SEXUAL VIOLENCE AND WOMEN'S EDUCATION: EXAMINING ACADEMIC PERFORMANCE AND PERSISTENCE

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Abstract

Sexual violence continues to be a serious problem on university campuses. While the negative psychological and health effects are well known, it is only recently that attention has focused on how sexual violence is related to educational outcomes, particularly women's education. This study contributes to this area and examined the relationship between types of sexual violence and behavioural and attitudinal indicators of academic performance and persistence among students reporting sexual violence. Undergraduate women attending universities in Ontario, Canada (N = 934) responded to survey measures of academic performance, attitudes towards education and sexual violence experiences. The results indicate that sexual violence is associated with women's deteriorating academic performance including and beyond grades. Female students who experienced sexual violence reported more delays and failures on assignments, courses and exams and were more likely to endorse attendance problems and thoughts of dropping out or quitting than students not reporting sexual violence. Type of sexual violence experienced was also related to academic performance with completed sexual assaults associated with more delays, failures and non-attendance behaviours than other forms of unwanted sexual behaviours. The results are discussed in terms of the need to understand new and additional aspects of academic performance and persistence as well as factors that may contribute to outcomes for students. Findings have implications for intervention and policy development.
Keywords: academic performance, sexual violence, undergraduate students

Résumé

La violence sexuelle continue d'être un grave problème sur les campus universitaires. Bien que les effets négatifs sur la santé physique et psychologique soient bien connus, ce n'est que récemment que l'attention s'est portée sur la manière dont la violence sexuelle est liée aux résultats scolaires, en particulier chez les femmes. Cette étude apporte une contribution à ce domaine et examine la relation entre les types de violence sexuelle et les indicateurs comportementaux et attitudinaux du rendement scolaire et de la persévérance chez les étudiantes qui signalent de la violence sexuelle. Des étudiantes universitaires de premier cycle en Ontario, au Canada (N = 934), ont été sondées sur leur rendement scolaire, leurs attitudes à l'égard de l'éducation et leurs expériences de violence sexuelle. Les résultats indiquent que la violence sexuelle est associée à une détérioration des résultats scolaires des femmes, sur le plan des notes et au-delà. Les étudiantes qui ont été victimes de violence sexuelle ont signalé plus de retards et d'échecs aux devoirs, aux cours et aux examens, et étaient plus susceptibles d'avoir des problèmes d'assiduité et des pensées d'abandon que les étudiantes qui n'ont pas signalé de violence sexuelle. Le type de violence sexuelle subie était également lié au rendement scolaire, les agressions sexuelles étant associées à plus de retards, d'échecs et de comportements d'absentéisme que les autres formes de comportements sexuels non désirés. Les résultats sont analysés sous l'angle de la nécessité de comprendre les aspects nouveaux et additionnels du rendement et de la persévérance scolaires ainsi que les facteurs qui peuvent contribuer aux résultats des étudiantes. Les conclusions ont des implications pour l'intervention et l'élaboration des politiques.

Mots-clés : qualité de l'enseignement, nominations au corps professoral, études postsecondaires, culture pédagogique en établissement

Introduction

Decades of research indicate that women attending postsecondary institutions may be at increased risk of experiencing sexual violence whether on- or off-campus compared to their non-student counterparts (DeKeseredy & Kelly, 1993; Fisher, Cullen, & Turner, 2000). The incidence of sexual assault among undergraduate women on university campuses in Canada remains high and is estimated to be between 20% and 25% (Senn et al., 2014). The well-documented mental health effects of sexual violence include depression, anxiety, posttraumatic stress, and suicidal ideation (Campbell, Dworkin, & Cabral, 2009; Jordan, Campbell, & Follingstad, 2010) and short-term distress, including shock, fear, confusion, and social withdrawal (Herman, 1992; Jordan et al., 2010; Koss, 1993). Binge drinking, somatization, physical injuries, and interpersonal difficulties are also associated with the aftermath of sexual violence (e.g., Amar & Gennaro, 2005; Fisher et al., 2000; Ross et al., 2011). More recently and as a result of institutional responses to sexual violence on campus as well as increased social and media attention (e.g., Auld, 2013; Wilson, 2017), examination of sexual violence has broadened beyond mental and physical health to include impacts on women's education and career decisions.

