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Police Survey: Procedures and Prevalence of Intoxicated Witnesses and Victims in Sweden

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ABSTRACT

Background: Despite the common occurrence of alcohol-related crimes, the Swedish police authority currently lacks national guidelines for dealing with intoxicated victims/witnesses. *Method*: A survey was designed to explore the police procedures when encountering intoxicated individuals and to compare the findings with international statistics. To facilitate international comparison, the survey was modeled after previous research and adapted to a Swedish context. A solicitation containing a link to the survey was emailed to all police regions in Sweden. *Results:* Police officers (N = 133) indicated that it was common to interact with intoxicated witnesses/victims. Some police departments had local guidelines on how to conduct investigative interviews with intoxicated individuals, but it was mostly up to each officer to make a subjective judgement regarding interactions with this witness group. Data evidenced that the high prevalence rate of intoxicated witnesses/victims in Sweden is similar to rates in Australia, the U.S. and U.K. It appears that the Swedish police are unaware of research concerning when and how to conduct investigative interviews with intoxicated witnesses and victims, a potentially vulnerable group. *Conclusions:* A closer collaboration between police and researchers is encouraged in order to develop guidelines for investigations with intoxicated individuals.

Encuesta policial: procedimientos y prevalencia en testigos y víctimas intoxicados en Suecia

Palabras clave:
Alcohol
Testigos oculares
Víctimas
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Encuesta

RESUMEN

Antecedentes: A pesar de que los delitos relacionados con el alcohol son bastante frecuentes, la policía sueca carece en la actualidad de directrices con las que hacer frente a los interrogatorios y entrevistas de víctimas y testigos intoxicados. *Método*: Esta encuesta trata de explorar los procedimientos de la policía ante personas intoxicadas y comparar los resultados con estadísticas internacionales. Con el fin de facilitar la comparación internacional la encuesta fue ajustada en contenidos a la investigación previa y adaptada al contexto sueco. Se envió una solicitud con un enlace a la encuesta a todas las regiones policiales de Suecia. *Resultados*: Ciento treinta y tres agentes de policía respondieron que era habitual interactuar con testigos/víctimas intoxicados. Algunos departamentos de policía disponían de directrices locales sobre cómo llevar a cabo entrevistas de investigación con personas intoxicadas pero dependía de cada agente formarse un juicio subjetivo sobre la interacción con estos testigos. Los datos evidenciaron que la alta prevalencia de testigos/víctimas intoxicadas en Suecia es similar a la de Australia, EE. UU. y Reino Unido. Parece que la policía sueca desconoce la investigación sobre cuándo y cómo llevar a cabo entrevistas de investigación con testigos y víctimas intoxicados, un grupo vulnerable. *Conclusiones:* Se recomienda la colaboración estrecha entre policía e investigadores para crear directrices para la investigación policial con personas intoxicadas.

Recent research from Sweden demonstrated that between 76% and 79% of the population had consumed alcohol in the last 30 days (Swedish Council for Information on Alcohol and Other Drugs, 2019) and approximately 4% of the Swedish population is alcohol dependent (Public Health Agency of Sweden, 2019; Swedish Council for Information on Alcohol and Other Drugs, 2018). With such a high prevalence of alcohol consumption, it is not surprising that alcohol-related crime is a common occurrence in Sweden. According to the Swedish Crime Prevention Council, victims under the influence of alcohol are common in a variety of crimes, such as assault (39%), robbery (28%), threats (14%), and sexual offences (31%) (Swedish Crime Prevention Council, 2015). Another Swedish report showed that, out

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of 317,000 cases of physical assault within one year, 57% involved alcohol-intoxicated victims, witnesses and/or suspects (IOGT-NTO, The Swedish Society for Medicine, and CERA, 2017). International studies, including those from the U.S., have likewise shown a high prevalence of intoxicated individuals in criminal investigations (e.g., Palmer et al., 2013). Furthermore, alcohol intoxication is particularly common in sexual assault cases with international data suggesting between 50% (Palmer et al., 2013) and 72% (Mohler-Kuo et al., 2004) of sexual assault victims are under the influence at the time of the assault. Sexual assault often occurs in settings where alcohol is prevalent, as indicated by research suggesting that witnesses to such crimes also tend to be intoxicated (Testa & Livingston, 2009; Testa et al., 2010). This is echoed in Swedish contexts where most cases of alcohol-related assault, including sexual assaults, occur during drinking hours, and in locations where intoxication is frequent (Swedish Crime Prevention Council, 2015).

Despite the fact that intoxicated individuals are common, the Swedish Police Authority currently lacks national guidelines for handling intoxicated victims and witnesses. One positive development is that the Swedish Police Authority has assigned a special task force within the National Operations Department to develop national guidelines for investigative interviews with witnesses/victims as well as interrogations with suspects. However, these guidelines will focus on sober persons. To address the intoxicated, a collaboration between researchers from academia (led by the first author) and the Swedish Police Authority commenced in 2019 with the goal of developing national guidelines on how to conduct investigations involving intoxicated witnesses (Hagsand et al., 2020). Nonetheless, it remains unclear how police officers in Sweden interact with intoxicated individuals in criminal investigations. For example, it is illegal in Sweden to administer breath alcohol tests to victims and witnesses of crime, at any time, as measuring a person's breath alcohol concentration can be considered a 'body inspection' (i.e., a personal integrity issue). The Swedish Law, with few exceptions, only allows breath alcohol tests to be used to establish intoxication levels among suspects of traffic related crimes (Traffic Crimes Act, 1951:649). How then do police officers assess intoxication level for witnesses and victims in most cases?

International Prevalence Studies on Intoxicated Individuals

To our knowledge, there is no data on Swedish police officers' perceptions of and experiences and interactions with intoxicated victims/witnesses. In contrast, such police surveys on witnesses/victims have been conducted in Australia and Indonesia (Monds, Cullen, Kloft, Sumampouw, et al., 2021), the U.K. (Crossland et al., 2018), and the U.S. (Evans et al., 2009). These studies showed that police officers perceived intoxicated witnesses to be a common occurrence in police investigations. Crossland et al. (2018) found that 81.9% of respondents indicated that intoxicated witnesses were common or very common in police investigations. These results were similar to the U.S. survey, where 73.1% of respondents indicated intoxicated witnesses in criminal investigation were common or very common (Evans et al., 2009). In the study by Monds, Cullen, Kloft, Sumampouw, et al. (2021), 59.6% of Australian and 23.7% of Indonesian police respondents reported interacting frequently with individuals under the influence.

