

The mediating role of rape myths in the relationship between the use of hentai pornography and sexually aggressive strategies: A study with college students

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2023



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**THE MEDIATING ROLE OF RAPE MYTHS IN THE  
RELATIONSHIP BETWEEN THE USE OF HENTAI  
PORNOGRAPHY AND SEXUALLY AGGRESSIVE STRATEGIES: A  
STUDY WITH COLLEGE STUDENTS**

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Junho, 2023

Dissertação apresentada no Mestrado em Psicologia, Clínica e da Saúde, Faculdade de Psicologia e de Ciências da Educação da Universidade do Porto, orientada pela Professora Doutora Joana Carvalho (FPCEUP) e coorientada pelo Professor Doutor Hugo Gomes (FDUP).

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## AGRADECIMENTOS

Gostaria de aproveitar esta oportunidade para expressar a minha sincera gratidão aos meus orientadores, amigos e todos os que me apoiaram e contribuíram para a conclusão desta tese. A sua ajuda, supervisão e conforto foram imprescindíveis ao longo deste caminho.

Em primeiro lugar, expresso a minha profunda gratidão aos meus orientadores, Professora Doutora Joana Carvalho e Professor Doutor Hugo Gomes, pela sua incessante disponibilidade para o meu projeto desde o primeiro momento, e pela sua paciência com as minhas inúmeras questões a horas tardias da noite. Os seus feedbacks perspicazes foram indispensáveis ao meu crescimento na área da investigação. Estou eternamente grata pela oportunidade de aprender com a sua experiência e mestria.

Quero agradecer aos meus amigos e colegas de curso, que me ofereceram apoio incondicional e companhia durante estes 5 turbulentos anos. Uma menção especial ao Jason, à Lígia, e ao Leonardo, com quem passei quase todos os momentos, bons ou maus, e com os quais sei que poderei contar no meu futuro profissional e pessoal.

Expresso, também, especial gratidão á minha associação de estudantes, que me acolheu desde cedo e criou uma rede de segurança e apoio à minha volta. Aos meus colegas de ano, obrigada pela colaboração, companhia, partilha de ideias e incentivo para alcançarmos todos os nossos sonhos académicos.

Também gostaria de agradecer aos meus pais pelo apoio inabalável e refúgio da confusão que sempre foram e sempre serão.

Um último agradecimento à equipa de docentes da Faculdade de Psicologia e de Ciências de Educação da Universidade do Porto, por acreditarem nas minhas capacidades e prezarem sempre a minha aprendizagem e bem-estar.

Muito obrigada a todos.

## **Abstract**

The current study aims to test the hypothetical link between hentai pornography use, rape myths endorsement, and sexually aggressive strategies, as well as attuning to any gender differences. The work targeted a sample of 906 college students, of whom 533 were men, and 373 were women, who completed an online survey to capture hentai pornography consumption, rape myths, and sexual offending behavior. Participation criteria included being heterosexual, over 18, and pursuing higher education. The results revealed a statistically significant association between the frequency of hentai pornography use and sexually aggressive behaviors in male and female participants. In contrast, there was no correlation between the intensity of hentai pornography use and sexual offending. Regarding mediating hypotheses, we verified that the endorsement of rape myths mediated the relationship between the frequency of hentai use and the sexually aggressive behavior in both genders. Likewise, rape myths mediated the relationship between the intensity of hentai use and sexual offending behavior in men; no mediating effect was found in women. The findings of this work demonstrate the relevance of expanding upon existing literature on this genre of pornography. With more thorough methodologies and minimized biases, future research can highlight the interplay between hentai and sexual violence dynamics.

