JUROR PERCEPTIONS OF INTOXICATED SUSPECTS' INTERROGATION-RELATED BEHAVIORS

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Alcohol-intoxicated suspects' confessions are admissible in U.S. courts; however, it is unknown how jurors evaluate such confessions. Study 1 assessed potential jurors' perceptions of intoxication in interrogative contexts. Many respondents were unaware that questioning intoxicated suspects and presenting subsequent confessions in court are legal, and respondents generally reported they would rely less on intoxicated than sober confessions. In Study 2, potential jurors read a case about a defendant who had confessed or not while sober or intoxicated. Participants who read about an intoxicated defendant perceived the interrogation as more inappropriate and the defendant as more cognitively impaired than did participants who read about a sober defendant, and as a result, they were less likely to convict. Furthermore, intoxicated confessions influenced conviction decisions to a lesser extent than did sober confessions. Findings suggest that investigators might consider abstaining from interrogating intoxicated suspects or else risk jurors finding confessions unconvincing in court.

Interrogating alcohol-intoxicated suspects is a common phenomenon in the United States (e.g., over 70% of police survey respondents had interrogated at least one intoxicated suspect before; Evans et al., 2009), and the resulting confessions can be admissible into court as evidence. However, it is unknown whether, or how, jurors factor these intoxicated confessions into their decision making. For instance, it is possible that jurors might perceive confessions obtained from intoxicated suspects as particularly honest and reliable because alcohol lowers inhibitions. It is also possible that jurors might perceive intoxicated suspects as particularly vulnerable to manipulation and coercion, as alcohol can impair judgment. Regardless, understanding how jurors handle such evidence is important to defense and prosecuting attorneys who try these cases, as well as to judges presiding over trials and suppression hearings. Thus, there is a need for insight into how jurors perceive intoxicated confessions, and how these perceptions influence their legal decision making. The present research is the first to specifically examine these topics.

INTOXICATED SUSPECTS

Although the research regarding the effects of alcohol on witness memory is growing (see Janssen & Anne, 2019), very little research has examined intoxicated suspects' behaviors in interrogation settings. Furthermore, no known experimental research to date exists regarding alcohol's effect on confession behavior generally or on true versus false confessions specifically. This gap in the literature is alarming, as nonexperimental research indicates that a large proportion of U.S. interrogations involves intoxicated suspects. For example, a U.S. police survey revealed that more than 80% of investigators reported that encountering intoxicated suspects is a "common" or "very common" occurrence (Evans et al., 2009). The prevalence of intoxicated suspects during police questioning is also apparent when examining suspects' self-reports, as large proportions of adult (e.g., Redlich et al., 2004) and juvenile (e.g., Malloy et al., 2014; Viljoen et al., 2005) samples indicate having been intoxicated during police questioning.

Thus, interrogating intoxicated suspects is a seemingly common practice in the United States. Little is known, however, about how intoxication can influence a suspect's behavior and decision making during interrogation, and we are unaware of any empirical research that examines whether intoxication directly affects the likelihood that a suspect will truthfully or falsely confess. Despite this, multiple real-world cases exist involving false confessions from intoxicated defendants. One prominent example involves Eugene Vent, the first

juvenile of the "Fairbanks 4," who falsely confessed during a confrontational and deceptive police interrogation despite having a blood alcohol level of .158 (McDannel, 2016). This example illustrates numerous researchers' belief that alcohol can enhance a suspect's vulnerability during interrogation, thereby undermining any subsequent confession's reliability (e.g., Kassin, 1997; Weiss, 2003).

Consistent with these postulations, incarcerated individuals' self-reports revealed an association between intoxication and feelings of confusion during police interviews (Sigurdsson & Gudjonsson, 1994). Sigurdsson and Gudjonsson argue that alcohol intoxication's apparent inhibitive effect on suspects' ability to think clearly could result in misleading statements being offered to police. Indeed, higher intoxication levels at encoding have been related to increased likelihood of yielding to suggestion (Evans et al., 2019; Van Oorsouw et al., 2015; though note that another study found no impact of intoxication on misinformation vulnerability; Schreiber Compo et al., 2012).[1] Notably, even those who train interrogators are becoming more sensitive to concerns regarding intoxicated suspect interrogations. For example, John E. Reid & Associates, Inc. (2013) have recently recommended against using deception in interrogations with intoxicated suspects due to the increased risk of false confessions; however, they do not advocate a policy of refraining from interrogating the intoxicated.

JUROR PERCEPTIONS OF INTOXICATION AND CONFESSIONS

Given that police often interrogate intoxicated suspects, it is likely that intoxicated confession evidence will ultimately be presented to jurors during criminal trials. This is especially so because in the United States, confessions are not per se inadmissible merely because a defendant was intoxicated at the time of confession (e.g., *Bogan v. State*, 1988). Instead, intoxicated confessions are only suppressed if they are deemed involuntary as a function of the intoxication undermining a defendant's mental capacity as part of the larger totality of the circumstances (e.g., *Siler v. State*, 2005). Therefore, it is crucial to attain a better understanding of how jurors perceive intoxicated confession evidence and render verdict decisions when such evidence is present. To do so, attribution theory, which at its core focuses on how people formulate causal explanations for behaviors (e.g., Weiner, 2018), should be considered. Although it is not the goal of the present article to comprehensively review the vast research surrounding attribution theory, we aim to review the juror-confession literature through the lens of specific tenets of this theory.

Confessions serve as strong evidence in the eyes of jurors (Kassin & Neumann, 1997). Indeed, some studies show that mock jurors are more likely to vote guilty when any confession is presented (vs. when no confession is presented), regardless of the manner in which the confession was elicited (e.g., Jones & Penrod, 2016; Kassin & Sukel, 1997). Turning to social-psychological explanations, researchers have ascribed such findings to the correspondence bias (e.g., Kassin & Sukel, 1997; Woestehoff & Meissner, 2016).

Correspondence bias refers to the tendency to make inferences about an actor's behavior that correspond to the actor's disposition, even when the behavior may have been influenced by surrounding situational factors (e.g., Gawronski, 2004; Gilbert & Malone, 1995). There are multiple explanations for why correspondence bias occurs. Individuals may completely lack recognition of the influence that situational factors have on an actor's behavior. Alternatively, individuals may actually recognize the influence of situational factors on an

actor's behavior yet nonetheless make dispositional inferences due to how they apply situational-causal theories in correcting their dispositional attributions (see Gawronski, 2004, for a review). This means that people may regard situational influences as irrelevant when they believe that the behavior is diagnostic of the underlying disposition (i.e., behaviors that would only occur if the actor possesses the corresponding disposition; Gawronski, 2004).

Considering this latter point, findings from some jury-confession studies are generally consistent with the correspondence bias. For example, mock jurors who were aware of coercive interrogation tactics (i.e., they were aware of situational factors) nonetheless "convicted" confessors (e.g., Kassin & Sukel, 1997). This aligns with past findings in which potential jurors endorsed the notion that confessions are strong indicators of guilt (Henkel et al., 2008). Taken together, the literature suggests that jurors recognize the situational influences of coercive interrogations but deem these influences irrelevant because they view confessions as diagnostic of dispositional guilt (Woestehoff & Meissner, 2016).

However, a few recent studies have indicated that jurors might not demonstrate correspondence bias. For instance, Woestehoff and Meissner (2016) found that mock jurors were less likely to convict defendants who endured higher pressure interrogations, as they deemed these defendants' confessions as more motivated by situational than dispositional (i.e., guilt) influences. As the authors suggested, a possible explanation for these findings could be a shift in jurors' beliefs about confessions. Indeed, a recent survey found that potential jurors are more accepting of the notion of false confessions than they once were (Mindthoff et al., 2018). This acceptance could contribute to a confession itself being perceived as less diagnostic of guilt, thereby leading jurors to seek situation-based explanations for confession decisions.

