GENDER ROLE NORM CONFORMITY AND SEXUAL ASSAULT RISK

AMONG MALE AND FEMALE UNIVERSITY STUDENTS

Joke Depraetere[1,2], Christophe Vandeviver[1,2], Ines Keygnaert[3], & Tom Vander Beken[1]

[1] Department of Criminology, Criminal Law and Social Law, Ghent University, Belgium.
[2] Research Foundation—Flanders (FWO), Brussels, Belgium.
[3] Department of Public Health and Primary Care, Ghent University, Belgium.

Direct correspondence to: Christophe Vandeviver, Department of Criminology, Criminal Law and Social Law, Ghent University, Universiteitstraat 4, 9000 Ghent, Belgium.
Email: Christophe.Vandeviver@UGent.be

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ABSTRACT

Scholars have established various risk factors that increase the risk of sexual victimization (SV) among college students. However, little research has focused on gender norm conformity as a risk factor of SV. Addressing this gap in the literature, we conducted a study with 322 men and 815 female university students. Over 51% of women and 23% of men indicated experiencing some form of SV in their lives. Logistic regression analyses revealed various gender differences and established that gender norms predict SV while controlling for established risk factors. We discuss these findings and their implications for prevention measures of SV.

Keywords: **S**exual victimization, Male victims, Alcohol, Drugs, Risky sexual behaviors.

INTRODUCTION

Sexual victimization is a major public health problem (Basile & Saltzman, 2002) and encompasses a range of unwanted sexual behaviors, including – but not limited to - sexual intercourse, oral sex, kissing, sexual touch or showing of genitals against someone without their consent. In the current study, we adopted the definition of World Health Organization (WHO), who utilize a broad definition and describe sexual victimization as "any sexual act that is perpetrated against someone's will" (WHO, 2015, "Facts about sexual violence", para.2). This gender neutral definition allows for both male and female sexual victimization perpetrated by both men and women.

A large body of evidence has shown that sexual victimization is especially prevalent among college students (Abbey, 2002; Kimble et al., 2008; Krahe & Berger, 2013). These studies focused on various risk factors of sexual victimization among college students and adolescents in general, such as alcohol and drug consumption, membership of sororities and fraternities, and risky sexual behaviours (e.g., number of sexual partners, age of sexual initiation) (Abbey, 2002; Combs-Lane & Smith, 2002; D'Abreu & Krahe, 2016; Hartwick et al., 2007; Krebs et al., 2007; Minow & Einolf, 2009).

Much less attention has been given to the influence of gender role endorsement on the risks of sexual victimization. Studies that examined gender roles have predominantly done so with regard to male sexual coercive behaviour (for reviews, see Byers, 1996; Grubb & Turner, 2012). Various scholars (e.g., Canan et al., 2018; Hartwick et al., 2007) have, however, posited that gender role stereotypes and sexual scripts may influence the overall risk of sexual victimization. These scholars stated that endorsement of traditional gender roles and sexual scripts may lead to sexual victimization in both men and women. Women who endorse these beliefs may 'allow' a men's sexual advances since they feel that refusing is useless. Men, on the other hand, are encouraged to always engage in a sexual activity and may feel guilty when not engaging in the sexual activity, making refusal much more difficult (Canan et al., 2018; Hartwick et al., 2007). Hartwick et al. (2007) even found that belief in men's sexual accessibility (i.e. "men are always willing to engage in sexual activity") is predictive of men's and women's experiences of sexual assault. While this study already provided some important initial results, the overall influence of gender role endorsement remains unclear. Gender roles namely comprise more than solely male's so-called sexual accessibility and are ever present in society, affecting our behaviours and our beliefs about ourselves and others (Grubb & Turner, 2012). Additional research is thus needed to address this gap in the literature.

Moreover, literature has mainly focused on female victims and male perpetrators (Spiegel, 2013). As a consequence, the overall knowledge about male victimization is far behind that of female victims

(Davies & Rogers, 2006; Peterson et al., 2011). Gender differences in risk factors of sexual victimization, therefore, remain unclear. This study examines whether gender-specific associations exist between sexual victimization among university students and various risk behaviors. In addition, this study expands upon existing findings and breaks new ground by exploring the influence of gender roles on the risk of sexual victimization.

In the following we provide relevant literature that constitutes as the background for the hypotheses that are under investigation in this study.

Sexual victimization among college students

Sexual victimization is a common experience among college students around the world (Perez-Trujillo et al., 2019). Most studies have, however, been conducted in the U.S., and prevalence rates remain inconclusive. For example, Fedina et al. (2018) described 34 studies in their systematic review, conducted among college students in the U.S., where prevalence rates for female college students ranged from 1.8% to 34% in case of unwanted sexual contact and from 0.5% to 8.4% in case of completed rape. Victimization among male college students ranged between 4.8% to 31% and from 0.6% to 0.7% respectively. The inconsistencies in the way sexual assault is defined and measured causes variations in prevalence rates across studies and makes comparisons between these studies difficult (Depraetere et al., 2018; Fedina et al., 2018).

Moreover, European studies examining the prevalence and correlates of sexual assault among college students are far less common compared to evidence collected in the U.S. (Krahé et al., 2014). Yet research on the risk of sexual victimization conducted in the U.S. may lead to different results compared to research conducted in Europe given the cultural differences. To partly address this shortcoming, the present study provides prevalence rates and identified risk factors for sexual victimization among Belgian university students. In the following sections we review the state of the art regarding the risk factors of sexual victimization and the influence of gender roles.