*Keywords:* sexual aggression, rape myths, hentai, pornography, frequency, intensity

## Resumo

O presente estudo pretende testar a ligação hipotética entre o uso de pornografia hentai, a adesão a mitos de violação e estratégias sexualmente agressivas, bem como a existência de diferenças de género. O trabalho teve como alvo uma amostra de 906 estudantes universitários, dos quais 533 eram homens e 373 eram mulheres, que preencheram um inquérito online destinado a captar o uso de pornografia hentai, mitos de violação e o comportamento sexualmente agressivo. Os critérios de participação incluíam ser heterossexual, ter mais de 18 anos e frequentar o ensino superior. Os resultados revelaram uma associação estatisticamente significativa entre a frequência do uso de pornografia hentai e comportamentos sexualmente agressivos nos participantes masculinos e femininos. Em contrapartida, não se verificou uma correlação entre a intensidade do uso de pornografia hentai e os comportamentos sexualmente agressivos. Relativamente às hipóteses mediadoras, verificámos que a aceitação de mitos de violação mediou a relação entre a frequência de uso de hentai e o comportamento sexualmente agressivo, em ambos os géneros. Da mesma forma, os mitos de violação mediarão a relação entre a intensidade do uso de hentai e o comportamento sexualmente agressivo nos homens, não tendo sido encontrado efeito mediador nas mulheres. Os resultados deste trabalho demonstram a relevância de expandir a literatura existente sobre este tipo de pornografia. Com metodologias mais completas e vieses minimizados, investigação futura tem o potencial de aumentar a compreensão deste assunto.

*Palavras-chave:* agressão sexual, mitos de violação, hentai, pornografia, frequência, intensidade

## Résumé

La présente étude vise à tester le lien hypothétique entre l'utilisation de la pornographie hentai, l'adhésion aux mythes du viol et les stratégies sexuellement agressives, ainsi que l'existence de différences entre les sexes. L'étude a porté sur un échantillon de 906 étudiants universitaires, dont 533 hommes et 373 femmes, qui ont répondu à une enquête en ligne conçue pour mesurer l'utilisation de la pornographie hentai, les mythes du viol et les comportements sexuellement agressifs. Les critères de participation étaient d'être hétérosexuel, d'avoir plus de 18 ans et de faire des études supérieures. Les résultats ont révélé une association statistiquement significative entre la fréquence de l'utilisation de la pornographie hentai et le comportement sexuellement agressif chez les participants masculins et féminins. En revanche, il n'y a pas de corrélation entre l'intensité de la consommation de pornographie hentai et les comportements sexuellement agressifs. En ce qui concerne les hypothèses médiatrices, nous avons constaté que l'acceptation des mythes du viol jouait un rôle médiateur dans la relation entre la fréquence de la consommation de hentai et les comportements sexuellement agressifs, chez les deux sexes. De même, les mythes du viol ont servi de médiateur à la relation entre l'intensité de la consommation de hentai et les comportements sexuellement agressifs chez les hommes, alors qu'aucun effet médiateur n'a été constaté chez les femmes. Les résultats de cet article démontrent la pertinence d'élargir la littérature existante sur ce type de pornographie. Avec des méthodologies plus complètes et des biais minimisés, les recherches futures ont le potentiel d'améliorer la compréhension de ce sujet.

*Mots clés:* agressions sexuelles, mythes du viol, hentai, pornographie, fréquence, intensité

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## **The mediating role of rape myths in the relationship between the use of hentai pornography and sexually aggressive strategies: A study with college students**

The growth in technology and Internet services is connected to the fast distribution of pornography and its associated problems, according to studies in the field (Foubert et al., 2011; Kazue, 2016; Kunaharan et al., 2020; Walker et al., 2016). The anonymity and accessibility of the Internet seemed to be the perfect grounds for pornographic content to flourish and it became a market with high profits for whoever engaged in it (Dines, 2011). This easy commodity has allowed for new content that pushed the limits of what is legal and morally acceptable, with little repercussions (Kunaharan et al., 2020).

For these reasons, pornography has centered debates around its morality and benefits for society. Foubert and colleagues (2011) argue that this new and edgier content seeks to satisfy the evolution of society's perverse needs, being described as more extreme than it was as far as two decades ago, with more than half of the most popular human pornography videos containing physical aggression, even if consensual (Foubert et al., 2011).

However, just as there are arguments favoring the negative effects of pornography, there are also views that highlight the neutral and even positive aspects of pornography. It may simply be a visual record of sex that people can choose to watch. It may even be a safe place to explore their sexuality beyond the heteronormative and more conservative conceptions of sex commonly shown in mainstream media (Harrison & Ogden, 2018).