Early work focusing on women's education found that students who experienced sexual violence while attending university—particularly women with multiple minority identities—reported negative experiences and reduced campus engagement (Stermac, Horowitz, & Bance, 2013; Stermac, Wane, Horowitz, & Bance, 2012). These negative experiences included impacts on academic performance such as decreased individual course grades and changes in overall grade point average (GPA). One study of predominately white women attending an American postsecondary institution found that women who experienced sexual violence during their first semester of college earned lower GPAs by the end of the semester compared to women without this experience (Jordan, Combs, & Smith, 2014). It was also noted that women in this study who experienced rape were significantly more likely to report a GPA under 2.5 compared to women who reported other forms of sexual assault (Jordon et al., 2014). In another study examining the impact of campus sexual assault on academic performance, researchers collected data from postsecondary students who utilized a campus-based resource and found that students who experienced sexual violence or physical/verbal victimization from an intimate partner earned significantly lower GPAs following the violent incident (Mengo & Black, 2016). Additionally, among an international sample of undergraduate women who reported sexual assault while enrolled in postsecondary studies, a majority (67%) indicated that the experience negatively impacted their academic performance, including lower grades (Potter, Howard, Murphy, & Moynihan, 2018). Stermac, Bance, Cripps, and Horowitz's (2018) research supported these findings of negative changes in grades among female students who had experienced sexual coercion.

Several researchers note that academic performance among postsecondary students may be related to characteristics of the sexually coercive behaviours experienced. Stermac et al. (2018) reported that the ability of students to concentrate on their studies was influenced by the type of unwanted and coercive behaviours experienced. Based on interviews with students experiencing sexual coercion, the authors found that academic motivation and concentration were reduced and changes in attendance and educational goals were noted by female students who experienced sexual violence. They found that behaviours described as pressures for sexual contact impacted students' attention and focus differently than attempted or completed sexual assaults. Specifically, students who were pressured for sex indicated shorter term feelings of anger or irritation while those associated with attempted or completed assaults described having longer term loss of concentration and focus. Earlier research by Jordan et al. (2014) reported that sexual assault that involved rape had a differing impact on GPA than did other forms of sexual violence. These results indicate that examination of type of unwanted sexual behaviour may be an important consideration in understanding changes in students' academic performance.

Recent studies on the impact of sexual violence also focused on academic persistence as measured by whether or not students drop out of school or individual courses. For instance, using a sample of American undergraduate students, researchers found that 8.3% of female students who experienced physically forced sexual assault dropped a class (Krebs, Lindquist, Warner, Fisher, & Martin, 2007). A longitudinal study involving a sample of female college students reported that students who experienced sexual violence at some point in their lifetime were significantly more likely to drop out com-

pared to students without experiences of sexual violence (Baker et al., 2016). Another study examining the impact of campus sexual assault on academic persistence collected data from postsecondary students who used a campus-based service and showed that 34% of students who experienced sexual violence dropped out of school following the incident (Mengo & Black, 2016).

Current research on the educational outcomes related to sexual violence, while increasing, has focused largely on overall or individual course grades as well as dropout rates. Although this serves as an important step in understanding the full range of consequences incurred by female students who experienced sexual violence, research indicates that a number of other and potentially intermediary factors may have a role in leading to these academic outcomes. Kern, Fagley, and Miller (1998) found, for example, that academic motivation and concentration were significantly related to indices of performance. Metzner and Bean (1987) reported that students' educational goals and class attendance significantly impacted their GPA, which in turn predicted school dropout. Furthermore, dropout rate has also been associated with student failure on individual courses (Ryland, Riordan, & Brack, 1994). Examination of additional factors potentially related to educational outcomes may contribute to greater understanding of the processes contributing to changes in performance and persistence.

