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Abstract

As romantic relationships in young adulthood (18-25 years) are frequently characterized by experimentation and risk-taking, this could make young adults particularly vulnerable to experience sexual harassment by a dating or committed partner. This study examines young adults' victimization and perpetration experiences of online and in-person sexual harassment with their dating or committed partner, and explores the role of the Dark Triad personality traits. We conducted a cross-sectional survey among 458 young adults, 371 of whom were in a romantic relationship (M_{age} = 20.80, SD_{age} = 1.51, 25.6% men). Our findings revealed that all measured sexual harassment experiences were significantly more prevalent among young adults in dating relationships compared to those in committed relationships. Furthermore, in both relationship types, all online and in-person experiences of sexual harassment were significantly linked, indicating that these harmful experiences occur across contexts. Additionally, all victimization and perpetration experiences were significantly linked in both relationship types, meaning that some young adults were both victim and perpetrator of these behaviours. Lastly, we found that sexual harassment was linked to narcissism in dating relationships, but to Machiavellianism in committed relationships, indicating that different strategies may explain these behaviours.

Keywords: Sexual harassment; online versus in-person; Dark Triad traits; young adults; intimate partner violence; cyber dating abuse

Introduction

Young adulthood, typically spanning ages 18 to 25 (Arnett, 2000), marks a significant transition from adolescence to adulthood. Compared to adolescence, young adulthood is generally characterized by increased independence, responsibility and self-awareness (Arnett, 1998). Compared to adulthood, however, young adults are still exploring their identity and learning how to build healthy relationships and boundaries (Arnett, 2000), and are more inclined to take risks (Giordano et al., 2012). Thus, while young adults' romantic relationships are generally more committed compared to adolescents' relationships, they often still involve exploration, experimentation, and risk-taking (Arnett, 2000; Meier & Allen, 2009). This can render young adults particularly vulnerable to harmful behaviours within their romantic relationships, such as sexual harassment.

The internet plays a pivotal role in shaping and maintaining modern romantic relationships. Digital technology provides young adults with new and convenient avenues to connect with (potential) partners. Social media and online dating platforms, for example, make it easier for young adults to find potential partners. In fact, recent statistics indicate that young adults are the most active age group on social media sites such as TikTok (42%; Ceci, 2022) and on the world's largest dating app, Tinder (35%; Iqbal, 2023). Within established committed relationships, digital communication tools (e.g., instant messaging, FaceTime) help partners stay connected and enhance intimacy, even when they are physically apart. Despite these benefits, digital technology can also negatively impact young adults' romantic relationships, as online communication tools may facilitate harmful interpersonal behaviours such as sexual harassment.

The present study examines online and in-person sexual harassment experiences in young adults' romantic relationships. Additionally, studies have shown that these harmful behaviours are often (partly) driven by specific personality traits (e.g., Hardies, 2019). Particular research

attention has been given to the Dark Triad personality traits Machiavellianism, narcissism, and psychopathy in explaining harmful interpersonal behaviours (e.g., Carton & Egan, 2017). Thus, the present study explores the role of the Dark Triad traits in young adults' online and in-person sexual harassment experiences in their romantic relationships. Recognizing that young adults tend to explore different types of relationships (Arnett, 2000), we differentiate between two types of romantic relationships: Dating relationships, where individuals are getting to know each other and deciding whether to pursue a committed relationship, and committed relationships, where exclusivity and commitment generally are established between partners.[1]

Sexual Harassment in Young Adults' Romantic Relationships

Sexual harassment covers a range of unwanted and inappropriate sexual behaviours, including verbal conduct (Fitzgerald et al., 1997). Sexual harassment is a pervasive problem that affects people of all ages, with young adults being particularly vulnerable to experience sexual harassment (Mumford et al., 2020). Several factors contribute to this vulnerability. For example, young adults are less experienced with navigating social relationships, have limited awareness of boundaries and consent, and may have limited knowledge about or (financial) access to support and resources (Vanheusden et al., 2008). Their understanding of harassment and their help-seeking skills may also be underdeveloped, as younger adults find it more difficult to recognize harassment (Palumbo, 2017). Additionally, young adults are particularly sensitive to peer influence in developing their attitudes and beliefs about social interactions and behaviours (Schwartz, 2016), making them more susceptible to engage in risky behaviours that their peers consider acceptable or even favourable (Gardner & Steinberg, 2005). This susceptibility to peer influence extends to accepting or participating in sexually harassing behaviours when peers condone them (Horn & Poteat, 2022).

[1] While we do not wish to purposefully exclude polyamorous individuals who are in relationships with more than one significant other, this study specifically focuses on monoamorous romantic relationships.

Although most sexual harassment research has focused on public spaces or workplaces (e.g., Hardies, 2019), it can also occur in romantic relationships. However, while the amount of literature on intimate partner violence and dating violence has grown exponentially in the past decades, surprisingly few studies have linked young adults' sexual harassment experiences to the context of romantic relationships (Kiekens et al., 2021; Lindsay et al., 2016), and almost no research exists in which these experiences were assessed for and compared between different relationship types. One study in which such comparisons were made, compared the experiences of married adults to single adults (Sillito Walker & Bonner, 2022). No study that we know of has examined sexual harassment in both dating and committed relationships of young adults.

Several factors could contribute to sexual harassment in young adults' romantic relationships, such as the potential presence of a power imbalance between partners, for example because one of the partners is older, more experienced, or more successful (Overall et al., 2016; Wayne, 2000). Also, due to the ongoing exploration of boundaries by young adults, communication challenges may arise such that one partner may not realize that their behaviour is unwanted or inappropriate or may have misinterpreted cues because boundaries or expectations were not clearly communicated (Abbey et al., 1998).