The World Health Association classifies sexual aggression as "any sexual act, attempts to obtain [it], or other act directed against a person's sexuality using coercion, by any person regardless of their relationship to the victim, in any setting (...)" (*Violence Against Women*, 2021).

Sexual aggression is believed to be particularly high among college students (Moreira et al., 2022), as it is a more prevalent crime at university when compared to other crimes (RAINN, n.d.). In a descriptive study, Abbey and colleagues (2001) reported that one-third of American male college students had perpetrated some form of sexual assault in the dating context. A survey conducted by the Association of American Universities (2019) reports that 13% of the nearly 182,000 students surveyed had experienced nonconsensual sexual interactions, with 25.9% of women surveyed reporting such interactions. In Portugal, a survey by the Federação Académica de Lisboa (2019) of 1,052 college students living in the capital city concluded that 90% (955) of these students reported having been victims of

sexual violence at least once. It is important to note, as well, that 23.29% of perpetrators were also university students, and 18.92% were staff from the universities the victims attended (Federação Académica de Lisboa, 2019). Statistics like these have led to the widespread notion that sexual violence on college campuses is an epidemic (Brown, 2020; Dolce, 2020; Tchen & Jarrett, 2017).

Since the beginning of the scientific study of human sexuality, pornography consumption has been seen as a risk factor for sexual aggression (Fisher & Kohut, 2017), specifically sexual aggression against women (Ferguson & Hartley, 2009). While there is considerable research on the relationship between pornography and sexually aggressive outlets, the outcomes are mixed.

Those that find a correlation between pornography consumption and sexual offending outlets usually report small statistically significant effects (Ferguson & Hartley, 2020). Nevertheless, Wright et al. (2015) and Hald et al. (2010) found, in their meta-analyses, that pornography appears associated with an increased likelihood of enacting sexual aggression, as well as more violence-supportive attitudes. Similarly, Burgess (2007) and Foubert et al. (2011) observed the same phenomenon in college-aged men. More specifically, Hald et al. (2010) and Foubert et al. (2011) claim that it is the hardcore type of pornography, which features aggressive themes, that has a stronger association with attitudes supporting violence against women.

The increase in exposure to progressively shocking pornographic content is expected to affect people's emotions and actions (Kunaharan et al., 2020). According to Carvalho and Rosa (2020), men displayed more favorable emotions than women when watching footage featuring non-consensual sexual acts against women. Furthermore, the participants' pupil dilation observations indicated that they experienced partial habituation after viewing that specific material. Former research (Linz, 1985) proposes that overexposure to pornography, both violent and otherwise, may lead to desensitization, or habituation, which can subsequently raise the likelihood of accepting sexual violence.

Taken together, these studies support the notion that the relationship between the use of pornography and sexually aggressive attitudes is a complicated one that needs to be studied further, particularly regarding the themes present in pornography. This work will address this question, focusing on a specific type of pornography, namely hentai.

Due to the freedom of expression and anonymity inherent in the use of the Internet, abnormal sexual interests have become increasingly normalized and more common in

pornography (Nixon & Düsterhöft, 2017). This may be the case for animated pornography, or hentai, and the themes present (Nixon & Düsterhöft, 2017).

To date, hentai has received scant attention in the research literature. However, according to the yearly categorical analysis done by one of the most popular pornography distribution websites, Pornhub, hentai was the most searched term in 2021 and 2022, and a top ten search in almost every country (*2021 Year in Review*, 2021; *The 2022 Year in Review*, 2022), showing its undeniable popularity worldwide. The same document revealed that pornography users aged 18 to 24 (Generation Z) view 72% more pornography containing cosplay (dressing up as fictional characters), 58% more cartoon pornography, and 54% more uncensored hentai pornography than other ages/generations (*The 2022 Year in Review*, 2022). This fact alludes to the target audience of hentai pornography comprising people of college age, which is the population chosen for this work.