The present study extended previous research investigating the educational outcomes associated with campus sexual violence. This research examined a broader range of behavioural and attitudinal indicators of performance and persistence including delays in academic progress, failures in academic markers, and aspects of school attendance among women reporting sexual violence. This study also examined the relationship between type of sexual violence or sexually coercive behaviour and performance measures. We hypothesized that all forms of sexual violence would be related to lower academic performance and persistence as indicated by grades and changes in grades, less academic progress, more failures in school and more attendance problems.

Methods

Data for this study was collected as part of an investigation examining a range of women's educational experiences associated with sexual violence. Undergraduate students attending universities in Ontario, Canada responded to an online survey including questions about academic performance, attitudes towards education and sexual violence experiences. Data were collected over a one year period (2016-2017) and included all terms of the academic year.

Participants

A total of 934 female-identified student respondents were included in the data for this study. Of these, 741 undergraduate students reported experiencing sexual violence–defined as any sexual act that is committed, threatened, attempted or coerced against a person without the person's consent–while attending university. A comparison sample of 182 women undergraduates who did not report sexual violence also provided information for this study.

Student participants in this study averaged 20 years of age. Participants who experienced sexual violence (M_{age} = 20.79, SD_{age} = 2.18) did not significantly differ in age compared to students who did not experience sexual violence (M_{age} = 20.59, SD_{age} = 3.64). All participants were undergraduates and the majority was in years one to four of their programs; however women with sexual violence reports were significantly less likely to be first year students. The majority of students attended university fulltime, lived off-campus and enrolled in arts and sciences programs. Over 20% of respondents self-identified as a member of a sexual minority. Women who identified as sexual minorities were significantly more likely to report experiences of sexual violence than were heterosexual women, $X^2(2)$ = 17.38, p = .000. Almost half (47%) of participants described themselves as racialized and from a range of ethno-cultural groups, including East, Southeast and South Asian as the largest group. In addition, almost 10% of students who experienced sexual violence reported having disabilities. Demographic characteristics are displayed in Table 1.

Measures

An online survey included measures of the following constructs.

Demographic Information

Self-reported background and demographic information was collected on participant age, relationship status, ethno-cultural membership, sexual orientation, year and program of study, as well as living situation.

Table 1. Demographic characteristics as a percentages of the sample

Characteristics	Experienced Sexual Violence (*n* = 741)	Did Not Experience Sexual Violence (*n* = 182)	*p*
Year of study			<.001
First year	17.3	37.9	
Second year	22.7	18.1	
Third year	23.6	14.8	
Fourth year	22.1	17.0	
Other	13.8	11.9	
Full-time students	92.2	94.0	.528
Program			.447
Arts & Sciences	72.4	70.9	
Commerce, Business, & Management	8.6	8.2	
Sexual Orientation			<.001
Heterosexual	77.5	90.1	
LGBQ	20.4	7.1	
Other	2.1	2.2	
Self-identified disability	9.7	8.2	.545
Racialized	47.6	46.2	.764
Ethno-cultural background			.088
European	40.5	27.5	
East Asian	16.5	22.5	
South Asian	12.6	13.2	
Mixed	6.7	4.9	
Asian/South Asian	9.0	10.9	

Sexual Violence

The abbreviated *Revised Sexual Experiences Survey* (Testa, Hoffman, & Livingston, 2010) was used to assess if participants had experienced sexual violence. Questions included methods of coercion or tactics and types of sexual behaviours experienced. Respondents were asked whether they had experienced: (a) arguments and continual pressure to obtain sex, (b) threats of physical harm, (c) physical force, and (d) sexual behaviours while incapacitated or intoxicated and unable to consent. Respondents also indicated the types of sexual victimization behaviours experienced for each method of coercion.

These included (1) touching and kissing contact, (2) attempted sex (intercourse, oral and or other penetration), and (3) completed sex (intercourse, oral or other penetration). Respondents indicated whether each behaviour and method of coercion had occurred or not since they attended university. Response options were yes or no. Any affirmative response indicated that the respondent had experienced sexual violence.

