**ABSTRACT**

**Background:** Sexual assault often occurs when victims are intoxicated. Rape myth research indicates that intoxicated assaults are sometimes seen as less severe or not as ‘real’ assaults; however, it is unclear if victims of intoxicated sexual assaults differ from victims of non-intoxicated assaults in terms of health and functioning.

**Objective:** We investigated possible differences in mental health, social support and loneliness between intoxicated and non-intoxicated sexual assault victims.

**Methods:** Participants were 1011 young adults (505 exposed to childhood violence and 506 non-exposed) selected from a community telephone survey (T1), and a follow-up survey 12–18 months later (T2). Analyses include one-way ANOVA with Tamhane post hoc tests.

**Results:** There were no significant differences in mental health, social support and loneliness between victims of intoxicated and non-intoxicated sexual assault, although both groups differed significantly from those who did not report sexual assault.

**Conclusions:** These results indicate that intoxicated sexual assaults are no less clinically important than non-intoxicated assaults.

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**1. Introduction**

Sexual assault is relatively common and may have severe negative consequences for victims. A recent study found that 11% of European women reported some form of sexual assault after the age of 15 (Violence against women: an EU-wide survey, 2014). A body of literature has linked sexual assault to mental health problems (e.g. Kilpatrick et al., 2003). In addition, sexual assault may influence other...
aspects of functioning, e.g. social support (Ullman, 1999). As sexual assault is relatively prevalent, and detrimental to health and functioning, it is to be expected that many of those seeking mental health treatment have had such experiences.

Sexual assault often occurs when the victim is intoxicated (Grubb & Turner, 2012). The body of research on incapacitated sexual assault (where the victim was too intoxicated to consent) is growing, and it has typically shown that forcible rape is associated with worse mental health effects than incapacitated rape (e.g. McCauley et al., 2009). Intoxication is not necessarily the same as incapacitation, and victims may be intoxicated during various assaults, including forcible rape. In this study, we considered self-reported intoxication within a wide spectrum of sexual assault experiences including, but not restricted to, incapacitated assault.

A review of the literature on rape myth acceptance found that intoxication during the event influences how a sexual assault is perceived, both in terms of victim-blaming and perceptions of how ‘real’ the assault was (Grubb & Turner, 2012). This may mirror cultural stereotypes of what constitutes a ‘real’ rape or sexual assault, contributing to rape myths that survivor groups and support groups often try to counteract (e.g. Rape Crisis England & Wales, 2018). Thus, rape myths may suggest that intoxicated sexual assault is more trivial and less severe for victims; however, there is little information to support or counter such beliefs. Of the few studies that investigate intoxication in various assault-types in relation to mental health, one found that women who had not used alcohol prior to sexual assault showed more intrusion symptoms, but a quicker reduction in these symptoms, than women who had used alcohol prior to the assault (Kaysen et al., 2010). Another study found that rape victims who were impeded or incapacitated by alcohol during the event exhibited more hazardous drinking post-assault than non-impeded victims, although the groups did not differ in terms of depression and anxiety symptoms (Littleton, Grills-Taquechel, & Axsom, 2009). Myths about sexual assault may lead social networks to respond differentially to intoxicated and non-intoxicated sexual assault victims, but little is known about whether these groups of victims differ in terms of social functioning. Findings imply a link between victim intoxication and negative victim characteristics (Grubb & Turner, 2012), which could mean that intoxicated victims are at greater risk for social rejection or withdrawal, but this has not been investigated.

In this study, we aimed to examine whether or not victims of intoxicated sexual assault differ from victims of non-intoxicated sexual assault, as compared to individuals not exposed to sexual assault in the past year, in terms of mental health, social support and loneliness.