There are different definitions of hentai, depending on the context in which this Japanese word is used, and who is using it. In Japanese, it translates to “transformation, abnormality, metamorphosis, and perversion”, but it is also an abbreviation for “hentai *seiyoku*” which translates to “abnormal sexual desires” (McLelland, 2006). Consequently, Japanese people use this word when referring to the most perverted and extreme animated content of a sexual nature, having other words to refer to basic animated pornography - “H” or *etchi*, *ero*, 18-kin, and *seijin* or *adoruto* (Ortega-Brena, 2008).

However, with the migration of Japanese animation to the West, non-Japanese people have generalized the term to mean any Japanese animation, whether visual (anime) or written (manga), with a sexual nature. As a result, the term has become a loanword rather than a translation (McLelland, 2006). However, other authors define hentai as any type of sexual animation, especially one that features perverse bodies and situations, regardless of its geographical origins (Paasonen, 2017). In this work, the latter definition will be used, i.e., non-Japanese computer-generated cartoon pornography will be considered hentai as well, to facilitate the completion of the questionnaire.

Fundamentally, hentai is a genre known for its fantastic or occult narratives, which offer endless possibilities due to the lack of human limitations (Ortega-Brena, 2008; Paasonen, 2017). Unlike human pornography, hentai features fantastical or monstrous creatures, impossible bodies, and unrealistic situations often inspired by science fiction (Josephy-Hernández, 2015). Moreover, Harrington and Neilson (2009) argue that hentai also has a predilection for the pain inflicted on the female body. Ortega-Brena (2008) suggests that the preference for animated pornography can stem from the thrill of being able to

suspend disbelief and enjoy impossible, borderline illegal scenarios that live pornography cannot provide access to easily.

In Japan, the birthplace of the hentai genre and the most prevalent country in producing animated pornography (Henderson, 2005), there is a growing concern from legal fronts with the prevalence and easy accessibility of pornographic videogames and cartoons featuring rape, stalking, and the molestation of women and girls, which they believe normalizes sexual violence (Kazue, 2016).

As previously stated, hentai has successfully left Japan and been marketed worldwide. As a result, some countries have decided to censor the darker parts of the pornographic genre or ban some of it altogether. However, in today's internet-dominated world, it is easy to bypass legal barriers and access this content as fans become unofficial distributors and upload it, sometimes even with subtitles and without censorship (Josephy-Hernández, 2015).

Given the above, it is reasonable to assume that increased use of hentai pornography could facilitate sexually aggressive behavior. Certain stable risk factors have been found to support the likelihood of sexually aggressive behavior, such as interpersonal functioning, distorted attitudes toward the crime or the victim, permissiveness toward sexual aggression, psychopathology, and maladaptive personality (Carvalho & Nobre, 2012). These are often found in forensic samples but also in samples of college students (Carvalho & Nobre, 2012). In this perspective, it is thought that the relationship between the use of sexually aggressive strategies and the use of hentai pornography may be mediated by the belief in rape-tolerant views, also known as rape myths.

Burt (1980) defined rape myths as “prejudicial, stereotyped, or false beliefs about rape, rape victims, and rapists” (p. 217). Offenders may benefit from adhering to certain rape myths to rationalize and maintain their aggressive actions (Wright et al., 2015). These myths tend to shift the blame from the aggressor to the victim (Burgess, 2007), as well as distort what qualifies as rape and who can be considered a credible victim (Walfield, 2018).

Assessing the acceptance of rape myths in college students seems to be key in understanding the perpetration of sexual aggression by this population, as adhering to these beliefs can be functional for sexually aggressive individuals (Burgess, 2007). Understanding one's attitudes toward sexual violence may help comprehend their behavior toward victims and aggressors (Martins et al., 2012).

Foubert et al. (2011) found a positive correlation between the use of pornography and the acceptance of rape myths, especially the most hardcore and degrading genres of

pornography, like sadomasochism and rape. Belief in rape myths is also associated with attitudes supporting violence against women (Hald et al., 2010; Malamuth et al., 2012), which have already been found in pornography users (Burgess, 2007; Foubert et al., 2011), and with sexual aggression in a study by Forbes et al. (2004). Common beliefs are blaming the victim, minimizing the psychological impact of the crime, and justifying aggressive behavior (Martins et al., 2012).