While there are many similarities in why and how sexual harassment may occur in dating and committed relationships, differences also exist. In dating relationships, the absence of formal commitment can make it easier for harassment to go unchecked (Le et al., 2010). This lack of accountability particularly comes to play in the context of *online* dating relationships, where anonymity prevails (Bargh et al., 2002). Committed relationships, on the other hand, typically involve higher levels of commitment, exclusivity, and accountability. These factors may act as protective measures against sexual harassment (Adams & Jones, 1999; Manning et al., 2018). Despite this, sexual harassment and other forms of sexual violence are known to occur in committed relationships as well (Sinozich & Langton, 2014).

Overall, sexual harassment can happen in both dating and committed relationships, but its prevalence and dynamics may vary based on the level of commitment and exclusivity. This leads to our first hypothesis (**H1**):

H1: Sexual harassment experiences are more prevalent in young adults' dating relationships than young adults' committed relationships.

Online Versus In-Person Sexual Harassment

Cyberspace has become a potential arena for experiencing sexual harassment in dating or committed relationships. Online platforms, including dating sites and social networking sites, offer a degree of distance and anonymity, which can lower accountability, lead to dehumanization, and reduce the threshold for engaging in harmful behaviours such as sexual harassment (Jonnson et al., 2018; Wiener et al., 2013). In romantic relationships, harmful technology use between partners, also referred to as *cyber dating abuse* (Zweig et al., 2014), has garnered significant research attention. Numerous studies have highlighted instances where partners use technology to make hurtful comments or control and monitor their partner's behaviours (for a review, see Taylor & Xia, 2018; for a meta-analysis among adolescents and emerging adults, see Li et al., 2023). Despite this, surprisingly little research has explored online expressions of sexual harassment within romantic relationships.

While most perpetrators of sexual harassment are likely aware of the harmful impact of their behaviours, examinations of online expressions of sexual harassment are particularly essential because online communication makes it difficult (or even impossible) to interpret social cues and to read a conversational partner's body language. This makes it challenging to interpret boundaries and consent (Baruch, 2005). This can lead to misunderstandings and potentially inappropriate behavior, such as making sexual remarks that are perceived as transgressive by the recipient. Thus, the role of online communication in young adults' sexual

harassment experiences with their romantic partners is crucial. As such, the present study examines both online and in-person occurrences of sexual harassment within dating and committed relationships.

Previous research has extensively examined the co-occurrence of online and in-person risk behaviours, such as bullying and cyberbullying (e.g., Trajtenberg et al., 2021), online and in-person partner violence (e.g., Schokkenbroek et al., 2022b), and online and offline sexual risk behaviours (e.g., Ybarra & Mitchell, 2014). These studies revealed that these online and in-person behavioural counterparts often co-occur, share underlying factors (Görzig, 2016), and can have similar consequences (Schokkenbroek et al., 2022a). They may even reinforce each other, as individuals who engage in in-person sexual harassment may also use online communication tools to inflict further harm. This is particularly likely for younger people, who tend to engage in multiple risk-taking behaviours, and do so more frequently. Despite these findings in other areas, to our knowledge, no study has yet examined both online and in-person experiences of sexual harassment in young adults' romantic relationships. Building on previous research about co-occurring online and in-person harmful interpersonal behaviours, our second hypothesis (**H2**) is as follows:

H2: Online and in-person experiences of sexual harassment are interconnected, indicating that young adults who report in-person sexual harassment with their dating or committed partner are also more likely to have experienced sexual harassment with their partner through online communication.

Victim-Perpetrator Overlap

The present study not only accounts for online and in-person experiences of sexual harassment, but also delves into young adults' experiences as victims and perpetrators of these behaviours. This comprehensive approach helps us understand any potential overlap between

sexual harassment victimization and perpetration experiences. Previous research on other harmful interpersonal behaviours such as bullying (Mishna et al., 2012) and physical and psychological forms of intimate partner violence (Schokkenbroek et al., 2022a) has indicated that individuals can be both victims and perpetrators of these behaviours. While self-defence may explain some of these cases of overlap, it does not account for all instances (Langhinrichsen-Rohling et al., 2012). Another explanation for this victim-perpetrator overlap is that prior victimization may increase the likelihood of perpetrating the behaviour (or vice versa) as a way to cope with the trauma of victimization or to (re)gain a sense of power or control (Espelage & Swearer, 2003). Additionally, some individuals may have (recurring) experiences as victims and perpetrators of sexual harassment because they have been socialized to accept such behaviour as normal or even desirable. For example, in their recent literature review, Galdi and Guizzo (2021) conclude that sexually objectifying media content normalizes harassing behaviours and can lead viewers to engage in such behaviours themselves or accept them from others. Young adults, due to their greater susceptibility to social and peer norms (Schwartz, 2016), may be particularly influenced by these factors. Lastly, some young adults may have multiple experiences as victims and as perpetrators because they may struggle to recognize and respect boundaries and consent, both their own and those of others (Abbey et al., 1998).

Based on these previous studies, our third hypothesis (**H3**) is as follows:

H3: Victimization and perpetration experiences of sexual harassment within young adults' romantic relationships are interconnected, such that young adults who report being victimized in their dating or committed relationship are also more likely to have engaged in this behaviour themselves.

Personality Traits as Predictors of Young Adults' Sexual Harassment Experiences

This study seeks to deepen our understanding of the prevalence and co-occurrence of young adults' victimization and perpetration experiences of sexual harassment, both online and in-person, within their romantic relationships. Additionally, it investigates how these behaviours may be shaped by personality traits, which are known to play a crucial role in explaining human behavior, including harmful interpersonal actions (Hardies, 2019). The Dark Triad personality traits, comprising Machiavellianism, narcissism, and psychopathy (Paulhus & Williams, 2002) are central to this investigation. These traits share a core of callousness, selfishness, and manipulative tendencies (Jones and Figueredo, 2013).

