinks with her friends. After chatting with her friends over a drink, Janine saw the defendant, an old work acquaintance, who later danced with her. They both went to the defendant's apartment to talk. At the apartment, both the defendant and Janine continued talking and eventually started kissing. To introduce the rape event, Janine then stated that the defendant penetrated and raped her. With the prosecution lawyer's encouragement, Janine then described in more detail how the defendant forced her back onto a sofa, pinned her down and raped her. Janine stated that she did not physically resist this assault, but she did tell the defendant that she wanted to go home. In the rape-first version of the testimony, participants first heard Janine testify about what occurred in the rape event (from the point where she stated that the defendant penetrated and raped her). After this event, Janine then described the events that occurred earlier in the evening in the order in which she described them in the chronological testimony. This version of the video ended after Janine described how the defendant kissed her at his apartment (videos are available at: https://osf.io/nc9d3; see Supplementary Material A for a figure that visualises how the order of events varied in each condition).

Narrative measure. After watching the video of the victim's testimony, participants were asked to imagine they were deliberating with their fellow jurors and that one juror had asked them what they thought happened on the night Janine was allegedly raped. Participants then verbalised what they thought occurred. The recorded responses to this measure comprised the narratives used in Study 2.

Manipulation check measure. Participants were then asked at what point during the video Janine described the defendant forcing her down and penetrating her, on a scale from 1 (*very early in the video*) to 7 (*very late in the video*). This measure assessed the effectiveness of the manipulation of testimony order, and no participants were excluded based on their response. Participants were then debriefed and asked if they had any questions about the study.

Results

Overview

The manipulation check and analyses were all pre-registered on the Open Science Framework, with the *Leximancer* analyses listed as exploratory (see https://osf.io/w68js). One participant was excluded from the Leximancer analyses as their commentary could not be heard above the volume of the victim's testimony. Further, the exploratory content analysis of participants' narratives was conducted to follow up the findings from the Leximancer analyses.

Leximancer analyses

Participants' responses to the think-aloud measure were transcribed and analysed using Leximancer (A. E. Smith & Humphreys, 2006). This text analytics tool automatically identifies concepts (i.e. relevant words that occur frequently) and emergent themes (i.e.

concepts with the greatest number of relationships to other concepts) in the text. After analysing the semantic structure of the text, Leximancer helps the researcher extract meaning from the data by displaying the terms that frequently co-occur with each identified concept. As such, Leximancer is well suited for exploratory analyses as the software identifies unforeseen concepts and themes in a data-driven fashion (Hasan et al., 2018; Sotiriadou et al., 2014). Further, Leximancer codes concepts and themes consistently across multiple attempts and thus provide reproducible findings (Cretchley et al., 2010; Lemon & Hayes, 2020). Therefore, we used Leximancer to explore the variety of thoughts mock jurors may have when interpreting different orders of a victim's testimony.

We excluded common function words (e.g. *and*, *not*, etc.) from this analysis to avoid concepts that did not add meaning to the data. Further, we merged concepts that were different senses of the same word (e.g. *rape* and *raped*) to avoid underrepresenting them. Next, we grouped concepts that co-occurred often within the same sentence (or utterance) into higher-order themes and named each theme based on its lower-order concepts. Participants frequently verbalised their thoughts as single utterances at particular points during the video testimony. Therefore, we decided to identify themes based on specific words that co-occurred within each sentence rather than identify themes as they emerged over multiple sentences.

Manipulation check

Testimony order was successfully manipulated with participants who watched the rape-first testimony reporting that the victim described the rape event significantly earlier in the video ($M = 1.47$, $SD = 0.61$) than those who watched the chronological testimony ($M = 5.42$, $SD = 1.43$), $t(24.40) = 11.10$, $p < .001$, $d = 3.60$, 95% CI [3.213, 4.681] (see Supplementary Material B for frequency distribution).

Analysis of responses within the chronological condition

To investigate whether the concepts and themes that emerged from participants' commentary differed based on testimony order, we analysed each condition separately. Participants' commentary in the chronological condition overlapped into three distinct themes (see Supplementary Material C for the Leximancer map). Many participants' commentary highlighted their overall judgements about whether the events described in the testimony-depicted rape (see Table 1 for examples of each theme). Apart from the *rape* category, the other dominant lower-order concepts in this theme were *normal*, *consent*, *sex*, *no* and *yes*. These concepts suggest that participants' overall judgements were based on whether they thought the victim had consented and if the events described were consistent with a normal hook-up context. Further, the dominant *people* concept suggests that commentary coded in this theme highlights what other people would do in situations similar to the events described in the testimony. Therefore, participants' overall judgements in the chronological condition may have been partly based on whether the events described were consistent with beliefs about how these events typically unfold.

Another prevalent theme in the chronological condition included participants' commentary about the victim's demeanour. Participants highlighted that the victim was *nervous*, *disturbed*, *upset* and *uncomfortable* while testifying. However, participants' commentary grouped by the *uncomfortable* concept also included inferences about the

Table 1. Rank order (from most prominent to least) of themes within each condition of testimony order in Study 1.