While past findings are informative of how jurors might perceive confession evidence in general, the question remains: What will jurors think of intoxicated confessions specifically? Continuing with attribution theory, Kelley's (1973) discounting principle might offer some insight when contemplating this question. According to the discounting principle, the role of a causal attribution for a given behavior may be discounted when other possible causal attributions exist. To highlight this, Kelley (1973) presented an example in which both a low-status person and a high-status person are prompted to comply with a request (derived from Thibaut & Riecken, 1955). Kelley posits that an observer would assume that the high-status person's compliance would be attributable only to the person's disposition, as the situational influence is implausible given the high status of the person. Conversely, the observer would assume that the low-status person's compliance with the request could be attributed to the person's disposition (e.g., helplessness), to the situational influence of the pressure to comply, or to both. In line with the discounting principle, the observer will presumably rely upon the low-status person's disposition to a lesser extent than situational influences when seeking the cause of the person's behavior as long as the situational influences represent a plausible cause.

Relating this concept to jury-confession research, we see that jurors may have the ability to discount confessions elicited from vulnerable suspects. For example, Najdowski et al. (2009) found that mock jurors offered significantly lower guilt ratings for a juvenile suspect when she made a coerced confession versus a voluntary confession, and the coerced confessor was perceived to be more suggestible and vulnerable than the voluntary confessor. Najdowski and Bottoms (2012) also found that mock jurors were able to discount a juvenile's coerced confession and proposed that coercive interrogations might emphasize a

juvenile's heightened suggestibility, which in turn increases the chances that jurors recognize coercive interrogation tactics as a plausible cause for the juvenile's confession. Put simply, jurors may consider external causal attributions when they perceive the suspect to be vulnerable in the context of the interrogation.

Such findings can have implications for theorizing how jurors may perceive an intoxicated confession. It is possible that jurors may view intoxicated suspects as less capable of understanding the implications of confessing. Tangentially related research does support this postulation, as one study showed that mock jurors viewed intoxicated witnesses as more impaired than sober witnesses, and the more impaired the witness was rated, the less credible the witness's identification of the defendant was rated (Evans & Schreiber Compo, 2010). Thus, jurors may treat an intoxicated suspect who confessed as they would the low-status person in Kelley's example: Jurors may view intoxicated suspects as less cognitively competent than sober suspects during interrogation, which would lead jurors to be less likely to attribute an intoxicated confession to guilt and instead attribute it to the suspects' intoxicated state, thereby decreasing overall reliance on confession evidence and conviction likelihood.

THE PRESENT STUDIES

To the best of our knowledge, the current research is the first to illuminate how jurors perceive and weigh intoxicated confession evidence in criminal cases. This topic is particularly ripe for study considering that intoxicated confession evidence is admissible in court, and therefore jurors must evaluate and make judgments regarding such evidence.

STUDY 1

The primary goal of Study 1 was to gain insight into potential jurors' perceptions of the legality and impact of intoxication in the context of suspects' interactions with law enforcement and the courts, and to examine whether self-reported perceptions of interrogations/confessions differ as a function of whether a suspect was sober or intoxicated. Considering the gap in the literature regarding this topic, Study 1 was exploratory in nature as we sought to gain an understanding of how potential jurors perceive intoxicated interrogations—an understanding that could inform us on the attributions jurors might make when evaluating intoxicated confessions.

METHOD

Participants

In total, 968 participants completed the online survey.[2] Student participants ($n = 768$) were recruited from 11 different universities, with at least one site representing each of the nine U.S. Census Bureau defined regions.[3] Each university site recruited between 63 and 79 participants who were awarded course credit for their participation. Community members ($n = 200$) were recruited via Amazon's Mechanical Turk (MTurk) and were paid US$1 for participation. Prior to all analyses, 120 students and 23 community members were excluded on the basis of a priori defined exclusion criteria: not meeting jury-eligibility criteria (i.e., U.S. citizen, 18+ years of age, fluent English speaker) or failing more than one of the 13

TABLE 1:   Participants' Demographics and Drinking Habits for Study 1 and Study 2

Questionnaire item	Study 1	Study 2
Gender	$N = 825$	$N = 915$
Female	71.4%	72.9%
Male	28.6%	27.1%
Age	$N = 825$	$N = 915$
M (SD)	23 (9)	23 (9)
Range	18–72	18–72
Ethnicity	$N = 825$	$N = 915$
% White	67.2%	63.2%
% Black	6.7%	7.3%
% Hispanic	15.4%	18.5%
% Other	10.8%	11.0%
Self-identified type of drinker[a]	$n = 824$	$n = 914$
Nondrinker	39.3%	38.6%
Occasional drinker	24.3%	23.6%
Social drinker	26.6%	30.0%
Regular drinker	6.3%	3.8%
Heavy drinker	—	0.3%
Prefer not to answer	3.6%	3.6%
No. of drinks in a typical week[a]	$n = 699$	$n = 749$
M (SD)	2.08 (4.00)	1.97 (3.96)
Median	0	0
Range	0–30	0–45

[a]Sample sizes for these variables differed because not all participants responded to these questions. Types of drinkers were defined as follows: nondrinker (never or almost never drink alcohol), occasional drinker (drink alcohol sometimes, for example, for special occasions), social drinker (drink alcohol when in a social context but not often otherwise), regular drinker (regularly drink alcohol when in a social context and in other contexts as well), and heavy drinker (frequently drink alcohol in large amounts).

attention check questions. The final sample included 825 participants (648 students and 177 community members).[4] The majority of the overall sample was female (71.4%) and White (67.2%), and ages ranged from 18 to 72 years (see Table 1 for full demographics). Respondents also reported their drinking habits (note: no significant differences emerged as a function of drinking habits for any of our primary dependent variables; thus, drinking habits are only reported in Table 1 and not discussed further).

Materials and procedure

The survey was administered online via Qualtrics (see the Supplemental Material, available in the online version of this article, for verbatim survey questions and the order in which questions were presented). We acquired respondent consent online, except at one institution where consent was acquired in person. Attention check questions were presented throughout the survey to ensure that participants were not randomly selecting answers (e.g., "select 2 here"). Following is an explanation of the items.

Perceived legality. Respondents answered questions regarding their perceptions of the legality of different topics. These included the following: legality of *Miranda* waivers offered by an intoxicated suspect, legality of interrogating an intoxicated suspect, and

courtroom admissibility of statements made by intoxicated suspects. Response options to these items included the following: "yes, they're legal" (or "admissible"); "I think so"; "I don't know"; "I don't think so"; and "no, they're not legal" (or "admissible"). (Note: After answering these questions, respondents were informed that reading *Miranda* rights to, and obtaining *Miranda* waivers from, intoxicated suspects is legal, as is interrogating intoxicated suspects and using their statements in court; thus, respondents had this knowledge when answering all subsequently described items.)

Opinions regarding permissibility. Respondents offered their own opinions on whether the three aforementioned actions should be legally permissible. Again, these actions included the following: obtaining *Miranda* waivers from intoxicated suspects, interrogating intoxicated suspects, and confessions elicited from intoxicated suspects being used as evidence in court. A 1 (*completely disagree*) to 5 (*completely agree*) scale was used to measure respondents' permissibility opinions.