Overall, current literature suggests that there may be associations between the three key variables: the use of hentai pornography, sexually aggressive behaviors, and acceptance of rape myths. Accordingly, the current study aimed to analyze the discrepancies among the academic sources discussed in the literature review regarding the relationship between these variables. This research intends to expand on hentai pornography as a phenomenon that has not been thoroughly studied. Additionally, it seeks to examine a population with high incidences of sexual violence, which belongs within the age group for the target audience of hentai pornography.

This work raised the question of the possible existence of a mediation relationship between the three variables and investigated whether using hentai pornography predicted engagement in sexually aggressive strategies among male and female college students who consumed this type of pornography, and if the relationship varied depending on how frequently and how intensely they used it. Furthermore, it examined whether the endorsement of rape myths mediates such relationship. To achieve this, we surveyed to collect data on college students' pornography use, endorsement of rape myths, and sexually aggressive tendencies. The following hypotheses were tested: the frequency and intensity of hentai pornography use predict sexually aggressive tendencies in male and female participants who have used hentai pornography; this relationship is mediated by the endorsement of rape myths.

## **Method**

### **1. Participants**

A non-probability sampling method was used - voluntary response sampling – to obtain a sample of 3,663 participants. Due to the high level of dropouts, it was chosen that participants that gave no information about our relevant variables would be removed, with 1,583 participants remaining.

The study's inclusion criteria required participants to be identified as heterosexual, higher education students over 18, who have used hentai pornography. As such, 50 cases were excluded from the data analysis due to not fulfilling these criteria. Furthermore, 3 cases were removed due to low quality answers, e.g., internet trolls.

According to Bennett (2001), cases where we have many missing values (i.e., more than 10% missing values) negatively influence results. As such, we removed those with more than 10% missing values, equivalent to 18 participants.

The final sample consisted of 906 participants (59.9% of the total sample).

The participants included 533 identifying with the male gender and 373 with the female gender. The mean age was 22.15 ( $SD = 5.12$ ). More than half, 65.2% ( $n = 588$ ), were enrolled in a bachelor's degree, and 91.8% of participants were single ( $n = 830$ ). See Appendix A for in-depth sociodemographic statistics.

The respondents completed a web survey advertised as “sexuality in college students”. The study was distributed online, through institutional mailing lists, social media, and survey-sharing websites.

Participants were required to provide informed consent prior to proceeding with the questionnaire. Participation was voluntary, and collected no personal or identifiable information, ensuring confidentiality. The survey took about 15 minutes to complete and was available online using a survey tool, Qualtrics.

After completing the survey, participants were thanked for their collaboration but were not debriefed. They received no compensation for their participation in the study.

The research protocol of this study was approved by the Ethics Committee of the Faculty of Psychology and Educational Sciences of Porto University in 2022.

## **2. Measures**

### **2.1. Hentai Pornography**

Previously to the pool of questions, participants were given a brief explanation of what constitutes hentai pornography, with a set of questions dedicated to registering this use.

Hentai pornography was defined as follows: “To use hentai means to intentionally view, read, or listen to (a) pictures, videos, or movies that depict nude animated characters, or animated characters having sex; or (b) written or audio material that depicts nude animated characters, or animated characters having sex.”. This section of questions was posed only to participants who have consumed hentai pornography.

The frequency of hentai pornography use was measured through the question “in the last year (last 12 months), how often did you use hentai pornography?”, with 11 possible answers ranging from “never” to “more than 7 times a week”. This measure was turned into a dummy variable, in order to be used in mediating/regression models. The cut point was set at the 50<sup>th</sup> percentile (0 = “Once in the last year” to “Once a month”; 1 = “2-3 times a month” to “More than 7 times in a week”).

Furthermore, the intensity of hentai pornography use was assessed via “When you use hentai pornography, how long do you spend with it per session?” with an open answer format in minutes. Similarly, this measure was also turned into a dummy variable with the cut point at the 50<sup>th</sup> percentile (0 = equal or less than 15 minutes; 1 = over 16 minutes).