Machiavellianism is reflected by manipulative and deceptive tendencies and a tendency to exploit others (Jones & Paulhus, 2014). Additionally, it is linked to limited empathic concern and a tendency to violate norms or values to achieve one's own goals (Szijjarto & Bereczkei, 2015). Narcissism is considered a multidimensional trait: The grandiose dimension is characterized by selfishness and feelings of entitlement, whereas the vulnerable dimension captures a need for attention or recognition and a hypersensitivity to the opinion of others (Dickinson & Pincus, 2003). Psychopathy is associated with thrill-seeking and a lack of empathy and fear (Paulhus & Williams, 2002). Other characteristics often associated with psychopathy are grandiosity, superficial charm, irresponsibility, recklessness, and deficits in self-control (i.e., impulsivity) (Pailing et al., 2014).

All three Dark Triad traits have been associated with sexual harassment tendencies and perceptions regarding the acceptability of sexual coercion and harassment (Zeigler-Hill et al., 2016; Longpré et al., 2022). There are several reasons why the Dark Triad traits may explain young adults' sexual harassment experiences. For example, Machiavellian individuals may use manipulation to engage in sexually harassing behaviours or to evade accountability (Sarwer et al., 1993). Narcissistic individuals, with their need for admiration, may inadvertently attract individuals who tend to harm others and may struggle to recognize or respond effectively to

harassing behaviours. They may also be more prone to perpetrating sexual harassment, as they tend to be more focused on their own needs than on the feelings of others and more likely to ignore the negative consequences of their actions (Strelan, 2007). Lastly, psychopathic individuals may lack empathy and struggle to understand the emotional impact of harmful behaviours, making them vulnerable to both experiencing and perpetrating sexual harassment and making it more difficult for them to seek help or support (Kirsch & Becker, 2007).

Among young adults, the Dark Triad personality traits are particularly interesting to examine as possible predictors of harmful interpersonal behaviours, as this developmental period is marked by significant changes in impulsivity and self-control. These factors play an important role in the expression or repression of the Dark Triad traits (Barlett & Barlett, 2015). Although the Dark Triad traits alone cannot fully explain sexual harassment experiences, in some cases they may contribute to manipulative or deceitful behaviour, a focus on self-interest, and a lack of empathy. Hence, our fourth hypothesis (**H4**) posits:

H4: The Dark Triad traits Machiavellianism, narcissism, and psychopathy are associated with sexual harassment experiences within young adults' romantic relationships. Young adults higher in these traits are expected to report more sexual harassment experiences with their dating or committed partners.

In addition, this study also considers potential differences in the links between the Dark Triad traits and sexual harassment experiences in dating versus committed relationships. Such distinctions may arise from varying needs, motivations, and strategies based on the type of relationship. For instance, individuals in dating relationships may prioritize gaining admiration and be more self-focused compared to those in committed relationships (James-Kangal et al., 2018). As no prior study that we know of has examined these potential distinctions, this study

explores possible variations between these two relationship types in addition to the proposed hypotheses.

On the Role of Sex and Age

The role of sex[2] and age in sexual harassment experiences is an important consideration in this study. Prior research has often framed sexual harassment as a form of gender-based violence (Cooper et al., 2013), which involves violence directed against an individual based on their gender identity or that disproportionately affects a particular gender (European Commission, n.d.). Indeed, many studies discuss sex differences in sexual harassment and sexual violence, often concluding that women are disproportionally victimized by men (e.g., Foshee, 1996). While it is undeniably important to examine these gender dynamics and identify vulnerable groups, a narrowed focus on women as victims and men as perpetrators might limit the broader purpose of addressing and tackling sexual harassment and other forms of intimate partner abuse. Therefore, this study will consider the role of sex by examining it as a confounding factor in the hypothesized associations, rather than placing it at the forefront.

Additionally, age has also been linked to sexual harassment experiences, with such experiences generally decreasing as individuals grow older (Douglass et al., 2018). While the present study already focuses on a specific age group (18-25-year-olds), it is important to note that the perceptions, environments, and relationships of an 18-year-old may differ in several ways from those of a 25-year-old. Consequently, similar to the role of sex, the study will consider the role of age by examining it as a confounding factor in the hypothesized associations.

Methods

Procedure & Sample

[2] We use the term "sex" to indicate respondents' assigned sex at birth. In line with APA 7 guidelines on bias-free language we refrain from using the term "gender", as this concerns a "social construct and a social identity" (APA, 2020, p. 138).

Data were collected through a cross-sectional survey study among a sample of young adults in September 2019, all of whom were enrolled at the *[concealed for review purposes]* University in Belgium. Students voluntarily participated in the survey as part of a course assignment on survey construction. The Institutional Review Board (IRB) of *[concealed for review purposes]* provided ethical approval.

In total, 463 university students completed the survey. Five of them were older than 25 and were excluded from the final sample. Of the remaining 458 young adults (M_{age} = 20.80, SD_{age} = 1.51, 25.6% men), 371 were in a romantic relationship: 155 (M_{age} = 20.75, SD_{age} = 1.75, 24.5% men) young adults indicated they were *dating* someone, while 216 (M_{age} = 20.83, SD_{age} = 1.74, 26.4% men) were in a *committed* relationship.

Study Measures

Reliability statistics for all study measures can be found in Appendix I.

Dark Triad Traits

The Dark Triad traits were measured with the Dark Triad Dirty Dozen scale (Jonason & Webster, 2010; Dutch version by Lambrechts et al., 2019). This scale consists of 12 items, four per personality trait. Preliminary principal components factor analysis (PCA) with oblimin rotation confirmed a three-factor solution for the present sample. PCA further revealed that the factor loading for one item measuring psychopathy (i.e., "I tend to be cynical") was considerably lower (λ = .404) compared to the factor loadings of the three other items in the psychopathy subscale (ranging from .652 to .695). We decided to omit this item from further analyses. After excluding this item, PCA revealed that the three factors extracted from the Dark Triad measure explained 62.28% of the variance. Responses were given on a 5-point Likert scale ranging from 1 = "strongly disagree" to 5 = "strongly agree". All items are listed in Appendix I.