Academic Performance

Grade point average (GPA) was self-reported as a categorical variable with five levels of grades, A+ (90% or

above), A (80 to 89%), B (70 to 79%), C (60 to 69%), and D (50 to 59%). Participants were asked to report their grade average for the 12 months since sexual violence occurred or 12 months following the most salient incident of sexual violence. Students who did not report sexual violence were asked about the past 12 months. Students in their first year reported university grades to date. Students were also asked about changes in their grades in the past 12 months or in the 12 months since they had experienced sexual violence.

Additional educational measures of academic performance were derived from Statistics Canada surveys of individual items related to academic performance and satisfaction (Statistics Canada, 2004). These included 10 items with 5 response options (1 = *never*, 2 = *once*, 3 = *twice*, 4 = *three times*, and 5 = *four or more times*). Three variables were created. These included Academic Delay, which was created by summing the four items related to delayed progress in courses, assignments, and exams as well as being late for class. The variable Academic Failure was created by summing up three items related to failure in courses, assignments and exams. Academic Non-attendance was created by summing three items related to making excuses to not attend class, thinking of dropping out or quitting, and being intoxicated in class. Conceptualization of the three variables was support by confirmatory factor analysis.

Procedures

Following review and study approval from the university ethics review board, invitations for study participation were posted where permitted within universities in Ontario as well as through online university student groups. The study description indicated that we were conducting a study on women's experiences of sexually coercive behaviours on campus. Interested participants were invited to a survey link that provided information about the study, a consent form and an online survey questionnaire using Qualtrics software platform. All participants were provided with a list of support services and resources which they could copy or print for their use.

Results

Demographic characteristics of participants are displayed in Table 1.

Academic Performance

We examined group differences in academic performance and related indices between women who experienced sexual violence and women who did not report sexual violence. Confirmatory factor analysis was used to validate the educational performance indices of Academic Delay, Academic Failure, and Academic Non-attendance. Independent samples t-tests were used to evaluate the effect of sexual violence on Academic Delay, Academic Failure, and Academic Non-attendance. Significance level of .05 was used for the analyses.

Academic GPA

Multinomial logistic regression was used to predict the probability of obtaining a higher GPA and revealed that the groups differed on the highest grade category of obtaining an A+ (χ^2(2, N = 880) = 13.338, p = .01). Students reporting sexual violence were over 3 times less likely than students without experiences of sexual violence to obtain an A+. The odds ratio for students reporting sexual violence is .317 with 95% C.I. [.112 - .903]. No other significant differences in grades were found for students reporting sexual violence in comparison to those not reporting sexual violence.

As well, we looked at changes in grades among undergraduate students over the 12 months since their experience of sexual violence had occurred or the past 12 months. As seen in Figure 1, students reporting sexual violence were almost twice less likely to experience an increase in their grades compared to peers who did not report sexual violence over time (χ^2(2, N = 876) = 19.32, p < 001) with odds ratio of .528 and 95% C.I. [.350 - .797].

