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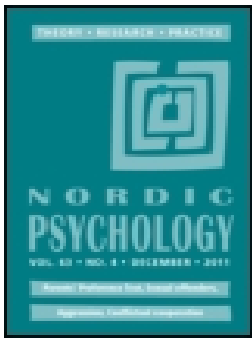
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Factors related to rape victims' decision to file police reports

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Abstract

Victims of rape must decide whether to file a police report, and many victims decide not to report the rape to the police. The literature on the associations between demographic and individual factors and reporting rape to the police is limited. Here, we investigated the associations between demographic and individual factors (education, socioeconomic status, age, native country, years lived in Finland, gender, sexual orientation, relationship status, close persons, substance use, and mental disorder) and police reporting in a Finnish sample of rape victims (N = 191) who visited the Helsinki Seri Support Center. We collected data through an online survey. We found some evidence that victims with a university degree might be less likely to report than those with a vocational qualification. None of the other factors measured were robustly associated with reporting. It is possible that the services provided by the Seri Support Center successfully mitigate otherwise encountered obstacles to reporting. The current study was the first to investigate this topic in Finland. The practical implications of these findings are discussed, and the value of support services highlighted.

Keywords: Rape, sexual assault, sexual violence, police reporting, sexual assault referral center

Rape is commonly defined as non-consensual sexual penetration using violence, threat of violence or otherwise exploiting the individual's inability to deny consent (American Psychological Association, n.d.). Rape is considered the most severe form of sexual violence and being subjected to rape can affect the victim's health both physically and psychologically (Smith et al., 2018). In a Finnish national study from 2019, 2.8% of women and 0.3% of men reported experiencing attempted or completed contact sexual violence in the past 12 months (Danielsson & Näsi, 2020). In comparison, in a national study from 2015, these numbers were 4.7% and 3.5% in the United States (Smith et al., 2018).

There is an ongoing discussion about why rape victims are not always receiving justice and why, in many cases, alleged perpetrators are not convicted. Firstly, only a small proportion of rape cases are reported to the police. The exact rates of rape reporting in Finland are not known, but it has been estimated that less than 4% of women who experienced

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sexual violence, including rape, have reported it (Piha, 2019). This estimation is in line with a Swedish report stating that 5% of women and 1% of men who had been victims of sexual assault, including rape, had reported it to the police (Andersson et al., 2014). Further, in a recent Finnish study, Alaattinoğlu et al. (2020) found that only 15.5% of the rape cases reported to the police during 2011–2017 resulted in a sentence. To understand the low reporting rates, it is important to study factors related to the decision regarding whether to file a police report. By identifying possible barriers to reporting, steps can be taken to counter these.

Prior research has investigated vulnerability factors associated with the risk of becoming a victim of rape (e.g. Lindqvist, 2020; Ullman & Najdowski, 2010), but in the context of reporting rape, vulnerability factors have not been widely recognized. It is possible that there are some unidentified vulnerability factors contributing to the underreporting of rape. The underreporting, in turn, can have effects on both individual and societal levels. Victims risk not receiving the help and support they might need (Fisher et al., 2003), particularly if services require a police report. In a study conducted by Walsh and Bruce (2014), both reporters and non-reporters felt the need for counseling services after the sexual violence occurred, emphasizing the need for support irrespective of the reporting decision. Societies and legal systems, in turn, suffer from the underreporting as it decreases the possibility to mitigate and deter violence (Allen, 2007). The investigative process is often highly dependent on the information provided by the victim, as the victim often is the only witness besides the alleged perpetrator (e.g. Allen, 2007). However, all victims do not consider reporting to be the best solution. Although reporting can lead to the conviction of the offender, prevent future victimization (Boateng, 2018), and increase the victim's access to medical care (Resnick et al., 2000), reporting comes with a real or perceived risk of being disbelieved and blamed during the legal and medical processes (Campbell, 2013). Even though these processes may be helpful for victims (Campbell, 2013), they can also lead to revictimization and discourage future help-seeking (Patterson, 2011). This secondary victimization is also known as "second rape" (Campbell, 2013; Campbell & Raja, 1999). Additionally, reporting comes with a risk for social stigmatization of the victim (Allen, 2007; Boateng, 2018). Hence, victims arguably have to weigh the costs and benefits of reporting against each other (Bowles et al., 2009; Kahn-Lang, 2008).

The aim of the current study was to investigate factors associated with rape victims' decisions regarding whether or not to file a police report. We investigated a sample of Helsinki Seri Support Center's clients. The Seri Support Center at the Helsinki University Hospital (HUS) has since its inception in 2017 functioned as a support unit for persons over the age of 16, regardless of gender, who have experienced rape or attempted rape within the past month. Although victims visiting the Center are not required to file a report, they are encouraged and assisted to do so by the personnel who closely collaborate with the police.

Factors related to reporting rape

The existing literature on factors related to reporting focuses on reporting rape (e.g. Chen & Ullman, 2010; Wolitzky-Taylor et al., 2011), sexual assault (e.g. Boateng, 2018; Walsh & Bruce, 2014), and sexual victimization (Fisher et al., 2003). Prior research has investigated a number of factors related to reporting, suggesting that situational factors, such as sustained injury

(e.g. Clay-Warner & McMahon-Howard, 2009; Wolitzky-Taylor et al., 2011), use of force (e.g. Chen & Ullman, 2010; Du Mont et al., 2003) and use of a weapon (Clay-Warner & McMahon-Howard, 2009; Chon, 2014) increase the reporting likelihood. In contrast, other situational factors, such as the intoxication of the victim, have been found to be inconsistently associated with reporting. According to Wolitzky-Taylor et al. (2011) victims who were intoxicated during the rape are less likely to report, whereas Chen and Ullman (2010) did not report an association. Studies have also recognized the offender-victim relationship, and the results indicate that victims are more likely to report when the offender is a stranger (e.g. Allen, 2007; Wolitzky-Taylor et al., 2011). In addition, prior research indicates that victims who are afraid of reprisal and considers the rape as a private matter are less likely to report (Allen, 2007).