General perceptions of intoxicated confessions. Respondents were asked to estimate what percentage of suspects interrogated by police are intoxicated, indicating their responses using a 0% to 100% slider. In addition, respondents rated the extent to which they would rely on a confession from a sober versus intoxicated suspect as evidence indicative of guilt (1 = *more reliance on a sober confession* and 5 = *more reliance on an intoxicated confession*). Respondents also indicated, once regarding a guilty suspect and once regarding an innocent suspect: Who is more likely to confess: a sober (guilty/innocent) suspect or an intoxicated (guilty/innocent) suspect? (rated on a slider scale; −5 = *sober suspect more likely to confess*, 0 = *neutral*, +5 = *intoxicated suspect more likely to confess*).

Intoxication likelihood: Oneself versus another. Respondents rated the likelihood that they themselves would confess, while intoxicated, to a crime not committed and to a crime committed (1 = *not at all likely* and 5 = *extremely likely*). Additionally, respondents rated the likelihood that an intoxicated suspect would confess to a crime he or she did commit (i.e., provide a true confession) and to a crime he or she did not commit (i.e., provide a false confession), using a 1 (*not at all likely*) to 5 (*extremely likely*) scale.

The hypothetical case. Respondents read a brief hypothetical case (see Supplemental Material, available in the online version of this article, for the full case) in which a suspect with a breath alcohol concentration (BrAC) estimated at 0.13 ml/kg (i.e., .13%) was questioned, waived his *Miranda* rights, and eventually confessed. For reference, participants were reminded that the legal driving limit in the United States is 0.08 ml/kg (i.e., .08%), and loss of consciousness begins to occur in the 0.16% to 0.30% range. We used a .13% BrAC because this was the average estimate of suspects' intoxication level reported by police investigators in Evans et al.'s (2009) sample. Using 5-point scales (1 = *not at all/much less* and 5 = *completely/extremely/much more*), respondents indicated the extent to which they believed that: the intoxicated suspect knowingly, intelligently, and voluntarily waived his *Miranda* rights; the intoxicated suspect's confession was truthful; the intoxicated suspect had control over whether he lied or told the truth; and the intoxicated suspect's interrogation was coercive as compared with an interrogation of a sober suspect.

TABLE 2: Study 1: Response Frequencies for Legality of Intoxicated Suspects' *Miranda* Waivers, Interrogations, and Confession Admissibility

Item	Median	Mode	% say 1—Yes, legal (admissible)	% say 2—I think so	% say 3—I don't know	% say 4—I don't think so	% say 5—No, not legal (admissible)
To your knowledge, it is legal for a suspect under the influence of alcohol to waive their *Miranda* rights.	3.00	4	10.5	15.8	27.8	33.2	12.7
To your knowledge, it is legal for a suspect under the influence of alcohol to undergo a police interrogation.	4.00	4	7.6	18.9	21.6	36.6	15.3
To your knowledge, are statements made to police by intoxicated suspects during interrogation admissible in court?	3.00	3	10.4	23.0	27.8	26.8	12.0

RESULTS[5]

Perceived legality

When asked whether they believed it was legal to obtain *Miranda* waivers from intoxicated suspects, interrogate intoxicated suspects, and admit statements from intoxicated suspects into court, a sizable minority of the overall sample (approximately 21%–28%) indicated that they did not know the answer. An even larger subset of all respondents reported incorrect beliefs (approximately 38%–52%): Many respondents perceived these legal practices as illegal (i.e., responding "No, it's not legal [admissible]" or "I don't think so"; see Table 2).

Opinions regarding permissibility

We explored respondents' opinions regarding whether intoxicated *Miranda* waivers, interrogations of intoxicated suspects, and admitting confessions elicited from intoxicated suspects as evidence in court should be allowed. Overall, the majority of respondents tended to disagree (i.e., reporting a 1 or 2 on the 5-point scale) that intoxicated *Miranda* waivers (60.5%), interrogations (66.8%), and confession evidence presentation (58.1%) should be allowed. However, it should be noted that the means for these items were close to the midpoint of the scale: *Miranda* waivers ($M = 2.33$, $SD = 1.23$), interrogations ($M = 2.17$, $SD = 1.22$), and confession evidence presentation ($M = 2.36$, $SD = 1.23$).

General perceptions of intoxicated confessions

On average, respondents believed that approximately 34.94% ($SD = 18.04$) of suspects interrogated by police are intoxicated. In addition, when asked to what extent they would rely on a confession from a sober versus intoxicated suspect as evidence indicative of guilt, respondents tended to report greater reliance on a sober confession ($M = 1.89$, $SD = 1.15$), with 71% of the overall sample indicating a 1 or 2 on the 5-point scale.

Participants also rated the extent to which they thought a sober suspect or an intoxicated suspect would be more likely to confess (–5 = *sober suspect more likely to confess*, 0 = *neutral*, +5 = *intoxicated suspect more likely to confess*); this item was presented twice, once in regard to guilty suspects and once in regard to innocent suspects. A paired-samples *t* test indicated that the means for guilty and innocent suspects significantly differed, $t(824) = 5.02, p < .001, d = 0.16$, 95% confidence interval (CI) = [0.06, 0.26]. The mean score for guilty suspects was 2.44 (*SD* = 2.32), with the majority of respondents (80.7%) believing that an intoxicated suspect would be more likely to confess than a sober suspect (9.5% believed the opposite and 9.8% were neutral). The mean score for innocent suspects was only 1.84 (*SD* = 2.90), although again the majority of respondents (69.2%) believed that an intoxicated suspect would be more likely to falsely confess than would be a sober suspect (17.8% thought the opposite and 13% were neutral). These results indicate that participants believed intoxicated suspects to be more likely to confess than sober suspects, with this being particularly true for guilty suspects.

Intoxicated confession likelihood: Oneself versus another

To examine respondents' perceptions of the likelihood that an intoxicated suspect would confess to a crime committed (i.e., a true confession) or a crime not committed (i.e., a false confession), as well as the likelihood that they themselves would offer an intoxicated confession to a crime committed or not committed, we conducted a 2 (crime committed: yes, no) $\times$ 2 (actor: other, self) repeated-measures analysis of variance (ANOVA). Main effects for crime committed, Greenhouse-Geisser, $F(1, 824) = 282.37, p < .001, \eta_p^2 = 0.26$, and actor, Greenhouse-Geisser, $F(1, 824) = 424.81, p < .001, \eta_p^2 = 0.34$, were qualified by a significant interaction between these two variables, Greenhouse-Geisser, $F(1, 824) = 149.64, p < .001, \eta_p^2 = 0.15$. Specifically, respondents believed that an intoxicated suspect would be less likely to confess to a crime not committed (*M* = 3.48, *SD* = 0.98) than to a crime committed (*M* = 3.77, *SD* = 0.92). This effect was larger when respondents were considering their own behavior, as they indicated that they themselves would much less likely to confess to a crime not committed (*M* = 2.46, *SD* = 1.12) than to a crime committed (*M* = 3.36, *SD* = 1.13).

The hypothetical case

Respondents generally perceived the hypothetical intoxicated suspect's interrogation to be more coercive than would be a sober suspect's interrogation (*M* = 3.59, *SD* = 1.23; 57.9% of the sample indicated a 4 or 5 on the scale), and tended to believe that the intoxicated suspect was not able to appropriately waive his rights (*M* = 2.03, *SD* = 1.02; 72.4% indicated a 1 or 2 on the scale). However, respondents' truthfulness ratings for the suspect's confession only slightly exceeded the midpoint (*M* = 2.84, *SD* = 0.83; 50.2% indicated the midpoint on the scale). Respondents' scores also hovered near the midpoint regarding their perceptions of the intoxicated suspect's ability to control his lying/truth-telling behaviors (*M* = 2.47, *SD* = 0.97; 32.1% of the overall sample indicated the midpoint on the scale and 37.3% indicated a 2).