Condition	
Rape-first testimony	Chronological testimony
1. Victim's demeanour 'She looks a bit nervous'	1. Victim's demeanour 'The witness seems uncomfortable like she doesn't want to be telling this story'
2. Victim's description of the assault 'The tone hasn't really changed from the actual description of the event either'	2. Overall judgement ' … I think that counts as rape because unless it's an explicit yes you have to assume it's a no … ' 'Making out, normal' 'You don't like uh accept drinks from people that's kinda like a rule'
3. Behaviours which indicated non-consent ' … she started feeling uncomfortable and then she must have expressed that she kinda wanted to go home, which is then a no … '	3. Attention to detail 'I wonder if she's relived this multiple times given the amount of detail' 'I wonder how many drinks both of them had'
4. Comments about the rape case ' … would she help her case if she dressed better, looked better, did her hair better?'	
5. Victim's description of events 'She seems more comfortable in what she is describing now, body language and such'	
6. Victim's eyes 'She just moved her eyes upwards'	
7. Victim's resistance ' … she says something or like done a little body language that sort of shows that she does not want it, he needs to stop' 'Why didn't she stop him?'	
8. Ability to remember ' … she sort of looks off into the distance because she is trying to remember things'	

victim's likely demeanour on the night of the alleged rape. Further, some commentary indicated that participants used the victim's demeanour to infer that her *story* was uncomfortable to tell. The commentary that highlighted the high level of *detail* in the victim's testimony emerged as the final theme in this analysis. The lower-order category of *wonder* in this theme suggested that some participants also thought about details that were not mentioned in the testimony. This finding suggests that participants in the chronological condition tended to focus on the details of the events described.

Analysis of responses within the rape-first condition

In contrast to the chronological testimony, several themes emerged in the rape-first condition (see Supplementary Material D for the Leximancer map). This finding suggests that participants in this condition reported a wider range of thoughts while watching the victim testify than those in the chronological condition. In one theme, participants' commentary highlighted the victim's behaviour that indicated that she did not want to have sex – that is, she told the defendant that she *wanted* to go *home*. The *uncomfortable* concept was the most dominant lower-order category in this theme. As such, participants may have inferred that the victim was uncomfortable on the night of the alleged rape based on her behaviour, which indicated non-consent. Participants in the rape-first condition also commented on how the victim described the rape event, and her demeanour while explaining this key *event*. Specifically, participants inferred that the assault was

difficult for Janine to *talk* about based on the *tone* of the *story* she was trying to *tell*. Furthermore, commentary about the victim's resistance and how the defendant should have responded to this behaviour was prevalent in the rape-first condition. Some commentary suggested that participants believed the defendant needed to *stop* his advances due to the victim's behaviour during the rape event. However, other participants' commentary highlighted that the victim did not clearly resist the defendant's advances.

Apart from general inferences about the victim's demeanour (which were similar to the commentary coded within the same theme in the chronological condition), participants' commentary in the rape-first condition highlighted the victim's *eyes* and whether her behaviour indicated she was trying to *remember* certain events. Furthermore, participants' commentary in this condition included general inferences about the *rape case* itself, which mostly highlighted the victim's appearance and whether this benefited her case. Finally, participants commented on how the victim described the events in the rape-first testimony. Some participants inferred how *comfortable* the victim was on the witness stand based on how she described the events.

Analysis of responses within each type of event

Participants' commentary in the chronological condition tended to cluster in distinct themes about their overall evaluations of the victim's testimony, her demeanour and their attention to detail. In contrast, participants' commentary in the rape-first condition tended to highlight the victim's behaviour, appearance and demeanour on the witness stand. To investigate the moment in the testimony when participants in the rape-first condition started to report these thoughts, we analysed commentary within each type of event – that is, the events that occurred before the alleged rape and the rape event itself. Participants' commentary during the victim's description of each type of event was analysed separately for each condition.

Participants' commentary during the victim's description of the rape event mapped onto four themes for both conditions (see Supplementary Material E for the Leximancer map). However, during the victim's description of the events that occurred before the alleged rape, participants' commentary differed based on testimony order. For the chronological condition, participants' commentary converged again into four themes that were mostly about the events described. In contrast, participants' commentary in the rape-first condition fell into six themes, which highlighted the victim's features and behaviour on the stand. Further, these themes tended to overlap, which suggests that participants' commentary did not consistently map onto distinct topics but tended to cite different themes within a single sentence (i.e. commentary about the victim's demeanour and how she described the events: 'You can see how you would become very uncomfortable describing these sorts of intimate moments').

Content analysis of participants' narratives

Participants' commentaries suggest that those who watched the rape-first testimony paid less attention to the victim's description of events compared to those who watched the chronological testimony. As such, participants who watched the rape-first testimony may have been less likely to organise these events into a complete narrative. To investigate this possibility, the first author counted the number of times participants mentioned: (a) the rape event, (b) events that occurred before the rape and (c) the states of mind

and intentions of the people involved in the alleged rape (e.g. the emotions the victim was likely feeling leading up to the alleged assault or the defendant's motivations for inviting the victim to his apartment) in their recorded narratives (see Supplementary Material F for examples of this coding). A second rater then coded 20% of the narratives. Both raters agreed on 80.73% of the coding, with any disagreements resolved through discussion. The continuous measures of *rape event mentions*, *other event mentions* and *intentions/states of mind mentions* were derived from this coding.

A series of independent *t*-tests were conducted to assess whether the content of the narratives differed significantly by testimony order. Participants who watched the chronological testimony mentioned the rape event, and the intentions of the people relevant to the alleged rape, more frequently than those who watched the rape-first testimony (see Table 2). Therefore, participants who watched the rape-first testimony may have articulated less complete narratives about the alleged rape.

Discussion

Participants who watched the rape-first testimony tended to highlight in their commentary the victim's behaviour that indicated non-consent. This finding suggests that participants' rape schema may have become activated when the victim described this behaviour early in her testimony (Lee et al., 2021). Perceivers typically expect a victim to verbally indicate non-consent during a stereotypical rape (Angelone et al., 2015; Littleton & Axsom, 2003). As such, participants in the rape-first condition may have highlighted this schema-consistent behaviour because they interpreted the rape event using their rape schema (McKimmie et al., 2020; Rumelhart, 1980).