These international surveys revealed that in most cases, assessment of intoxication level was left to the individual officer, regardless of whether breathalyzing witnesses was permissible (U.S.) or not (U.K.) (Crossland et al., 2018; Evans et al., 2009). In the U.S., 71.4% of law enforcement did not use an instrument to decide witness/victim intoxication level. Consistent with this, an archival study of U.S. police cases found that identification of intoxicated witnesses was based on self-disclosure by the witness 88% of the time (Palmer et al., 2013). Over 90% of the U.K. officers indicated that they looked for physical signs of intoxication (e.g., lack of balance, slurred speech) and most indicated that a victim or witness' competence to be interviewed was a commonsense judgment call (Crossland et al., 2018). (Note, Monds, Cullen, Kloft, Sumampouw, et al., 2021 did not report how Australian and Indonesian law enforcement measured and assessed witness intoxication.) Because most police officers do not measure intoxication level in an objective manner, it is difficult to assess how drunk intoxicated witnesses/victims usually are. U.S. police respondents subjectively estimated that the typical intoxicated witness they encounter has an average breath alcohol concentration (BrAC) of 0.11% (Evans et al., 2009), which is higher than the legal drinking and driving limit of 0.8% in the U.S.

Police Investigation Procedures with Intoxicated Witnesses/Victims

When to conduct an investigative interview with an intoxicated individual is important for police officers to consider, as the quantity and quality of witness testimony may depend on whether a person is still intoxicated or has sobered up. The U.K. police survey found that 42.7% of officers took an initial account while the witness was intoxicated, and then postponed the interview to a later stage when the person was sober. A small number of officers indicated that they usually delay all interviewing until the witness is sober, and a small number said that they usually take a full account from intoxicated witnesses immediately. Roughly a quarter of the officers reported that when they chose to conduct the interview depends on the situation. Monds, Cullen, Kloft, Sumampouw, et al. (2021) found that Australian police officers tended to prefer to interview intoxicated witnesses immediately (i.e., while still intoxicated) (42.7%) or as soon as they were sober (20.5%); very few preferred to delay the interview. In contrast, Indonesian officers preferred to delay the interview and allow witnesses to sober up (43.2%), or interview witnesses "as soon" as they were sober (29.5%); almost none preferred to interview the witness immediately.

Approximately 20% of the Australian and Indonesian officers reported that they did not know when to interview intoxicated witnesses. In the U.S. police survey, a small portion of officers stated that they usually questioned intoxicated witnesses/immediately, and another small portion said that they typically wait until a later point in time to interview them while sober (Evans et al., 2009). The majority (74.0%) stated that when they choose to interview the witness depends on the particular situation.

The finding that how to handle intoxicated witnesses varies by situation reflects the fact that there are no U.S. guidelines on how and when to conduct investigations with intoxicated persons, and that it is up to each officer's subjective judgement to make that decision (Evans et al., 2009). Indonesian officers similarly reported a lack of guidelines (Monds, Cullen, Kloft, Sumampouw, et al., 2021). In contrast, Australian police reported having at least some guidelines, and that these recommend that officers postpone interviews until witnesses are sober. However, despite this recommendation, as described above, a large proportion of the Australian police officers reported preferring to interview intoxicated witnesses as soon as possible after the crime, while the witnesses are still intoxicated. Interestingly, while the U.K. also offers guidelines for officers (College of Policing, 2019), they conflict with the Australian recommendations, recommending British police officers take an initial account from intoxicated persons at the scene of the crime or in close temporal proximity to the crime. The recommendation also suggests that initial accounts should be followed up with a more in-depth interview at a later point in time.

With increasing scientific evidence on how and when alcohol does or does not affect cognitive functions on witnesses/victims, it is likely that many countries will follow Australia and U.K.'s example and create national policy guidelines of their own. However, developing evidence-based policy guidelines is unlikely to ensure they are followed (as in the Australian example mentioned above), adherence to the recommendations will likely require integrating the guidelines in law enforcement's training.

Basic Memory Research on Alcohol and Memory

Contrary to the relatively few studies on alcohol's impact on witness memory specifically, there is a large body of scientific research on alcohol's effects on basic memory processes which generally suggests detrimental effects of alcohol on memory performance (see Mintzer, 2007; White, 2003, for reviews). Often this research included simple target stimuli, such as word lists (e.g., Fillmore et al., 1999; Maylor & Rabbit, 1987; Tracy & Bates, 1999), word pairs (e.g., Curran & Hildebrandt, 1999; Lombardi et al., 1997; Weissenborn & Duka, 2000), or image recognition (e.g., Parker et al., 1976). In many of these studies, participants' intoxication was experimentally manipulated and varying states of intoxication were compared. The research suggests that consuming alcohol may, in extreme cases, lead to complete memory loss, known as a blackout (Lee et al., 2009; Perry et al., 2006; White, 2003) or, more commonly, partial memory loss (i.e., fragmentary loss) (White, 2003). Such alcohol induced memory impairments depend on several factors (e.g., retrieval format, memory system, intoxication level) (Söderlund et al., 2005), with some impairments occurring after consumption of even small amounts of alcohol (Breitmeier et al., 2007). Despite the relatively clear evidence that alcohol has a negative effect on memory in general, it is important to understand whether these findings can be generalized to the specific circumstances of witnesses/victims' memory of crimes.

Applied Research on Alcohol's Effect on Witness Memory

Applied research on the effects of alcohol on memory for complex stimuli/events (like eyewitness situations) has revealed a more nuanced picture of the effects of alcohol on memory than the basic memory research. Since researchers began to investigate the effects of alcohol on eyewitness memory, the results have been mixed, but so have the research methods. The to-be-remembered stimuli have included mock crime videos (e.g., Bartlett et al., 2021; Crossland et al., 2016; Hagsand et al., 2013a, 2013b, 2017), live staged events (e.g., Altman, McQuiston, et al., 2019; Mindthoff et al., 2019; Schreiber Compo et al., 2012), stories (e.g., Mindthoff et al., 2021), and picture slides (e.g., Harvey et al., 2013a; 2013b, 2020; Harvey & Sekulla, 2021). Participants' memory for faces has been assessed with show-ups (e.g., Altman, McQuiston et al., 2019; Dysart et al., 2002) and line-ups (e.g., Altman et al., 2018; Hagsand et al., 2013b; Flowe et al., 2017), and their memory for events has been assessed via free recall (e.g., Evans et al., 2019; Hagsand et al., 2017; Hildebrand Karlén et al., 2017) and with cued recall interviews (e.g., Hagsand et al., 2017; Schreiber Compo et al., 2017). Furthermore, various retention intervals have been used. The effects of delayed memory testing have been investigated with a 24-hour delay between encoding and retrieval (e.g., Flowe et al., 2017; Flowe et al., 2015), a one-week delay (e.g., Crossland et al., 2016; Hagsand et al., 2013a, 2013b, 2017; Schreiber Compo et al., 2017), and as much as four-month delay (e.g., Flowe et al., 2015). Most studies have been conducted in a laboratory setting and under such conditions ethical considerations limited the level of induced intoxication. To our knowledge, six quasi-experimental studies in real bars have been conducted where participants have been voluntarily self-intoxicated or sober (Altman, McQuiston, et al., 2019; Altman et al., 2018; Crossland et al., 2016; Dysart et al., 2002; Harvey et al. 2020; Van Oorsouw et al., 2019). These have yielded higher levels of intoxication than lab studies, which often include BrACs between 0.3% and 0.9% (see Jores et al., 2019, for a meta-analysis on witness recall). To put these commonly lab-administered intoxication levels in context, they are well above the Swedish legal drinking and driving limit of 0.02% and the Indonesian limit of 0.00%, but similar to or just above the limit of 0.05% in Australia, and 0.08% in the U.K., and U.S.