DISCUSSION

Potential jurors indicated that they are more likely to rely on a sober confession than on an intoxicated confession as evidence indicative of guilt—self-report findings that are

characteristic of the discounting principle. Although they did not necessarily believe that intoxicated confessions are untruthful, they did generally believe that interrogations of intoxicated suspects are more coercive than interrogations of sober suspects. They also believed that both guilty and innocent intoxicated suspects are more likely to confess than their sober counterparts and that intoxicated suspects might not be able to competently waive their *Miranda* rights. These findings are encouraging in cases in which an intoxicated innocent suspect confesses. As previously mentioned, intoxicated suspects might be more vulnerable during interrogations (e.g., Weiss, 2003), and this might increase the likelihood that an unreliable confession is elicited. If this occurs, the present findings suggest that jurors might serve as a safeguard against potential wrongful convictions as they seemingly recognize the possible detrimental effect of intoxication on suspects' decisions to confess. This recognition may result in jurors being more likely to attribute confession decisions to intoxication rather than guilt.

Law enforcement might also consider these findings as they make decisions and policies regarding the interrogation of intoxicated suspects. Because potential jurors reported being less inclined to rely on intoxicated confessions (which can include not only false but also true confessions), it might be beneficial for investigators to wait until suspects are sober before commencing interrogations. By interrogating only sober suspects, police might ultimately aid the prosecution's line of argument, as the prosecution can better make use of sober versus intoxicated statements when presenting their argument to jurors.

STUDY 2

Study 1 provided insight on potential jurors' self-reported perceptions of intoxicated suspects' interrogations and confessions; however, it did not shed light on whether jurors' beliefs align with their decision making in the context of a trial. Thus, the goal of Study 2 was to determine how the presence of a confession and intoxication influence potential jurors' perceptions of the interrogation and defendant in a trial context, and how these perceptions ultimately relate to verdict decisions. Making these assessments is highly relevant to attorneys and courts because they have no control over how a confession was elicited or whether the defendant was sober or intoxicated at the time of the interrogation. Attorneys do, however, have the potential to manipulate, via their arguments, the extent to which they emphasize the interrogation process, the defendant's intoxication level, and the resultant confession.

To address this study goal, we had participants read a trial summary about a felony battery case in which the defendant either confessed or did not confess while either sober or intoxicated. Participants subsequently rendered a verdict decision and completed measures assessing their perceptions of the interrogation's inappropriateness, the defendant's cognitive impairment, and the self-reported extent to which a confession influenced their verdict decision. We hypothesized the following:

1. Without evidence of an interrogator's inappropriate behavior, the interrogation of a sober suspect that did not result in a confession is not likely to be thought of as inappropriate by mock jurors. However, had a confession resulted from the interrogation, mock jurors may believe that the interrogator acted in an inappropriate manner as they seek an explanation for the defendant's confession decision. A different pattern, however, might emerge if the defendant were intoxicated. Specifically, the interrogation of the intoxicated defendant, even when it did not result in a confession, may be perceived as inappropriate for the mere fact of intoxication's presence (a
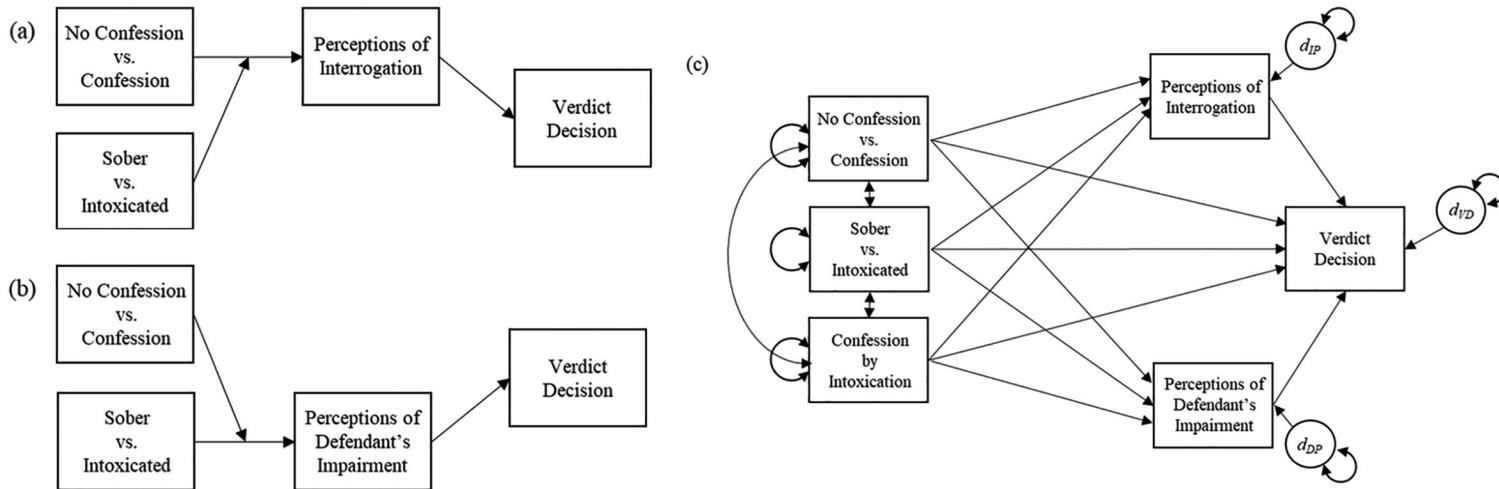
Figure 1: Conceptual and Statistical Models for Study 2's Moderation Mediation Model: (a) Hypothesized Path From Confession Presence to Verdict Decision, as Mediated by Interrogation Perceptions and Moderated by Intoxication; (b) Hypothesized Path From Intoxication Level to Verdict Decision, as Mediated by Perceptions of the Defendant's Impairment and Moderated by Confession Presence; and (c) Statistical Path Model Assessing Verdict Decisions

Note. Residuals (disturbances) for interrogation perceptions (d_{IP}), defendant perceptions (d_{DP}), and verdict decision (d_{VD}) are displayed. The residuals of interrogation perceptions and defendant perceptions were correlated (path not shown).

belief demonstrated in Study 1). Perceptions of the interrogation's inappropriateness may therefore differ to a lesser extent between the confession and no confession conditions when the defendant was intoxicated than when he was sober. Ultimately, the greater the belief that the defendant's interrogation was inappropriate, the lower the likelihood of conviction was predicted to be (see Figure 1a).

2.   In line with lay knowledge of intoxication, mock jurors may perceive the defendant as more impaired if intoxicated than sober. However, the extent to which impairment scores differ between the intoxicated and sober conditions may depend on the defendant's decision to confess or not. The tendency to perceive the intoxicated defendant as more impaired than the sober defendant may be particularly pronounced if he confessed, as the confession decision may be interpreted as evidence of his increased cognitive impairment. In contrast, if the intoxicated defendant did not confess, mock jurors may view this lack of confession as an indication that the defendant was not especially impaired (relative to a sober defendant) as he was nonetheless able to make decisions that were in his best interests. Perceptions of increased cognitive impairment would then in turn lead to lower conviction rates (see Figure 1b). This hypothesis falls in line with the discounting principle: Participants may discount guilt as an explanation for the defendant's confession in light of participants' belief that his intoxication (and associated cognitive impairment) is a likely cause for his confession.

3.   In a separate analysis of only the confession-present condition, we anticipated that mock jurors' actual verdicts would be predicted by their self-reports of the influence the confession had on their verdict decisions, but that this effect would be moderated by whether the defendant had been intoxicated. Specifically, the odds of conviction, as predicted by reported confession influence, would be lower when the defendant was intoxicated versus sober. This is expected if participants are discounting intoxicated confessions.