In contrast to the rape-first condition, participants in the chronological condition did not highlight the victim's behaviour that indicated non-consent in their commentary. Instead, participants' commentary in the chronological condition tended to include inferences that the events described were consistent with a normal hook-up context. In the chronological testimony, the victim described her behaviour which indicated non-consent after she had recounted the events that were more consistent with the consensual sex schema (e.g. flirting and consensual kissing; Littleton et al., 2006). Lee et al. (2021) found that when a victim described events in this order, mock jurors interpreted the events that occurred before the assault as more typical of consensual sex than rape. As such, participants in the current study who watched the chronological testimony may have interpreted the events described using their consensual sex schema (Axelrod, 1973; McKimmie et al., 2020).

As the testimony progressed, however, participants in the rape-first condition started to cite a wider variety of themes in their commentary than those in the chronological condition. Specifically, participants' commentary in the rape-first condition began to highlight the victim's characteristics and behaviour on the stand during her description of the events that occurred before the alleged rape. The events that occur before an assault tend to be less consistent with the rape schema than the rape event itself (Littleton & Axsom, 2003).

Therefore, participants who watched the rape-first testimony may have struggled to reconcile the events that followed the rape event with their expectations about a typical rape (Lee et al., 2021). Jurors may become sceptical about a witness's credibility

Table 2. Frequencies and significant effects of testimony order on each narrative content measure in Study 1.

					Chronological testimony						Rape-first testimony					
Measure	*t*	*p*	*d*	95% CI	Freq.	Range	Min	Max	*M*	(*SD*)	Freq.	Range	Min	Max	*M*	(*SD*)
Rape event	2.44	.020	0.80	[0.040, 0.438]	3.89	8	0	8	0.64	(0.24)	2.47	13	0	13	0.40	(0.35)
Other events	0.35	.726	0.09	[−0.233, 0.331]	8.74	26	0	26	0.88	(0.34)	10.11	34	0	34	0.84	(0.50)
Intentions	2.44	.020	0.78	[0.044, 0.475]	5.11	18	0	18	0.66	(0.36)	2.11	7	0	7	0.40	(0.30)

Note: *df* (1, 36). Frequencies denote the mean frequency. Means and standard deviations were transformed using Log10 transformations due to significant skewness.

if the witness's testimony does not correspond to a juror's knowledge of reality (Levett & Devine, 2017; Levine, 2014). Once jurors start to doubt the truth of a witness's testimony, jurors often examine the witness's demeanour for stereotypical cues to deception (e.g. increased body movements, gaze aversion and speech disturbances; Blair et al., 2018; McKimmie et al., 2014a). After the victim's description of the rape event, participants may have perceived the remaining testimony as inconsistent with their knowledge of what happens in a real rape (Grubb & Turner, 2012). As such, participants may have thought the victim was lying and thus attended to her non-verbal behaviour, instead of the events described, to evaluate her credibility.

The content analysis of the narratives also suggests that participants in the rape-first condition did not attend to the victim's description of events. Specifically, participants in this condition mentioned the intentions of the people involved in the alleged rape, and the rape event, less frequently than those in the chronological condition. Devine (2012) suggests that jurors construct complete stories by understanding the intentions of the people involved in the alleged crime. This understanding helps jurors determine how these people initiated the events that allegedly took place.

Jurors may be more persuaded to choose a particular verdict after listening to a complete narrative (Levett & Devine, 2017). However, in trials for rape, a jury's final verdict may be more influenced by whether jurors' spoken narratives are consistent with schemas about rape and consensual sex (Ellison & Munro, 2015). The results from Study 1 suggest that jurors who watch a rape-first testimony may use their rape schema to interpret the victim's description of the rape event (Lee et al., 2021). Therefore, jurors who watch this testimony may construct narratives about the alleged rape that are consistent with this schema (Pennington & Hastie, 1993). However, jurors who watch the rape-first testimony may verbalise less complete stories than those who watch the chronological testimony. As such, it is unclear how varying the order of a victim's testimony impacts jurors' spoken narratives and other jurors' perceptions of the defendant's guilt. To address this, Study 2 provides a more direct assessment of whether the victim testimony order influenced the content of participants' narratives and how other mock jurors perceived these narratives.

Study 2

In Study 1, participants watched a testimony in which the victim either described the rape event first or the events in chronological order. Each participant then told a narrative about what happened on the night of the alleged rape, which was recorded. In Study 2, we investigated whether varying the victim's description of events influenced how participants verbalised their narratives by having another group of participants act as independent raters and evaluate the content of the narratives. Further, by having different participants evaluate the narratives, we examined whether mock jurors' reactions to spoken stories about an alleged rape differed as a function of victim testimony order. To clearly differentiate between the two groups, participants from Study 1 who provided the narratives will from this point on be referred to as *narrators*. In Study 2, to ensure the number of participants evaluating each narrative was representative of most jurisdictions who use lay juries, 11 different participants listened to each narrator (Leib, 2008). Participants then evaluated the extent to which the narratives depicted rape or consensual sex

and whether the narratives were coherent and persuasive accounts of what happened during the alleged rape. Finally, participants rated the credibility of the narrators, before returning a verdict for the case. Study 2, including the hypotheses, design and analysis plan, was pre-registered at the Open Science Framework: https://osf.io/z2shr.

In Study 1, having the victim describe the rape event early in her testimony may have guided narrators to evaluate this event as more consistent with their rape schema than those who watched the chronological testimony (Axelrod, 1973; Lee et al., 2021; Littleton & Axsom, 2003). As such, narrators who watched the rape-first testimony may have constructed narratives that were more typical of rape and portrayed the defendant as more likely to be guilty (Ellison & Munro, 2015; Pennington & Hastie, 1993). Using this reasoning, we made the following predictions:

1. Participants would rate the narratives as more typical of rape and less typical of consensual sex after listening to the narrators who watched the rape-first testimony compared to the chronological testimony.
2. Participants would be more likely to find the defendant guilty, and believe that he raped the victim, after listening to the narrators who watched the rape-first testimony compared to the chronological testimony.