Risk factors

A student's lifestyle has some distinctive factors compared to adults and children. For one, they are confronted with an increasing amount of autonomy which accumulates when they decide to move away from their parents' house and live in a student house or campus. These changes are coupled with greater control over their lifestyles and often include various risky health behaviours, including alcohol- and drug use (Von Ah et al., 2004). Many scholars have consistently shown that alcohol-and drug consumption increase during college years (Mohler-Kuo et al., 2003; Pearson et al., 2018) and that the usage of alcohol and/or drugs increases the risk of sexual victimization. On average over 50% of sexual assault among college students is associated with alcohol use by the perpetrator, victim, or both (Abbey, 2002; Combs-Lane & Smith, 2002; Krebs et al., 2007; Tewksbury & Mustaine, 2001). Moreover, various stereotypes are related to male and female drinking behaviour. Women who drink are viewed as promiscuous and more sexually available by men than women who do not drink alcohol. Men, on the other hand, indicate that they expect to feel more powerful, sexual and aggressive after drinking alcohol (view literature review of Abbey, 2002). Gender role stereotypes are therefore related to the anticipations of behaviour when drinking alcohol, which may further increase the risk of sexual victimization.

Another aspect related to the student lifestyle includes membership in fraternities and sororities. Evidence states that sorority membership and attendance at Greek social events where alcohol is served increased the risk for sexual assault for college women (Minow & Einolf, 2009). In their sample, Minow and Einolf (2009) included 779 female college students at a midsize American public university. They found that part of the increased risk could be explained by a higher amount of alcohol consumption

among sorority members, but not all of it. The authors therefore stated that another aspect of the sorority membership, either the association with fraternity men or the socialization into subservient gender roles, could explain the overall higher rate of sexual victimization among sorority members. In addition, various authors have argued that fraternities maintain a hypermasculine culture where women are objectified, impersonal sex is encouraged, competition and male superiority are emphasized and rape supportive behaviors are present (Canan et al., 2018; Minow & Einolf, 2009). Gender role stereotypes may therefore play an important role in the risk of sexual victimization among sorority and fraternity members. A study by Tewksbury and Mustaine (2001), on 541 male college students recruited in 12 universities in eight states of the U.S., did, however, not find such an association. Nor membership of Greek social fraternity, nor spending leisure time at fraternity parties was found to be an influential determinant of male sexual assault.

Finally, student life is often associated with sexual experimentation and risky sexual behaviors (Cooper, 2002). These sexual behaviors, however, seem to increase the risk of sexual victimization. Various scholars have shown that having a greater number of sexual partners and earlier initiation of sexual activity is associated with experiencing sexual assault (D'Abreu & Krahe, 2016; Hartwick et al., 2007; Schraiber et al., 2008). These studies found that both sexual behaviors increase the risk for women, but only the number of sexual partners increased the risk for men. Once again a link with gender role norms can be found in the literature. For example, a study of Leech (2010) among 520 sexually active American 18-19-year-old women, found that both egalitarian and traditional gender role attitudes are associated with risky sexual behaviors (measured in this study as relationship with most recent sexual partner and number of partners in the past year). In the case of men, a study from Danube et al. (2014) among 233 undergraduate men from a mid-Atlantic university, showed that endorsement of traditional masculinity and sexist attitudes were related to the number of casual sex partners and intoxicated sexual contact.

Many of the risk factors explained above are thus in some way related to traditional gender roles. In light of these results, we believe that adding gender role endorsement to the equation improves the overall prediction of sexual victimization risk.

Gender roles as a risk factor of sexual victimization

Traditional gender role norms prescribe appropriate male and female behaviour. Subsequent to these gender role norms, sexual scripts prescribe how men and women should behave and interact with each other in a sexual situation (Gupta, 2000; Simon & Gagnon, 1984). These traditional ideas forward that men should make the first move and seduce woman, are always interested in sex, and are powerful and dominant. Men are also perceived as the ones who prefer casual sex and seek multiple sexual partners. Traditional gender roles cast women as submissive followers, state that they should not behave as promiscuous and should be sexually passive and inexperienced (Abbey, 2002; Gupta, 2000; Impett & Peplau, 2003; Masters et al., 2013). Gender roles and sexual scripts therefore play an important role in men and women's sexual behaviours.

Nonetheless, the influence of gender role norms has mostly been studied in regard to male sexual coercive behaviour. Various studies found that men who endorsed more traditional masculine roles, were more likely to report sexual aggressive behaviour, report more rape acceptance and lack an understanding of sexual consent (Grubb & Turner, 2012; Levant & Richmond, 2008; Warren et al., 2015). A study from Locke and Mahalik (2005) on 254 male college students conducted in the U.S., focusing on specific masculine norms, found that men reporting higher endorsement of having power over women, being a playboy, disdaining gay men, being dominant, being violent and taking risks report more sexual aggressive behavior. Studies regarding male sexual victims and gender role endorsement are, however, almost nonexistent. While the study from Hartwick et al. (2007) already provided some

initial understanding regarding the influence of gender role norms, the perspective was limited to one aspect, namely men's sexual accessibility (cf. supra). Additional research is thus needed to understand the influence of gender role endorsement on sexual victimization risk. This study aims to fill this gap in scientific research.

Current study

The present study is designed to asses risk factors of sexual victimization related to gender role endorsement and student lifestyle. The study offers several advantages over extant research and expands upon replicated and past findings. First, this study advances the understanding of sexual victimization risk by including gender roles into the equation. We namely argue that gender role endorsement is a key element in predicting sexual victimization risk and shows strong gender-specific differences. More specifically, we propose that higher gender role endorsement increases the risk of sexual victimization among both men and women and that the predictive gender role dimensions are different between men and women. Including gender role endorsement in predictive models of sexual victimization may therefore provide a more profound understanding of the risk of sexual victimization among men and women.

Second, this study offers a different cultural perspective given its setting in Europe, and Belgium in particular. Most research on the risk of sexual victimization has been conducted in the U.S. However, various cultural differences, such as the legal age of drinking and the campus culture (i.e. fraternities and sororities not being that common in Europe), makes us question whether similar results would be visible in a university student sample in Europe.

Finally, the present study goes beyond providing a mere summary of the prevalence rates of sexual victimization. Scholars have mainly focused on female victims of sexual assault, leaving a large gap regarding the knowledge of male sexual victimization. By assessing sexual victimization risk in both men and women we are able to examine differences and similarities and contribute to the growing literature regarding male sexual victimization.