METHOD

Participants

New participant samples were recruited from the same universities as in Study 1 and from MTurk. A total of 1,387 participants completed the study (1,184 students, with between 30 and 148 recruited at each site, and 203 community members). Of these participants, 403 students and 65 community members were excluded prior to analyses based on the following criteria: taking longer than 2 hr to complete the study, not meeting jury-eligibility criteria, failing more than one of the five attention checks, and failing the manipulation checks. An additional four community members were excluded for having indicated that they participated in Study 1.

The final sample consisted of 915 participants (781 students and 134 community members). Sample sizes by condition were as follows: sober/confession ($n = 236$), intoxicated/confession ($n = 231$), sober/no confession ($n = 237$), and intoxicated/no confession ($n = 211$). Participants were primarily female (72.9%) and White (63.2%), and ages ranged from 18 to 72 years (see Table 1 for participant characteristics). Students participated to fulfill a course requirement or to earn extra credit, and community members were paid US$1 for participation.

Design

We used a 2 (confession, no confession) × 2 (sober, intoxicated) between-subjects design. Primary dependent measures included a dichotomous verdict decision and the following scaled measures: perception of the interrogation's inappropriateness, perception of

the defendant's cognitive impairment, and, for confession conditions only, the perceived extent to which the confession influenced verdict decisions.

Materials

Case. The case summary delineated a felony battery case (1,854–2,050 words) and underwent pilot testing to assure that the defendant's guilt was ambiguous and that the manipulations were clearly understood. Opening statements made by the prosecution and defense attorneys indicated that the defendant was accused of severely injuring the victim during a bar fight. Summarized testimony from seven witnesses (i.e., the investigating officer/interrogator, the bartender, the bouncer, the victim, the victim's girlfriend, the paramedic, and the defendant's wife) was presented. The witnesses' testimony delineated different perspectives of the incident, highlighted the pain the defendant was in the night of and day after the incident, and addressed the defendant's character. One of the witnesses was the interrogating officer, whose testimony detailed the defendant's intoxication level and interrogation. Specifically, the officer had measured the defendant's breath alcohol level immediately after the crime and, finding him to be sober (.00% BrAC), sent him home. The defendant was described as definitively sober during the crime to ensure that results reflected the manipulation of intoxication at the time of the interrogation, independent of intoxication at the time of the crime.

The police picked up the defendant for questioning the next day, and the defendant waived his *Miranda* rights. In the sober condition, the officer indicated that the defendant appeared sober at arrest and during the interrogation, which was confirmed by a breath alcohol test taken upon his arrival at the police station (.00% BrAC). In the intoxicated condition, the officer indicated that the defendant appeared somewhat intoxicated at arrest and throughout the interrogation. The defendant reported that he had consumed eight beers prior to questioning, stating that he did so to dull his pain resulting from the fight. A breath alcohol measurement taken upon his arrival to the police station confirmed his intoxicated state (.12% BrAC; participants were given the .08% driving limit in the United States as a reference).

In all conditions, the officer stated that the interrogation lasted for about 1 hr and consisted of a series of direct questions. In the confession condition, the defendant initially maintained his innocence, stating he was only defending himself from the victim. However, by the end of the hour, the defendant signed a confession statement that indicated that "he had started the fight when [the victim] had 'cut in line' at the bar and ordered his drink even though [the defendant] had been standing there longer." In the no confession condition, the defendant maintained his innocence throughout the interrogation.

Jury instructions. The jury instructions were derived from the U.S. Courts for the Ninth Circuit and Florida's jury instructions for felony battery cases. The following were derived from the Ninth Circuit instructions: presumption of innocence (Instruction 1.2), defendant's decision to not testify (Instruction 3.3), and reasonable doubt (Instruction 3.5). In the confession conditions, Ninth Circuit instructions regarding statements by the defendant (Instruction 4.1) were used. Elements of the battery crime and indication that the defendant should be found not guilty if he committed the crime in self-defense were derived from the Florida instructions.

TABLE 3: Study 2: Conviction Rates by Confession and Intoxication Conditions

Condition	Conviction rates (%)
Confession condition—Overall	47.8
Sober condition	47.9
Intoxication condition	47.6
No confession condition—Overall	38.4
Sober condition	33.8
Intoxication condition	43.6
Sober condition—Overall	40.8
Intoxication condition—Overall	45.7
Overall across all conditions	43.2

Questionnaires. Participants made their dichotomous verdict decision and then offered responses on 7-point scales (e.g., 1 = *not at all* or *completely disagree* and 7 = *extremely* or *completely agree*) regarding various case perceptions. First, participants were asked the extent to which they agreed that the defendant was: in control of his actions at the time of the interrogation; responsible for his actions at the time of the interrogation; capable of intelligently waiving his *Miranda* rights when he arrived at the (police) station; and in a vulnerable state when he was taken to the station. Next, participants were asked how cognitively impaired, considering his "reaction times, decision-making, coordination, reasoning, memory, etc.," the defendant was at the time he waived his *Miranda* rights and at the time he was interrogated by the officer. Similarly, participants were asked how clearly the defendant was thinking at the time he waived his *Miranda* rights and at the time he was interrogated by the officer. Participants were then asked to rate the extent to which they agreed that the interrogator acted inappropriately when dealing with the defendant, the interrogation was coercive, and the interrogator should have waited to interrogate the defendant. Finally, participants in the confession-present conditions were asked to rate how influential the defendant's confession was on their verdict decisions. Attention and manipulation checks (e.g., "did the defendant confess") were also presented, and demographic data were collected.

Procedure

After consenting, participants received one of four versions of the case summary.[6] Participants were required to remain on the case summary page for at minimum 6 minutes before proceeding. After reading the summary, participants received the jury instructions and the questionnaire.

RESULTS

We used a moderated mediation model to determine whether participants' perceptions of the interrogation's inappropriateness and of the defendant's level of cognitive impairment influenced their verdict decisions (see Figure 1c). We also separately examined whether intoxication moderated the self-reported amount of influence a confession had on verdict decisions using a logistic regression. Conviction rates by condition are displayed in Table 3. Correlations among reported variables are presented in the Supplemental Material (available in the online version of this article). We would like to acknowledge our large sample size and thus encourage readers to pay attention to effect sizes in addition to significance values.

Verdict decisions as mediated by interrogation and defendant perceptions

Before assessing the hypothesized moderated mediation model, we created composite variables for participants' perceptions of the interrogation and of the defendant. The interrogation inappropriateness perceptions composite score was the mean of three items (all on 7-point scales): interrogator acted inappropriately, interrogation was coercive, and interrogator should have waited to start the interrogation ($\alpha = .76$). Higher composite scores corresponded to negative perceptions of the interrogation. The average interrogation perceptions score was 3.90 ($SD = 1.53$). The defendant's impairment perceptions composite score was the mean of eight items: Defendant was in control of his actions during interrogation, responsible for his actions during interrogation, capable of appropriately waiving his rights, vulnerable when arrested, cognitively impaired at the time of waiving rights and during interrogation, and thinking clearly at the time of waiving rights as well as during interrogation ($\alpha = .92$). Some items were reverse coded to ensure that higher composite scores corresponded to perceptions that the defendant was impaired during his interactions with the police. The average defendant impairment perceptions score was 4.09 ($SD = 1.72$).