The results of Study 1 suggested that narrators who watched the rape-first testimony were less likely to attend to the victim's description of the events and verbalise less complete narratives. As such, we expected that participants would rate these narratives as less coherent and complete compared to the narratives from narrators who watched the chronological testimony (Lee et al., 2021; Levett & Devine, 2017). Using this reasoning, we made the following prediction:

3. Participants would rate the narratives as less similar to stories, more confusing and less complete after listening to the narrators who watched the rape-first testimony compared to the chronological testimony.

If narrators who watched the rape-first testimony verbalised less complete and coherent narratives, participants who listened to these narrators in Study 2 would be likely to perceive them as less persuasive and credible (Devine, 2012). Although participants may perceive the narrators who watched the rape-first testimony as less persuasive, we expected the events depicted in their narratives to be rated as more typical of rape (Prediction 1). A jury's final verdict may be substantially influenced by the extent to which the narratives told are typical of schemas about rape and consensual sex (Ellison & Munro, 2015). Therefore, participants should still be more likely to find the defendant guilty after listening to the narrators who watched the rape-first testimony (Prediction 2). Using this reasoning, we made the following prediction:

4. Participants would rate the narratives as less persuasive and the narrators as less credible after listening to the narrators who saw the rape-first testimony compared to the chronological testimony.

Method

Participants and design

Participants ($N = 419$) were members of the community from the United Kingdom and Australia recruited through Prolific and paid US$1.17 to participate. The study was completed online using Qualtrics survey software. The data from one participant were excluded from the analysis because they indicated that they wished to withdraw their data. The final sample comprised 418 participants (1 gender-fluid, 172 women, 245 men) aged 18–76 years ($M = 33.10$, $SD = 12.60$). An a priori power analysis using software designed to estimate sample sizes for mixed effects models suggested that this design was sufficiently powered (270 participants and 38 narratives were required for a power of .80 with a moderate effect size; Judd et al., 2017). The estimated moderate effect size was based on research which had previously assessed the effect of testimony order on mock jurors' evaluations of the evidence (Lee et al., 2021). Ethical approval for Study 2 was obtained from The University of Queensland Human Research Ethics Committee A (Approval Number: 2019000279).

Participants were randomly allocated to listen to one of the 38 different narratives from Study 1. The narratives were from narrators who participated in Study 1 and who had been randomly allocated to one of two conditions formed by the between-subjects manipulation of testimony order (chronological testimony vs. rape-first testimony). As such, the narratives were assumed to be nested within each level of this variable. Key dependent variables included participants' categorisation of the events described in the narratives (rape and consensual sex), perceptions of the defendant (guilt and likelihood of raping the victim), verdicts, perceptions of the narratives (as being similar to stories, confusing, complete and persuasive explanations for what happened during the alleged rape) and perceptions of the narrators as credible (i.e. knowledgeable, trustworthy, likeable and confident).

Materials and procedure

Participants were told before commencing that the study involved listening to a mock juror describe what happened in a fictional case of alleged rape. After consenting, participants provided their gender and age. Participants were then informed that the mock juror they would listen to participated in a study in which they watched part of a trial where the defendant (Neil) had been accused of raping Janine. Each participant then listened to one of the narratives, which ranged from approximately 0.5 min to 7.75 min (narratives are available at https://osf.io/ay2en/).

Rape and consensual sex typicality. After listening to a narrative, participants then completed three items that measured the extent to which the events described were perceived as consistent with the rape schema (Nitschke et al., 2021). These items were: 'How similar are the events described to a typical act of rape?; To what extent are the events described like a typical act of rape?; To what extent would you categorise the events described as typical rape?' ($\alpha = .92$). Consensual sex typicality was assessed using three identical items with the term *consensual sex* replacing *rape*, $\alpha = .97$. Each of these items was answered on a seven-point scale, with higher scores denoting greater

perceived typicality. Responses for each measure were averaged to create two composite measures.

Story similarity, confusion and completeness. Participants then answered two separate items, which asked how complete and confusing the narrator's description of the alleged rape was, on a scale from 1 (*not at all*) to 7 (*very*). Next, participants rated the extent to which the description of the alleged rape sounded like a coherent story on the same scale.

Narrative persuasiveness. Participants then evaluated the narrator's explanation of what happened on the night of the alleged rape on the following seven-point semantic differential scales (Westera et al., 2015): Unconvincing/convincing, unclear/clear, unpersuasive/persuasive and poorly presented/well presented. Responses were averaged to create a composite measure with higher scores denoting greater persuasiveness, $\alpha = .93$.

Narrator credibility. Next, participants rated the narrator they listened to on the Witness Credibility Scale (Brodsky et al., 2010). Although this scale was developed to assess the perceived credibility of expert witnesses, it has been applied to other trial participants (Ziemke & Brodsky, 2015). Participants rated the narrator on 19 paired adjectives on 10-point rating scales (e.g. 1 = *not confident* to 10 = *confident*). One original item (1 = *unscientific* to 10 = *scientific*) was omitted from the adapted scale as it is likely irrelevant to credibility for this type of trial participant (Goodman-Delahunty et al., 2017a). Responses were summed with higher scores indicating greater perceived credibility, $\alpha = .96$.

Rape likelihood and perceptions of guilt. Next, participants were asked how likely it was that the defendant raped Janine, on a scale from 1 (*not at all*) to 7 (*very*), as a measure of rape likelihood. Participants then received judicial instructions outlining the legal definitions of both rape and consent (see Sexual Offences Act, 2003). Next, participants indicated whether the defendant was guilty or not guilty of rape. Participants were then asked how likely it was that the defendant committed rape, on a scale from 1 (*not at all*) to 7 (*very*), as a measure of guilt likelihood.

Results

Overview

The main analyses were pre-registered on the Open Science Framework. Exploratory analyses were conducted to follow up any unexpected results, as described below.