METHODS

Procedures

The data for this study are from an annual cohort study that began in 2019 (Depraetere et al., 2020). An online self-report questionnaire was distributed among first year undergraduates at a Belgian Flemish university (Ghent university)[1]. The survey was anonymous and participants had a chance of receiving a coupon up to €50 for their participation. Participants were recruited in several ways: via posters and flyers spread on all university campuses, placing a link to the survey in various student Facebook groups (these Facebook groups are created by the students for every study area and are only used by these students), mentioning the study in the student newsletter and by promoting the study during different classes of first year undergraduates. The sample included a convenience sample whereby the results cannot be generalized to the entire student population. The analyses in the present study rely upon the first wave of this cohort study and thus apply a cross-sectional design.

This project was approved by the faculty ethics committee (i.e. faculty of Law and Criminology). Students were provided with an informed consent that included contact details of the university Data Protection Officer and the researchers. They were informed about their rights and how their data will be handled. Only the students that agreed with every aspect of the informed consent were able to participate.

Participants

The sample comprised of 1.137 university students including 322 male and 815 female students. Even though the distribution of the questionnaire was primarily focused at first year undergraduates, other undergraduates and masters were also allowed to fill in the survey of the study. Since the aim of this paper is to increase knowledge regarding the risk of sexual victimization among university students, all students were included. Table 1 includes a description of the dataset.

[Insert **Table 1** here]

Measurements

Demographic information

The participant's origin was measured by asking whether or not they are born in Belgium and whether or not one or both parents are born in Belgium. Asking about their sex indicated at birth, participants could indicate either female (=0) or male (=1).

Student life style factors

Participants were asked whether they are member of a student union (no(=0)/ yes(=1)). Questions regarding students' alcohol consumption were based on the Belgian Health Interview Survey (BHIS) (Braekman et al., 2018; Demarest et al., 2013). In the BHIS alcohol consumption is measured with 13 questions categorized into four main variables: alcohol drinking in the past 12 months, risky single occasion alcohol drinking, number of alcohol drinks over the whole week, and age at start drinking alcohol. The current study utilized two of these variables, namely alcohol drinking in the past 12 months and risky single occasion drinking as a measure of binge drinking.

General alcohol drinking behavior included the following question 'how often do you drink alcoholic drinks?'. Participants could answer with *(1) Never, (2) monthly or less, (3)2-4 times a month, (4) 2-3 times a week* and *(5) 4 times or more a week.* Binge drinking was measured by asking the participants how many times they drink six or more glasses of alcohol on one occasion. Participants could indicate *(1) never, (2) less then monthly, (3) monthly,(4) weekly or (5) (almost) daily*. Scores on the items were summed to generate a general measure of alcohol consumption. Scores ranged from 2 till 10, where higher scores represent more frequent alcohol consumption. The internal consistency of this measure was α = .85. It should, however, be mentioned that this measure is a cumulative index. A high internal consistency is therefore not required.

Drug consumption was measured by asking participants whether they had ever used cannabis (hash or marihuana) or hard drugs (i.e. cocaine, ecstasy, heroin, amphetamine or other similar drugs). Participants could indicate '*yes, in the past 12 months', yes, but not in the past 12 months'* or *'never'*. A dichotomous variable was created where 0 indicated the participant had never used drugs (cannabis or hard drugs) and 1 indicated they had ever used drugs.

Risky sexual behavior

Beadnell et al. (2005) clarifies that risky sexual behaviors can be conceptualized in various ways: early age at first intercourse (i.e. sexual initiation), number of partners, type of partner or length of relationship, frequency of intercourse, consistency of condom use, and use of other methods of birth control. In this study, early age at first intercourse and number of sexual partners were chosen as variables to measure risky sexual behavior due to their association with sexual victimization risk (see D'Abreu & Krahe, 2016; Hartwick et al., 2007; Schraiber et al., 2008).

We asked students if they ever had sexual intercourse. Intercourse was defined as having had either oral sex or any form of penetration in the vagina or anus. If respondents indicated that they have had intercourse they were asked how old they were when they had their first sexual experience and how many partners they had sexual intercourse with since then. Responses to these items were made in an open-ended format. Since several respondents (N=357) indicated that they did not had sexual intercourse yet, these respondent did not receive the follow-up questions (i.e. sexual initiation and number of partners). In order to reduce data loss due to missing values, some changes were made. Students who indicated that they did not have sexual intercourse yet were coded 0 instead of missing on the variable regarding the number of partners. Similar to previous studies (Epstein et al., 2014; Schraiber et al., 2008; Zimmer-Gembeck & Helfand, 2008) we coded sexual initiation as 1 (early) if the respondents reported having had sex before the age of 15. Respondents initiating sex at age 15 or older were coded 0 (late). Therefore, we coded 'not having sexual intercourse yet' as 0 (late). Initiation before the age of 10 was coded as missing due to concerns regarding truthfulness about these answers and concerns about consensual sexual activity at that age. Three respondents indicated having had sex before the age of 10.

Gender roles

To measure gender role endorsement we used an adaptation of the conformity to masculine and feminine norms inventory short form (CMNI, CFNI) (Parent & Moradi, 2009, 2010). This scale was originally developed by Mahalik et al. (2003, 2005) and assesses to what extent an individual conforms to masculine or feminine norms in terms of actions, thoughts and feelings. A particularly valuable aspect of this scale is that the statements are not formulated in the stereotypical 'men are' and 'women are' way, but are formulated in the 'I-form' (e.g., 'I would feel guilty if I had a one-night stand'; 'I would feel good if I had many sexual partners'). This allows us to use these subscales for both men and women and verify how these gender roles form an aspect of their own thoughts, actions and feelings. Since these statements are formulated in a less stereotypical form, the possibility of socially desirable answers may also decrease.