Confirmatory Factor Analysis

Confirmatory factor analysis of the 10 items included in Academic Delay, Failure and Academic Non-attendance provided support for the three variables. As the item level data are of ordinal nature, and Mardia test results revealed violation of multivariate normality (kurtosis = 74.34, p = 0), confirmatory factor analysis was employed with the diagonally weighted least squares with robust standard errors and mean and variance adjustment as the method of estimation (WLSMV) (Muthén, 1984). To this end, the lavaan package (Rosseel, 2012) and R Statistics software (R Core Team, 2016) was used. To evaluate model fit, we used the Comparative Fit Index (CFI) (Bentler, 1990), and the Tucker-Lewis Index (TLI)
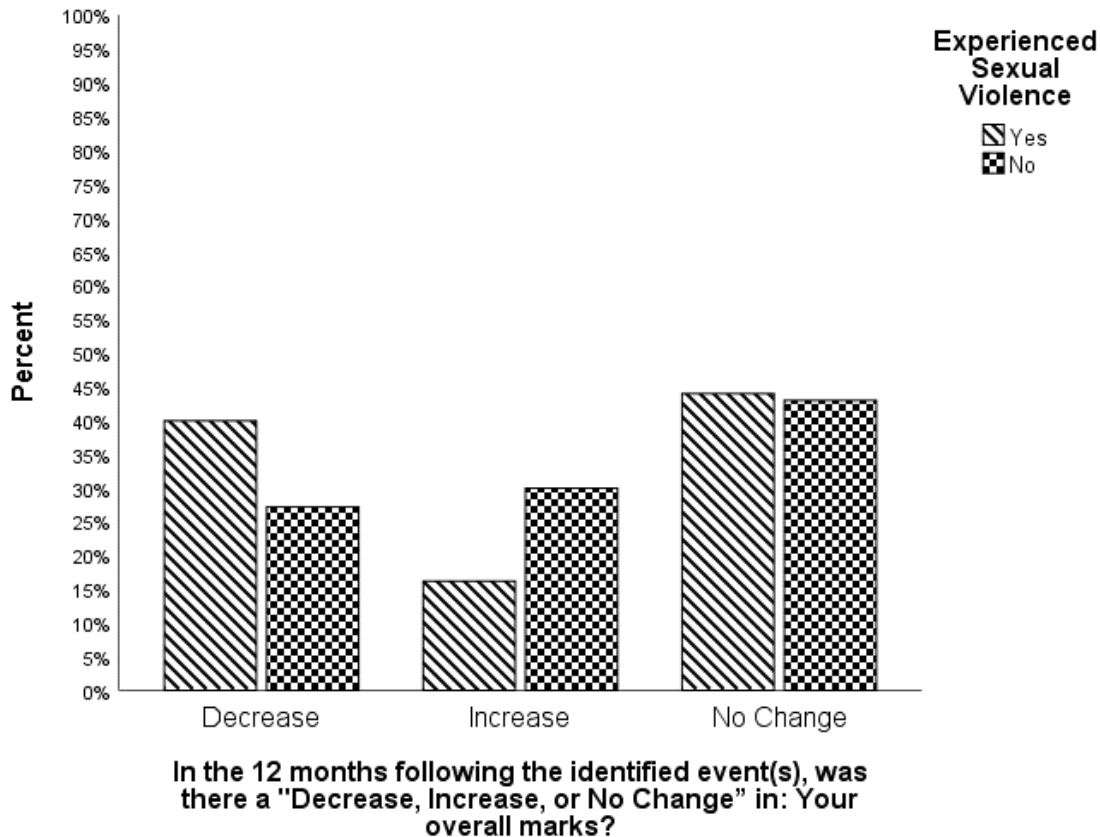
Figure 1. Mean differences in academic performance as measured by changes in grades between female students who experienced sexual violence and women who did not experience sexual violence.

(Tucker & Lewis, 1973), Root Mean Square Error of Approximation (RMSEA) (Steiger, 1990), and Standardized Root Mean Square Residual (SRMR) (Jöreskog & Sörbom, 1993). The results indicated that the robust χ^2 (32, N = 869) = 234.98, p < .001 was significant. As well, the fit indices CFI = .967, TLI = .954, RMSEA = .086 with 95% CI [.076, .096], and test of close fit, RMSEA $\leq$ .05, p < .001 were significant; further, SRMR = .075. Of the fit indices, CFT, TLI, both above .95 (Hu & Bentler, 1999) and SRMR, below .08 (Jöreskog & Sörbom, 1993) indicate good model-data fit. RMSEA shows a mediocre fit (Browne & Cudeck, 1993).

The three variables were linearly transformed such that the minimum score was set to zero and were rated on how many times students experienced each component. Table 2 provides descriptive statistics for these variables. Cronbach's alpha for Academic Delay, Academic Failure, and Academic Non-attendance was .728, .780, and .519, respectively. The latter alpha value is rather small and may be due to the small number of items con-

stituting the variable as well as small to medium magnitude for inter-item correlations.

Academic Delay

The effect of sexual violence on Academic Delay was significant t(873) = 4.20, p < .0001 (see Table 3). The mean Academic Delay score for students reporting sexual violence (M = 5.41, SD = 3.97, n = 696) was higher than for students without experiences of sexual violence (M = 4.10, SD = 3.08, n = 179). Students experiencing sexual violence were more often delayed in courses, assignments, and exams as well as missing class or being late for class.