In addition, studies have identified several demographic factors to be associated with reporting. Socioeconomic status (SES) has been operationalized in various ways (e.g. income, employment, and level of education) and investigated in different cultural contexts, making it challenging to merge findings. Some studies have found a higher income to be associated with a lower reporting likelihood (Chon, 2014; Kahn-Lang, 2008), whereas others have found that income is not associated with reporting (Boateng, 2015; Wolitzky-Taylor et al., 2011). Employment has not been found to be associated with reporting (Boateng, 2015). Further, the association between education and reporting has been reported as both negative (Allen, 2007; Wolitzky-Taylor et al., 2011) and positive (Boateng, 2018). Older age has been found to increase the likelihood of reporting (Allen, 2007; Chen & Ullman, 2010), whereas Boateng (2015) found that younger victims were more likely to report. Yet other studies found no differences related to age (Wolitzky-Taylor et al., 2011; Zijlstra et al., 2017). Gender is also inconsistently associated with reporting. Studies have found that women are more likely to report than men (Allen, 2007; Kahn-Lang, 2008) and vice versa (Chon, 2014). Yet, others have found that gender is not associated with the reporting likelihood (Covers et al., 2021; Zijlstra et al., 2017). Importantly, as most rape victims are women, the small number of sampled men decreases the statistical power to detect gender differences. Additionally, to the best of our knowledge, no previous studies concerning reporting have considered non-binary gender identities. However, an increased risk for sexual victimization among young gender minorities has been recognized (Jokela et al., 2020). Therefore, research should also include non-binary individuals.

Ethnicity/race has been measured differently across studies, wherefore the results are not necessarily directly comparable or generalizable from one cultural context to another. Caucasian individuals are more likely to report compared to other race/ethnicity groups (Wolitzky-Taylor et al., 2011), but non-White individuals have also been found to be more likely to report compared to White individuals (Chen & Ullman, 2010; Wolitzky-Taylor et al., 2011). Additionally, it has been suggested that victims in Western countries are more likely to report compared to victims in non-Western countries (Chon, 2014). Marital status has inconsistently been shown to be associated with reporting. Some authors have reported no associations (Boateng, 2015; Wolitzky-Taylor et al., 2011), whereas others have reported that married victims are more likely to report than unmarried (Boateng, 2018; Kahn-Lang, 2008). As other forms of cohabiting and choosing to live as single have become increasingly common, it is insufficient to only measure whether an individual is married or not. Therefore, research should include various relationship categories.

Associations between other individual factors such as mental health and reporting have been investigated sparsely. The available literature suggests that post event posttraumatic stress disorder symptoms, like re-experiencing and hyperarousal increase, while others, like avoidance, decrease the reporting likelihood (Walsh & Bruce, 2014). Other mental health factors have not been found to account for differences in the reporting likelihood (Du Mont et al., 2003; Walsh & Bruce, 2014). There is a lack of research exploring the associations between other demographic and individual factors (such as sexual orientation or general drinking habits), and reporting. Effects of sexual orientation (non-heterosexual individuals more likely) and lifetime drinking problems (unrelated) on disclosing to mental health professionals have been investigated (Starzynski et al., 2007). However, these results are not necessarily generalizable for police reporting. Concerning alcohol use among victims, prior research has mainly focused on drinking at the time of the incident (e.g. Chen & Ullman, 2010; Wolitzky-Taylor et al., 2011), with no studies investigating the effect of general drinking habits on reporting. The same applies to drug use (e.g. Chen & Ullman, 2010).

Understanding the factors associated with reporting is important in order to increase access to justice for all rape victims. Further, it can help identify risk groups and improve the support services offered. Although prior studies have investigated background factors related to reporting rape, a need for more data exists. The inconsistent and partly incomplete findings, the need for more updated data, and the fact that many of the prior studies have been conducted in the United States (e.g. Chen & Ullman, 2010; Wolitzky-Taylor et al., 2011), underline the need for the current study.

The current study

The aim of the current survey study was to investigate associations between demographic and individual factors and rape victims' decisions to report or not to report the rape to the police. To do this, we sampled clients in a Finnish sexual assault referral center. We also aimed to expand the demographic and individual factors and response options accounted for in this field.

The current study assumes that rape victims face a choice of whether to report and that this decision-making is affected by several factors, including demographic and individual factors. In line with previous research conducted from a cost-benefit theory perspective, we argue that decision-making implies weighing the costs and benefits against each other (Bowles et al., 2009; Kahn-Lang, 2008). Further, we elaborate on this argument by adding a vulnerability framework. Particularly, we propose that certain demographic and individual factors can place rape victims in a more vulnerable life situation in society (i.e. with higher costs of reporting) compared to others. This, in turn, reflects on their reporting behavior.

Vulnerability has been defined as a lack of resources occurring in one or more life domains (Spini et al., 2017), emphasizing the impact available resources have on different life areas. In the current study, we focused on examining vulnerability from three perspectives: societal, relational, and mental health perspectives. First, from a societal perspective, the life situation of victims can be vulnerable to different extents, depending on their status in society. Second, from a relational perspective, the life situation of victims is likely to be influenced by their current relations, that is, whether they have close persons to rely on.

Third, from a mental health perspective, the life situation of victims can be vulnerable to different extents, depending on factors such as substance use and possible mental disorders.

More specifically, our study questions were:

1. Are societal vulnerability factors (i.e. education, SES, age, native country, years lived in Finland, gender, and sexual orientation) associated with reporting?
2. Are relational vulnerability factors (i.e. relationship status and close relations) associated with reporting?
3. Are mental health vulnerability factors (i.e. substance use and psychological problems) associated with reporting?