Since the entire scale was part of a larger survey, reductions had to be made. We therefore included three items per scale based on the factor loadings of the various statements (Parent & Moradi, 2009, 2010). Similar to the original scale, each of the items were scored on a 4-point Likert scale ranging from 0 (*strongly disagree*) to 3 (*strongly agree*). In addition, we selected subscales of the original scale that had some theoretical relevance to sexual victimization risk, based on previous literature readings and associations with sexual behaviors (cf. supra). These include the following subscales for the masculine norms inventory: Emotional control, Playboy, Violence, Self-reliance, Risk-taking, Power over women and Heterosexual self-presentation. The following subscales were selected for the feminine norms inventory: Modesty, Domestic, Involvement with children, Sexual fidelity and Romantic relationship. These changes were made in accordance with the protocol of the authors of the CMNI and CFNI-short form (Parent & Moradi, 2009, 2010).

Scores on the various subscales were summed to provide a total score of masculine and feminine gender role conformity and scores were calculated for each subscale separately. The scores for the masculine gender role scale (CMNI) ranged from 0 till 63 and from 0 till 45 for the feminine gender role scale (CFNI). Scores on the subscales ranged from 0 till 9. The internal consistency of the general scales were adequate (α CMNI= .75 α CFNI = .71) and alpha scores for the subscales ranged from α = .67 (CMNI subscale 'violence') to α= .90 (CFNI subscale 'involvement with children'). More information regarding the reliability of the scales can be provided upon request with the authors.

A recent study regarding the dimensionality of the conformity to Masculine norms inventory by Hammer et al. (2018) concluded that the scale is better used as separate subscales instead of a total score. In line

with these recommendations the general scales will be examined as a starting point to provide the reader with a general overview of the influence of masculine and feminine gender role conformity. Emphasis will be placed on the various subscales that are included in a more detailed examination.

Sexual victimization

The sexual victimization items were derived from a Belgian sexual violence survey (Keygnaert et al., 2018).[2] The victimization items used in this large scale study were based on the Sexual Experiences Survey (Koss et al., 2006), the National Intimate Partner and Sexual Violence Survey (NISVS) (Walters et al., 2013) and the Sexual Aggression and Victimization Scale (SAV-S) (Krahé et al., 2015). The sexual victimization items in this survey applied a broad definition of sexual victimization and include both hands-off (i.e. no physical contact between victim and perpetrator) and hands-on (i.e. physical contact between victim and perpetrator) forms of sexual victimization. The hands-off items included voyeurism, distributing naked pictures and/or movies, exhibitionism, and being forced to show their intimate body parts to someone. The hands-on items included unwanted kissing, unwanted touching, oral sex, attempted rape, rape, and forced to penetrate someone else. Participants were asked whether they had ever experienced this in their lives (yes/no) and how many times in the past 12 months. Each item was described behaviorally specific without the use of generic terms such as 'rape' or 'assault' in line with recommendations of previous research (Wilson & Miller, 2016).

In order to assess general sexual victimization, we included all 10 items, then created a dichotomous variable that measured whether the respondent had been a victim of any of the 10 items or not.

Control variables

Finally, we controlled for sexual orientation as a potential confounder. This variable was chosen due to its association with sexual victimization (Herkes et al., 2015; Rothman et al., 2011; Walters et al., 2013). Participants could indicate whether they self-identified as heterosexual, bisexual, gay, asexual or other in which they were asked to describe their sexual orientation. A dichotomous variable was created with options 'heterosexual (=0)' and 'not heterosexual (=1)'.

Data analyses

Logistic regression was used to test the relationship between the independent variables and the dependent variables (i.e. sexual victimization). The results report the adjusted odds ratio's (Exp (*B*)) for each unit increase of the independent variable given that the event (i.e. sexual victimization) is present, while adjusting for the effects of the other predictor variables (Ranganathan et al., 2017). A value greater than 1 indicates an increase in the likelihood of experiencing sexual victimization. A value less than 1 indicates a decrease in the likelihood.

The analysis was conducted using the statistical program RStudio (version 3.6.1). Goodness-of-fit is reported with Akaike Information Criterion (AIC), Bayesian Information Criterion (BIC) and the general Chi-square statistic of the model. Lower values of AIC/BIC are preferred to larger ones and indicate an improvement of the model fit (Raftery, 1995). A significant result of the Chi-square statistics indicates that the general model is statistically significant. Finally, a pseudo R-square value (Nagelkerke R²) is reported. This value indicates how well the model explains the data compared to the null-model. However, no consensus exists on a best pseudo R-square measure and many measures are affected by the number of independent variables and sample size (Hemmert et al., 2018). This value is merely informative and we place emphasis on the other indicators of model fit.

Three different regression models were generated (tables 3 and 4). The first model includes the entire dataset and was constructed using a hierarchical regression method where the variables are added in

several blocks. Gender and sexual orientation were entered in the first block since these variables functioned as control variables. Alcohol consumption, drug consumption, and membership in a student union were entered in the second block. In step three, the sexual behaviors, such as number of sexual partners and age sexual initiation were entered. Gender role scales were added in the fourth block. To examine possible interactions with the previous variables and the gender role scales, interaction-effects were added in the final block.

To examine gender-differences in detail, we performed separate regression analyses for male and female university students, including the gender role subscales. This provides a detailed overview of which subscales improve model fit and predict sexual victimization. The results of the bivariate analyses (i.e. relation of each gender role subscale with sexual victimization) informed our decision to compose the set of gender role subscales. Subscales needed to meet a preset cutoff for significance (i.e. $p < .10$) for either male or female students to be included for the manual stepwise selection method in the regression model. This cutoff is higher than the conventional cutoff for significance since the purpose is to identify potential gender role subscale predictors (Ranganathan et al., 2017; Stoltzfus, 2011). A manual stepwise selection method, based on AIC/BIC, was performed with every variable in three main steps in order to select the best fitting model for each gender. Starting with the null-model (including the control variables), we added all student life style variables individually. AIC/BIC-values were compared. The variable that dropped the AIC/BIC-value the most and resulted in a significant chi-square difference test, was kept in the model. Continuing with this model, we added all other possible student life style variables individually and performed the same steps. This continued until none of the remaining variables dropped the AIC/BIC-value. Subsequently, similar steps were performed on the risky sexual behaviors and finally on the selected gender role subscales.