Academic Failure

The mean Academic Failure score for students reporting sexual violence (M = 1.47, SD = 2.32, n = 692) was higher than for students with no sexual violence (M = .99, SD = 1.93, n = 176). Students reporting sexual violence more often failed courses, assignments and exams, t(866) = 2.32, p = .013 (see Table 3).

Table 2. Descriptive statistics for academic delay, academic failure, and academic avoidance

Descriptive Statistics										
	N	Range	Min	Max	*M*	*SD*	*Skewness*	*SE*	*Kurtosis*	*SE*
Academic Delay	879	16.00	.00	16.00	5.14	3.85	.643	.082	-.107	.165
Academic Failure	872	12.00	.00	12.00	1.37	2.25	2.226	.083	5.456	.165
Academic Non-attendance	876	9.00	.00	9.00	1.89	2.10	1.107	.083	.691	.165

Academic Non-attendance

The mean Academic Non-attendance score for students reporting sexual violence ($M = 2.07$, $SD = 2.05$, $n = 694$) was higher than for students with no sexual violence ($M = 1.15$, $SD = 1.58$, $n = 178$). Students having experiences of sexual violence made excuses to not attend classes, thought of dropping out or quitting and were intoxicated in class more often than student not reporting sexual violence, $t(870) = 5.657$, $p < .0001$ (see Table 3).

Since distribution of scores on all three outcome variables were positively skewed and Levene's test for equality of variances was significant, the analysis was repeated using natural log transformation. For all three variables, the skewness showed some improvement, however, equality of variance in Levene's test was only achieved for Academic Delay. Nonetheless, the significant group differences were maintained even when equality of variances were not assumed. As well, the 95% confidence interval of the mean difference in outcome scores with 5,000 bootstrap samples for Academic Delay, Academic Failure, and Academic Non-Attendance runs [.79 – 1.85], [.13 - .80], and [.64 – 1.20], respectively. Accordingly, the probability is .95 that an interval computed as such includes the mean difference between the two groups. Further, none of the intervals include 0, which is consistent with rejection of the null hypothesis.

Given the differences in variances, effect size indices were computed using the larger standard deviation from the sexual violence group (Howell, 2007). The effect size indices for Academic Delay, Academic Failure, and Academic Non-Attendance were ($d = .34$, $SD = 3.97$), ($d = .20$, $SD = 2.32$), ($d = .45$, $SD = 2.05$), respectively.

Overall, these results revealed that sexual violence was associated with lower academic performance as indicated by grades, more academic delay, failure and non-attendance for undergraduate female students.

Sexual Violence Type and Academic Performance

Multiple regression analyses were conducted to investigate the effect of sexual violence type on Academic Delay, Academic Failure and Academic Non-attendance. Three dummy coded variables were created to represent four categories of sexual behaviour (None, Touched/Kissed, Attempted Sex, Completed Sex) with the first category (None) serving as the reference group. In forming categories of type of sexual violence experienced, the most intrusive behaviour (e.g., Completed Sex) was used as our criterion regardless of the presence of lower category behaviours. Correlations between the dummy coded variables indicated that because of the exclusionary nature of less intrusive categories (e.g., category of Touched/Kissed excluded Attempted Sex and Completed Sex), inter-category correlation coefficients were of small to medium magnitude and with a negative sign. There are no concerns in regards to multicollinearity of the variables in the multiple regression analysis.

Academic Delay

The combination of the variables predicting Academic Delay scores was statistically significant, $F(3, 873) = 18.635$, $p < .001$. The adjusted R^2 value was .060. Due to some violation of multivariate normality (lack of normality in unstandardized residuals), 95% confidence intervals for the regression coefficients with 5,000 bootstrap samples are shown in Table 4.

Planned comparisons revealed that students experiencing completed assaults were significantly more delayed in academic performance than both students reporting touching/kissing, $t(394) = -4.96$, $p = .000$ ($d = .48$) as well as those reporting attempted sexual behaviours, $t(417) = -3.83$, $p = .000$ ($d = .22$).