2. Methods
The study used two waves of data (N = 1011, 17–35 years of age, 59.7% women) from a community telephone survey (T1) with a follow-up time of 12–18 months (T2). At T1, 6589 individuals (2062 adolescents and 4527 adults) were randomly selected from the General Population Registry of Norway (T1 response rate: 42.9% in adult sample, 61.7% in adolescent sample) (Myhre, Thoresen, & Hjemdal, 2015; Thoresen, Myhre, Wentzel-Larsen, Aakvaag, & Hjemdal, 2015). The current sample (T2) was drawn from T1 participants who had consented to a follow-up interview (91%, N = 5996), based on their reports of childhood violence: 505 participants who had been exposed to childhood violence were matched by age and gender with 506 unexposed participants. As we were interested in young adults, the youngest participants were contacted first, with recruitment continuing with increasing age until a total of 500 participants (predetermined to be the necessary sample size) was reached (mean age = 21). For the follow-up study (T2), telephone interviews were conducted 12–18 months after T1 by the data collection agency Ipsos. Of the 1224 individuals we were able to reach, 1011 (82.6%) participated, which constituted 39.7% of those we attempted to contact. Attrition analyses showed that respondents had a significantly higher prevalence of violence exposure than the individuals who could not be reached, with small differences in gender, age and violence exposure among those who answered the phone (Strøm, Kristian Hjemdal, Myhre, Wentzel-Larsen, & Thoresen, 2017). The study was approved by the Regional Committee for Medical and Health Research Ethics in South-East Norway.

2.1. Measures
Past year sexual assault (T2) included various types of sexual assault that could have occurred in the past 12–18 months, including four questions on forcible rape (has anyone forced you into intercourse [oral sex, anal sex or put fingers or objects in your vagina or anus] using physical force or by threatening to hurt you or someone close to you) and four questions on other types of sexual assault (unwanted sexual contact while you were so intoxicated that you could not stop what was happening, fondled your genitals or made you touch their genitals by using physical force or by threatening to hurt you, coerced into sexual acts and experienced other forms of sexual assault or abuse) (Kilpatrick et al., 2003). For more details on sexual assault measures, see Thoresen et al. (2015).
2.2. Past year intoxicated sexual assault (T2)

For each category of sexual assault, respondents were asked whether they were intoxicated when the assault happened. We then split respondents into three categories: (A) No sexual assault, (B) non-intoxicated sexual assault and (C) intoxicated sexual assault. In five cases, both intoxicated and non-intoxicated sexual assault were reported, and these respondents were excluded from the analyses. Three individuals did not know whether they had been intoxicated and were thus excluded from the analyses. Those who reported incapacitated rape (unwanted sexual contact while they were too intoxicated to prevent it) were included in (C) intoxicated assault.

2.3. Event characteristics

Respondents were asked about their relationship to the perpetrator, whether or not they believed the perpetrator was intoxicated and how many times they had been sexually assaulted in the past year.

2.4. Childhood violence (T1)

Sexual abuse before the age of 18 was measured using questions with similar wording to those in T2 (see above) but referring to assaults that occurred before 18 years of age, with one additional item about sexual abuse before the age of 13. We also asked about neglect, parental physical and psychological abuse, and physical violence between parents.

2.5. Mental health (T2)

Anxiety and depression symptoms were measured with a short version of the Hopkins Symptom Checklist (HSCL-25) (Derogatis, Lipman, Rickels, Uhlenhuth, & Covi, 1974), where respondents were asked to report how troubled they had been in the last week by five anxiety symptoms and five depression symptoms, on a scale from 1 to 5. Cronbach’s alpha was 0.91. PTS was measured by PCL-6, a short version (Lang & Stein, 2005) of the PTSD Check List (PCL for DSM IV) (Bliese et al., 2008). Cronbach’s alpha was 0.84.

Social support was measured by the Crisis Support Scale (Joseph, Williams, & Yule, 1992), consisting of four items referring to whether someone is willing to listen, the ability to talk about thoughts and feelings, sympathy and support from others, and the availability of practical help, all rated on a scale from 1–5, where 1 is never and 5 is very often or always. Cronbach’s alpha was 0.80.

Barriers to social support seeking were measured by asking whether respondents had refrained from support seeking because they thought that people were tired of hearing about their experience, had enough problems of their own, would think they were too preoccupied by it, that they would be burdening their friends or that people who had not had the same experience would not understand (Thoresen, Jensen, Wentzel-Larsen, & Dyb, 2014). Responses were given on a scale from 1–5 ranging from not at all to very much. Cronbach’s alpha was 0.83.