While there is no accepted standard for the maximum number of predictors to add in a model to avoid overfitting, we relied on a common used 'rule of thumb': the rule of ten. This rule states that for every independent variable there should be at least 10 outcomes for each event, in this case sexual victimization (Stoltzfus, 2011). The number of independent variables included in the model was kept below the number of observed cases (i.e. victims per model).

Finally, linearity in the logit of the continuous variables was checked, using the Box-Tidwell test (Box & Tidwell, 1962). The multi-collinearity assumption was controlled with the Variance Inflation Factor (VIF) test. No violations of multi-collinearity were visible. However, a violation of the linearity assumption was visible for the variable 'number of sex partners' in the general model and the male model (table 3 and 4). To resolve this violation (Stoltzfus, 2011), the variable was dummy coded based on the mean. Respondents indicating having had none till three sex partners were coded with '0'. University students reporting more than three sex partners were coded with '1'.[3] The variable CMNI-Self-Reliance violated the linearity assumption in the female model (table 4). This variable was also dummy coded based on the mean. Respondents showing a sumscore between 0 and 4 received the score '0', indicating low self-reliance. Those reporting a sumscore between 5 and 9 received the score '1', indicating high self-reliance.

RESULTS

Descriptive statistics

A total of 51% of the female university students and 23,9% of the male university students reported sexual victimization in their lives. A total of 27,5% of the female students and 15,5% of the male students reported having experienced such an event in the past 12 months. The analysis was performed on the first dichotomous variable, including live time prevalence rates.

Table 2 includes the results of the bivariate test statistics. Since we want to place emphasis on the logistic regression analysis, the results will not be discussed here. These results are merely informative.

[Insert **Table 2** here]

Multivariate analysis

Table 3 shows the results of the general logistic regression analysis, performed on both male and female university students. As expected, higher alcohol consumption and having used drugs in their lives increased the odds of sexual victimization for all university students in this sample with 1,14 and 1,56 respectively. In addition, students who had more than three sex partners are 3,08 more likely to experience sexual victimization compared to students with less than three sex partners. No significant results were, however, found for membership in a student union and the age of sexual initiation.

[Insert **Table 3** here]

As expected the model fit improves significantly when adding the gender role scales (i.e. model 4, table 3) compared to the models without. The model is therefore statistically reliable for the university students sample. Moreover, the CMNI significantly predicts sexual victimization risk, where a one unit increase on the CMNI increases the odds of sexual victimization by 1,04. No such a significant effect was visible for CFNI. In the final block, interactions with the CMNI and CFNI and the other predictors were added. However, none of these interaction-effects improved the model fit, nor showed a significant effect on sexual victimization risk.

[Insert **Table 4** here]

In order to examine the gender-differences and gender role scales in more detail, separate regression analyses were performed for male and female students and gender role subscales were examined. Overall the models are comparable with regards to the student lifestyle variables (i.e. alcohol consumption and number of sex partners). Drug consumption did, however, not significantly predict male sexual victimization risk but does increase the odds of sexual victimization within female university students while controlling for the other variables in the model. Moreover, the control variable 'sexual orientation' only shows a significant effect in the male model. According to the model, students who do not identify as heterosexual are 3,67 times more likely of being sexually victimized compared to students who identify as heterosexual. Several gender differences are also visible with regard to the gender role subscales. In the male model, only the subscale 'power over women' significantly improved the model and was found to be a significant predictor of sexual victimization. In the case of women, three subscales improved the model fit. Higher conformity on the Self-reliance, Risk-taking and Modesty subscales increased the odds of sexual victimization.

DISCUSSION

This study sought to examine the risk factors of sexual victimization related to a student's lifestyle and assess whether gender role (sub)scales could reliably predict the likelihood of experiencing sexual assault. We thus aimed to explore new ideas and replicate past findings. In addition, we assessed sexual victimization risk in both men and women separately. Doing so, allows us to examine the differences and similarities.

Risk factors

Consistent with previous research (Abbey, 2002; Combs-Lane & Smith, 2002; Krebs et al., 2007; Tewksbury & Mustaine, 2001) alcohol- and drugs consumption increase the risk of sexual victimization in the current study. However, drug consumption did not significantly predict sexual victimization in

the male model. This contrasts with the findings of Tewksbury and Mustaine (2001) who found that drug use is an important predictor of male sexual victimization. They, however, focused on routine activities of male college students and included various lifestyle variables and daily activities in their model. Sexual behaviors, and number of sexual partners in particular, were not controlled for. In the current study, the relationship between drug consumption and sexual victimization becomes insignificant when the number of sexual partners is controlled for in the male model. Therefore, the relation between drug consumption and sexual victimization risk may be mediated by the number of sexual partners. Drug consumption did, however, predict female sexual victimization risk. Drug use may therefore have a different influence on men compared to women making women more vulnerable for sexual victimization when they use drugs compared to men.

We did not find any significant association with membership of a student union (i.e. sorority or fraternity). While this confirms the findings from Tewksbury and Mustaine (2001) on male college students, it stands in contrast with the results from Minow and Einolf (2009) on female college students. This lack of significance may, however, be due to the large cultural difference with American sororities and fraternities and European student unions. For example, Belgian student unions are rarely based on single sex-membership and members do not typically live together in a sorority or fraternity house. These differences may explain the non-significant results visible in the current study.

Consistent with previous research (D'Abreu & Krahe, 2016; Hartwick et al., 2007) the number of sexual partners is identified as a significant predictor of sexual victimization, both generally and for men and women separately. The same reasoning from D'Abreu and Krahe (2016) may be applied here. They state that it is a matter of probability. More sexual partners increases the odds of meeting a sexually aggressive partner, which in turn increases the odds of having an unwanted sexual experience.