Sexual Harassment Experiences

We used an abbreviated version of the Gender Harassment subscale of the Sexual Experiences Questionnaire (Fitzgerald et al., 1995) to measure sexual harassment experiences. The scale consists of three items, measuring the extent to which someone has received (*victimization*) or made (*perpetration*) crude, offensive, and sexist comments from or to their partner. The victimization and perpetration measures were assessed twice: Once for in-person experiences and once for online experiences of sexual harassment.

Answers were given on a 5-point frequency scale ranging from 1 = "never" to 5 = "very often." The phrasing of the questions was altered such that they measured whether the crude sexual comments were made by or towards a *dating* partner or a *committed* partner in the past 12 months. All items are listed in Appendix I.

Control Variables

We included respondents' age and sex as control variables. *Age* was measured as continuous variable ranging from 18 to 25 years. *Sex* was measured as binary variable and was coded zero for men and one for women.

Analytic Plan

Statistical significance was determined at $p \leq .05$. All analyses were conducted in IBM SPSS Statistics (Version 29). First, prevalence rates of online and in-person sexual harassment in dating and committed relationships were established. For this purpose, we converted the continuous sexual harassment variables into dichotomic ones, with 0 = no sexual harassment and 1 = experienced sexual harassment with dating or committed partner at least once in the past 12 months.

Second, to compare sexual harassment prevalences between relationship types, we intended to use multivariate general linear modelling. However, assumption testing revealed that Box's M test was significant and given that our group sizes can be considered unequal (*n*

= 155 for dating relationships and n = 216 for committed relationships) we instead performed a non-parametric Mann-Whitney U test.

Third, correlation analyses were performed to examine bivariate associations between online and in-person sexual harassment and between victimization and perpetration experiences. As all sexual harassment variables were non-normally distributed, we determined non-parametric Spearman Rank correlation coefficients. Additionally, Spearman rank correlation analyses were performed to examine associations between sexual harassment experiences and the three Dark Triad traits. Separate correlation analyses were conducted for each relationship type.[3]

Finally, we used modelling analyses to predict sexual harassment experiences based on the three Dark Triad traits and respondents' sex and age. Preliminary analyses revealed that all sexual harassment variables were non-normally distributed and that linear regression assumptions of normality and homoscedasticity were violated. Variable transformations and subsequent general linear model (GLM) analyses were not suitable approaches to address these issues in our study, as the normality and homoscedasticity assumptions of GLM were still violated after transforming the data. When assumptions of GLMs are violated, generalized linear model (GzLM; Nelder & Wedderburn, 1972) analysis is a viable alternative to analyse continuous dependent variables (Ng & Cribbie, 2017). Thus, we conducted GzLM analyses with the three Dark Triad traits as predictor variables, sex and age as covariates, and the sexual

[3] Notably, preliminary ANOVA analyses (Machiavellianism and narcissism) and nonparametric Mann-Whitney U tests (psychopathy) revealed that no differences exist in the prevalence of Machiavellianism (F(1, 369) = .063, p = .802), narcissism (F(1,369) = .000, p = .992), and psychopathy (U = 17527.00, p = .432) between young adults in dating relationships and in committed relationships. Thus, any differences in the link between Dark Triad traits and sexual harassment experiences between these relationship types cannot be explained by a difference in the prevalence of these personality traits among young adults in dating versus committed relationships.

harassment measures as dependent variables[4], using Gamma distribution and log link function[5]. We assessed overall model fit with an omnibus log-likelihood ratio test, which verifies if the explained variance is significantly greater than the unexplained variance. Goodness-of-fit was determined with the deviance statistic[6] as well as Akaike's Information Criterion (AIC)[7]. For each predictor, individual model effects were tested with Type III Wald Chi-square tests. Parameters were estimated with Maximum Likelihood estimation. We performed these analyses separately for each relationship type.

Results

Prevalence of Sexual Harassment Experiences in Dating and Committed Relationships

Within young adults' dating relationships, victimization of in-person harassment was most frequent (46.5%), followed by victimization of online harassment (32.9%). Perpetration of online (16.8%) and in-person (14.8%) harassment occurred considerably less frequent among the young adults in our sample. Within committed relationships, a (considerably) larger number of respondents experienced victimization (32.4%) and perpetration (19.4%) of *in-person* sexual harassment compared to victimization (14.4%) and perpetration (13.0%) of *online* sexual harassment.

[4] As correlation analyses revealed that the DTT were significantly linked to respondents' sex, we tested the full model also with the inclusion of three interaction effects between sex and Machiavellianism, narcissism and psychopathy. None of these interaction effects were significant, however, nor did these extended models perform better compared to a model without the interaction effects. As such, we did not include interaction effects in our analyses.

[5] While both the inversed Gaussian and Gamma distribution are suitable for continuous data that are positively skewed, the inverse Gaussian distribution is more suitable when responses are even more skewed than suggested by the Gamma distribution (Dunn & Smyth, 2018). Model fit and residual deviance examinations revealed that the log link function yielded the best model performance and the most useful interpretation.

[6] Deviance compares the given model with the full model, in which the full model has one parameter for each observation and therefore has a perfect fit. In a perfect fit model, the deviance is 0. If the statistic for deviance value/df is larger than 1, there is a sign of overdispersion in the model (Dunn, 2005).

[7] In GzLM, we compare the AIC statistics to examine which model outperforms the other. The formula used to calculate the AIC also includes the number of parameters in the model (Akaike, 1974). The lower the AIC, the better the model performs. This means that the AIC penalizes models with a larger number of predictors. As this study compares a model with two predictors (Model 1) to the performance of a model with five predictors (Model 2), this means that a lower AIC statistic for Model 2 would indicate that this model performs particularly well in explaining sexual harassment experiences.

Mann-Whitney U tests revealed that victimization of online ($U = 20816.00$, $p = .000$) and in-person ($U = 18708.00$, $p = .042$) sexual harassment was significantly more prevalent among young adults in dating relationships (M $\text{Rank}_{\text{online}} = 212.30$; M $\text{Rank}_{\text{in-person}} = 198.70$) compared to online ($M$ $\text{Rank}_{\text{online}} = 167.13$) and in-person ($M$ $\text{Rank}_{\text{in-person}} = 176.89$) victimization experiences in committed relationships. For perpetration of online and in-person sexual harassment, no significant differences were found between dating versus committed relationships.