The findings of these diverse methodological approaches have been inconsistent, but some general trends are discernible. Overall, alcohol at low to moderate doses does not seem to affect witnesses' memory for faces (see Altman, Schreiber Compo, et al., 2019, for a review). However, mild to moderate intoxication level (BrAC < 0.10%) affects the quantity (i.e., number of details) and sometimes quality (i.e., accuracy) of eyewitness memory recall (Jores et al., 2019). Although some studies have found no effect of alcohol on quantity (e.g., La Rooy et al., 2013), most research finds that alcohol intoxicated participants tend to provide somewhat less information (e.g., Hildebrand Karlén et al., 2017; Mindthoff et al., 2021; Van Oorsouw et al., 2019). Despite a significant reduction in number of recalled details, effect sizes are small for low-moderate doses of alcohol (see Jores et al., 2019, for a meta-analysis). In contrast, the overall quality of the information provided by intoxicated participants is similar to sober controls in most studies (e.g., Hagsand et al., 2013a; Hagsand et al., 2017; Schreiber Compo et al., 2012) with some exceptions (e.g., Yuille & Tollestrup, 1990).

Of practical relevance for police work, some research suggests that interviews should be conducted immediately, while witnesses are still intoxicated, as this can result in greater and more accurate recall compared to conducting interviews at a later point in time (e.g., Hagsand et al., 2017; Hildebrand Karlén et al., 2019; La Rooy et al., 2013). When participants were interviewed twice, immediately (when intoxicated) and later (when sober), they provided novel and accurate details in their second eyewitness report – similar to sober witnesses (Flowe et al., 2015; Hagsand et al., 2017; La Rooy et al., 2013). As noted above, recent quasi-experimental field studies have allowed researchers to look at the impact of higher intoxication levels; these have found that BrAC levels above approximately 0.10% are associated with a decrease in both quantity and quality of witness recall (e.g., Altman et al., 2018; Altman, McQuiston et al., 2019; but see Crossland et al., 2016). Overall, at higher doses, alcohol is associated with larger impairments in witnesses' memory for events compared to lower doses (Jores et al., 2019), yet it does not seem associated with witnesses' memory for faces, as measured via lineup tasks (see Altman, Schreiber Compo, et al., 2019).

Perceptions of Intoxicated Persons

How well do police officers' perceptions of intoxicated persons reflect the evidence-based findings on how alcohol affects witness memory? In the police surveys in Australia, Indonesia, the U.K., and the U.S., police officers believed witnesses to be the most accurate and credible when they were sober (Crossland et al, 2018; Evans et. al., 2009; Monds, Cullen, Kloft, Sumampouw, et al., 2021). Also, relative to sober witnesses, intoxicated witnesses were deemed less likely to appear in court and were seen as less credible to potential jurors. This negative perception of intoxicated witnesses' credibility was similarly demonstrated in a study where mock jurors accounted for perceived impaired cognitive ability in intoxicated witnesses when they delivered their verdicts (Evans & Schreiber Compo, 2010). A more recent study by Monds, Cullen, Kloft, van Golde, et al. (2021) also found that prospective jurors believed alcohol consumption to have a large negative impact on memory and that intoxicated witnesses would be less credible than sober ones. Further, an early survey of 30 eyewitness experts showed that

90% agreed that alcohol intoxication (level unspecified) impairs an eywitness' ability to later recall events, and 95% responded that the phenomenon could be described as commonsense knowledge (Kassin et al., 2001). Taken together, it appears that there is a consistent belief that intoxicated witnesses are less credible than sober witnesses. These perceptions might not accurately reflect the more nuanced scientific knowledge base on how alcohol affects witness memory.

The Present Study

The present study had two major research aims. The primary aim was to survey Swedish police officers' experiences with and perceived prevalence of intoxicated victims and witnesses. Such police surveys have been conducted in Australia/Indonesia, the U.K., and the U.S. (Crossland et al., 2018; Evans et al., 2009; Monds, Cullen, Kloft, Sumampouw, et al., 2021), but the present research constituted the first such survey in Sweden. Collecting information on Swedish police officers' experiences with intoxicated witnesses and victims provides a stepping-stone towards understanding the knowledge and training currently in place within the Swedish police force, as well as creating a base for developing an evidence-based approach for investigative interviews. As such, the present study has the potential to inform future policy for law enforcement and legal practitioners in Sweden regarding intoxicated victims and witnesses. A secondary aim was to replicate Evans et al.'s (2009) police survey in a Swedish context, using the same questionnaire items to allow for a direct comparison of findings across jurisdictions and countries, as the U.K. (Crossland et al., 2018) and Australian/Indonesian (Monds, Cullen, Kloft, Sumampouw, et al., 2021) police surveys are similarly based on the survey by Evans et al. (2009).

Method[1]

Participant Recruitment

The survey was administered online via outreach to all seven regional police districts (Stockholm, Gothenburg, North, South, West, East, Middle, and Bergslagen) in Sweden. Each district was contacted through separate contact forms online and provided with an e-mail solicitation containing a link to the survey, encouraging each recipient to forward the survey link to their police officers and investigators. E-mail solicitations were also sent out to the first author's personal contacts within the Swedish Police Authority. Because the solicitation e-mail invited the recipient to forward the link to others who might be interested, allowing for snowball participation, it is impossible to know the exact response rate. Participation took place between the beginning of May 2018 and the end of February 2019, that is, over a period of approximately 10 months. During this period, four reminders were sent out beyond the original invitation and our data suggest that the reminders boosted participation.

Material

The survey instrument was developed by the research team, with the Evans al.'s (2009) U.S. police survey serving as a template to facilitate comparisons with past international surveys. However, some modifications were made to the questions to fit the legal context in Sweden and all questions were translated to Swedish[2]. The survey was constructed in the online software program Sunet. It consisted of 97 questions in total and used a combination of open-ended, multiple choice, and scaled-response questions (e.g., on a Likert scale). Given that witnesses can be intoxicated at different times during a criminal investigation, many questions specified whether individuals were intoxicated only at the time of the crime, only at the interview, or at both times.