Method

Sample

The sample consisted of Helsinki Seri Support Center's clients who had requested support between June 1, 2017, and February 29, 2020. Eligible clients were 16 years or older at their first visit and had experienced rape or attempted rape within one month prior to the visit. Importantly, all the included cases are alleged rapes until proved otherwise. Considering our research question, we included respondents who had not filed a police report or had filed it by themselves or with the help of someone (see [Figure 1](#)).

Materials

We used SurveyAnalytics to create an online survey (administered in Finnish, Swedish, and English) based on prior national and international research and surveys. The present survey was developed to capture both new themes and themes described previously in scientific literature. We gathered information about: (a) demographics and background, (b) the rape, (c) the alleged perpetrator, (d) factors affecting reporting, and (e) the experiences and use of the support services at the support center. The question about close persons and inquiring about the use of alcohol were derived from previous Finnish national surveys (Finnish Institute for Health & Welfare, 2019; Piispa et al., 2006). In cases where respondents had several experiences of rape, they were instructed to think about the most recent incident for which they had received treatment at the center. Closed questions were preferred for improving the reliability of the survey and the analyzability of the data. All 13 variables relevant for the current study are presented in [Table 1](#).

Ethical permission

The study received ethical permission by the HUS Ethics Committee (30.9.2020, HUS/2162/2020) and an additional permission from the HUS Department of Obstetrics and Gynecology (11.11.2020, HUS/483/2020) preceding the data collection.

Before accessing the online survey, clients read information about the study and gave their consent to participate voluntarily. The consent form was adjusted for minors (clients 16–17 years of age). Parental consent for minors to participate was not required due to the nature (survey) and topic (rape) of the study, and with a view to support minors in

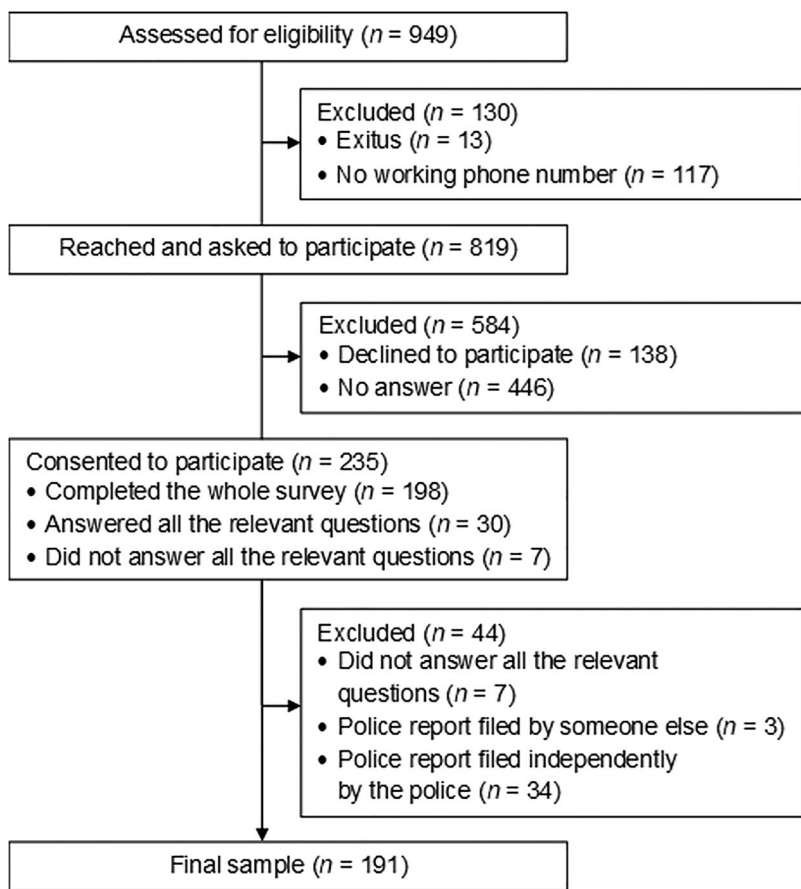


Figure 1. Flowchart of respondents in the present study.

independent decision-making and their right to be heard in matters concerning themselves (following the principles outlined in the Convention on the Rights of the Child; United Nations, 1989).

Procedure

The current study was part of a research project titled “Backgrounds of Seri Support Center Customers, Use of Support Services and Progress of the Criminal Procedure,” funded by the Finnish Government’s analysis, assessment, and research activities. The project was conducted collaboratively by HUS Seri Support Center, Åbo Akademi University, Finnish Institute for Health and Welfare, and initially also with the participation of the Helsinki Police Department.

Prior to the data collection, we piloted the survey twice ($n = 10$, $n = 20$), and modified the survey according to the comments received. We collected data between November 2020 and February 2021. A research assistant sent personal links to the online survey as text messages to all eligible clients. For those who did not respond, a reminder text message was

Table 1. Survey questions and response options relevant for the current study.

Questions	Response options
Did you report or has the sexual violence in question been reported to the police?	Yes, No
How old are you?	16–71 or more
Your gender?	Female, Male, Other ^a , I'd rather not say
Where were you born?	Finland, I'd rather not say, Dropdown menu of all countries
How long have you lived in Finland?	All my life, Less than twelve months, Approximately one year, 2–71 or more years
Which of the following best describes your sexual orientation?	Heterosexual, Homosexual, Bisexual, Other ^a , I'd rather not say
What is your current relationship status?	Married or in a registered partnership, Co-habiting, In a relationship but living apart, Divorced or separated, Widowed, Unmarried/single
What is your education level?	University degree, University of applied sciences degree, Matriculation exam, Vocational qualification, Lower secondary school, None of the above
What is your socioeconomic status?	Senior clerical and management personnel, Lower clerical and management personnel, Worker, Entrepreneur, Student, Pensioner aged 55 or over, Pensioner aged under 55, Other (long-term unemployed, military conscript, etc.), Don't know
How many close persons do you have, to whom you can go for support if you encounter serious personal problems?	None, 1–2, 3–5, 6 or more
How often do you drink alcohol to the point that you feel drunk?	Never, Not at all during the last year, A few times a year, Every couple of months, Once or twice a month, Once or twice a week, Three times a week or more, Don't know
Do you use other intoxicants besides alcohol?	I have never tried them, I have tried them, I occasionally use them, I regularly use them
Have you had any mental disorders diagnosed by a physician or other health care professional?	No; I used to, but have since recovered; Yes, but I don't feel that it significantly affects my functional ability or quality of life; Yes, and I feel that it significantly affects my functional ability and quality of life

Note. The first variable presented in the table is the dependent variable, rest of the variables are independent.