Table 3. Mean ratings for academic performance variables

	Experienced Sexual Violence	*M*	*SD*	*t*	*df*	*p*	*Cohen's d*
Academic Delay							
	Yes	5.41	3.97	4.20	873	<.001	0.34
	No	4.10	3.08				
Academic Failure							
	Yes	1.47	2.32	2.50	866	.013	0.20
	No	.99	1.93				
Non-Attendance							
	Yes	2.07	2.05	5.66	870	<.001	0.45
	No	1.15	1.58				

Table 4. Multiple regression analysis summary for the sexual behaviour types categories predicting academic delay, academic failure, and academic non-attendance

Variable	*B*	*SE B*	β	95% CI†
Academic Delay (*N* = 864)				
Touched/Kissed	.504 (ns)	.357	.053	[-.167, 1.170]
Attempted Sex	.976**	.345	.108	[.316, 1.657]
Completed Sex	2.485***	.342	.276	[1.813, 3.173]
Constant (baseline or None)	4.208	.226	---	[3.820, 4.589]
Academic Failure (*N* = 869)				
Touched/Kissed	.122(ns)	.212	.022	[-.216, .464]
Attempted Sex	.284(ns)	.204	.054	[-.085, .654]
Completed Sex	1.272***	.202	.242	[.837, 1.724]
Constant (baseline or None)	.978	.134	---	[.764, 1.212]
Academic Non-attendance (*N* = 873)				
Touched/Kissed	.331(ns)	.184	.067	[-.008, .675]
Attempted Sex	.623***	.178	.131	[.297, .960]
Completed Sex	1.593***	.176	.340	[1.250, 1.947]
Constant (baseline or None)	1.294	.117	---	[1.104, 1.489]

Note. For Academic Delay: R^2 = .060; F (3, 873) = 18.635, p < .001; Academic Failure: R^2 = .047; F (3, 866) = 15.160, p < .001; and Academic Non-attendance: R^2 = .088; F (3, 870) = 28.98, p < .001** p < .01; *** p < .001; † 95% Confidence Intervals with 5,000 bootstrap samples for regression coefficients.

Academic Failure

The combination of the variables predicting Academic Failure scores from three behavioural categories (Touched/Kissed, Attempted Sex, Completed Sex) was statistically significant, $F(3, 866) = 15.160$, $p < .001$. The adjusted R^2 value was .047. There were 32 cases which had a Distance value (an outlier on the Y axis or the outcome) above the cut-off of 2.5 and violation of multivariate normality (lack of normality in unstandardized residuals). As such, 95% confidence intervals for the regression coefficients with 5,000 bootstrap samples are shown in Table 4.

Planned comparisons revealed that students experiencing completed sex assaults had significantly more academic failures than students reporting attempted sexual violence, $t(416) = -4.02$, $p = .000$ ($d = .35$).

Academic Non-attendance

The combination of the variables predicting Academic Non-attendance scores from three behavioural categories (Touched/Kissed, Attempted Sex, Completed Sex) was statistically significant, $F(3, 870) = 28.98$, $p < .001$. The adjusted R^2 value was .088. There were 18 cases which had a Distance value (an outlier on the Y axis or the outcome) above the cut-off of 2.5 and there was some violation of multivariate normality (lack of normality in unstandardized residuals). As such, 95% confidence intervals for the regression coefficients with 5,000 bootstrap samples are shown in Table 4.

Planned comparisons revealed that students experiencing completed sex assaults had significantly more non-attendance than students reporting touching and/or kissing, $t(395) = -6.11$, $p = .000$ ($d = .58$) as well as those reporting attempted sexual behaviours, $t(416) = -4.77$, $p = .000$ ($d = .45$).

Discussion

This study examined educational outcomes related to academic performance among undergraduate students experiencing sexual violence attending Canadian postsecondary institutions. The focus was on broadening our understanding of components of academic performance as well as factors that may contribute to outcomes.