Procedure

Participants who clicked on the link were directed to the first page of the survey, which briefly described the study and presented an informed consent agreement. Respondents who provided informed consent by clicking on the consent button were directed to a demographic questionnaire followed by general instructions on how to respond to the survey. The instructions explained that the term "alcohol-intoxication" could mean any BrAC and that respondents should decide for themselves the point at which someone should be considered intoxicated. In Sweden, the legal limit for driving under the influence is a BrAC of 0.02% (for comparison, the U.S. legal limit is 0.08%). Most questions in the survey addressed intoxicated witnesses and victims together as one group. It was also explained that an "interview" refers to police questioning of a witness or victim (as opposed to an interrogation which refers to questioning a suspect).

The first section of the survey asked respondents about the prevalence of sober and intoxicated witnesses and victims, and the second section contained an unrelated set of questions not part of the present paper. The third section consisted of more in-depth questions about the respondents' perceptions of intoxicated witnesses/victims and their departmental procedures for handling such persons in criminal investigations. The fourth section asked questions about witness lineup identifications, while the fifth section asked miscellaneous questions about intoxicated witnesses/victims. For all questions in the survey, an "I do not know" (IDK) answer option was provided. Participants were not required to answer every question (i.e., it was possible to skip some questions entirely or to provide an IDK answer). Therefore, the total number of responses varied for each question. Participants could also provide more than one response for multiple-choice questions. When asked to make estimates, rather than asking participants to provide a specific figure, respondents were given intervals of 10 in a multiple-choice format (e.g., 1-10, 11-20, etc.). In some cases, respondents selected several of these intervals. For some questions respondents were asked to estimate percentages; these should ideally add up to 100% but this was not a requirement. For accurate interpretation of the reported statistics, note that in most cases the number of responses, not respondents, are reported for each question when multiple responses were possible. It is estimated that the survey took 30-40 minutes to complete.

Results

The first page (information and consent form) of the survey was viewed approximately 473 times. Our final sample consists of 133 police officers and investigators who consented to participate and began the survey. Of these 133 respondents, 131 entered responses to the final section, indicating a high survey retention rate.

Participant Characteristics

The sample characteristics reported here are based on 133 respondents if not otherwise stated. The majority of the sample was male (61% men, 39% women), and the average age was 39 years (SD = 11). Of the respondents who indicated their national origin (n = 124), most (94%) reported that they were born or grew up in Sweden. Respondents' reported title/rank at the Swedish police authority included police assistant, investigator, administrator/case worker, police superintendent, detective sergeant, and team chief. On average, respondents had 7 (SD = 7) years of experience with their current job

Table 1. Frequencies of Responses Indicating how Many Witnesses/Victims (0, 1-10, 11-20 etc.) Police Respondents Interviewed in a Given Timeframe

Number of witnesses/victims	Typical month (*N* = 132)	Typical week (*N* = 130)	Last month (*N* = 130)	Last week (*N* = 130)
0	2	3	4	19
1-10	40	**116**	**57**	**101**
11-20	**57**	7	48	10
21-30	24	1	12	.
31-40	4	1	5	.
41-50	1	1	3	.
50+	4	.	1	.
IDK	1	2	.	.
Total No. of responses	133	131	130	130

Note. Boldfaced is the most selected category (mode) for a given timeframe. Multiple responses were possible for each question. IDK = I don't know.

tasks and 12 (*SD* = 11) years of experience in total at the Swedish police authority, ranging from 1 to 46 years. Respondents reported an average of 11 (*SD* = 10) years of experience in interviewing witnesses/victims. Respondents' answers varied regarding which shift they most often worked, day shift (42%), night shift (2%), both day and night shifts (56%), and they represented a broad range of geographic regions within Sweden, including the three major urban cities (Stockholm, Gothenburg, and Malmö).

Number of police interviews with all witnesses/victims. As a baseline measure, all respondents were asked to estimate how many witnesses/victims in total (both sober and intoxicated) they interviewed in a typical month and week. They were also asked to report how many times they interviewed someone in the past month and week (see Table 1). The most common response (43% of 133 answers) was 11-20 witness interviews in a typical month. Also, 89% of 131 responses indicated that they interviewed between 1-10 witnesses in a "typical" week. In terms of the most "recent" month/week (130 responses), 44% reported that they interviewed between 1-10 witnesses in the last month, while 78% estimated interviewing 1-10 witnesses in the last week.

Characteristics of intoxicated witnesses/victims. Out of 131 responses, police officers estimated that alcohol-intoxicated witnesses and victims were mostly male (64% men, 14% women, 23% IDK). Furthermore, the most frequent answer (73% of 171 responses) was that it is most common to encounter intoxicated witnesses aged 21-30 years old. Furthermore, investigators indicated which substances intoxicated witnesses are under the influence of, given the following options: alcohol only, marijuana only, other illegal substance only, multiple substances, and other. As can be seen in Table 2, the pattern is not clear here as there is substantial variation in the reports, but overall alcohol only seemed to be the most commonly used substance by intoxicated witnesses. When estimating how many intoxicated witnesses have alcohol abuse problems, the most common answer (19% of 130 responses) was that 21-30% of witnesses have abuse/dependence problems with alcohol. The second most common answer (14% of 130 responses) was "I do not know". The remaining responses were distributed across all other multiple-choice categories, though only 17% indicated that > 50% of these witnesses have problems such as alcohol dependence.

Prevalence of intoxicated witnesses. The police officers and investigators were also asked to estimate if contact with intoxicated witnesses was (a) very common, (b) common, (c) unusual, or (d) very unusual. Of 133 responses, 56% said that it was common to interact with intoxicated witnesses and another 27% answered that it was very common. In contrast, 17% responses stated that it was unusual to have contact with intoxicated witnesses and only 2% responses claimed that it was very unusual. Police officers were also asked at which stages of the investigation they encountered intoxicated witnesses (i.e., witness intoxicated during crime only, during interview only, during both crime and interview, or sober at both times). The respondents' estimates are presented in Table 3. Almost all responses (92% of 127 responses) indicated having interviewed one or several sober witness (sober at both crime and questioning) within the past month. Further, out of 131 responses, 89% indicated that at some point in their police career the respondent had questioned a witness who was sober during the interview, but who had been intoxicated at the time of the crime. A large majority (80% of 131 responses) also reported that, during some point of their police career, they had interviewed a witness who was intoxicated both at the time of the crime and the interview. More than half of responses (53% of 107) indicated having interviewed such witnesses between 1-10 times in the past month. Taken together, these results suggest that police officers in Sweden commonly encounter intoxicated witnesses.