Similar to previous research (D'Abreu & Krahe, 2016; Schraiber et al., 2008), the descriptive statistics in this study showed that sexual initiation before the age of 15 is associated with a higher probability of sexual victimization among women. Early sexual initiation did, however, not significantly predict sexual victimization when controlling for the other variables, including number of sex partners. Previous studies relied on different analysis method that could explain their significant results. The study of Schraiber et al. (2008), for example, only performed bivariate analyses and did not control for other variables that may reduce the significant impact of age of sexual initiation. In the study of D'Abreu and Krahe (2016) a variable was created that included sexual initiation along with other sexual measures, such as number of sexual partners. The influence of sexual initiation may therefore be mediated by the number of sexual partners resulting in a non-significant effect.

Gender roles

The current study showed that a higher conformity to masculine norms inventory (CMNI) increases the odds of sexual victimization. A higher conformity to the feminine norms inventory (CFNI) did not show such an association. Therefore, we could state that more stereotypical 'masculine' behaviors and thoughts increases the odds of experiencing sexual victimization.

As stated in the introduction, a link with gender role norms could be made for every student lifestyle risk factor (i.e. alcohol consumption, sexual behaviors, sororities and fraternities). The interaction-effect between these variables and the CMNI of CFNI did, however, neither improve the model fit nor showed a significant result. One explanation for this finding could be the difference with the current gender role norms scale and scales used in previous research. The current scale contains statements in the I-form (e.g., 'It bothers me when I have to ask for help') instead of stereotypical statements directed towards a certain sex used in alternative scales (e.g., 'A man should never admit

when others hurt his feelings' from the Male Role Norms Inventory-Short form (Levant et al., 2013)). General stereotypical assumptions about male and female behaviors are therefore not measured with the current scale. Instead, this scale measures how these gender role norms are part of respondent's own actions, thoughts and feelings. Future research should examine the influence of gender role attitudes scales on these various risk factors.

Male and female models report different gender role subscales that improve the model fit and predict sexual victimization. As such, female respondents who report higher self-reliance (e.g., not asking for help), higher risk-taking behavior and more modesty have a higher odds of sexual victimization. This may be explained by a possible link with ambiguous communication and sexual compliance. Studies have shown that women, more often than men, agree to have sex even though they did not want to or, in other words, say 'yes' when they actually mean 'no'(Impett & Peplau, 2003). This may also be linked to stereotypical assumptions about women, where women are cast as submissive followers and generally feel that they have to 'please' their sexpartner (Impett & Peplau, 2003). Women who generally are less likely to ask for help and are more modest in talking about their achievements, may be less likely to communicate their actual thoughts and feelings and may therefore be more compliant and ambiguous in their communication. In addition, women who report higher risk-taking behavior may, unconsciously, place themselves in more risky situations where some form of sexual assault may occur.

Within the male model, the 'Power over women' subscale significantly predicted sexual victimization. Locke and Mahalik (2005), however, found this variable (in combination with other gender role norms) to be predictive of sexually aggressive behavior. A link with sexual victimization is therefore surprising. However, one should keep in mind that the influence of 'Power over women' may also be an effect of sexual victimization and not a predictor, due to the cross-sectional design of the study. In this perspective we could refer to the gender role strain theory from Pleck (1995). In his theory he states that compliance to male role norms are problematic and proposed that men may over-conform to gender role norms in case of actual or imagined violation of these norms. Since male sexual victimization can be considered as a violation of the masculine gender role norms, men who have been sexually victimized may overconform to these norms and emphasize their control over situations and women, in particular in case of unwanted sexual experiences with a female perpetrator. More research is needed to reconfirm this finding and include a potential spurious relationship with the sex of the perpetrator.

Another interesting finding is the lack of a significant influence from the 'Playboy' or 'Sexual fidelity' subscales. Previous research namely found that believe in male sexual accessibility is predictive for both men and women (Hartwick et al., 2007). However, the difference with previous research may be due to the differences in the applied scales. The scale used in the study from Hartwick et al. (2007) (i.e. the Sexual Stereotypes Questionnaire) includes statements such as 'In general, men need sex more than women do' and 'It's easy for a women to sexually arouse a man if she really wants to.' These statements measure something different compared to statements applied in the current study, such as 'If I could, I would frequently change sexual partners' (i.e. Playboy scale) and 'I would feel guilty if I had a one-night stand' (i.e. Sexual fidelity scale). The differences between the scales may therefore be the reason why no significant results were visible in the current study.

Implications

The results of this study showed that also European university students are often confronted with sexual victimization during and prior to their enrollment in university. Similar to previous studies, a strong association between alcohol and sexual victimization was detected. Previous scholars have already recommended a restriction of alcohol use among college students as a prevention measure (Abbey, 2002). However, other aspects besides alcohol consumption should also be addressed, such as student's

gender role norm endorsement, communication skills and general sexual behaviors. Policies toward preventing sexual victimization should therefore not only focus on alcohol consumption among college students, but should also encourage students to say 'no' when they mean 'no', ask help when needed and diminish the assumptions about stereotypical male and female behavior. Locke and Mahalik (2005) suggested the use of cognitive therapy techniques to identify and challenge gender role norms that predict sexual aggressive behavior within men. They state that focusing on masculine gender role norms instead of sexual aggression may result in less resistance within male participants. We may even take it one step further by stating that cognitive therapy and workshops in general should focus on masculine and feminine gender role norms and include both male and female participants. Doing so may not only diminish the risk of sexual perpetration but may also decrease sexual victimization risk in both men and women. However, considering that further research is still necessary to fully understand the association between gender role norms and sexual victimization, we should proceed with caution. Nonetheless, we feel that open discussion about gender role norms and students feelings and opinion regarding these norm may already reduce these stereotypical assumptions and result in a more egalitarian environment.