Model findings. Using these composites, we conducted a path analysis for the model depicted in Figure 1c using Mplus (Version 8; Muthén & Muthén, 2010). We sought to examine the mediation effect that interrogation inappropriateness perceptions have on the path from confession presence to verdict decision, with intoxication state moderating the effect. We also examined the path from intoxication state to verdict decision, with defendant's cognitive impairment perceptions serving as the mediator and confession presence as the moderator. All paths in the model were entered (Hayes & Preacher, 2013). Parameter estimates, odds ratios (ORs), and bootstrapped CIs for this model are displayed in Table 4. We do not report model fit for this path model because it is saturated (i.e., exactly identified).

At the first step of our mediated moderation model, the defendant's presented intoxication state interacted with whether or not he confessed to predict both participants' reported perceptions of the interrogation's inappropriateness (see Table 4, "Outcome: Perceptions of Interrogation Inappropriateness") and their perceptions of the defendant's impairment (see Table 4, "Outcome: Perceptions of Defendant's Cognitive Impairment").

The simple slopes of confession predicting interrogation inappropriateness perceptions revealed that when the defendant was intoxicated, participants perceived the interrogation as similarly inappropriate regardless of whether he confessed or not (see Figure 2a, dotted line, which displays similar interrogation inappropriateness scores, slightly above the midpoint). However, when the defendant was sober, participants perceived the interrogation as more inappropriate when he confessed compared with when he did not confess (see Figure 2a, solid line).

The simple slopes of intoxication predicting perceptions of the defendant's impairment indicated that participants perceived the defendant to be more highly impaired when he was intoxicated than when he was sober. Differences in impairment perceptions across the intoxication conditions were slightly more pronounced when the defendant had not confessed than when he had confessed. Figure 2b shows near-identical predicted impairment values when the defendant was described as intoxicated, but slightly different predicted impairment values when the defendant was described as sober. Nonetheless, both simple regression lines exhibit steep positive slopes, indicating greater perceptions of the defendant's cognitive impairment if he was described as intoxicated.

TABLE 4: Study 2: Parameter Estimates for the Moderated Mediated Model

Parameter	B (SE)	z	p	95% CI[a] Lower	Upper	Odds ratio
Outcome: Perceptions of interrogation inappropriateness						
Intercept	2.82 (.09)	33.36	<.001	2.67	2.98	—
Confession	0.71 (.12)	5.90	<.001	0.47	0.94	—
Intoxication	1.80 (.12)	14.57	<.001	1.56	2.03	—
Confession × Intoxication	−0.59 (.17)	−3.42	.001	−0.93	−0.26	—
Residual variance	1.70 (.08)	21.39	<.001	1.56	1.84	—
Outcome: Perceptions of defendant's cognitive impairment						
Intercept	2.46 (.07)	36.20	<.001	2.32	2.59	—
Confession	0.66 (.10)	6.82	<.001	0.45	0.86	—
Intoxication	3.01 (.10)	30.41	<.001	2.82	3.20	—
Confession × Intoxication	−0.62 (.14)	−4.48	<.001	−0.89	−0.35	—
Residual variance	1.09 (.05)	21.39	<.001	0.99	1.19	—
Outcome: Verdict decisions						
Intercept (threshold)	−1.46 (.25)	−5.92	<.001	−1.94	−0.97	—
Interrogation perceptions	−0.41 (.07)	−6.25	<.001	−0.54	−0.27	0.67
Defendant perceptions	−0.45 (.08)	−5.41	<.001	−0.60	−0.29	0.64
Confession	1.26 (.22)	5.81	<.001	0.83	1.70	3.53
Intoxication	2.56 (.32)	7.93	<.001	1.91	3.21	12.92
Confession × Intoxication	−1.00 (.30)	−3.39	.001	−1.60	−0.41	0.37
Simple slopes of confession predicting perceptions of interrogation inappropriateness, moderated by whether the defendant was intoxicated (Figure 2a)						
Sober	0.71 (.12)	5.90	<.001	0.47	0.94	—
Intoxicated	0.12 (.12)	0.94	.347	−0.13	0.36	—
Simple slopes of defendant intoxication predicting perceptions of defendant's impairment, moderated by whether the defendant confessed (Figure 2b)						
No confession	3.01 (.10)	30.41	<.001	2.82	3.20	—
Confession	2.39 (.10)	24.69	<.001	2.19	2.58	—
Conditional Indirect Path 1: Defendant confession → Perceptions of interrogation inappropriateness → Verdicts (moderated by whether the defendant was intoxicated)						
Indirect path, sober	−0.29 (.07)	−4.29	<.001	−0.42	−0.15	0.75
Indirect path, intoxicated	−0.05 (.05)	−0.93	.352	−0.15	0.05	0.95
Conditional Indirect Path 2: Defendant intoxication → Perceptions of defendant's impairment → Verdicts (moderated by whether the defendant confessed)						
Indirect path, no confession	−1.34 (.25)	−5.33	<.001	−1.82	−0.85	0.26
Indirect path, confession	−1.06 (.20)	−5.28	<.001	−1.45	−0.68	0.35

Note. CI = confidence interval.
[a]All CIs were obtained using bootstrapping with 1,000 bootstrapped samples (e.g., using syntax ANALYSIS: BOOTSTRAP = 1,000 in Mplus).

Perceptions of the interrogation's inappropriateness and of the defendant's impairment in turn influenced participants' verdict decisions (see Table 4, "Outcome: Verdict Decisions"). For ease of interpretation of the ORs, we examined percentage change using the following formula: $(\exp[b_i] - 1) \times 100$ (Pampel, 2000). The results revealed that a one-unit increase in interrogation inappropriateness scores translated to a 33.3% decrease in the odds of a guilty verdict. Similarly, a one-unit increase in defendant impairment scores related to a 35.9% decrease in the odds of a guilty verdict.
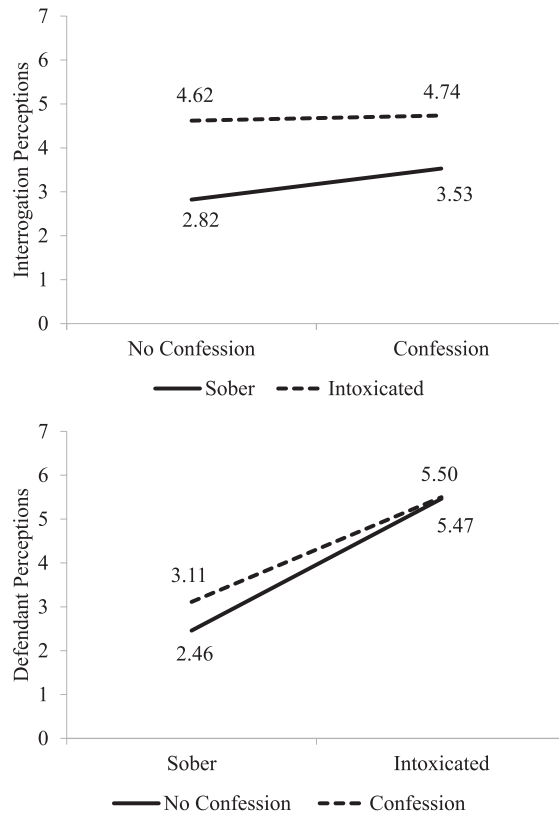
Figure 2:   Study 2 Moderation Plots for the Effect of Confession and Intoxication on (a) Perceptions of Interrogation Inappropriateness and (b) Perceptions of the Defendant's Impairment
Note. Higher scores are related to (a) increased perceptions of interrogation inappropriateness and (b) increased perceptions of the defendant's impairment.