Table 2. Frequencies of Responses Indicating how Many (e.g., 1-10%, 11-20% etc.) Intoxicated Witnesses/Victims were Under the Influence of Various Substances

% of Intoxicated	Alcohol only (*N* = 129)	Marijuana only (*N* = 123)	Other illegal substance (*N* = 122)	Multiple substances (*N* = 129)	Other substances (*N* = 92)
0%	.	2	2	1	2
1-10%	10	**35**	**47**	**28**	**8**
11-20%	7	23	14	8	2
21-30%	16	11	8	20	1
31-40%	14	8	3	13	1
41-50%	11	2	5	9	1
51-60%	14	2	2	6	.
61-70%	10	1	3	7	1
71-80%	**17**	.	.	4	.
81-90%	10	1	.	2	.
91-100%	.	.	.	1	.
IDK	20	39	38	30	76
Total No. of responses	132	124	122	129	92

Note. Boldfaced shows the most selected category (mode). Multiple responses were possible for each question. IDK = I don't know.

Table 3. Frequency of Contact with Intoxicated and Sober Witnesses/Victims At the Time of the Crime and Interrogation

Intoxication status of witness/victim		Officers that had *"ever"* questioned a witness/ victim given intoxication status		Estimations of how many witnesses/victims questioned in the past month that were intoxicated/sober at the time of the crime and/or interview								
Crime	Interview	No. of responses	% of responses	No. of responses	0	1-10	11-20	21-30	31-40	41-50	50+	IDK
Sober	Sober	130	97.7	127	8	**87**	20	6	2	2	.	2
Drunk	Sober	131	89.3	120	44	**68**	5	.	.	1	.	2
Sober	Drunk	130	30.8	51	**32**	17	.	.	.	.	.	2
Drunk	Drunk	131	80.2	107	41	**57**	4	1	.	.	.	4

Note. Boldfaced shows the most selected category (mode). Multiple responses were possible for each question. IDK = I don't know.

Type of crimes. Police officers (n = 131) provided free-report format responses regarding the types of crimes that tend to involve intoxicated witnesses/victims. Many of the police officers reported several types of crimes. Most officers reported that they meet intoxicated witnesses/victims in cases of physical assault (85 responses) – mostly in or outside of bars, followed by general acts of violence (49 responses), domestic disputes (37 responses) – especially men hitting women, sexual violence including rape (15 responses), driving under the influence (11 responses), illegal threats/assaults (7 responses), mugging (9 responses), thefts (6 responses), other types of crimes (6 responses), narcotic crimes (4 responses), damaging of property (4 responses), illegally wearing a knife (1 response) and attempted murder (1 response). When asked how many victims of sexual violence are intoxicated at the time of the crime, nearly half (47% of 129 responses) estimated that the majority of such victims are alcohol-intoxicated (51-100%), while 34% of responses indicated that < 51% of such victims are intoxicated (20% reported IDK/NA). For victims of nonsexual crimes, most responses (63% of 129) indicated that the majority of such victims were alcohol-intoxicated, while 29% indicated that these crimes involved intoxicated victims < 51% of the time (9% were IDK responses).

Measuring intoxication. Almost all police officers (99% of 130 responses) said that they never use a portable breath alcohol test (i.e., breathalyzer) to measure the breath alcohol concentration of witnesses and victims. When the officers were provided with the opportunity to explain via free report format why they did not use this method, they stated that it is not allowed by Swedish law. Similarly, 91% of 130 responses indicated that they did not use a stationary instrument at the police station to measure intoxication levels of witnesses and victims. Given the lack of legal support for measuring intoxication, it is not surprising that almost half of the responses (46% of 129) indicated that they used other methods to estimate intoxication levels. In the free report format, respondents explained that they often use subjective measurements to assess intoxication, such as a standard field sobriety test, checking for the odor of alcohol, judging the behavior and emotional stability/instability of the person, conversational tests, etc. It is also interesting to note that half of responses (50% out of 129) indicated that officers did not use any other method to estimate intoxication level. When officers (N = 133) were asked to estimate the intoxication levels of witnesses/ victims on a Likert scale ranging from 1 (*not at all intoxicated*) to 10 (*extremely intoxicated*), the mean response was 5 (SD = 1; 13% IDK/ NA). When officers estimated the typical intoxicated witness' BrAC, many respondents struggled to estimate this via free report format mostly because they did not know (because they are not allowed to objectively measure), did not remember, or said that it varies so much that it is impossible to estimate. To give an example, one officer responded that it varies between a BAC of 0.00 and 0.40%, which is a very large range given that 0.00% is sober, and 0.40% may result in a coma or death. Other officers estimated that most witnesses under the influence of alcohol have a BrAC between 0.05 and 0.10% or 0.10 and 0.20%. In sum, based on the estimates, it is reasonable to assume that most intoxicated witnesses/victims in Sweden have a moderate to high intoxication level, and are often substantially above the Swedish legal drinking and driving limit (i.e., 0.02%).

Police practices with intoxicated witnesses. The majority of responses (53% of 133) indicated that local police departments use the same standard interviewing procedures when they are questioning sober and intoxicated witnesses/victims. In contrast, 40% of responses indicated the use of different procedures when interviewing sober and intoxicated witnesses/victims (9% did not know which procedures were most commonly used at their department). When asked to rate the efficiency of the standard procedures used with intoxicated witnesses/victims on a scale from 1 (*not efficient*) to 10 (*extremely efficient*), across 123 responses, the mean score was 5 (SD = 2). This suggests that most police officers believe that using standard procedures with intoxicated witnesses is somewhat efficient.

Of those officers reporting that their department used "different" procedures with intoxicated and sober witnesses/victims, most of them explained (in free-report format) that they usually try to subjectively assess the intoxication level and then have only a short initial interview with an intoxicated witness/victim to collect important central information needed to file a police report and start the investigation, and then do another interview later. Respondents noted that they needed to adjust their interview to the special needs and the reduced cognitive ability of intoxicated persons. A few officers also stated that some witnesses/victims were never completely sober (referring to people suffering from alcohol abuse problems or drug addiction). Under these circumstances, the officers' objective was to collect as much detailed and correct information about the crime as possible, even if the circumstances were not optimal. In contrast, some police officers stated that they *never* interview (not even an initial short account) an intoxicated person (especially if the individual is very drunk), and in those cases they only ask for a person's phone number, and call the day after at a mutually agreed upon time.