We included definitions of socioeconomic statuses, intoxicants, and mental disorder in the survey. The definitions can be found in the Appendix published at Open Science Framework.

^aPossibility to specify included.

sent, and if there was still no response, they were called once by the research assistant and offered a possibility to answer by phone.

Statistical analyses

We conducted all statistical analyses using the *R* platform (R Core Team, 2021). We used the *car* package (Fox & Weisberg, 2019) to recode our dependent variable and to obtain

analysis of variance (ANOVA) type tables for regression models. We used the MASS package (Venables & Ripley, 2002) to calculate odds ratios and confidence intervals. In our second set of analyses, we used epitools package (Aragon et al., 2017) to calculate odds ratios and confidence intervals.

We first examined the distribution of reporters and non-reporters for every variable. To test the associations between the societal, relational, and mental health variables, and rape reporting, we conducted a multiple binary logistic regression model with report as the binary outcome variable (coded as 0 = not reported, 1 = reported). In this first analysis, we treated age and years lived in Finland as continuous variables; country as a dichotomous variable ("Finland"; "Other"); SES, gender, sexual orientation, and relationship status as categorical variables; and level of education, number of close persons, use of alcohol, use of other intoxicants, and mental disorder were all coded as ordered variables. SES was treated as a categorical variable based on our assumption that the differences between the levels cannot be ranked, as income and social status might overlap considerably between categories. Therefore, SES could not be coded as an ordered variable. Education, in turn, was coded as an ordered variable since the levels can be ranked from lowest to highest level of education. As examples of ordered variables, the response options for number of close persons were coded as "None" = 0, "1 to 2 persons" = 1, "3 to 5 persons" = 2, and "6 or more" = 3; and the response options for use of intoxicants as "I have never tried them" = 0, "I have tried them" = 1, "I occasionally use them" = 2, and "I regularly use them" = 3. See Table 2 for the recoding of ordinal variables. Because some cells had a limited number of observations, we combined response options with two or fewer observations with other response options (see Table 2).

We then evaluated the model by inspecting an ANOVA-type II sum of squares table for the main effect of each included variable. After this, we reran the model with a treatment coding to assess the direction of possible associations. In this step, we also calculated odds ratios and 95% confidence intervals.

As a final step, we dichotomized the predictor variables into a doc variable high versus low vulnerability, based on our theoretical assumptions. The classification was based on the hypothesized vulnerability factors, i.e. whether the level of a variable was hypothesized to place the victim in a more or less vulnerable life situation. For example, country was recoded as "Finland" = "low" and all other response options = "high"; sexual orientation as "Heterosexual" = "low" and all other response options = "high"; and relationship status as "Married/Registered partnership", "Co-habiting", "Relationship but living apart" = "low" and "Unmarried/Single", "Widowed", "Divorced or separated" = "high". See Table 2 for the entire coding. We first evaluated the direct association between each of these dichotomous variables and the outcome variable using chi-square analyses. Finally, we added the dichotomous variables as predictors in a multiple binary logistic regression.

We used an alpha level of .05 as a criterion for statistical significance in all statistical tests.

Results

To obtain descriptive statistics, we inspected and compared the distribution of the 12 variables for both respondents who had filed a police report and who had not filed a police report (see Table 3). In total, 123 out of 191 respondents (64.4%) had filed a police report.

Table 2. Coding of ordinal variables and classification of variables into high versus low vulnerability factors.

Vulnerability perspective	Variable	Ordinal	High	Low
			<i>n</i>	<i>n</i>
Societal	Education		28	163
	University degree	4		x
	UAS degree	3		x
	Matriculation exam	2		x
	Vocational qualification	1		x
	Lower secondary school ^a	0	x	
	None of the above ^a	0	x	
	SES		114	77
	Senior clerical and management			x
	Lower clerical and management			x
	Worker			x
	Entrepreneur			x
	Student		x	
	Pensioner aged 55 or over ^a		x	
	Pensioner aged under 55 ^a		x	
	Other		x	
	Don't know		x	
	Age		78	113
	25–50			x
	Else		x	
	Country		12	179
	Finland			x
	Other		x	
	Gender		7	184
	Female			x
	Male		x	
	Other		x	
	Sexual orientation		58	133
	Heterosexual			x
	Homosexual		x	
	Bisexual		x	
	Other		x	
	I'd rather not say		x	

(Continued)

Table 2. (Continued).