Main analyses

Multi-level modelling was used to test the effect of testimony order on how participants rated the narratives on the dependent measures. As the narratives were from narrators who were randomly assigned to each level of testimony order in Study 1, we assumed the data in Study 2 were nested within the individual narratives. Therefore, the narratives were included in the random intercept to model for the effects of the narrators' descriptions of the alleged rape beyond the effect of the order in which the victim described the events in her testimony.

The results of the fixed effect of testimony order in each model are shown in Table 3. Contrary to our first hypothesis, there were no significant differences between how participants rated the narratives as typical of rape or consensual sex based on testimony order. Unexpectedly, participants were significantly more likely to think that the defendant had raped the victim after listening to narrators who watched the chronological testimony compared to the rape-first testimony. Further, after receiving judicial instructions, participants thought the defendant was significantly more likely to be guilty when they listened to narrators who watched the chronological testimony compared to the rape-first testimony. For the verdict measure, participants were significantly more likely to decide a verdict of guilty than a verdict of not guilty after listening to the narrators who watched the chronological testimony (*frequency*: guilty verdicts = 141, not guilty verdicts = 68) compared to the rape-first testimony (*frequency:* guilty verdicts = 113, not guilty verdicts = 96), $b = -0.59$, $SE = 0.25$, Exp $(B) = 0.56$, Wald χ^2 $(1) = 5.72$, $p = .017$, $R^2_{\text{marginal}} = .02$, 95% CI Exp (B) [0.344, 0.900]. Therefore, there was no support for our second hypothesis.

Partially supporting our third hypothesis, participants rated the narratives as significantly more confusing and as significantly less complete after listening to the narrators who watched the rape-first testimony compared to the chronological testimony. However, there were no significant differences between how participants rated the narratives as similar to stories based on testimony order. Furthermore, participants evaluated the narratives as significantly less persuasive after listening to the narrators who watched the rape-first testimony compared to the chronological testimony. However, there were no significant differences in how participants rated the credibility of the narrators based on testimony order. Therefore, there was partial support for our fourth hypothesis.

Exploratory analyses

Unexpectedly, participants thought the defendant was less likely to be guilty after listening to the narrators who watched the rape-first testimony compared to the chronological testimony. Interestingly, the extent to which participants rated the events described in the narratives as rape or consensual sex did not differ based on testimony order. Given this, zero-order correlations were calculated between the measured variables. We then explored other factors that could have led participants to view the defendant as more likely to be guilty after listening to the narrators who watched the chronological testimony. As shown in Table 4, perceptions that the narrative was persuasive were

Table 3. Means and significant effects of testimony order on each dependent measure in Study 2.

Measure	*F*	*p*	R^2	Chronological testimony *M* (*SD*)	Rape-first testimony *M* (*SD*)
Rape typicality	1.40	.244	.01	4.88 (1.38)	4.68 (1.20)
Consensual sex typicality	1.32	.258	.01	2.89 (1.59)	3.12 (1.55)
Guilt likelihood	6.98	.012	.03	4.87 (1.41)	4.42 (1.31)
Rape likelihood	5.71	.022	.02	4.90 (1.32)	4.50 (1.24)
Story similarity	4.10	.050	.03	4.47 (1.70)	3.91 (1.62)
Story confusion	4.22	.047	.02	3.70 (1.70)	4.20 (1.69)
Story completeness	4.92	.033	.03	3.62 (1.67)	3.02 (1.52)
Narrative persuasiveness	4.29	.045	.03	3.95 (1.58)	3.41 (1.55)
Narrator credibility	1.17	.286	.01	124.00 (32.50)	118.00 (30.30)

Note: *df* (1, 38). R^2 denotes the variance explained by testimony order and not the full model.

Table 4. Study 2 Pearson correlation coefficients for guilt likelihood, rape likelihood, rape typicality, consensual sex typicality, narrative persuasiveness, narrator credibility, story similarity, story completeness and story confusion.

Variable	1.	2.	3.	4.	5.	6.	7.	8.	9.
1. Guilt likelihood	–	.80***	.55***	−.54***	.26***	.20***	.22***	.25***	−.23***
2. Rape likelihood		–	.60***	−.51***	.34***	.25***	.29***	.31***	−.25***
3. Rape typicality			–	−.35***	.29***	.23***	.23***	.27***	−.24***
4. Consensual sex typicality				–	−.18***	−.15**	−.10*	−.11*	.14**
5. Narrative persuasiveness					–	.74***	.70***	.73***	−.65***
6. Narrator credibility						–	.60***	.54***	−.53***
7. Story similarity							–	.73***	−.59***
8. Story completeness								–	−.58***
9. Story confusion									–

Note: *$p < .05$. **$p < .01$. ***$p < .001$.

significantly positively correlated with the likelihood that the defendant was guilty. Further, perceptions that the narrative was persuasive were positively associated with perceptions that the narrative was complete. In Study 1, the content analysis of the narratives showed that narrators who watched the rape-first testimony articulated less complete stories than those who watched the chronological testimony. Therefore, the extent to which participants perceived the narratives as complete may have determined whether participants were persuaded by them, with this influencing their perceptions of the defendant's guilt.