## **2.2. Sexually Aggressive Behaviors Scale (SABS)**

The SABS is a self-report scale with 26 items, 10 of them being critical items and 16 being filling items (used to conceal the relevant items), that assess the lifelong frequency of attempted aggressive sexual interaction (i.e., sexual coercion, sexual abuse, and physical force) (Anderson, 1998). In each item, participants are questioned about how many times they have initiated sexual contact in each situation, e.g., “How many times have you attempted to have sexual contact with a woman/man by pressuring her/him with verbal arguments?”, “How many times have you attempted to have sexual contact with a woman/man by threatening to use some degree of physical force (holding her/him down, hitting her/him, etc.)?”. The items were dichotomized, with zero meaning never having conducted such behavior, and one indicating that the behavior has occurred at least once.

This scale has been validated for the Portuguese population, with both male and female college student samples (Moreira et al., 2022); the Portuguese version is one-dimensional, consisting of a latent factor with 10 items named “Sexual Aggression” (Rosa et al., 2022). The present work revealed a KR-20 coefficient of .86 for the male SABS. For the female SABS, the KR-20 score was .67.

See Appendix B for the percentages of participants endorsing each item, divided by gender.

### **2.3. Scale of Beliefs about Sexual Violence (ECVS)**

The Scale of Beliefs about Sexual Violence (Martins et al., 2012) is a self-report scale, developed for the Portuguese population, composed of 30 items that measure the degree of acceptance of prejudicial beliefs about sexual violence, such as rape myths, e.g., “Forcing your spouse to have sexual relations isn’t rape”, “Some people secretly want to be raped and would like for it to happen”. The items are on a 5-point Likert scale, ranging from 1 = completely disagree to 5 = completely agree. The original scale presents good psychometrics properties (Martins et al., 2012); in the current work, the Cronbach alpha was excellent ( $\alpha = .94$ ), according to the criteria by George & Mallery (2010).

See Appendix C for the averages and standard deviations for each rape myth item.

## **3. Procedure**

To test our hypotheses, a set of mediation analyses was conducted utilizing the frequency and intensity in which hentai pornography is used as a predictor of sexually aggressive strategies; the endorsement of rape myths was established as the mediator. For this purpose, model 4 in the PROCESS macro tool for SPSS by Hayes (2013) was used. Four models were tested. The first two have the frequency of hentai pornography use as the predictor variable (one mediating model per gender). The other two models have the intensity of hentai pornography use as the predictor variable (one mediating model per gender).

The analyses were conducted on IBM SPSS Statistics 27. Statistical significance was assumed if zero was not contained within the confidence intervals, or if the  $p$  value was under .05 (Du Prel et al., 2009).

## **Results**

### **1. Men**



A significant relationship between the frequency of hentai pornography use and sexually aggressive behavior was found ( $B = 0.40$ ,  $SE = 0.15$ , 95%CI[0.111, 0.699]). After controlling for the mediator, rape myths endorsement, the direct effect of the frequency of hentai use on sexually aggressive behavior was no longer significant ( $B = 0.17$ ,  $SE = 0.13$ , 95%CI[-0.089, 0.428]). The mediation analysis was statistically significant ( $B = 0.24$ ,  $SE = 0.10$ , 95%CI[0.072, 0.452]), and accounts for a full mediation. The percentage of explained variance of the model was 25% ( $R^2 = .25$ ).

Regarding the intensity of hentai pornography use, it was not a statistically significant predictor of sexually aggressive strategies ( $B = 0.04$ ,  $SE = 0.13$ , 95%CI[-0.226, 0.298]). However, the intensity of hentai use is a predictor of rape myth endorsement ( $B = 3.51$ ,  $SE = 1.73$ , 95%CI[0.114; 6.908]), which in turn successfully predicts sexually aggressive strategies ( $B = 0.04$ ,  $SE = 0.003$ , 95%CI [0.031; 0.043]). There is an indirect effect between hentai pornography use and sexually aggressive strategies when inserting rape myths endorsement as a mediator ( $B = 0.13$ ,  $SE = 0.08$ , 95%CI[0.004, 0.295]). The percentage of explained variance of the model was 23% ( $R^2 = .23$ ).

See Appendix D for the non-standardized regression coefficients, and lower and upper limits of the 95% CI, for the direct, indirect, and total effects.