Vulnerability perspective	Variable	Ordinal	High	Low
			<i>n</i>	<i>n</i>
Relational	Relationship status		147	44
	Married/registered partnership			x
	Co-habiting			x
	Relationship but living apart			x
	Divorced or separated ^a		x	
	Widowed ^a		x	
	Unmarried/single		x	
	Close persons		66	125
	None	0	x	
	1–2	1	x	
	3–5	2		x
	6 or more	3		x
Mental health	Alcohol		121	70
	Never ^a	0		x
	Not at all during the last year	1		x
	A few times a year	2		x
	Every couple of months	3	x	
	Once or twice a month	4	x	
	Once or twice a week ^a	5	x	
	Three times a week or more ^a	5	x	
	Don't know ^a	0		x
	Intoxicants		107	84
	I have never tried them	0		x
	I have tried them	1	x	
	I occasionally use them	2	x	
	I regularly use them	3	x	
	Mental disorder		95	96
	No	0		x
	Used to, but have recovered	1		x
	Yes, but it does not significantly affect the functional ability or quality of life	2	x	
	Yes, and it does significantly affect the functional ability and quality of life	3	x	

Note. UAS = University of applied sciences.^aFor more power, we combined the following categories: "Lower secondary school" and "None of the above"; "Pensioner aged 55 or over" and "Pensioner aged under 55"; "Divorced or separated" and "Widowed"; and "Never" and "Don't know"; "Once or twice a week" and "Three times a week or more".

Table 3. Distribution of the independent variables among reporters and non-reporters.

Vulnerability perspective	Variable	Police report (<i>n</i> = 123)		No police report (<i>n</i> = 68)	
		<i>n</i>	%	<i>n</i>	%
Societal	Education				
	University degree	14	11.38	13	19.12
	UAS degree	22	17.89	12	17.65
	Matriculation exam	33	26.83	25	36.76
	Vocational qualification	33	26.83	11	16.18
	Lower secondary school	20	16.26	7	10.29
	None of the above	1	0.81	0	0.00
	SES				
	Senior clerical and management	8	6.50	1	1.47
	Lower clerical and management	6	4.88	6	8.82
	Worker	43	34.96	26	38.24
	Entrepreneur	4	3.25	4	5.88
	Student	38	30.89	24	35.29
	Pensioner aged 55 or over	0	0.00	1	1.47
	Pensioner aged under 55	5	4.07	1	1.47
	Other	10	8.13	3	4.41
	Don't know	9	7.32	2	2.94
	Age				
	<i>Mdn</i>	123	27	68	26
	<i>IQR</i>		10		8
	Country				
	Finland	115	93.50	64	94.12
	Other	8	6.50	4	5.88
	Years in Finland				
	All my life	110	89.43	57	83.82
	Other	13	10.57	11	16.18
	Gender				
	Female	120	97.56	64	94.12
	Male	2	1.63	2	2.94
	Other	1	0.81	2	2.94
	Sexual orientation				
	Heterosexual	85	69.11	48	70.59
	Homosexual	3	2.44	3	4.41
	Bisexual	24	19.51	13	19.12
	Other	4	3.25	3	4.41

(Continued)

Table 3. (Continued).

Vulnerability perspective	Variable	Police report (<i>n</i> = 123)		No police report (<i>n</i> = 68)	
		<i>n</i>	%	<i>n</i>	%
	I'd rather not say	7	5.69	1	1.47
Relational	Relationship status				
	Married/registered partnership	5	4.07	5	7.35
	Co-habiting	26	21.14	18	26.47
	Relationship but living apart	25	20.33	17	25.00
	Divorced or separated	10	8.13	1	1.47
	Widowed	1	0.81	0	0.00
	Unmarried/single	56	45.53	27	39.71
	Close persons				
	None	3	2.44	3	4.41
	1-2	40	32.52	20	29.41
	3-5	65	52.85	33	48.53
	6 or more	15	12.20	12	17.65
Mental health	Alcohol				
	Never	11	8.94	1	1.47
	Not at all during the last year	7	5.69	7	10.29
	A few times a year	24	19.51	18	26.47
	Every couple of months	27	21.95	18	26.47
	Once or twice a month	40	32.52	17	25.00
	Once or twice a week	12	9.76	5	7.35
	Three times a week or more	2	1.63	0	0.00
	Don't know	0	0.00	2	2.94
	Intoxicants				
	I have never tried them	55	44.72	29	42.65
	I have tried them	57	46.34	28	41.18
	I occasionally use them	8	6.50	9	13.24
	I regularly use them	3	2.44	2	2.94
	Mental disorder				
	No	40	32.52	22	32.35
	Used to, but have recovered	24	19.51	10	14.71
	Yes, but it does not significantly affect the functional ability or quality of life	23	18.70	16	23.53
	Yes, and it does significantly affect functional ability and quality of life	36	29.27	20	29.41

Note. UAS = University of applied sciences.

Table 4. Associations between vulnerability factors and reporting using multiple binary logistic regression.

Predictor	χ^2	<i>df</i>	<i>p</i>
Education	12.06	4	.017
SES	11.62	7	.114
Age	0.19	1	.660
Country	0.37	1	.545
Gender	0.51	2	.775
Sexual orientation	3.91	4	.418
Relationship status	8.62	4	.071
Close persons	5.02	3	.170
Alcohol	4.31	5	.505
Intoxicants	2.97	3	.396
Mental disorder	2.44	3	.486

We also compared survey respondents and non-respondents and found that respondents had less often a history of mental health and substance use problems and that they had more often a completed 6-month follow-up of sexually transmitted diseases at the Center (Korjamo et al., 2021).

To test our hypotheses, we conducted a multiple binary logistic regression and first evaluated the ANOVA-type II table. We only found a statistically significant association between the level of education and reporting ($\chi^2 = 12.06$, $p = .017$). All the results from the logistic regression are presented in Table 4. To follow up the significant association, we used pairwise contrasts with Tukey adjustments. We found that respondents with a university degree were significantly less likely than those with vocational qualification to report ($z = 3.00$, $p = .023$). There were no other statistically significant differences.

After this, we used treatment coding to further investigate the associations between the different levels of the categorical predictors and the outcome, while simultaneously including the dichotomous, continuous, and ordinal predictors. The associations between ordinal predictors and the outcome were modeled as linear. Similarly to the ANOVA-type II model, the linear association of education on reporting was negative and statistically significant. Additionally, two other statistically significant associations were found in this model. We found that those with the highest level of SES, and those who had either divorced/separated or widowed were more likely to report compared to those in the reference groups. However, the low number of observations ($n = 9$, $n = 12$) widened the confidence intervals substantially, decreasing the reliability of the results. Thus, no strong conclusion can be drawn. The odds ratios are presented in Table 5.