Associations between Online and In-Person Sexual Harassment and between Victimization and Perpetration Experiences

Spearman rank correlation coefficients for the associations between online and in-person sexual harassment and for victimization and perpetration experiences within dating and committed relationships can be found in Table 1. In both relationship types, online experiences of sexual harassment were significantly positively associated with in-person experiences of sexual harassment. This association was particularly strong for online and in-person *perpetration* of sexual harassment, both in dating ($\rho = .600$) and committed ($\rho = .454$) relationships.

For victimization and perpetration of sexual harassment, we also found that both within dating and committed relationships, all sexual harassment experiences are significantly and positively linked. In dating relationships, we found a significant correlation of .565 between victimization and perpetration of online sexual harassment, and .367 between victimization and perpetration experiences of in-person sexual harassment. Online victimization and in-person perpetration were also significantly associated ($\rho = .440$), as were online perpetration and in-person victimization ($\rho = .354$). In committed relationships, we found similar association strengths and patterns. Victimization and perpetration of online sexual harassment were significantly associated ($\rho = .750$), as were victimization and perpetration of in-person sexual

harassment (ρ = .508). Also similar to the dating context, online victimization and in-person perpetration were significantly associated (ρ = .384), as were online perpetration and in-person victimization (ρ = .322). These findings reveal that victim-perpetrator overlap occurs in both relationship types and across online and in-person contexts.

INSERT TABLE 1 ABOUT HERE

Dark Triad Traits as Predictors of Sexual Harassment Experiences

We also assessed bivariate associations between each of the Dark Triad traits and each of the sexual harassment experiences. The Spearman rank correlation coefficients can be found in Table 1. Within dating relationships, all four sexual harassment experiences were significantly associated with the personality trait narcissism, with coefficients ranging from .186 to .357. Additionally, psychopathy was weakly but significantly correlated with in-person victimization, and Machiavellianism was significantly correlated with online and in-person perpetration of sexual harassment. In committed relationships, Machiavellianism was significantly linked to all four sexual harassment experiences, with coefficients ranging from .155 to .249. In contrast to dating relationships, narcissism was only significantly associated with in-person victimization in committed relationships. Lastly, psychopathy was significantly associated with online perpetration of sexual harassment.

Generalized Linear Models

Despite the valuable insights gained from these correlation analyses, they cannot illuminate the contribution of one independent variable (e.g., Machiavellianism) to the dependent variable over and above contributions made by other independent variables (e.g., narcissism and psychopathy). Additionally, as the three Dark Triad traits were also significantly associated with each other, it is sensible to assess both their individual and combined effects on

sexual harassment experiences. Thus, we performed multiple GzLM analyses, the results of which are presented in Table 2a (dating relationships) and Table 2b (committed relationships).

In **dating** relationships, parameter estimates of Model 1 revealed that respondents' sex was negatively significantly linked to online and in-person sexual harassment perpetration, such that men reported more perpetration experiences than women. For the full model (Model 2), the parameter estimates revealed that online victimization and online and in-person perpetration were significantly linked to the personality trait narcissism in the context of dating relationships, confirming findings from the correlation analyses. While narcissism was not significantly linked to in-person victimization, psychopathy was. Contrary to findings from correlation analyses, GzLM analyses revealed that none of the sexual harassment experiences were significantly linked to Machiavellianism in dating relationships. Similar to Model 1, respondents' sex was significantly negatively linked to online perpetration in Model 2, but no longer to in-person perpetration of sexual harassment. For all sexual harassment experiences, Model 2 demonstrated lower AIC values than Model 1. This means that the model that includes the Dark Triad traits (Model 2) outperformed the model that only examined the role of respondents' sex and age (Model 1) in explaining online and in-person sexual harassment victimization and perpetration in young adults' dating relationships.

In **committed** relationships, parameter estimates of Model 1 revealed that respondents' sex was significantly linked to online victimization and online and in-person perpetration, such that men reported more experiences than women. In Model 2, all four sexual harassment experiences were significantly linked to Machiavellianism, confirming findings from correlation analyses. Here, none of the sexual harassment experiences were significantly linked to either narcissism and psychopathy. Lastly, respondents' sex was still significantly linked to online and in-person perpetration in Model 2, but no longer to online victimization. When we compare the AICs from Model 1 and Model 2, we find that the full model (Model 2)

outperformed the model that only included respondents' sex and age (Model 1) in explaining online and in-person sexual harassment victimization and perpetration in committed relationships.

INSERT TABLES 2A & 2B ABOUT HERE

Discussion

This study aimed to enrich our understanding of sexual harassment experiences in young adults' romantic relationships. We differentiated between dating and committed relationships, considered both online and in-person experiences, and examined both victimization and perpetration experiences. Additionally, we investigated the role of the Dark Triad traits (Machiavellianism, narcissism, and psychopathy) in explaining these experiences.

First, we found that in both dating and committed relationships, sexual harassment experiences were relatively common, with prevalence rates ranging from 14.8% to 46.5% in dating relationships, and from 13.0% to 32.4% in committed relationships. As hypothesized (H1), *victimization* of online and in-person sexual harassment occurred more frequently in young adults' dating relationships compared to committed relationships. However, contrary to what we expected, no differences were found between relationship types in sexual harassment *perpetration* experiences. One explanation could be that the low variability in perpetration rates between both relationship types makes it challenging to detect any differences. Future research should reassess these differences among a larger, more diverse young adult sample in which higher prevalence rates of and larger variability in sexual harassment experiences might be expected.