## **2. Women**

The frequency of hentai pornography use significantly predicts sexually aggressive behavior ( $B = 0.45$ ;  $SE = 0.18$ , 95%CI[0.086, 0.809]). After controlling for rape myths endorsement, the direct effect of the frequency of hentai use on sexually aggressive behavior was no longer significant ( $B = 0.17$ ,  $SE = 0.15$ , 95%CI[-0.127, 0.463]). The indirect effect, using rape myths endorsement as a mediator, was statistically significant ( $B = 0.28$ ,  $SE = 0.18$ , 95%CI[0.004, 0.714]), and signifies a full mediation. The percentage of explained variance of the model was 37% ( $R^2 = .37$ ).

The intensity of hentai pornography use was not a statistically significant predictor of sexually aggressive strategies ( $B = 0.07$ ,  $SE = 0.14$ , 95%CI[-0.200, 0.347]) nor rape myth endorsement ( $B = 1.47$ ,  $SE = 1.26$ , 95%CI[-1.011, 3.955]), which makes a mediation relationship impossible.

See Appendix E for the non-standardized regression coefficients, and lower and upper limits of the 95% CI, for the direct, indirect, and total effects.

## **Discussion**

Pornography consumption is argued to increase the likelihood of endorsing sexually aggressive attitudes (Fisher & Kohut, 2017; Hald et al., 2010; Wright et al., 2015), making individuals more susceptible to perpetrating various forms of sexual aggression. These behaviors include verbal or physical coercion. Exposure to a specific type of pornography, hentai, is argued to contain themes and elements that affect individual's susceptibility towards engaging in acts of sexual aggression (Ferguson & Hartley, 2020; Harrington & Neilson, 2009).

Against this background, the present work aimed to provide insight on the relationship between hentai pornography use, by including the frequency and intensity of hentai pornography use as predictors, and sexually aggressive strategies, mediated by the endorsement of rape myths, in male and female college students. The findings necessitate careful consideration owing to the constraints inherent in the present investigation. Presently, we contemplate the research methodology, highlighting both its limits and ramifications on result interpretation. In closing, several recommendations are presented for future investigation.

Considering our hypotheses, while the relationship between the frequency use of hentai pornography and sexually aggressive behavior was found in both genders, the intensity of hentai use had no direct link to sexually aggressive behaviors.

Analyses of the findings revealed that the frequency of hentai pornography use predicts rape myths endorsement. Literature had previously found a positive correlation between the use of pornography and rape myths acceptance (Foubert et al., 2011) as well as attitudes supporting violence against women (Hald et al., 2010; Malamuth et al., 2012). These findings can be extended to hentai as it is a type of pornography. While there is little research concerning the effects of the different factors of pornography use, literature leads to the expectation that higher frequency is related to more sexually aggressive behaviors (De Heer et al., 2020) A potential explanation for this could be possible desensitization resulting from overexposure to pornography (Linz, 1985).

The intensity in which someone uses hentai does not predict sexually aggressive behaviors in any gender. However, the intensity of hentai use has an effect on sexually aggressive behavior through the endorsement of rape myths.

Rape myths acceptance is beneficial to sexually aggressive individuals (Burgess, 2007), as people who adhere to rape myths minimize sexual violence and discredit victims. Unsurprisingly, rape myths endorsement has been associated with sexual aggression perpetration (Forbes et al., 2004). These types of beliefs often regard women as the victims and are associated with attitudes supporting violence against women (Hald et al., 2010; Malamuth et al., 2012). However, the present research found an association between rape myths endorsement and sexually aggressive behavior in both male and female participants.

As hypothesized, the expected link between hentai pornography use and sexually aggressive tendencies was better explained by the endorsement of rape myths. Full mediations were found between the frequency of hentai use and sexually aggressive behavior in both genders. Despite the absence of a total effect between the intensity of hentai use and sexually aggressive behavior in male participants, the intensity of use predicted the belief in rape myths, which in turn predicted sexually aggressive behaviors. Furthermore, there was a significant mediation relationship found. There is not enough evidence to how that the intensity of hentai use influences sexually aggressive behaviors, but if this influence exists, it is likely due to the intervening effect of rape myths endorsement.