To test if the number of years lived in Finland was associated with the reporting likelihood, we conducted a follow-up analysis among non-natives. This variable was not included in the regression model because of multicollinearity with the country variable. We did not find a significant association, $\exp(B) = 0.13$, $SE = 0.07$, $z = 1.80$, $p = .072$, $n = 22$.

Table 5. Odds ratios and confidence intervals calculated from the predictor values for all variables included in the multiple binary logistic regression model.

Predictor level	OR	95% CI	
		LL	UL
Education	0.33	0.11	0.97
SES			
Senior clerical and management	23.46	2.64	560.87
Lower clerical and management	0.88	0.19	3.96
Worker	Reference		
Entrepreneur	0.84	0.14	5.05
Student	1.43	0.56	3.73
Pensioner	2.81	0.31	37.81
Other	3.80	0.68	26.26
Don't know	2.99	0.47	35.33
Age	0.99	0.93	1.05
Country			
Finland	Reference		
Other	1.64	0.34	9.13
Gender			
Female	Reference		
Male	1.02	0.05	17.05
Other	0.26	0.00	11.74
Sexual Orientation			
Heterosexual	Reference		
Homosexual	0.49	0.06	4.52
Bisexual	1.11	0.43	2.98
Other	1.67	0.12	48.62
I'd rather not say	7.35	0.82	184.87
Relationship			
Married/registered partnership	0.33	0.05	2.08
Co-habiting	0.65	0.24	1.73
Relationship but living apart	0.58	0.23	1.45
Divorced/separated/widowed	11.82	1.06	483.98
Unmarried/single	Reference		
Close Persons	4.35	0.68	33.85
Alcohol	1.10	0.29	3.95
Intoxicants	0.43	0.09	2.11
Mental disorder	0.90	0.42	1.93

Note: CI = confidence interval; LL = lower limit; UL = upper limit. For the ordinal predictors: education, close persons, alcohol, intoxicants, and mental disorders we modelled effects as linear.

High versus low vulnerability

We conducted a second set of analyses based on our theoretical framework of vulnerability. We excluded the variable "years lived in Finland" from these analyses due to the already recognized multicollinearity with the country variable. First, we conducted a chi-square analysis with Yates' continuity correction in order to test the direct association between the dichotomous predictor variables and the outcome. We did not find any significant associations between the dichotomous predictor variables and reporting (Table 6). Second, we conducted a multiple binary logistic regression with the dichotomous variables as predictors and reporting as the outcome variable. None of the variables included in the regression model were significantly associated with reporting (Table 6). In other words, the significant associations found in the first set of analyses between education and reporting, SES and reporting, and relationship status and reporting were not found in these analyses.

Discussion

The aim of the current study was to gain a better understanding of the demographic and individual factors associated with reporting rape to the police. Specifically, we investigated whether certain demographic and individual factors associated with vulnerability would affect the reporting behavior. However, we did not find any clear pattern for the reporting behavior. In the present sample, 64% had filed a police report.

Vulnerability from a societal perspective

Firstly, we investigated vulnerability from a societal perspective and explored the association between the victim's status in society and reporting. In our first set of analyses, we found that education was negatively associated with reporting. Our finding that victims with a university degree were less likely to report than those with a vocational qualification is consistent with Wolitzky-Taylor, Resnick, McCauley, et al.'s (2011) finding. There are several potential explanations for our finding: Those with a university degree may weigh the cost and benefits differently; they may have more knowledge of the judicial process (including negative aspects); and factors related to the rape may differ. Kahn-Lang (2008) has also proposed that being unwilling to jeopardize an earned status would explain the decreased reporting likelihood among victims with a higher level of education. However, the association did not remain significant in the second set of analyses conducted with dichotomous variables. One interpretation of this finding is that the significant results found at first occurred by chance. Taken together, our findings indicate that it might be that education does not affect the reporting behavior among rape victims in the Finnish sociocultural context. Despite this, the tentative significant association cannot be fully overlooked and needs to be further tested.

In conflict with the negative association between education and reporting found in the first set of analyses, we found a positive association between SES and reporting. However, our finding that senior clerical and management personnel would be more likely to report than victims in the reference group needs to be considered with caution. First, as only few victims reported belonging to the senior clerical and management personnel group, decreasing the statistical power and increasing uncertainty in the estimations. Second, as

Table 6. Zero-order relationships (chi-square) and effects (ANOVA-type II) from multiple binary logistic regression of high versus low vulnerability on reports across demographic and individual variables.

Predictor	Zero-order relationships						Multiple binary logistic regression							
	Report (n = 123)		No report (n = 68)		χ^2	df	p	χ^2	df	p	OR	95% CI		
	High vulnerability	Low vulnerability	High vulnerability	Low vulnerability								LL	UL	
Education	21	102	7	61	1.11	1	.292	0.78	1	.376	0.65	0.23	1.67	
SES	76	47	38	30	0.41	1	.520	0.43	1	.510	0.80	0.42	1.54	
Age	51	72	27	41	0.01	1	.934	0.33	1	.856	1.06	0.56	2.01	
Country	8	115	4	64	0.00	1	1	0.19	1	.660	0.74	0.17	2.72	
Gender	3	120	4	64	0.66	1	.418	0.94	1	.332	2.25	0.43	13.13	
Sexual orientation	38	85	20	48	0.00	1	.961	0.30	1	.587	0.82	0.39	1.69	
Relationship status	97	26	50	18	0.43	1	.510	0.44	1	.501	0.78	0.38	1.62	
Close persons	43	80	23	45	0.00	1	>.999	0.00	1	.948	0.98	0.51	1.87	
Alcohol	81	42	40	28	0.65	1	.419	0.68	1	.408	0.75	0.38	1.48	
Intoxicants	68	55	39	29	0.02	1	.902	0.30	1	.582	1.21	0.62	2.38	
Mental disorder	59	64	36	32	0.26	1	.612	0.28	1	.597	1.20	0.61	2.37	