Conditional indirect paths. We examined the effect of confession presence on verdicts, as mediated by interrogation perceptions and moderated by intoxication (see Table 4, "Conditional Indirect Path 1"). There was no significant indirect path from confession presence to verdict when the defendant was intoxicated, Indirect$_{\text{Intoxicated}}$ = −.05, 95% bootstrap CI = [–0.15, 0.05]. This was because participants viewed the intoxicated defendant's interrogation as inappropriate, regardless of confession presence or absence. However, when the defendant was sober, participants who read about a defendant who confessed had 24.9% lower odds of voting guilty compared with participants who read about a defendant who did not confess. This was a result of the indirect effect of the confession on their perceptions of the inappropriateness of the interrogation, Indirect$_{\text{Sober}}$ = −0.29, 95% bootstrap CI = [–0.42, –0.15]. That is, when the defendant was sober and signed a confession, participants seemed to view the signed confession as a cue to the potential inappropriateness of the police interrogation, and these perceptions of increased inappropriateness, in turn, led to a decrease in the odds of these participants finding the defendant guilty.

We also examined the indirect effect of intoxication on verdicts through perceptions of the defendant's impairment, as moderated by confession presence (see Table 4, "Conditional

Indirect Path 2"). Although this indirect effect was significantly moderated by confession presence, probing of this interaction revealed similar trends for the intoxicated defendant whether he did or did not confess. Specifically, when the defendant confessed, participants who read that the defendant was intoxicated viewed him as more cognitively impaired than did participants who read that the defendant was sober. As a result, the odds that these participants ultimately voted guilty were 65.4% lower than the odds for participants who read that the defendant was sober, $Indirect_{Confession} = -1.06$, 95% bootstrap CI = [–1.45, –0.68]. Similarly, when the defendant did not confess, participants who read that the defendant was intoxicated viewed him as more cognitively impaired than did participants who read that the defendant was sober. As a result, the odds that these participants ultimately voted guilty were 73.8% lower than the odds for participants who read that the defendant was sober, $Indirect_{NoConfession} = -1.34$, 95% bootstrap CI = [–1.82, –0.85]. Thus, participants were apparently sensitive to the defendant's possible intoxication-induced vulnerability. Regardless of whether the defendant confessed or not, participants who learned that an intoxicated defendant was subjected to interrogation perceived the defendant as more cognitively impaired than did participants who learned that the defendant was sober. This ultimately led participants in the intoxicated condition to be significantly less likely to convict, although this effect was slightly stronger when the defendant had not confess than when he had.

Confession influence on verdict

The analyses in this section only include participants in the confession-present condition. An independent-samples t test compared participants in the sober versus intoxicated conditions on the extent to which they reported the confession to be influential on their verdict decision in the case (1 = *not at all influential* and 7 = *very influential*). The results revealed that confession influence ratings were lower for an intoxicated confession ($M = 3.56$, $SD = 1.66$) than for a sober confession ($M = 3.94$, $SD = 1.72$), $t(465) = 2.42$, $p = .016$, $d = 0.23$, 95% CI = [0.07, 0.38].

Next, we used a logistic regression to examine whether the effect of reported confession influence on actual verdict decisions was moderated by defendant intoxication. We entered self-reported confession influence, intoxication condition, and the interaction between these terms into the equation. The overall model was significant, $\chi^2(3) = 39.44$, $p < .001$, $R^2_{Nagelkerke} = .11$, and the expected interaction emerged. The effect of reported confession influence on verdicts was moderated by whether the defendant was sober or intoxicated, $B = -.24$, $SE = .12$, Wald chi-square = 4.01, $p = .045$, OR = 0.78, 95% CI = [0.62, 1.00]. Specifically, when the defendant had confessed while intoxicated, the reported influence of the confession as related to the odds of rendering a guilty verdict was less (25.0% increase) than it was when the defendant confessed while sober (59.4% increase).

DISCUSSION

As hypothesized, a complex picture of how intoxication and confessions influenced verdicts emerged when potential jurors' perceptions of the defendant and the interrogation were considered as mediators. Specifically, an intoxicated defendant's interrogation was viewed as inappropriate, regardless of whether the interrogation resulted in a confession or not. Potential jurors also viewed an intoxicated defendant as more cognitively impaired, which ultimately resulted in a decreased chance that they would find him guilty. This effect

emerged both when the defendant had confessed and had not confessed, although the effect was larger for when he had not confessed.

Additionally, in the confession-present group, increases in reported confession influence were related to increased odds of a guilty verdict being rendered. However, as we expected, the extent to which self-reported confession influence predicted verdicts depended on whether potential jurors read about an intoxicated or sober confession. Specifically, the odds that potential jurors would convict were lower when a confession was elicited from an intoxicated than from a sober defendant. Taken together with the finding that self-reported confession influence scores were lower in the intoxication than in the sober condition (which mirrors potential jurors' reports in Study 1), it seems that, to the extent that intoxication is a risk factor for false confession, jurors may be capable of protecting innocent defendants because they are seemingly sensitive to the state vulnerability related to a defendant's intoxication. These findings also suggest that if law enforcement and prosecutors want confession evidence to be as compelling as possible to jurors, suspect interrogations should occur once the suspect is sober.

GENERAL DISCUSSION

The goal of the present research was to assess potential jurors' knowledge regarding intoxication in interrogative settings as well as to assess the influence of intoxicated confessions on verdict decision making. Study 1 revealed that potential jurors were generally unaware of the legality of police interactions with intoxicated suspects and the subsequent admissibility of evidence obtained from intoxicated suspects; in addition, more than half of respondents indicated that such actions should not be permissible. These beliefs could have potentially negative consequences for the prosecution because, despite the legality of interrogating intoxicated suspects, potential jurors might reject or discount intoxicated confession evidence if they believe that information to have been unjustly elicited. Conversely, these beliefs offer some protections for innocent defendants who may have been at a higher risk for false confession as a result of being intoxicated during interrogation.

Further findings from Study 1 support this postulation. Specifically, potential jurors tended to indicate that intoxicated suspects cannot appropriately waive their *Miranda* rights and that interrogations of intoxicated suspects are more coercive than interrogations of sober suspects. Potential jurors also indicated that they would rely on an intoxicated confession to a lesser extent than they would a sober confession. This latter belief was supported by findings from Study 2, in which potential jurors who had read about an intoxicated confession reported lower ratings of confession influence on verdict decisions than did potential jurors who had read about a sober confession. In addition, the extent to which self-reported confession influence actually predicted verdict decisions depended on whether the confession came from a sober or an intoxicated suspect (i.e., the odds of conviction were substantially lower when the confession came from an intoxicated suspect). Thus, jurors placed less weight on intoxicated confessions, which emphasizes the value to prosecutors of having information that was elicited from sober suspects.

Also noteworthy are the complex ways by which intoxication and confession influence verdicts. We found that the effects of intoxication and confession on verdicts were mediated by mock jurors' perceptions of the interrogation and of the defendant's level of impairment during his interactions with the police. Participants viewed the defendant as more

impaired when he was intoxicated, and increased ratings of impairment in turn were related to a significant decrease in the odds that a guilty verdict would be rendered, regardless of confession presence. A similar trend emerged for interrogation perceptions. Interrogations of the defendant when he was intoxicated were viewed negatively overall, which in turn decreased the likelihood of guilty verdicts regardless of whether or not the defendant had confessed. However, when the defendant was sober, the interrogation was viewed as more inappropriate only when the defendant had confessed. This latter finding is unusual, considering past research (e.g., Kassin & Sukel, 1997); however, this finding could be due to participants' reasoning that if the defendant ended up confessing despite initially maintaining his innocence, then the police officer might have employed coercive tactics to elicit the confession even though none were described. This finding suggests that police should be transparent with their interrogation techniques. Although the present interrogation was described as a direct question–answer session, more details about the interrogation, or even a video or transcript of the interrogation, could eliminate potential concerns jurors may have about the appropriateness of the interrogation.