Second, as expected (H2), online and in-person sexual harassment experiences were linked, implying that young adults who reported they or their partner had engaged in sexually harassing behaviours via online communication were also more likely to report in-person

experiences. This finding aligns with previous research on the co-occurrence of online and in-person risk and harmful behaviours (Schokkenbroek et al., 2022b; Ybarra & Mitchell, 2014). Also, the considerable prevalence rates of online sexual harassment and the link with in-person harassment experiences echo conclusions from previous research that the sexual dimension of cyber dating abuse should not be overlooked (Rodríguez-deArriba et al., 2021). Furthermore, and in line with previous research on bidirectional intimate partner violence (Langhinrichsen-Rohling et al., 2012), we found significant associations between online victimization and in-person perpetration and vice versa in both relationship types, meaning that the roles partners take as victim or perpetrator may differentiate in online/in-person contexts. It could for example be that young adults who are victims of in-person sexual harassment retaliate by perpetrating sexual harassment via online communication, or vice versa.

Third, in line with expectations based on prior research (H3), we found significant associations between sexual harassment victimization and perpetration experiences in both relationship types, indicating that young adults reporting higher victimization were also more likely to engage in sexual harassment perpetration within their dating or committed relationship. Fourth, we explored the role of the Dark Triad traits in explaining sexual harassment (H4). Findings from both correlation and GzLM analyses revealed that in dating relationships, all four harmful sexual experiences (online and in-person victimization and perpetration), were linked to the personality trait narcissism. One explanation for this could be that dating relationships are generally characterized by a stronger focus on one's own needs instead of those of the other person (Adams & Jones, 1999) compared to committed relationships, and narcissistic personalities are also associated with a focus on self-interest (Strelan, 2007). This may explain why, compared to the other two Dark Triad traits, strategies to engage with and sometimes hurt dating partners are more likely to be driven by narcissistic tendencies. Surprisingly, however, this finding somewhat contradicts previous studies that linked

Machiavellianism and psychopathy, but not narcissism, to sexual harassment experiences (e.g., Zeigler-Hill et al., 2016). However, these studies did not consider different types of romantic relationships, and particularly the dating context appears to be overlooked.

In committed relationships, we found that Machiavellianism, not narcissism or psychopathy, was significantly linked to all sexual harassment experiences. Machiavellians' strategic, calculated approach to achieving one's goals may involve using manipulative and deceitful strategies to pressure one's partner into engaging in sexual communication and activities they may not be comfortable with. Their strategic thinking and lack of empathy may also aid Machiavellian individuals in rationalizing their behavior and avoiding taking responsibility for their actions, shifting blame to their partner (McIlwain, 2003). Because of this, Machiavellian perpetrators of sexual harassment may not be held accountable for their actions, increasing the likelihood that they will engage in these behaviours again or in different online or in-person settings. This lower accountability is already more inherently present in dating relationships compared to committed relationships (Donath & Boyd, 2004), which may explain why individuals in dating relationships are more likely to resort to different strategies to satisfy their needs.

It should be noted that while we found several significant regression coefficients in our GzLM analyses, most were relatively low. This indicates that Machiavellianism and narcissism only partially explain sexual harassment experiences in young adults' romantic relationships. Many other factors remain unexplored, such as the influence of peer norms and the potential presence of a power imbalance. Indeed, peer norms have been shown to predict dating violence and sexual coercion (e.g., Witte et al., 2015), and the impact of power inequity is well-documented in the context of intimate partner violence (e.g., Volpe et al., 2013). Future research should explore these social and interpersonal factors in relation to sexual harassment in young adults' dating and committed relationships.

Limitations

There are several study limitations that are important to consider in the interpretation and application of our findings. First, our operationalizations of romantic relationships are limited. Our operationalization of dating relationships was rather superficial, as we did not consider the duration of the dating relationship, whether the dating partners (exclusively) met in-person or online, whether they were dating multiple people, and so on. Also, although the level of commitment between dating partners is assumed to be relatively low, we did not actually measure if this assumption holds among the young adults in our study sample. Lastly, other relationship types such as open relationships, polyamorous relationships, or friends with benefits relationships, should not be ignored. For example, Jovanovic and Williams (2018) argue that friends with benefits relationships may allow individuals to express and experience their sexuality more freely as due to the security provided by the friendship, but empirical evidence relating this to sexual (harassment) experiences is lacking. Future research on young adults' sexual harassment experiences in their romantic relationships should employ more elaborate operationalizations of dating relationships and should include other romantic relationship types such as open, polyamorous, and friends with benefits relationships.

Second, our sexual harassment measures were limited as they focused solely on verbal expressions. Other forms of sexual harassment, particularly online forms such as unsolicited sexting, pressuring one's partner to send a sexually explicit picture of themselves (i.e., coercive sexting), or the non-consensual forwarding of sexts to others (Schokkenbroek et al., 2023), were not captured. While the amount of research on sexual expressions of cyber dating abuse is limited, several studies have already shown that coercive sexting is not uncommon between romantic partners (Drouin et al., 2015; Kernsmith et al., 2018). Expanding the scope of sexual harassment measures to include various digital expressions is particularly relevant, considering that Machiavellianism has been linked to unsolicited sharing of explicit images (March &

Wagstaff, 2017). Furthermore, as we used short and rather uniform measures of sexual harassment, this may also explain why we did not find much between-person variability in some of the measured experiences. Future research should consider using more extensive and diverse measures to capture the complexity of young adults' (online) sexual harassment experiences in their romantic relationships.