Loneliness was measured using a three-item scale about lacking companionship, feeling left out and feeling isolated from others (Hughes, Waite, Hawkley, & Cacioppo, 2004). We added one item on the subjective experience of lonelines. Responses were given on a scale from 1–4, ranging from never to often. Cronbach’s alpha was 0.85.

Statistical analyses include chi-square tests and one-way ANOVA with a Tamhane post hoc test. Analyses were performed in IBM SPSS Statistics, version 25.

3. Results

Of 78 individuals who reported at least one sexual assault in the last year, 49 (62.8%) reported that they had been intoxicated during the assault (Table 1). Perpetrator intoxication was more common among the group that had experienced intoxicated assault. The two groups did not differ significantly in terms of multiple assaults. There were no gender differences between the groups, but the intoxicated victims were

| Table 1. Characteristics of last year non-intoxicated and intoxicated sexual assault. |
|---------------------------------------------------------------|
| Victim characteristics                                      | Non-intoxicated sexual assault only (n = 29) | Intoxicated sexual assault (n = 54) |
|---------------------------------------------------------------|
| N                  | %     | N          | %     | χ² p-value |
| Sex (female)       | 25    | 86.2       | 44    | 81.5       | .584   |
| Ethnic majority    | 24    | 82.8       | 52    | 96.3       | .020   |
| Childhood violence experiences  | 22    | 75.9       | 42    | 77.8       | .843   |
| Perpetrator relationship* |       |            |       |            |        |
| Partner/parent/family member | 6     | 20.7       | 4     | 74.4       | –      |
| Known perpetrator | 16    | 55.2       | 36    | 66.7       | .302   |
| Stranger           | 13    | 44.8       | 21    | 38.9       | .600   |
| Event characteristics |       |            |       |            |        |
| Perpetrator was intoxicated | 10    | 35.7       | 52    | 98.1       | <.001  |
| More than one event per year | 13    | 44.8       | 20    | 37.0       | .489   |

N = 83. Percentages calculated from affirmative answers. If a row contains categories with N < 5, χ² p-values are not calculated. * Categories are not mutually exclusive as one person may report multiple perpetrators.
younger than non-intoxicated victims and non-victims (mean age 18.6, versus 21.9 and 21.0, respectively).

Table 2 shows mean scores for anxiety and depression symptoms and PTS (post-hoc significance testing is displayed in Table 3), social support, barriers and loneliness in the three groups. Mental health problems were significantly greater among those who reported past year sexual assault compared to those who had not, as were barriers to support seeking and loneliness. Social support was significantly lower in the intoxicated assault group compared with those who had not been assaulted, whereas no significant difference was found between non-intoxicated victims and non-victims.

No significant differences were found between the sexually assaulted groups, neither in terms of mental health nor of social support and loneliness. These results imply that victims of past year sexual assault scored higher on problems with mental health, social support and loneliness compared to those who were not victims of past year sexual assault. There were no indications that there are important differences between the sexual assault groups.

4. Discussion

Among those who reported past year sexual assault, we found no significant differences in mental health, social support and loneliness when comparing intoxicated and non-intoxicated assault. Both groups reported more mental health problems, barriers to support and loneliness compared to those who did not report past year sexual assault. The assaulted groups did not seem to differ in their descriptions of event characteristics. Overall, there seemed to be little difference between assault victims based on intoxication status during the event.

We found no significant difference in social support between those who were not assaulted and those assaulted when not intoxicated, whereas victims of intoxicated assault reported significantly lower social support than those who were not assaulted. Social support has consistently been found to impact mental health after trauma, but mental health problems may also contribute to a loss of social support over time (Kaniasty & Norris, 2008), indicating a complex and potentially reciprocal relationship between health and social relationships. Individuals with weak social ties may be less protected against intoxicated assault specifically, for example due to lack of guardians when intoxicated or because perpetrators may perceive them as less risky targets. Alternatively, victims of intoxicated assaults may be more likely to be blamed, looked down on or rejected after the event, which may result in loss of social support. Research is needed to explore this relationship. Other ways in which intoxicated and non-intoxicated victims may differ needs further investigation, including aspects such as interpretation of the event, willingness to disclose and help-seeking behaviour.