Overall, these findings highlight the importance of considering the attributions jurors make when reaching a verdict decision, as well as the manner by which jurors might discount intoxicated confessions. Recalling Kelley's (1973) discounting principle, it is possible that jurors discount intoxicated confessions to the extent that they attribute the confession to the interrogation's situational influence or to the defendant's inferred level of impairment. The present findings suggest that our mock jurors sought alternative explanations for the intoxicated defendant's confession beyond guilt and relied less on the confession if they perceived the interrogation's inappropriateness and the defendant's impairment as viable causes for the defendant's confession.

IMPLICATIONS

The current findings indicate that potential jurors may be sensitive to the state vulnerability of intoxicated suspects and thus discount confessions elicited from intoxicated suspects. This has implications for law enforcement practices, as it is not uncommon for police investigators in the United States to interrogate intoxicated suspects (Evans et al., 2009)—a practice that might actually hurt the prosecution's case against the defendant. Jurors may rely less on any resulting confessions to the extent that they deem the defendant to have been impaired during his interactions with the police, even if those confessions are reliable. Thus, investigators might consider waiting for intoxicated suspects to become sober before questioning them whenever possible. This practice could allow investigators to avoid the perceived impropriety of coercive interrogations as well as avoid the possibility of obtaining a false confession due to this particular state vulnerability.

If investigators do elicit a confession from an intoxicated suspect, Study 2's findings suggest that the prosecution might consider focusing on mitigating jurors' perceptions of the defendant's level of impairment while stressing the legality (i.e., appropriateness) of the procedures used by investigators. Conversely, defense attorneys might consider developing lines of argument that address defendant impairment and interrogative methods in a manner that leads jurors to discount confession evidence. Indeed, findings from both studies indicate that jurors might offer protection for defendants who offered incriminating statements while intoxicated, as participants were less likely to rely on or to convict on the basis of intoxicated confessions. Taken together, these postulations pave the way for future lines of

research in which the effects of attorneys' statements on jurors' perceptions (and use in verdict decision making) of intoxicated confessions are examined.

LIMITATIONS AND FUTURE DIRECTIONS

There are some limitations regarding the sampling in our two studies. First, although all participants were jury-eligible, the majority were students. However, prior meta-analytic findings and reviews indicate that student and community member jury decision making is fairly consistent (e.g., Bornstein et al., 2017). Unfortunately, our sample does not speak to judges' or attorneys' perceptions and decisions related to intoxicated confessions. This is another topic that future research can address, as it is important for countries that do not implement jury trials and for defense attorneys' strategies should they attempt to persuade judges to suppress intoxicated confessions before trial.

In addition, we manipulated intoxication only during the time of questioning, although intoxicated suspects are more typically intoxicated both at the time of the crime and during questioning (e.g., Evans et al., 2009). Although we chose to maximize internal validity in this initial study by isolating the effects of intoxication at the time of questioning, future researchers could consider manipulating suspect intoxication at the time of the crime. The present research also did not address varying levels of intoxication. It is possible that highly intoxicated suspects might be perceived as more impaired than moderately intoxicated or sober suspects, which could ultimately influence verdict decisions. Alternatively, it is possible that jurors will not distinguish between varying levels of intoxication (as seen in evaluations of intoxicated witnesses; Evans & Schreiber Compo, 2010).

Manipulating intoxication level is important because law enforcement and the courts often assess intoxication in a subjective, rather than objective, manner. For example, more than 50% of respondents in Evans et al.'s (2009) survey indicated that they do not use an instrument to objectively measure suspects' breath alcohol content. This is a risky practice considering that suspects with cognitive disabilities (a dispositional false confession risk factor; Woody, 2017) can be mistaken as being intoxicated (e.g., *Sanchez v. Hartley*, 2016). In addition, intoxicated confessions are only deemed involuntary to the extent that the defendant is considered to have been so intoxicated that he did not understand what he was saying (e.g., *State v. Cota*, 2012). Therefore, there is no clear cutoff for what is considered "too intoxicated." As jurors may be presented with confession evidence obtained from suspects exhibiting a wide range of intoxicated states, it is important to manipulate this variable in future studies.

There are also a few potential limitations of Study 2's methodology that could have contributed to the small-to-moderate effect sizes we obtained (see Chen et al., 2010, for ORs effect size cutoffs). First, we presented participants with a written case summary that simply stated the defendant's intoxication level but provided few additional cues to his level of impairment (e.g., specific behaviors, such as slurring words, that are potentially indicative of impairment). This allowed us to evaluate how jurors' beliefs and intuitions regarding the effects of alcohol influenced their case judgments. In real-world trials, however, jurors could be presented with interrogation footage or detailed testimony regarding the extent to which a defendant was (not) impaired. It would be interesting if future studies examined the current research questions using these different operationalizations of intoxication level. A further limitation that is common to all mock juror research is that Study 2 offers insight as to how potential participants report they might act in the context of a trial, but not how they would actually behave if they were to participate in a real-world trial. Future studies could

evaluate the present research questions in a more realistic setting (e.g., having actors present testimony and mock jurors deliberate before rendering a verdict). Finally, we did not manipulate the type of interrogation the suspect endured (e.g., psychologically coercive vs. noncoercive)—a manipulation that future studies could pursue.

CONCLUSION

Understanding how jurors process intoxicated confession evidence is highly relevant. The present findings suggest that law enforcement avoid interrogating intoxicated suspects, as jurors may discount such confession evidence. Overall, findings from the present (and related future) studies can help inform the prosecution and defense on how to effectively present such evidence to jurors as they pursue their ultimate case goals, as well as prompt policy discussion regarding the appropriate handling of intoxicated suspects during interrogations. It is important to know how jurors evaluate intoxicated confessions so long as such evidence is admissible in court—a policy that will presumably continue until we gain a better understanding of how intoxication influences confession evidence reliability.

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SUPPLEMENTAL MATERIAL

Supplemental Material is available in the online version of this article at http://journals.sagepub.com/home/cjb

NOTES

1. Some studies indicate that intoxication is related to lower interrogative suggestibility scores (Santtila et al., 1999) and to witnesses' reduced vulnerability to misinformation (Gawrylowicz et al., 2017), but only when encoding of the to-be-reported incident took place when participants were in a sober state. This pattern of findings is consistent with retrograde facilitation (Parker et al., 1980).

2. The current study describes a subset of questions from a larger survey regarding potential jurors' perceptions of interrogations and confessions. Findings from the full survey are reported elsewhere (Mindthoff et al., 2018) and the full dataset can be found at https://osf.io/b8vuk/. Other than demographic data, none of the questions and responses included in the current study have been reported elsewhere. The full survey instrument can be obtained from the first author.

3. Regions were as follows: the New England and Middle Atlantic subregions of the Northeast, the East North Central and West North Central subregions of the Midwest, the South Atlantic, the East South Central and West South Central subregions of the South, and the Mountain and Pacific subregions of the West.

4. Analyses comparing the differences between student and community members are available from the corresponding author upon request.

5. Correlations among all variables are displayed in the Supplemental Material (available in the online version of this article).

6. The Pretrial Juror Attitude Questionnaire (PJAQ; Lecci & Myers, 2008) was administered before the case was presented. Although the PJAQ composite score alone predicted verdict decisions, $B = .50$, $SE = .16$, Wald chi-square $= 9.46$, $p = .002$, odds ratio (OR) $= 1.65$, it did not predict our primary mediator variables nor did it differ by our experimental conditions. Thus, we did not include this variable in our main analyses.

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