When the police officers were asked if they usually (a) interview witnesses while intoxicated, (b) let witnesses sober up first, or (c) if it depends on the situation, the largest proportion of responses (73% of 135 responses) stated that it depends on the situation. In contrast, 16% said that they let the witness sober up first, and 13% said they interview them right away, even if they are intoxicated. Police officers who selected "it depends" for this question were queried further by a follow-up question asking them to describe how it depends on the situation. As several police officer chose to state more than one reason, the total sum of responses exceeded the number of participants answering the follow-up question. Based on free narrative responses from 94 participants, police officers more commonly reported that it depends on the witness/victim's level of intoxication (63 responses), followed by if there is an urgent need for evidence gathering (26 responses), the type of crime and its seriousness (22 responses), or if the police believe that the witness/victim can be reached at a

Table 4. Perceptions of Intoxicated and Sober Witnesses/Victims Accuracy and Credibility as a Function of Time and Alcohol-Intoxication

	Accuracy					
Time of intoxication	*N*	No. of responses	*M*	*SD*	*Mdn*	% IDK
Crime only	130	132	5.2	1.5	5.0	16.9
Interview only	129	129	4.6	1.7	5.0	34.1
Crime and interview	129	130	4.5	1.8	5.0	20.2
Sober at both times	128	130	7.7	1.4	8.0	10.2
	Credibility					
Time of intoxication	*N*	No. of responses	*M*	*SD*	*Mdn*	% IDK
Crime only	129	131	5.2	1.7	5.0	15.5
Interview only	127	128	4.3	1.8	5.0	32.8
Crime and interview	127	127	4.4	1.7	5.0	16.5
Sober at both times	128	129	7.7	1.5	8.0	11.7

Note. Multiple responses were possible for each question. Perceptions were rated on a Likert scale from 1 (*not at all*) to 10 (*extremely*). IDK = I don't know.

later point in time (2 responses). One officer reported basing the decision on whether to interview immediately or later on if the person is likely vulnerable to suggestive information. Based on the free narrative answers, many officers stated that they use their own subjective judgement to determine if the witness/victim is able to be interviewed (e.g., accurate awareness of time and space, appropriate body language, quality of speech and perception, smell of alcohol or not). Many officers reported that they can chose to interview witnesses if they are slightly or moderately intoxicated as long as they can speak and talk in a way that makes sense to others. Similarly, when dealing with highly intoxicated witnesses, many officers stated that they just take a very short initial account (in order to file a police report) or collect contact details in order to gather a more extensive account later, when the witness is sober. Some officers wrote that if they sense that a person is very drunk, they will not conduct an interview as it will yield no information and the legal quality of the interview will be perceived as poor by other legal practitioners (e.g., later on in court).

In the next section, officers were asked questions about the use of recognition tasks/lineups (i.e., facial identification of perpetrators) in their police practice with witnesses/victims. A lineup involves witnesses/victims viewing several persons in the room (live lineup) or several pictures of persons (photo lineup); one individual is the suspect and the rest are fillers (i.e., known innocents). A "show-up" involves a witness/victim viewing only one suspect (live or one photo). First, officers indicated via free report how many lineups in total they administer to witnesses (regardless of if they are sober or intoxicated) in a typical month. Out of 127 responses, 65% indicated that they never administer lineups. One officer stated that the initial police officer should never administer a lineup since they might destroy the outcome of the case, and it is up to the criminal investigator to conduct lineups later during the investigation. Another police officer reasoned in a similar way; lineups usually cause problems with respect to the strength of evidence, and thus they try to avoid using them. The remaining respondents (35%) indicated they rarely administer lineups (e.g., one lineup per month, one lineup per six months, four lineups per year, and two lineups during six years). However, there was one outlier: a respondent reported administering 30 lineups in a typical month. By looking at the demographic data, this particular officer was an inspector with a senior position. It might be the case that this senior inspector was responsible for administering lineups at their local department. Only 16% of 127 officers reported ever presenting a standard lineup to a witness under the influence (regardless of time of intoxication) (14% IDK/NA).

Officers also reported via free report how many showups in total they administer to witnesses (regardless of if they are sober or intoxicated) in a typical month. Out of 124 answers, the most common response (74%) was they had never administered a showup. Another 20% of responses indicated that it was very rare (approximately 1-3 per month or even per year), and 6% of officers stated that they never heard the term showup before or that they did not know. When asked if they had ever administered a showup to a witness who was intoxicated either at the time of the crime or at the questioning, only 23% of 128 officers reported that they had done so (17% IDK/NA).

The police's perception of intoxicated witnesses. In real-life cases, it is common that police interview witnesses and victims several times during an investigation. Police officers taking part in the present study were therefore asked if they believed intoxicated witnesses to provide the "most" information (regardless of the accuracy of the details) while interviewed: (a) immediately after the crime while still intoxicated, (b) as soon as they have sobered up the same day, (c) on another day when they are sober, or (d) later on while they happen to be intoxicated again. The majority (59%) of 143 responses indicated a belief that intoxicated witnesses report the most information immediately after the crime while still under the influence. Others believed the most information was given when witnesses had sobered up and was interviewed on the same day (19%), or when interviewed on another day when they were sober (18%); only 0.8% believed the most information would be given while witnesses were intoxicated again another day (18% IDK/NA).

Police officers were also asked to rate their own perception of accuracy of witnesses' reports during their interview (depending on time of questioning and intoxication status) on a Likert scale from 1 (*not at all accurate*) to 10 (*extremely accurate*). Officers were similarly asked to rate their perception of how credible witnesses are during an interview, also with respect to the timing of intoxication. The police officers' ratings were almost identical for both questions (see Table 4). In sum, witnesses who were sober at both the time of the crime and the interview were perceived as the most accurate and credible followed by witnesses intoxicated only at the time of the crime but not the interview. Witnesses who were intoxicated at either the interview only, or both at the crime and the interview were seen as the least accurate and credible.

Furthermore, police officers were also asked to estimate how likely they thought it was for intoxicated (vs. sober) witnesses/victims to testify in court. Out of 130 responses, the most common response was "I do not know" (45%), followed by less likely (28%), just as likely (17%), and more likely (11%) to end up testifying in court.

Discussion

This was the first survey of Swedish law enforcement opinions, perceptions, and experiences with intoxicated witnesses and victims they meet on the job. To our knowledge only four similar studies have examined law enforcement's perceptions of and interactions with intoxicated witnesses/victims. These international studies (Crossland et al., 2018; Evans et al., 2009; Monds, Cullen, Kloft, Sumampouw, et