This study has several limitations. Due to the case control follow-up design, estimations of differences between victims and non-victims may be underestimated (compared to a population sample, childhood violence was overrepresented among non-victims). We did not distinguish between men and women in our analysis; however, there were no significant differences that there are important differences between the sexual assault groups.

Table 2. Mean scores for anxiety and depression symptoms, posttraumatic stress and social relations (T2) for those that (A) did not experience last year sexual assault, (B) experienced only non-intoxicated sexual assault last year and (C) experienced at least one intoxicated sexual assault last year.

|                          | No last year sexual assault (A) | Non-intoxicated sexual assault only (B) | Intoxicated sexual assault (C) |
|--------------------------|---------------------------------|--------------------------------------|-------------------------------|
|                          | Mean  | SD    | Mean  | SD    | Mean  | SD    |
| Symptoms of anxiety and  | 1.38  | .49   | 1.90  | .64   | 1.94  | .69   |
| depression               |       |       |       |       |       |       |
| Posttraumatic stress     | .40   | .62   | 1.21  | .94   | .97   | .92   |
| Social support           | 3.44  | .68   | 3.13  | 1.01  | 3.00  | .90   |
| Barriers against support | 1.92  | .82   | 2.85  | .88   | 2.47  | 1.03  |
| loneliness               | .99   | .69   | 1.60  | .85   | 1.54  | .79   |

Table 3. Comparison of mean scores between the groups, one-way ANOVA Tamhane post hoc test p-values comparing those that (A) did not experience last year sexual assault, (B) experienced only non-intoxicated sexual assault last year and (C) experienced at least one intoxicated sexual assault in the last year.

|                          | No last year sexual assault vs non-intoxicated sexual assault only (A vs B) | No last year sexual assault vs intoxicated sexual assault (A vs C) | Non-intoxicated sexual assault only vs intoxicated sexual assault (B vs C) |
|--------------------------|-----------------------------------------------------------------------------|-----------------------------------------------------------------|------------------------------------------------------------------|
|                          | p-values                                                                    | p-values                                                       | p-values                                                        |
| Symptoms of anxiety and  | <.001                                                                       | <.001                                                          | .994                                                             |
| depression               |                                                                             |                                                                |                                                                  |
| Posttraumatic stress     | <.001                                                                       | <.001                                                          | .632                                                             |
| Social support           | .285                                                                        | .003                                                           | .915                                                             |
| Barriers against support | <.001                                                                       | .008                                                           | 3.73                                                             |
| loneliness               | .002                                                                        | <.001                                                          | .984                                                             |

\* n = 1008. \* n = 439.
gender differences in intoxication status among those sexually assaulted. Intoxication during the event was self-reported and may be difficult for the individual to assess in hindsight, especially for those with high post-trauma symptomatology. As the sexual assaults were measured at the same time point as mental health, social support and loneliness, the direction of these associations cannot be determined. Brief versions of mental health measurements were used. Another limitation is that our sample size did not allow us to adjust for potential confounding factors, such as pre-existing mental health conditions or exposure to other adversities. Our results should thus be interpreted with caution.

Strengths include sampling from a population study, the comprehensive assessment of sexual assault and the broad assessment of mental health, social support and loneliness in T2.

Our results imply that clinicians should be attentive to patients’ experiences with sexual assault, regardless of whether they had been drinking at the time of the event. Intoxicated sexual assault is relatively common, and prevalent rape myths may lead victims to view their assault as not severe or ‘real’ enough, which may impede disclosure. Clinicians may need to be particularly attentive to intoxicated assault. Clinicians should also be aware of the severity of sexual assault, regardless of intoxication status.

Prevention of sexual assault is important, and preventive programmes have received some empirical support (Jouriles et al., 2016). This study implies that strategies should include targeted efforts against intoxicated assault.

Disclosure statement

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