Note. CI = confidence interval; LL = lower limit; UL = upper limit.

we did not find SES to be associated with reporting in our second set of analyses, somewhat in line with Boateng's (2015) finding on no association between employment and reporting. Thus, no strong conclusions can be drawn, and the possibility of random chance needs to be considered. If future research replicates a positive association, one explanation might be that more available resources increase the reporting likelihood. On the other hand, if future research replicates the null finding, it gives room for considering that the level of SES and employment might not be related to filing a police report. Furthermore, we found that age was not related to reporting, in line with a previous study (Zijlstra et al., 2017), but in contrast with other (Boateng, 2015; Chen & Ullman, 2010). In general, compared to many other countries, the variation in social status in Finland is comparatively small (OECD, 2021), potentially explaining why the reporting likelihood did not clearly decrease among economically inactive victims. As a result, we encourage future studies to consider the sociocultural context. Perhaps, the sociocultural context mediates the extent of the vulnerability among economically inactive victims.

In the current study, neither the native country of the victim nor the years lived in Finland were significantly associated with reporting. One interpretation of this finding could be that the services and information provided are comprehensible to most victims. This, in turn, could indicate that these societal factors (i.e. the native country of the victim and the years lived in Finland) do not place victims in a more vulnerable life situation in a way that would be associated with the reporting behavior. However, the number of non-native respondents was small, potentially indicating that we did not reach this population. Hence, no further conclusions can be drawn. In line with our vulnerability framework, we also investigated the association between the often overlooked societal factors, gender and sexual orientation, and reporting. Our results suggest that gender was not associated with reporting. This is in line with Covers et al.'s (2017) finding, but in contrast with Kahn-Lang (2008) finding on men being less likely to report compared to women. However, approximately 10% of Kahn-Lang (2008) sample consisted of men. The number of men and non-binary respondents in our sample was low. Hence, it is also possible that this null finding is due to low statistical power. Further, prior research has found that non-heterosexual individuals were more likely to disclose to mental health professionals than heterosexual individuals (Starzynski et al., 2007). However, in our study sexual orientation was not associated with reporting. Because of small sub-samples, no further conclusion can be drawn. Interestingly, compared to previous estimates of Finnish youths' sexual orientation, the number of non-heterosexual individuals in our sample was high (26% vs. 9%; Jokela et al., 2020). As a result, our findings suggest that future research must recognize sexual orientation in this context, taking into consideration that a higher risk for victimization might exist in non-heterosexual individuals, as suggested by a recent study (Jokela et al., 2020).

Vulnerability from a relational perspective

Secondly, we were interested in vulnerability from a relational perspective, and explored whether having close relations was associated with reporting. Past research has indicated that being married would be positively (e.g. Kahn-Lang, 2008) or not at all associated with reporting (e.g. Wolitzky-Taylor et al., 2011). The current study did not reveal any clear association between relationship status and reporting. However, in our first set of analyses, we

found that divorced/separated or widowed victims might be more likely to report. In other words, the relationship statuses divorced/separated and widowed seem, in contrast to our expectations, not to reflect a lack of available social support and resources among rape victims that would have placed these victims in a more vulnerable life situation. However, because of the low number of observations, and the fact that the association did not remain significant in the latter set of analyses, no strong conclusions can be drawn. It is more likely that the associations occurred by chance. Thus, we recommend future research to replicate this in larger samples and to comprehensively investigate relationship status to capture variation.

Research suggests that consulting about the reporting often happens with close persons (Paul et al., 2014). We were the first to examine whether the number of close persons would be associated with reporting. Surprisingly, there was no significant association. However, only a few of our respondents reported having no close persons. It could be that those seeking support at the Seri Support Center already have existing support resources to a greater extent than those not seeking any support. Thus, future research needs to address whether victims not seeking support are at risk. It could also be that the support received at the center is accounting for the need for support and encouragement to report. Considering our findings (i.e. no clear association between relational factors and reporting), the potential effect visiting a support center might have on victims' reporting behavior and experiences of received support needs further investigation.

Vulnerability from a mental health perspective

In light of our third theoretical perspective, we investigated the associations between substance use and mental disorders, and reporting. Past research has indicated that substance use is not a barrier for disclosing to mental health professionals (Starzynski et al., 2007). In line with this evidence, we found that it was also not a barrier for police reporting. However, the reported consumption of substances among the respondents was low, which could partly explain our results. There is a lack of prior research investigating substance use in this context, therefore, our results are directional. Further, in line with prior research (Du Mont et al., 2003), suffering from a mental disorder was not associated with reporting. However, most respondents reported either suffering from a mental disorder in the past or currently. Our finding seems to indicate that mental health issues are overrepresented among rape victims. This pattern is consistent with previous literature (Vik et al., 2019). Importantly, our finding suggests that systematic research is needed for sufficiently acknowledging this victim group.

Implications for practice

The current study suggests that highly educated rape victims might be less likely to report. However, it needs to be acknowledged that the significant associations found in the current study might have occurred by chance. Future research should explore the underlying reasons for underreporting and communicate these to decision-makers and sexual assault referral centers to enable change. Relative equality and small differences in wealth and status among Finns, observed, for instance, as a low poverty rate (OECD, 2021), could explain why SES or age were not robustly associated with reporting. This reasoning could also

explain why the association between education and reporting did not remain significant in the second set of analyses, although there are differences among the Finns' education levels. Free and comparatively equal health care and comprehensive social security in Finland are potential explanations for why support resources were not robustly, and in the latter analyses not at all associated with reporting. These are also potential explanations for why substance use and psychological problems were not associated with reporting. However, survey respondents had less often a history of mental health and substance use problems and more often a completed 6-month follow-up at the Center compared to non-respondents (Korjamo et al., 2021). It might be that the studied sample is neither representative of the Seri Support Center clientele nor the Finnish rape victim population in general. Another interpretation of our findings is that there is an effect of the services offered at the Seri Support Center. For instance, factors such as language barriers and mental disorders are taken into consideration at the Center, potentially decreasing or even eliminating their effects.