Limitations

There are various aspects of this study that limit the generalizability of the results. This study relies on a convenience sample to measure sexual victimization among university students within one Belgian university. We therefore recommend caution in generalizing these results to peers in the general population. Nonetheless, students were recruited in various ways (i.e. posters, flyers, promotion of the study, student newsletter etc.). The broad recruitment strategy may therefore mitigate this limitation. The cross-sectional nature of the study also makes it impossible to detect causal relationships. Conformity to gender role norms can therefore interact in several ways and may be either an effect or a predictor of sexual victimization.

We also recognize that various changes were made to the Conformity to Masculine Norms Inventory (CMNI) and the Conformity to Feminine Norms Inventory (CFNI). The scale was shortened, translated to Dutch and certain subscales were selected based on relevance to the subject. Nonetheless, internal consistency of the general scale was adequate and subscales even showed an α of up to .90. In addition, factor analysis revealed that the same dimensions could be identified as within the original scale and mean inter-item and total-item correlations of the subscales met the suggested cut-offs. These elements, therefore, convinced us that the scale is sufficiently reliable to measure conformity of certain masculine and feminine norms.

We are also aware about the differences between the CMNI and CFNI and other gender roles scales applied in previous research regarding sexual perpetration and victimization. Comparisons with these studies are therefore difficult to make. However, the purpose of this scale is to measure conformity to gender role norms in terms of how they are part of the respondents' own behavior, thoughts and feelings. In addition, the way the statements are formulated increases flexibility with regard to changes in the stereotypical assumptions for men and women since the statements are not directly aimed towards a certain sex. As stated by Walter (2018) many measurements of gender role attitudes are no longer adequate and mainly evaluate traditional models of male and female gender roles that were mostly applicable in the 70's. The author therefore states that new measures are needed. This recent development of the scales and the flexibility imbedded in the statements may therefore be an advantage compared to scales used in previous research that are often developed in the 90's (e.g. The sexual stereotypes Questionnaire in 1998, The Hypergender ideology scale in 1996, the Neosexism scale in 1995). We would, however, strongly encourage researchers to investigate the influence of gender role norms, including stereotypical statements directed at a certain sex, on the risk of sexual victimization since this may lead to different results than the current research. Furthermore, we strongly emphasize

the need for the development of European gender norm scales. Most of the scales, including the CMNI and CFNI, have been developed in the U.S. and may therefore not be entirely applicable in European studies due to cultural differences.

Finally, this study only measured membership of a student union. Previous studies, however, found that a significant effect was mostly visible in participation with sorority or fraternity parties (Minow & Einolf, 2009). This measure can thus be improved by not only asking about membership, but also including measures such as frequency and intensity of interacting with their student union.

CONCLUSION

Despite its limitations, this study makes a contribution to the scientific literature by confirming findings of previous research regarding the influence of alcohol- and drugs consumption, and number of sexual partners on the risk of sexual victimization. Some contrasting findings were also found, particularly with regards to the differences between men and women and the lack of an association between student union membership and sexual victimization. The latter may, however, be explained by cultural differences between Europa and the U.S.

Our findings regarding the association between conformity to gender role norms and sexual victimization risk suggest examining gender role norms is an important aspect of sexual victimization risk and should be further explored. Since our study is among the firsts, along with the study from Hartwick et al. (2007), to find a relationship between gender role norms and sexual victimization risk, research needs to replicate these findings in similar and more general samples before drawing general conclusions. We found that endorsement of masculine gender role norms increased the odds of sexual victimization and different subscales of the masculine and feminine gender role norms predict sexual victimization for men or women. These observed differences between male and female university students suggest that focusing on gender differences might be a fruitful avenue for future researchers to pursue and that distinguishing between various gender role subscales as a risk factor measure instead of using a general concept of gender role conformity, might be worthwhile to pursue in future research. In addition, future researchers could also focus on the association between stereotypical gender role norm attitudes, including statements directed towards a certain sex, and conformity to gender role norms on the one hand and sexual victimization on the other hand. In doing so, the influence of gender role norms is further clarified and the association between attitudes and personal feelings, thoughts and behaviors are examined. There is thus still a lot of work that needs to be done before being able to draw strong conclusion about the influence of gender role norms. We therefore hope that with this research, we have made the first step in understanding its influence on male and female sexual victimization and motivated scholars in taking the next steps.

NOTES

1. Ghent university is one of the largest (Flemish) universities in Belgium with over 46.000 students.
2. The UN-MENAMAIS project is a Belgian nationally representative study aiming to increase the Understanding, Mechanisms, Nature, Magnitude and Impact of sexual violence in the Belgian population, it's funded by BELSPO-BRAIN.
3. To ensure comparability of the variable 'number of sex partners' between the male and female model, the dummy coding was also applied in the female model. No differences were visbile in the resulting best fitting model, nor in the significance of the predictors.

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TABLES

Table 1 Sample demographic characteristics (N=1137)

	N (mean, SD or %)
Age	1137 (20.1, 2.16)
	(Min=17, Max=47)
Ethnicity	
Born in Belgium *(ref. yes)*	1075 (94,5%)
One or both parents born outside Belgium *(ref. yes)*	131 (11,5%)
Student phase	
1st year undergraduate	866 (76,2%)
2nd year undergraduate	98 (8,6%)
3rd year undergraduate	63 (5,5%)
1st master	40 (3,5%)
2nd master	23 (2,0%)
Transition program	47 (4,1%)
Sexual orientation	
Heterosexual	957 (84,2%)
Homosexual	41 (3,6%)
Bisexual	111 (9,8%)
Asexual	9 (0.8%)
Other	19 (1,7%)