al., 2021; Palmer et al., 2013) provided valuable information about the practices of law enforcement regarding intoxicated witnesses and victims in Australia, Indonesia, the U.S., and the U.K. The present study is the first to extend this research to a Swedish context, thus contributing important insight into the extent to which different countries face similar problems when interacting with this potentially vulnerable witness group. Similar to international statistics, the present survey showed that police officers in Sweden come into frequent contact with intoxicated witnesses/victims – most respondents indicated that contact was common or very common. This is not surprising given that alcohol consumption is generally high in Sweden (Swedish Council for Information on Alcohol and Other Drugs, 2019). Also, a large majority (83%) of police officers reported that it was common or very common to interact with intoxicated witnesses/victims, similar to Evans et al. (2009) who found that 73% of U.S. police officers reported that intoxicated witnesses were common or very common. U.K. police officers reported similar experiences, with 82% of respondents reporting intoxicated witnesses/victims are a common or very common occurrence (Crossland et al., 2018). Recent studies further suggest that the majority (59.6%) of Australian police officers but only 23.7% of Indonesian police officers encountered individuals who were intoxicated by any intoxicating substance (alcohol or illicit drugs) on a regular basis (Monds, Cullen, Kloft, Sumampouw, et al., 2021). The Indonesian results are unsurprising given that the lowest alcohol consumption per capita in the world can be found in Muslim-majority countries such as Indonesia (World Health Organization [WHO, 2018]). Thus, except for Indonesian officers who encounter intoxicated individuals infrequently, our results regarding Swedish law enforcement are in line with other international studies in finding a high reported prevalence of intoxicated witnesses and victims. Furthermore, Swedish police officers reported encountering intoxicated witnesses/victims in a wide variety of different crime types, but most commonly in violent crimes. These reports are well aligned with other Swedish data suggesting that victims under the influence of alcohol are common in a variety of crimes, such as assault, robbery, threats, and sexual offences (Swedish Crime Prevention Council, 2015), and that out of all cases of physical assault within one year, a majority involved alcohol-intoxicated victims, witnesses and/or suspects (IOGT-NTO, The Swedish Society for Medicine, and CERA, 2017).

Our respondents were also asked about which substances intoxicated witnesses/victims were under the influence of. Previous studies have found alcohol to be the most common drug used by intoxicated witnesses/victims (e.g., Crossland et al., 2018; Evans et al., 2009; Palmer et al, 2013), and in the current study, despite some variation in responses, investigators also reported encountering more witnesses/victims that were intoxicated by alcohol only than any other substance. The officers also believed that most intoxicated witnesses/victims were drinking socially (as opposed to having an alcohol use disorder). With respect to the alcohol and witness memory research, most studies have been lab-based studies on social drinkers (see Altman, Schreiber Compo, et al., 2019), with only some being field studies that included the full spectrum of sober to highly intoxicated participants recruited in bars (e.g., Altman et al., 2018; Harvey et al., 2020; Van Oorsouw et al., 2019). Given that our respondents estimated that most intoxicated witnesses/victims are social drinkers who mostly have only alcohol in their blood, much of the applied research on alcohol and witness memory therefore applies to these practical issues in the real world, which is promising, especially when developing national policy guidelines for interviews.

Unsurprisingly, and in line the Australian, Indonesian, and U.S., officers' responses (Evans et al., 2009; Monds, Cullen, Kloft, Sumampouw, et al., 2021), witnesses/victims were deemed to be most accurate and credible when sober. This perception is consistent with opinions of mock-jurors (e.g., Evans & Schreiber Compo, 2010), prospective jurors (e.g., Monds, Cullen, Kloft, van Golde, et al., 2021) and expert witnesses (e.g., Kassin et al., 2001), who believe that intoxication decreases witness credibility and reliability. (Note, these perceptions of diminished credibility have also been found in relation to suspects who are interrogated while intoxicated; see Mindthoff et al., 2020). Possibly due to this general belief in society and among legal practitioners, police respondents in the present study also indicated that intoxicated (vs. sober) witnesses/victims were less to testify in court. This sentiment was shared by both the U.S. (Evans et al., 2009) and the U.K. (Crossland et al., 2018) respondents. This general belief/perception by the police is not unreasonable, given that the detrimental effects of alcohol on memory performance have been clearly demonstrated for many years in the basic memory literature (see Mintzer, 2007; White, 2003, for reviews), and most individuals are not aware of the applied research on alcohol and witness memory which has largely emerged during the last decade. The present survey confirms that few, if any, police officers in the Swedish police force have knowledge and training based on the state-of-the-art research in this area. All law enforcement would benefit from this recent body of research on alcohol's effect on witnesses' memory for events and for faces especially for moderately intoxicated witnesses – the most frequent intoxicated witness/victim group. The finding that alcohol has had a more pronounced effect on the quantity than the quality of eyewitness reports, at least at low-to-moderate levels of intoxication (BrAC < 0.10%) (see Altman, Schreiber Compo, et al., 2019; Jores et al., 2019, for reviews and meta-analysis), is good news. Memory quality is usually more important and more prioritized than memory quantity in criminal investigations, at least in the later stages of the investigation (Koriat et al., 2000). Still, based on the emerging scientific findings, great care should be taken when dealing with highly intoxicated witnesses as studies have found a dose-response relationship concerning alcohol and witness memory (see Altman et al., 2018; Jores et al., 2019). Scientific knowledge on how and when alcohol affects witness memory is important to adapt to the police practical work, as this may increase the number of reliable witnesses the police can use in investigations, in turn improving criminal justice outcomes in Sweden and other countries.

The survey also explored common procedures and practices regarding intoxicated witnesses and victims. Most respondents indicated that the same standard procedure that is employed for sober witnesses/victims is also used when encountering intoxicated individuals. These procedures were generally deemed moderately effective, but many police officers were unsure of the efficiency of the procedures used. Further, approximately 40% reported using a different procedure compared to what they normally would use with sober witnesses, which is quite similar to the U.S. findings (45%) (Evans et al., 2009). In contrast, about 70% of the U.K. respondents indicated using different procedures with sober and intoxicated witnesses (Crossland et al., 2018). Again, these subjective assessments by individual officers or police departments, on either using standard procedures or different methods when dealing with intoxicated witnesses, is a clear sign that national policy guidelines based on science are needed in Sweden.

Another procedural issue that was explored in the present study was the use of objective measurements of intoxication level. Respondents indicated that neither a portable nor a stationary breathalyzer were used to measure witnesses' and victims' level of intoxication. Not surprisingly, respondents indicated this is because Swedish law prevents the use of such measurements for witnesses and victims. Instead, most respondents indicated that they used some subjective assessment (e.g., balance, odor, slurred speech, sobriety test). This was the case in previous research as well (Crossland et al., 2018; Evans et al., 2009; Palmer et al., 2013). Subjectivity in assessments of intoxication levels was indeed reflected in the present survey as respondents provided estimates of intoxication levels that ranged from sober to a heighted risk for coma or death. However, it would be reasonable to assume, given the responses, that most

intoxicated witnesses/victims had a BrAC level above the legal driving limit in Sweden (i.e., 0.02%), but it is not possible to pinpoint the most commonly encountered intoxication level given the wide variation in estimates. A similar conclusion was drawn in the U.S. survey where respondents estimated that witness/victims were moderately intoxicated and most likely above the legal driving limit in the U.S. (Evans et al., 2009). Police officers' reported use of subjective measurements in assessing witnesses/victim intoxication level is problematic for several reasons. For example, the standardized field sobriety test (e.g., eye gaze test, walk and turn test, one-leg stand test) has been found to be unreliable in assessing intoxication levels when compared to actual breath alcohol concentration levels (Stuster et al., 2006). In addition, another study found that police officers performed poorly in deciding whether an individual had consumed alcohol or not when compared to the actual BrAC (Brick & Carpenter, 2001). A more recent review also concluded that there are methodological issues with many subjective assessments of intoxication and questioned the scientific validity of such assessments (Rubenzer, 2011). In light of the problematic issues with subjective measurements of intoxication levels, several years ago Hagsand (2014) recommended that it would be beneficial to also measure witnesses' intoxication level in an objective manner using a portable or stationary breathalyzer.