We then conducted a multi-level generalised structural equation model to assess whether participants' perceived completeness and persuasiveness of the narratives mediated the relationship between testimony order and guilt likelihood. Figure 1 depicts this model (tested in StataCorp, 2019) and the coefficients and standard errors for each path. The total, $z = -2.56$, $p = .010$, 95% CI [−0.742, −0.099], and direct effects, $z = -2.08$, $p = .038$, 95% CI [−0.645, −0.019], of testimony order on defendant guilt were both significant, suggesting that partial mediation had occurred. The indirect effect was also significant, $b = -.09$, $SE = .04$, $z = -2.01$, $p = .045$, 95% CI [−0.171, −0.002]. This finding suggested that participants rated the narratives from narrators who watched the chronological testimony as more complete, which meant that

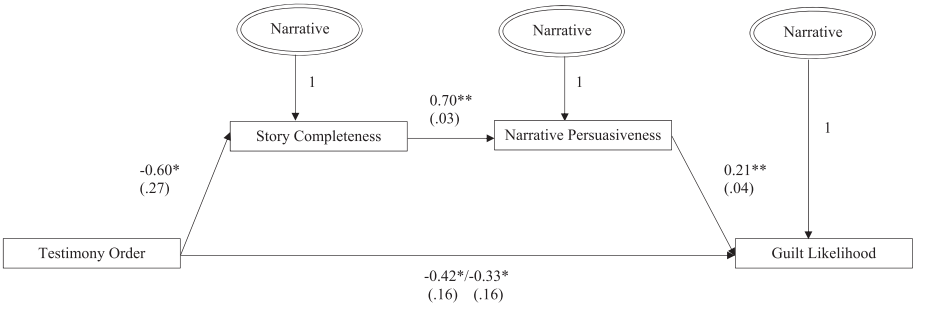

Figure 1. Exploratory structural equation model depicting the indirect relationship between testimony order and guilt likelihood in Study 2. *Note*: All coefficients are unstandardised weights. Standard errors are presented in parentheses. Testimony order was dummy coded as 0 = chronological condition, 1 = rape-first condition. Narrative was added as a random intercept with a fixed coefficient of 1 for each outcome variable. *$p < .05$, **$p < .001$.

participants considered these narratives to be more persuasive. Thus, participants were more likely to find the defendant guilty.

Discussion

We predicted that narrators who watched the rape-first testimony in Study 1 would tell stories that depicted the defendant as more likely to be guilty than those who watched the chronological testimony. In Study 2, however, participants were more likely to find the defendant guilty after listening to the narrators who watched the chronological testimony.

The reason why participants were less likely to find the defendant guilty after listening to the narrators who watched the rape-first testimony was not because participants thought the narratives were less typical of rape. Contrary to predictions, participants rated the narratives as typical of rape and consensual sex to the same extent regardless of the order in which the victim described the events in Study 1. As such, having a victim describe the rape event early may guide jurors to evaluate these events as consistent with rape (Lee et al., 2021). However, jurors may not construct their entire narrative based on this early interpretation of the testimony. Consistent with this explanation, Lee et al. (2021) found that the order of testimony had no effect on participants' evaluations by the end of the testimony. Further, the results from Study 1 suggested that narrators may have stopped interpreting the rape-first testimony using their rape schema. Instead, narrators may have attended to the victim's demeanour when she described the events that occurred before the assault. Therefore, having a victim describe the rape event first may initially lead jurors' rape schema to become activated. However, jurors' stories about what happened might not be congruent with the rape schema if they do not evaluate other parts of the testimony as consistent with this schema (Pennington & Hastie, 1993).

As such, participants may not have been certain of the defendant's guilt after listening to narrators who watched the rape-first testimony. Narrators' stories in this condition were evaluated as more confusing and less complete compared to the stories of narrators in the chronological condition. These findings are consistent with research which found that having prosecutors present evidence in chronological order may help jurors construct more complete and coherent stories (Pennington & Hastie, 1988, 1992). Further, Devine's (2012) story sampling model suggests that jurors who articulate more complete narratives are more likely to persuade other jurors to choose a particular verdict. Supporting this model, participants thought the narrators who watched the chronological testimony told more complete narratives, which meant participants were more persuaded by these stories. Thus, participants thought the defendant was more likely to be guilty.

General discussion

The aim of this research was to investigate whether victim testimony order influences how mock jurors interpret this evidence and verbalise narratives in cases of rape. A further aim was to assess how a different group of mock jurors react to and evaluate narratives. In Study 1, we tested whether narrators thought about a victim's testimony differently when the victim described the rape event first compared to when she described

events in chronological order. We then investigated in Study 2 whether testimony order influenced the content of narrators' verbalised narratives and how different mock jurors reacted to these narratives.

In Study 1, narrators in the chronological condition frequently inferred that the events described before the assault were consistent with a typical hook-up scenario. As such, this finding suggests that narrators interpreted most of the chronological testimony using this schema (McKimmie et al., 2020). Narrators may have then found it easier to encode the details of the events described and construct a coherent story of what occurred (Pennington & Hastie, 1993; Sherman et al., 2000). Consistent with this interpretation, narrators in the chronological condition tended to refer to the victim's testimony as a story and highlight its details in their commentary. Further, participants in Study 2 judged narrators who watched the chronological testimony as verbalising more complete and less confusing narratives than those who watched the rape-first testimony.

Consistent with this finding, jurors who watch the rape-first version of a victim's testimony may struggle to interpret the events described (Lee et al., 2021). Having the victim describe the rape event first, followed by the events that occurred before the assault, may result in jurors thinking about schemas to do with both consensual sex and rape. As such, jurors may struggle to reconcile how the events described can be consistent with two opposing schemas (Kunda et al., 1990). In Study 1, narrators' commentary in the rape-first condition tended to emphasise victim behaviour typical of rape. However, when the victim described the events that occurred before the assault, narrators may have believed the victim's story was no longer consistent with their schemas about rape (Littleton & Axsom, 2003). Therefore, and contrary to Lee et al. (2021) conclusions, narrators may have been unsure about the victim's version of events and so paid attention to her demeanour to evaluate her credibility (Levett & Devine, 2017; Levine, 2014).

If narrators in the rape-first condition were busy attending to the victim's demeanour, they may have paid less attention to the events described and struggled to organise them into a complete story (Pennington & Hastie, 1993). Consistent with this possibility, narrators mentioned the rape event less frequently in their narratives than those who watched the chronological testimony. Further, narrators who watched the rape-first testimony less frequently identified how people, such as the defendant and victim, were likely feeling throughout the night of the alleged rape. As such, jurors who watch the rape-first testimony may not only take longer to organise the events described (Lee et al., 2021). They may also struggle to construct a complete narrative (Devine, 2012).