The reporting rate of 64% in the current study population is somewhat lower than the previously measured reporting rates ranging from 74% to 80% in sexual assault referral centers (e.g. Friis-Rødel et al., 2021; Korjamo et al., 2021). Notably, our results indicate that the reporting rate in a sexual assault referral center population is higher than what has been assessed among sexual assault victims in general (Andersson et al., 2014). This pattern is consistent with Zijlstra et al. (2017) research. Our finding can partly be explained by reporting becoming easier after seeking help (i.e. after weighing the costs and benefits of speaking up about the rape) and after receiving encouragement at the Center (Paul et al., 2014), while it cannot be excluded that victims seeking help from the centers might also be more inclined to file police reports to begin with. Although the reporting rate in the current study is not likely to be generalizable for the general reporting likelihood, it indicates that the services provided at the Seri Support Center remove reporting barriers and increase the reporting likelihood, which, in turn, can benefit both victims and the society at large (Allen, 2007). Hence, the Center seems to have an important function, which needs to be politically recognized. Our findings underline the already recognized need for support among both reporters and non-reporters (Walsh & Bruce, 2014), as approximately one-third of our respondents were non-reporters. Hence, we want to emphasize the need for support centers for rape victims that do not require victims to report.

Strengths and limitations

The current study represents an attempt to expand the factors examined (e.g. substance use and gender) to account for the variation in this field. By investigating a Finnish sample, we have expanded the geographical scope of research on factors related to reporting. Although the generalizability of the results to other cultures might be limited, we argue that the current study consisting of a comparatively large sample in proportion to the Finnish population contributes to the existing literature on rape reporting. The data were collected anonymously with an online survey, increasing confidentiality and reporting accuracy (Michaud et al., 1999). Nevertheless, there is a possibility for under- and overreporting.

Other limitations must be considered as well. We examined a sample of victims from a sexual assault referral center, and it might be that our sample is neither representative of

the Seri Support Center clientele nor the Finnish rape victim population in general. The studied sample is likely a more homogenous segment of the whole population of rape victims, limiting the generalizability of our results. Seeking support independently requires some agency and knowledge about the health care system. Thus, we might not have reached victims in the most vulnerable life situations. It could be that our respondents form a specific sub-group of the Center's clientele, as participating requires psychological resources, and a possibility to participate. However, the reporting rate did not differ very much between our respondents and the general clientele of the Center (64% vs. 74%; Korjamo et al., 2021). Further, as all respondents already weighed costs and benefits when deciding to speak about the rape at the Center, and received encouragement to report, the reporting could have been facilitated. However, some victims might feel that disclosing at the Center is sufficient, implying that contact with the Center may even have an opposite effect on reporting. Therefore, the reporting rate is not generalizable.

The location of the Center automatically limits the clientele regionally to the capital area of Finland. In sum, although not covering the whole population, examining a sexual assault referral center sample is practical and cost-effective. As the Seri Support Center's clientele consists of both reporters and non-reporters, we argue that this is one of the most effective ways to reach this population.

Variables included in the current study differ from those in previous studies, affecting the comparability of the results. We measured victims' native country and years lived in Finland, rather than race/ethnicity, as this gives a more reliable perception of integration and the skills needed for filing a report in Finland. However, we could not substantiate previous evidence that the reporting differs depending on race/ethnicity (Chen & Ullman, 2010; Wolitzky-Taylor et al., 2011). We did not account for income, as we thought it was not optimal for measuring SES in a young population. Therefore, we cannot clarify the previous inconsistent results in this aspect (e.g. Boateng, 2015; Chon, 2014). Further, we expanded the response options of the variables, which has inevitably affected the distribution within specific categories, thus, affecting the statistical power of the results. This needs to be accounted for when interpreting our results. However, expanding the response options is valuable as it enables accounting for the variation in the studied population. Furthermore, we recommend future research to expand on our mental disorder question by separating different disorders and asking for the onset.

Lastly, as this study was part of a research project aiming to gather a substantial amount of information, the survey was long (approx. 25 min). This has undoubtedly affected the sample size and the dropout rate. The completion rate was nevertheless acceptable (24%).

Directions for future research

To inform decision-makers and sexual assault referral centers about how the factors investigated in the current study are associated with victims' decisions to report in various countries, we encourage researchers to analyze these factors in other samples. Future studies should also examine other factors possibly affecting reporting, such as the views held by the victims regarding the judicial process and police, and factors linked to the perpetrator and rape per se. This would further enhance our understanding of how to encounter rape

victims and develop legal processes and support services. Ultimately, if barriers to reporting are not sufficiently acknowledged, they cannot be successfully reduced.

Conclusion

The current study is the first to explore the reporting behavior of rape victims in Finland. It offers a valuable addition to prior research concerning the associations between demographic and individual factors and rape reporting. The existence of support centers for rape victims seems to increase reporting. In our sample, as many as 64% filed a police report. We did not find a clear pattern of vulnerability factors explaining reporting behavior. In sum, our findings indicate that neither societal (SES, age, native country, years spent in Finland, gender, and sexual orientation), relational (relationship status, and close persons), nor mental health (substance use, and mental disorder) vulnerability factors were robustly related to reporting. We found some evidence that the level of education might be associated with reporting. Testing this tentative association in more detail is needed in order to understand the dynamics and to target support resources accordingly.

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