Table 2 Descriptive statistics

Variable *Mean (SD) or %*	Women (N=815)			Men (N=322)		
	Victim (N=416)	Non-victim (N=399)	Test-stat.	Victim (N=77)	Non-victim (N=245)	Test stat.
Control variables						
Sexual orientation *(ref. heterosexual)*	84,4%	85,2%	x²=0,05	66,2%	87,8%	**x²=17,4******
Independent variables						
Alcohol consumption	5,27(1,79)	4,64(1,79)	**t=-5,0******	6,53(1,96)	5,41(2,08)	**t=-4,2******
Drug consumption *(ref. used drugs in their life)*	39,2%	21,6%	**x²=29,0******	64,9%	40,0%	**x²=13,7******
Membership student union *(ref. yes)*	35,3%	33,3%	x²=0,3	44,2%	45,7%	x²=0,01
Age first time sex *(ref. early initiation)*	3,8%	1,3%	x²=4,5**	6,5%	2,9%	x²=1,3
Number of sex partners *(ref. more than 3 partners)*	24,5%	9,0%	**x²=33,7******	41,6%	9,0%	**x²=42,2******
Gender role dimensions						
CMNI	22,69(6,00)	20,87(5,54)	**t=-4,5******	27,48(7,77)	26,19(5,79)	t=-1,3
CMNI-Emotional control	4,84(2,44)	4,59(2,12)	t=-1,5	4,75(2,12)	5,19(2,07)	t=1,6
CMNI-Playboy	2,28(1,91)	1,82(1,56)	**t=-3,8******	3,96(2,18)	2,93(1,84)	**t=-3,7******
CMNI-Violence	3,35(1,84)	3,02(1,78)	t=-2,6***	4,10(2,12)	3,95(1,83)	t=-0,6
CMNI-Self-reliance	4,67(1,98)	4,27(1,70)	t=-3,1***	4,45(1,44)	4,53(1,84)	t=0,4
CMNI-Risk-taking	4,03(1,77)	3,37(1,58)	**t=-5,6******	4,84(1,91)	3,97(1,70)	**t=-3,8******
CMNI-Power over women	0,98(1,27)	0,96(1,10)	t=-0,2	2,44(1,90)	2,06(1,72)	t=-1,7*
CMNI- Heterosexual self- presentation	2,53(2,02)	2,84(2,06)	t=2,1**	2,92(2,47)	3,56(2,12)	t=2,2**
CFNI	24,94(5,13)	25,78(4,90)	t=2,4**	22,25(5,08)	24,13(4,48)	t=2,9***
CFNI- Modesty	4,80(1,48)	4,54(1,49)	t=-2,4**	4,25(1,66)	4,55(1,47)	t=1,5
CFNI-Domestic	5,95(1,49)	6,15(1,46)	t=1,9*	5,83(1,86)	5,65(1,50)	t=-0,8
CFNI-Involvement with children	5,61(2,35)	5,91(2,06)	t=2,0**	4,82(2,12)	5,37(1,94)	t=2,0**
CFNI-Sexual fidelity	4,03(2,18)	4,54(1,97)	**t=3,5******	2,65(1,92)	3,57(1,95)	**t=3,6******
CFNI-Romantic relationship	4,56(2,11)	4,64(2,01)	t=0,5	4,70(2,06)	4,99(2,01)	t=1,1

*p < .1, ** p <.05, ***p<.01, ****p<.001. Test statistics in bold indicate a significant result after a Bonferroni-correction ($\alpha_{altered}$ =.05/40=.0012).

Table 3 Logistic regression model university students (N=1137)

Predictors *OR (95% CI)*	Model 1	Model 2	Model 3	Model 4
Gender	0,30***	0,22***	0,22***	0,18***
	(0,22 – 0.40)	(0,16-0,30)	(0,16-0,30)	(0,13-0,25)
Sexual orientation	1,50*	1,55*	1,38	1,46*
	(1,08-2,10)	(1,10-2,20)	(0,97-1,98)	(1,01-2,11)
Alcohol consumption		1,18***	1,16***	1,14***
		(1,10-1,27)	(1,08-1,25)	(1,06-1,23)
Drug consumption		1,94***	1,57**	1,56**
		(1,46-2,58)	(1,17-2,11)	(1,15-2,11)
Student union membership		1,00	0,99	0,98
		(0,77-1,30)	(0,75-1,29)	(0,74-1,28)
Age first sexual contact			1,14	1,06
			(0,50-2,58)	(0,47-2,41)
Number of sex partners			3,04***	3,08***
			(2,08-4,45)	(2,09-4,52)
CMNI				1,04***
				(1,02-1,06)
CFNI				1,00
				(0,98-1,03)
AIC (base = 1558,1)	1483,9	1425,4	1391,1	1382,3
BIC(base = 1563,1)	1499,0	1455,6	1431,4	1432,6
% correct (base = 56,6)	57,2	63,1	65,7	66,7
Nagelkerke R²	0,089	0,158	0,197	0,210
Chi-square	78,25***	142,72***	181,01***	193,84***

* p <.05, **p<.01, ***p<.001.

Interaction-effect are not shown since none of the interaction-effects with either CMNI or CFNI were significant.

Table 4 Logistic regression models male and female university students (N=1137)

Predictor *OR (95% CI)*	Women (N=815)	Men (N=322)
Sexual orientation	0,88 (0,58-1,34)	3,67*** (1,77-7,60)
Alcohol consumption	1,13** (1,03-1,23)	1,19* (1,01-1,39)
Drug consumption	1,46* (1,03-2,08)	1,73 (0,92-3,28)
Number of sex partners	2,52*** (1,62-3,91)	4,52*** (2,25-9,07)
CMNI-Self-Reliance	1,52** (1,11-2,06)	/
CMNI-Risk-taking	1,17*** (1,07-1,29)	/
CFNI-Modesty	1,14* (1,02-1,26)	/
CMNI-Power over women	/	1,20* (1,02-1,42)
AIC (Base: F=1133,4; M=341,3)	1054,4	301,8
BIC (Base: F:1142,8; M:348,9)	1092,0	324,4
% correct (base: F=51,0; M=76,1)	63,2	80,4
Nagelkerke R²	0,141	0,272
Chi-square	91,05***	64,44***

* p <.05, **p<.01, ***p<.001.

Sexual orientation has been included in the base model as a control variable. The models are the result from the manual stepwise selection method. Parameters of the variables selected via method are shown for men and women separately. The variable CMNI-Self-Reliance was dummy coded in the female model (cf. data analyses).