To determine a person's intentions, perceivers will attempt to identify any behaviour the person has displayed consistently and attribute it to a likely motivation (Kelley & Michela, 1980). In the rape-first testimony, both the defendant's and the victim's behaviour were initially consistent with the rape schema but became less congruent with this schema as the testimony progressed (Lee et al., 2021). As such, narrators may have struggled to make attributions for this behaviour and thus were less likely to include the defendant's and victim's motivations in their narratives (Hildebrand & Najdowski, 2014). Therefore, participants in Study 2 rated these narratives as less complete and persuasive than the narratives from narrators who watched the chronological testimony (Devine, 2012; Levett & Devine, 2017).

Jurors may struggle to construct a complete and coherent story when the victim describes the rape event first in her testimony. However, the results of Study 1 suggested

that having the victim describe her behaviour reflecting a lack of consent early in the testimony may have resulted in the narrators' rape schema becoming activated (Axelrod, 1973; Littleton & Axsom, 2003). Therefore, having prosecutors ask a victim about the rape event early should be evaluated alongside other trial inventions that mitigate the influence of schemas that undermine victim credibility.

Research suggests that educative instructions about what frequently occurs in sexual offences may lead jurors to update their schemas about this crime (Ellison & Munro, 2009). For example, a judge may inform the jury before the victim testifies that most victims will spend time with the defendant before the alleged assault (Judicial Studies Board, 2010). Jurors may think about their rape schema after a victim describes the rape event early in her testimony (Lee et al., 2021). As such, jurors who receive educative instructions may continue to evaluate the events described before the assault as consistent with this schema (Kunda & Thagard, 1996; Rumelhart, 1980). Jurors may then view the victim's story as reliable and so not need to attend to her demeanour to assess her credibility (Levett & Devine, 2017; Levine, 2014). Future research should investigate whether both interventions would guide jurors to evaluate a victim's testimony, and construct a complete story, without the influence of stereotypes that undermine her credibility.

Limitations

While this research advances our knowledge of how varying the order of testimony can influence the stories jurors construct and tell other jurors, it is not without limitations. At the start of deliberation, jurors may explain what they believe happened during the alleged crime (Ellison & Munro, 2015; Levett & Devine, 2017). However, we did not investigate the influence these stories have on a jury's subsequent discussion of the evidence. Some research suggests that jurors challenge each other's evaluations of the evidence during deliberation (Meyers et al., 2010). Jurors may then have a long and complex discussion in which the jury must decide which of the different interpretations is 'best'. In contrast, there is substantial evidence that shows that most deliberations focus on shared information (Stasser & Titus, 1987). Jurors may avoid sharing information that may contradict consensus and lead to conflict (Burnett & Badzinski, 2000; Waters & Hans, 2009). Therefore, group deliberations may in fact focus on a single juror's story if it helps the jury agree on a verdict (Devine, 2012).

Further, participants in Study 2 evaluated the narratives without first watching the victim's testimony. All jurors in a real deliberation receive the same evidence presented in the trial. However, our primary interest was to test whether the order in which the victim described events influenced participants' ratings of the narratives. According to the story sampling model (Devine, 2012), the extent to which jurors are persuaded by other narratives may depend on the strength of their own perceptions of the evidence. Our findings suggest that jurors who watch the rape-first testimony may not evaluate all the events described as typical of rape. Therefore, jurors may be easily persuaded by narratives that are consistent with the consensual sex schema (Ellison & Munro, 2015). Future research should use realistic group deliberations when investigating the effect of the victim testimony order on jury decision-making.

The videos used in Study 1 depicted the prosecution's examination-in-chief of a victim without the defence's cross-examination or presentation of evidence. By highlighting

behaviours that are inconsistent with jurors' rape schemas (Burgin & Flynn, 2021), defence counsel can influence jurors' spoken narratives (Pennington & Hastie, 1993). Further, the defence's presentation of evidence may have a greater impact on jurors' stories if the victim first describes the rape event in her testimony. Specifically, jurors may be more persuaded by the defence's evidence if a victim's testimony is difficult to organise into a complete and coherent story (Pennington & Hastie, 1988, 1992). Future research should investigate the influence having a victim describe the rape event first in her testimony has on jurors' narratives over the course of a trial (Krauss & Lieberman, 2017).

In Study 1, we did not measure the extent to which narrators perceived the victim's testimony as consistent with the rape schema. As such, we cannot conclude definitively that narrators initially interpreted the rape-first testimony using their rape schema and then struggled to evaluate the events that surrounded the assault as schema-consistent. Other research has examined jurors' schemas by having participants evaluate on a rating scale whether a victim's testimony-depicted rape or consensual sex in real-time (Lee et al., 2021). We decided not to include such a measure as narrators may have found it too cognitively demanding to think aloud while evaluating the events described (Block et al., 2010; van Merriënboer & Ayres, 2005).

Further, we did not measure narrators' acceptance of rape myths in Study 1 (Burt, 1980). Measuring rape myth acceptance would have made the study less ecologically valid as most jurisdictions do not permit legal counsel to examine jurors' attitudes before trial (Lieberman, 2011). However, by including this measure, we could have investigated other plausible explanations for why narrators' verbalised thoughts in the rape-first condition focused on the victim's demeanour. If a victim's description of events is inconsistent with stereotypic expectations about rape, jurors' beliefs that most victims fabricate their allegations may become more strongly activated (Edwards et al., 2011). The victim's description of the schema-inconsistent events in the rape-first testimony may have led to narrators' myths about victims' tendencies to lie becoming more accessible (Burt & Albin, 1981). Future research should include additional measures such as rape myth acceptance to investigate how jurors interpret a victim's description of events that are presented in different orders.