The results of this study indicate that sexual violence is associated with aspects of women's academic performance including and beyond GPA. Female students who experienced sexual violence were found to be less likely to have grades within the highest grade category compared to students without experiences of sexual violence, supporting previous research (Jordon et al., 2014; Stermac et al., 2018). As well, students reporting sexual violence were less likely to have increases in their grades overtime which are commonly seen as an upward grade trend in undergraduate programs. Impacts on women's education extended beyond GPA to include component behaviours which may have a role in potential deterioration in grades. Examination of performance related to progress in class assignments, courses and exams revealed that students reporting sexual violence differed in comparison to their peers and were more often stating that they were failing assignments, courses and exams. These students were more likely to make excuses to not attend class, have thoughts of dropping out or quitting, and report being intoxicated in class more often than students not reporting sexual violence.

The identification of components of academic performance may be important intervention points for students with deteriorating performance. Postsecondary faculty and staff and clinicians working with female university students with experiences of sexual violence need to be aware of the types and multitude of impacts that these experiences can have on women's education. Acknowledging that absences and other behaviours may be related to sexual violence allows for appropriate intervention strategies and may be helpful in providing accommodation. In particular, the need for supports and services surrounding class attendance, extensions on assignments, and other accommodations is made clear by the results of this study.

The results also revealed that aspects of performance examined in this study–including grades, academic delays, failures, and non-attendance–were related to the type of sexual violence that students experienced. This finding supports previous research indicating that women who experience rape are more likely to have GPAs below 2.5 compared to women who experiences other types of sexual violence (Jordan et al., 2014). While the type of sexually coercive and unwanted behaviour women experience is subjectively and differentially assessed in terms of harms, these results indicate that completed sexual acts, i.e., those involving penetration, were associated with more interference with academic performance than other forms of sexual violence. Students experiencing completed sexual assaults reported

more delays in academic performance, more failures and more non-attendance related behaviours than did students experiencing other forms of unwanted sexual behaviours. This may occur for a number of reasons but suggests that sexual assaults have a significant disruption in student academic focus and result in deterioration in performance. This may be confounded with mental health sequelae known to be a consequence of sexual violence (Jordan et al., 2010).

Additionally, results of this study found some evidence supporting previous findings that sexual minority women attending postsecondary studies are at an additional risk for experiencing sexual violence compared to their heterosexual counterparts (e.g., Martin, Fisher, Warner, Krebs, & Lindquist, 2011; Senn et al., 2014). Whether these individuals are also more likely to experience educational impacts or have greater educational impacts as a result of sexual violence is beyond the scope of this study but is an important area for further investigation. However, this finding, in conjunction with previous research indicating that women with multiple intersecting identities report reduced campus engagement (e.g., Stermac et al., 2013; Stermac et al., 2012), is an important avenue for both campus action and future research.

Professionals working in a postsecondary institution or with postsecondary students will need to be aware of the varied outcomes that different types of sexual violence are associated with in terms of women's education in order to provide appropriate and empirically-based academic advising and support. The results of this study provide insight into what may lead students reporting sexual violence to decreases in academic performance as well as what may affect persistence. Examining the ways that sexual violence leads to disengagement in postsecondary education, through academic delays and non-completions as well as non-attendance, contributes to our understanding of the academic trajectories of female students experiencing sexual violence. While the sequence of deterioration is not known, examining the sequencing of component behaviours may assist in appropriate intervention points and foci.

A number of limitations to this work are important to note. Students in this research reported on sexual violence experiences and educational outcomes which occurred during the undergraduate years. While the focus was on outcomes following sexual violence, it is not pos-

sible to make causal connections between these events. As well, consideration of other causes or correlates of academic performance and retention need to be explored including the impact of lifetime sexual violence experiences other than those during university attendance. Current research on postsecondary students' experiences highlights the significant mental health problems that students report (American College Health Association, 2019) including high rates of depression and anxiety. These mental health concerns and related difficulties in concentration and attention may also interfere with student learning and outcomes and need to be considered in examining the educational experiences of students.

Overall, women's performance in school and possible paths of disengagement with schooling have serious implications for retention and women's education that must be understood and addressed by institutions and policymakers. Examining the ways that sexual violence leads to disengagement in postsecondary education, through academic delays, failures, and non-attendance, can assist us in understanding the academic trajectories of female students experiencing sexual violence.

Acknowledgements

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