Third, we used a relatively concise measure for the Dark Triad traits. While there is considerable support for the adequacy of the psychometric properties of the Dirty Dozen scale such as its internal consistency, factor structure, and test-retest validity (Chiorri et al., 2019**;** Jones & Paulhus, 2014), concerns have been raised about its brevity compared to full-length measures of these traits. For example, such a short measure may fail to capture some multidimensional aspects of psychopathy and narcissism (Maples et al., 2014). Also, by employing such a concise measure, other aversive traits such as sadism or hostility were ignored. Additionally, it is worth noting that there is ongoing debate about whether a focus on the three Dark Triad traits separately is theoretically and empirically sound. While some scholars favour an approach that considers the Dark Triad traits as three separate factors, others advocate a 'unification' lens, arguing that the Dark Triad reflects a general factor (e.g., Moshagen et al., 2018). Supported by the three factor solution found in our sample, we decided to approach the Dark Triad as separate traits as this allowed us to pinpoint detailed differences in how the different strategies these traits represent may be linked to sexual harassment experiences in different relationship types. We chose the Dirty Dozen questionnaire to measure the Dark Triad traits, as its structure appears to be stable across different cultural contexts and populations and seems to provide a reasonable trade-off between efficiency and accuracy (De Buck et al., 2021; Rogoza et al., 2021). Lastly, we argue that a 'separatist' approach to these three traits is further justified by our finding that different dark personality traits were uniquely linked to sexual harassment experiences depending on the type of relationship. That being said,

it is clear that more work is needed to map out (the conceptualization of) aversive personality traits and if and how these should be considered as elements of certain clusters or perhaps even one overarching factor. Scholars studying the role of personality traits in young adults' sexual harassment experiences should carefully consider and discuss their conceptualizations and operationalizations, contributing to this ongoing debate.

Fourth, our study design was correlational and nondyadic, and relied on self-report measures. This design has considerable limitations, as it does not allow for causal inferences, cannot capture both partners' experiences and attitudes or other relationship dynamics, and is susceptible to individual biases, such as social desirability bias. Moreover, our sample was not representative, and some groups (i.e., women and highly educated young adults) were overrepresented. A more representative sample is needed, as the prevalence and impact of sexual harassment experiences can vary between men and women (Foshee, 1996). A more balanced sample in terms of respondents' sex is also particularly important in relation to the Dark Triad traits, as the level and expression of Machiavellianism, narcissism, and psychopathy may differ between men and women (Szabó & Jones, 2019).

Fifth, while we accounted for assigned sex, we did not account for cultural and acculturative factors such as gender identity, sexual orientation, or cultural identity. In fact, our sample held almost no variation in terms of people's cultural backgrounds or their sexual orientation. As such, we were not able to capture the potential role of these factors in explaining young adults' sexual harassment experiences. These are important limitations, as cultural differences may exist regarding people's attitudes about the acceptability of sexual harassment and people's engagement in sexual harassment (Zimbroff, 2007), and that LGBTQIA+ youth may be disproportionally vulnerable to experience sexual harassment (Mitchell et al., 2014). Future research should account for such cultural and acculturative factors by collecting data from a more diverse sample.

Finally, although our study focused on young adults, previous research has shown that younger age groups such as adolescents can be just as or perhaps even more vulnerable to such experiences (Glass et al., 2003). In our study, a comparison between young adults' committed and dating relationships was deemed most insightful as both types of relationships become more common as we get older. However, adolescents already start engaging in romantic relationships around the age of 11-13 years (Collins et al., 2009), and research has found concerning prevalence rates of dating violence among adolescents (for a recent systematic review, see Taquette & Monteiro, 2019). Future research should extend our findings by examining sexual harassment experiences in adolescents' romantic relationships and the potential influence of the Dark Triad personality traits. Cohort studies comparing different age groups would also provide valuable insights.

Despite these limitations, our study represents a valuable starting point for further research on young adults' online and in-person sexual harassment experiences within various romantic relationship types, and how these experiences are linked to the Dark Triad traits.

Implications

Our study carries significant implications for research and practice. First, given the relatively common occurrence of sexual harassment in young adults' romantic relationships, there is a pressing need for tailored prevention and intervention efforts that account for the unique dynamics of these relationships. This may involve implementing prevention programs in high schools and college campuses to raise awareness and equip young adults with the skills to navigate romantic explorations and address insecurities and instabilities within their relationships. Importantly, these efforts should not ignore young adults in less committed, less exclusive, and less defined relationships, as we observed differences in the prevalence of sexual harassment experiences across relationship types.

Second, our findings highlight the importance of considering the interplay between personality traits and relationship context when addressing sexual harassment. While Machiavellian and narcissistic personalities were not significantly more or less common among young adults in dating versus committed relationships, their roles in explaining sexual harassment experiences varied depending on the relationship type. This underscores the instrumental importance of tailoring research and practice efforts to address these personality traits in relation to the strategies they represent in different relationship contexts. For example, in dating relationships, programs may focus on addressing individuals' need for admiration and their self-interest, while in committed relationships, the emphasis could be placed on recognizing and addressing manipulative communication and deceitful behaviours. By considering the nuanced interplay between personality traits and relationship context, researchers and practitioners can develop more effective strategies to understand, prevent, and intervene in sexual harassment within romantic relationships among young adults.

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Table 1

Spearman Rank Correlation Coefficients between Study Variables for Dating (below diagonal) and Committed (above diagonal) Relationships

	1.	2.	3.	4.	5.	6.	7.	8.	9.
1. Online victimization	-	.750***	.348***	.384***	.155*	.049	.046	-.119	-0.40
2. Online perpetration	.565***	-	.332***	.454***	.192**	.048	.152*	-.239***	-.065
3.In-person victimization	.352***	.354***	-	.508***	.180**	.168*	.006	.038	.001
4. In-person perpetration	.440***	.600***	.367***	-	.249**	.107	.130	-.265***	.081
5. Machiavellianism	.111	.219**	.098	.202*	-	.300***	.388***	-.254***	.186*
6. Narcissism	.252**	.330***	.186*	.357***	.457**	-	.140*	-.143*	.066
7. Psychopathy	.117	.146	.166*	.134	.454**	.185*	-	-.196**	.042
8. Sex	-.079	-.240**	.018	-.147	-.356***	-.217**	-.318***	-	-.124
9. Age	.102	.079	.057	-.046	-.002	.018	-.115	-.103	-

Note. Coefficients are displayed below the diagonal for dating relationships and above the diagonal for committed relationships; $^{***}p = .000$; $^{**}p \leq .01$; $^{*}p \leq .05$