Another limitation is that we did not assess the effect of testimony order on mock jurors' memory of the victim's description of events. Narrators who watched the chronological testimony may have mentioned the rape event more frequently in their narratives as the victim described this event at the end of this testimony (i.e. a recency effect). However, this explanation is inconsistent with Lee et al. (2021) research. This research assessed the impact of victim testimony order on mock jurors' memories and found no evidence of a recency effect. Specifically, mock jurors who watched the chronological testimony remembered more details about all the events described (not just the rape event) than those who watched the rape-first testimony. Perhaps this is not surprising, given that in Study 1 narrators tended to pay attention to the victim's demeanour for most of the rape-first testimony (Devine, 2012). Without attending to the events described, narrators who watched the rape-first testimony may have encoded fewer details about the events and so constructed less complete narratives. Future research should investigate this explanation further by examining the relationship between mock jurors' memories of a victim's testimony and the completeness of their narratives.

We obtained data in Study 1 from a mostly student sample whose characteristics were incomparable with those of genuine jurors (i.e. age and gender; Goodman-Delahunty et al., 2017b). This may have limited the field validity and generalisability of our findings. There is substantial evidence to suggest, however, that the findings of trial research sampling students are generalisable to the wider population (Bornstein et al., 2017). Most importantly, research using a paradigm very similar to the current research has found no differences between student and community samples in how they evaluate a victim's evidence based on the order in which she describes it (Lee et al., 2021).

Conclusions and implications

This research provides an important contribution to our understanding of whether variations in victim testimony order can influence how jurors interpret this evidence, and verbalise narratives, in cases of rape. Further, our use of novel methodology allowed us to investigate how jurors' stories can persuade other jurors to adopt their preferred verdict. Having a victim describe events that are more congruent with the rape schema early in her testimony may initially guide jurors to perceive her behaviour as indicating non-consent (Lee et al., 2021). However, jurors are likely to struggle to interpret the other events described as consistent with this schema and may instead attend to the victim's demeanour to evaluate her credibility (Levett & Devine, 2017; Levine, 2014). Therefore, jurors who watch the rape-first version of a victim's testimony may tell less complete and persuasive stories at the start of deliberation. As such, the jury may be less likely to find the defendant guilty.

In conclusion, having a victim describe the rape event early may not lead jurors to interpret the remaining testimony as typical of rape and construct a rich story. Instead, and this could be problematic, jurors who simply offer more complete and coherent narratives may be more persuasive and have a greater impact on the jury's verdict. Future research could investigate the effectiveness of using other trial interventions in conjunction with the rape-first testimony in helping jurors reinterpret the events that are inconsistent with the rape schema (Ellison & Munro, 2009). The development of such interventions is needed to ensure jurors construct and tell complete accounts of the evidence without the influence of schemas that weaken a victim's credibility.

Notes

1. Based on substantial evidence showing that the findings of trial research sampling students are generalisable to the wider population (Bornstein et al., 2017) and Lee et al. (2021) finding no differences between student and community samples in how they evaluated a victim's evidence based on the order in which she described it, we decided that recruiting both students and community members in Study 1 would be appropriate. Further, in Study 2 we cross-checked if the effects of testimony order on how participants rated the narratives were influenced by whether the participant in Study 1 was a student or community member. We do note, however, that the findings of these exploratory analyses may be unreliable as more narratives were generated by students compared to community members (thus creating uneven cell sizes). Results showed no interactions between testimony order and sample type, $ps > .463$. As such, recruiting both students and community members in Study 1 did not appear to impact participants' evaluations of the narratives in Study 2.

2. As mock jurors may engage with research tasks to a lesser extent when a study is conducted online compared to in a laboratory (Sivasubramaniam et al., 2020), we assessed whether the narratives differed based on where Study 1 was conducted. Specifically, we compared the means of participants' evaluations of the narratives on each of the dependent measures in Study 2: rape typicality (Online: $M = 4.79$, $SD = 1.34$; Laboratory: $M = 4.77$, $SD = 1.20$), consensual sex typicality (Online: $M = 2.98$, $SD = 1.61$; Laboratory: $M = 3.04$, $SD = 1.49$), rape likelihood (Online: $M = 4.77$, $SD = 1.36$; Laboratory: $M = 4.55$, $SD = 1.14$), guilt likelihood (Online: $M = 4.66$, $SD = 1.43$; Laboratory: $M = 4.61$, $SD = 1.27$), story similarity (Online: $M = 4.36$, $SD = 1.64$; Laboratory: $M = 3.83$, $SD = 1.73$), story completeness (Online: $M = 3.45$, $SD = 1.60$; Laboratory: $M = 3.05$, $SD = 1.63$), story confusion (Online: $M = 3.83$, $SD = 1.71$; Laboratory: $M = 4.21$, $SD = 1.69$), narrative persuasiveness (Online: $M = 3.81$, $SD = 1.57$; Laboratory: $M = 3.41$, $SD = 1.58$) and narrator credibility (Online: $M = 123$, $SD = 31.10$; Laboratory: $M = 117$, $SD = 32.10$). As such, participants' evaluations of the narratives in Study 2 did not appear to differ significantly based on the mode of testing in Study 1.

Open Scholarship

This article has earned the Center for Open Science badges for Open Data, Open Materials and Preregistered. The data and materials are openly accessible at https://osf.io/nc9d3/ (videos used in Study 1; details on measures can be found in the pre-registrations associated with this study) and https://osf.io/ay2en/ (narratives and credibility measure used in Sudy 2; details on other measures can be found in the pre-registration for this study and in the manuscript itself), https://osf.io/yf4ja/ (data for both studies), and https://osf.io/w68js (Think aloud methods and Leximancer analyses for Study 1), https://osf.io/a43y7 (method for collecting verbalised narratives for Study 1), and https://osf.io/z2shr (Study 2). .

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Data availability statement

The data presented in this research can be found at https://osf.io/yf4ja/.

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