The present study highlighted yet another way that a lack of guidelines might influence investigations involving intoxicated witnesses/victims – with respect to the timing of the interview. In line with applied alcohol and witness studies (e.g., Hagsand et al., 2017), a majority of respondents in the present survey believed that an interviewee would provide the most complete testimony when interviewed immediately after the crime while still under the influence. However, a sizeable minority believed it was better to let witnesses/victims sober up before the interview. Deciding to delay an interview might influence the amount, and accuracy, of information provided by a witness/victim. These findings were consistent with the U.S. survey (Evans et al., 2009) where most respondents referred to situational determinants for when to conduct an interview. Findings were also somewhat consistent with the Australian/Indonesian survey where a sizeable minority believed the best time to interview was as soon as witnesses are sober. The recommendation most consistent with the current science (at least at relates to low-to-moderate levels of intoxication) is that interviews should be done immediately, while witnesses are still intoxicated, as this results in more recalled information and more accurate recall (Hagsand et al., 2017; Hildebrand et al., 2019; La Rooy et al., 2013). Further, allowing witnesses to be interviewed twice, immediately (when intoxicated) and later (when sober), can yield both novel and accurate details in their second report (Flowe et al., 2015; Hagsand et al., 2017; La Rooy et al., 2013). These recommendations concern low-to-moderately intoxicated witnesses (BrAC below 0.10%), and more studies are needed on when to interview highly intoxicated witnesses and victims.

Limitations

It was challenging to recruit police officers to take part in the survey. The number of police respondents (N = 133) in this Swedish survey might be viewed as a small sample in relation to the approximately 20,400 police officers employed in Sweden (Swedish Police Authority, 2020). However, it is important to remember that other police survey studies (Crossland et al., 2018; Evans et al., 2009; Monds, Cullen, Kloft, Sumampouw, et al., 2021) have similar sample sizes (Ns = 119-199) despite being larger nations. The overall response rate in the present Swedish study can therefore be seen as reasonable, at least to see general trends in prevalence and procedures regarding intoxicated witnesses and victims. Relatedly, others have recommended that surveys gather data from 100 to 1,000 participants, depending on the aim, research questions, statistical goals, and resources (Jhangiani et al., 2019). The authors also point out that online surveys usually receive fewer responses compared to phone or written surveys (Jhangiani et al., 2019). Future research should explore ways of obtaining larger response rates from police samples. Another potential limitation is that self-report data comes with its own set of issues. We asked police officers to estimate from experience and from memory. As is the case with all self-reported data, social desirability and memory accuracy may be an issue. However, because our respondents were anonymous, social desirability effects were expected to be minimal.

Future Directions

These findings in conjunction with previous research clearly show that alcohol intoxication is a common occurrence in criminal investigations. Such a high prevalence of intoxicated witnesses/victims provides a strong rationale for researchers to continue to investigate the effects that alcohol can have on memory, via lab or field experiments. Also, future police studies could also examine other procedural factors including the integrity, fairness, and reliability of interviewing procedures with intoxicated witnesses/victims and include other questions to broaden the scope of the questions asked in the studies based on the original survey by Evans et al. (2009).

The fact that law enforcement remain unaware of current psychological research is reflected in the lack of national and international guidelines for dealing with intoxicated witnesses and victims. Future collaborations between police departments, lawmakers, and international researchers, such as the recent collaborations between researchers and police in Sweden (Hagsand et al., 2020), are paramount to achieving an evidence-based approach. Beyond educating and increasing knowledge among police officers, it is also important to spread awareness of this research to other legal practitioners and to the public, through widely accessible outlets (see Hagsand, in press). Increasing awareness among the public might enable potential future witnesses and victims to better assess their own reliability (if they are intoxicated) and aid them in their own decision-making when asked to give a statement to police. Increased public awareness can also aid in the process of evaluating evidence if serving as a juror. Also, other types of community engagement are generally important to bridge the researcher-practitioner gap in this area. For example, by training not only senior police officers, but also junior police recruits at the academy, this science could be spread within the whole police organization. Such endeavors are of course important for researchers in both Sweden and other countries around the globe and could be one important step forward as well.

The present research has also highlighted a potential area of concern in current Swedish law, specifically, the inability to obtain objective measurements of witness alcohol intoxication level. The reliance on subjective assessments, although common, may have detrimental consequences for all parties involved. Providing police officers with the means to objectively measure intoxication levels is one step closer to legal certainty. This is especially important given recent findings demonstrating the reliability of witness memory when witnesses are slightly or moderately intoxicated. Future research should explore the utility in providing the police with the possibility of objectively measuring intoxication, to screen for low-to-moderately intoxicated witnesses that might benefit from an initial investigative interview, and serve as reliable witnesses, aiding the police investigation. However, with that said, it is of course important to be careful with the use of objective measures of intoxication as well (i.e., not to solely ignore or accept a witness testimony just based on a specific BrAC reading). The key here lies in educating legal practitioners in the science behind intoxication levels and assessments so that sound judgments can be made based on research. Finally, it is also important to start to plan

for how new policy guidelines can be successfully implemented in police organizations around the world. A novel study (Pettersson et al., 2021) found that it is possible to experimentally manipulate police officers' decision-making on when to interview intoxicated witnesses by informing some of the officers about the state-of-the-art research on this topic. This might be one avenue for future research and may facilitate the adoption of best practices by legal practitioners.

Conflict of Interest

The authors of this article declare no conflict of interest.

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We thank all the police officers who took their valuable time to participate in this lengthy and detailed survey without any compensation.

Notes

[1]The current study describes findings relating to intoxicated witnesses and victims. Data were collected as part of a larger research project that surveyed police experiences with intoxicated suspects, witnesses and victims. The study describing the findings regarding suspects is published elsewhere (Hagsand et al., in press). As such, the methods described are similar to past research, but the main results reported in the present study are unique.

[2]To obtain a copy of the Swedish survey instrument used in the present study, please download the PDF from the Open Science Framework (OSF) website: https://osf.io/sa9zm/?view_only=6263439fd6fa4cf5a36d717e4c7f095d

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