Table 2a

Generalized Linear Models for Dating Relationships with Sexual Harassment Experiences as Dependent Variables and Sex, Age, and the Dark Triad Traits as Predictor Variables

	Model 1[a]										**Model 2[b]**									
					95% CI		Omnibus test			Model fit					95% CI		Omnibus test			Model fit	
Dating relationships (n = 155)	*B*	SE *B*	Wald χ^2	*p*	LL	UL	$L\chi^2$	df	*p*	deviance value/df	AIC	*B*	SE *B*	Wald χ^2	*p*	LL	UL	$L\chi^2$	df	*p*	value/df	AIC
Online victimization							5.092	2	.078	.192	279.229							16.571	5	.005	.182	273.750
Sex	-.154	.080	3.690	.055	-.310	.003						-.058	.086	.456	.499	-.227	.110					
Age	.026	.024	1.143	.285	-.021	.072						.031	.023	1.809	.179	-.014	.077					
Machiavellianism												-.005	.052	.010	.920	-.107	.097					
Narcissism												.126**	.047	7.269	.007	.034	.217					
Psychopathy												.065	.051	1.663	.197	-.034	.165					
Online perpetration							19.523	2	<.001	.090	113.917							37.797	5	<.001	.082	101.642
Sex	-.232**	.056	17.529	<.001	-.341	-.124						-.154**	.058	7.035	.008	-.267	-.040					
Age	.019	.016	1.369	.242	-.013	.051						.018	.016	1.261	.262	-.013	.048					
Machiavellianism												.036	.034	1.116	.291	-.031	.104					
Narcissism												.103**	.032	10.295	.001	.040	.166					
Psychopathy												.010	.035	.082	.774	-.058	.078					
In-person victimization							.711	2	.701	.158	270.649							12.594	5	.027	.150	264.766
Sex	.027	.073	.141	.707	-.115	.170						.119	.077	2.405	.121	-.031	.269					
Age	.017	.022	.589	.443	-.026	.059						.022	.021	1.039	.308	-.020	.064					
Machiavellianism												.013	.045	.079	.779	-.076	.101					
Narcissism												.070	.042	2.857	.091	-.011	.151					
Psychopathy												.097*	.047	4.214	.040	.004	.189					
In-person perpetration							7.539	2	.023	.093	114.535							36.754	5	<.001	.079	91.320
Sex	-.154**	.056	7.468	<.001	-.265	-.044						-.048	.057	.691	.406	-.160	.065					
Age	-.001	.016	.002	.392	-.033	.031						.000	.015	.000	.985	-.030	.029					
Machiavellianism												.054	.034	2.558	.110	-.012	.121					
Narcissism												.118**	.031	14.405	<.001	.057	.179					
Psychopathy												.016	.035	.225	.635	-.051	.084					

Note. [a] Base model with only sex and age as predictor variables; [b]Full model with sex, age, and the Dark Triad traits as predictor variables. Significant coefficients were flagged to enhance readability: $^{**}p \leq .01$; $^{*}p \leq .05$.

Table 2b

Generalized Linear Models for Committed Relationships with Sexual Harassment Experiences as Dependent Variables and Sex, Age, and the Dark Triad Traits as Predictor Variables

	Model 1[a]										Model 2[b]									
Committed relationships (n = 216)	*B*	SE *B*	Wald χ^2	*p*	95% CI		Omnibus test			Model fit	*B*	SE *B*	Wald χ^2	*p*	95% CI		Omnibus test			Model fit	
					LL	UL	$L\chi^2$	df	*p*	deviance/df	AIC					LL	UL	$L\chi^2$	df	*p*	deviance/df	AIC
Online victimization							6.037*	2	.049	.089	146.460							14.422*	5	.013	.087	144.075
Sex	-.111*	.046	5.952	.015	-.201	-.022						-.086	.047	3.372	.066	-.177	.006					
Age	-.006	.013	.222	.638	-.032	.019						-.011	.013	.764	.382	-.036	.014					
Machiavellianism												.094**	.033	8.095	.004	.029	.159					
Narcissism												-.003	.029	.012	.913	-.061	.054					
Psychopathy												-.050	.034	2.156	.142	-.116	.017					
Online perpetration							19.244**	2	<.001	.072	92.642							27.162**	5	<.001	.070	90.725
Sex	-.181**	.041	19.411	<.001	-.262	-.101						-.151**	.042	12.836	<.001	-.233	-.068					
Age	-.011	.012	.879	.349	-.034	.012						-.014	.012	1.577	.209	-.037	.008					
Machiavellianism												.074**	.029	6.571	.010	.018	.131					
Narcissism												-.010	.027	.136	.712	-.062	.042					
Psychopathy												.001	.030	.000	.987	-.059	.060					
In-person victimization							0.886	2	.642	.161	336.185							17.664**	5	.003	.151	325.406
Sex	.057	.061	.870	.351	-.063	.177						.094	.061	2.372	.123	-.026	.214					
Age	.005	.017	.071	.790	-.029	.038						-.004	.017	.067	.796	-.037	.028					
Machiavellianism												.124**	.044	7.967	.005	.038	.210					
Narcissism												.083*	.039	4.598	.032	.007	.159					
Psychopathy												-.060	.043	1.926	.165	-.144	.025					
In-person perpetration							19.302**	2	<.001	.095	174.862							29.432**	5	<.001	.092	170.733
Sex	-.199**	.047	17.738	<.001	-.292	-.106						-.161**	.048	11.108	<.001	-.256	-.066					
Age	.011	.013	.731	.392	-.015	.038						.006	.013	.197	.657	-.020	.032					
Machiavellianism												.090**	.034	7.170	.007	.024	.156					
Narcissism												.022	.030	.513	.474	-.038	.081					
Psychopathy												-.012	.034	.130	.718	-.079	.055					

Note. [a] Base model with only sex and age as predictor variables; [b]Full model with sex, age, and the Dark Triad traits as predictor variables. Significant coefficients were flagged to enhance readability: $^{**}p \leq .01$; $^{*}p \leq .05$.