This same phenomenon does not occur in female participants, resulting in gender differences concerning the intensity criteria. Possible explanations could be that female participants exhibit more consistent levels of intensity, or that those levels are lower and thus irrelevant to the other variables.

These results build on existing evidence of studies by Malamuth et al. (2000) and Vega & Malamuth (2007), in which the connection between pornography use and sexual violence was found on a male sample, but only in individuals at higher risk of committing sexual violence. This risk was assessed through their inclination towards hostile masculinity characteristics (which included belief in rape myths) and attitudes towards impersonal sex.

As such, college students who consume hentai pornography more frequently can be at a higher risk of having beliefs about rape myths, which influence the perpetration of sexually aggressive behaviors. The same happens to male college students who consume hentai pornography more intensely.

The findings obtained in this work contribute to the lesser explored genre of hentai pornography, by showing a novel perspective on its connection with sexually aggressive behavior in its target audience, age-wise.

This work also reinforces conclusions in previous studies establishing links between pornography use and rape myth beliefs (Burgess, 2007; Foubert et al., 2011), while identifying new associations related to the genre of hentai. Whilst clarifying these associations, this work reveals that mediations play a crucial role in connecting hentai use, rape myths, and sexual violence in college students, which opens doors for future investigation into other mediators involved in this relationship and its possible replicability in broader populations.

However, no study is without its limitations. Firstly, it is impossible to infer that the influence of hentai pornography in the mediation analyses is solely due to the hentai genre rather than the use of pornography as a whole. To address this limitation, the upcoming article to be submitted to publication will replicate the models used for hentai pornography with the data collected for human/realistic pornography.

Additionally, when tackling sexual aggression, survey participants are susceptible to the influence of social desirability. While it is likely that people underreported sexually aggressive attitudes they might have had, it seems possible that people also overemphasized them, as well as embellished the frequency and intensity in which they used pornography, due to college students often participating in internet mischief. Future research can minimize this effect by utilizing a social desirability measure and considering this effect. The sampling method can also create self-selection bias, as voluntary response samples generally attract people who are more likely to answer surveys and have stronger feelings about the theme being investigated, thus not being fully representative of the population. All measures utilized in this study were of the self-report kind, making the data vulnerable to reporting bias (Gomes et al., 2019).

Another inherent constraint of this study is the absence of comprehensive data regarding hentai pornography, as well as its possible influence on those who view it, which hinders researchers from completely understanding how it influences sexually aggressive attitudes. However, this work aims to contribute to this gap in literature, as well as the limited research concerning the intensity with which any pornography is viewed and how it impacts the individual.

Additionally, the generalizability of the results is limited by the narrow scope focused on college students who identified as heterosexuals, so generalizing the findings to sexual

and gender minorities or the population outside of higher education is not possible. To address these constraints, future research ought to consider the limitations of using measures that were initially designed for application in heterosexual populations when examining sexual aggression and victimization across heterogeneous populations, in this case, the SABS. This could entail using alternative scales or validating existing ones with sexual and gender minorities to encompass all individuals. By resolving this restriction, future studies can attain a better comprehension of the sexually aggressive attitudes of people toward the same sex.

Future studies should also aim to include using different measures of hentai pornography use or even different frequency and intensity measures or scales, to check for result variability depending on the choice of measures. Further research on hentai pornography is necessary to address the current scarcity of knowledge and gain deeper understanding of this consistently popular genre of pornography.

## **Conclusion**

This research aimed to identify how hentai pornography consumption influenced sexually aggressive strategies. Based on a quantitative analysis of sexuality in college students, it can be concluded that the frequency in which one uses hentai pornography predicts sexually aggressive strategies, and that the endorsement of rape myths is an important factor in the relationship between the frequency of hentai pornography use and the use of sexually aggressive strategies, and between the intensity of hentai pornography use and sexually aggressive strategies.

When analyzing the results, sexual violence emerged as a progressively significant concern, due to the way it manifested. Sexual violence is a major public health concern as it can cause serious problems in the victim's physical, mental, sexual, and reproductive health (Alexander & Miller, 2022). It can also affect their descendants and financial stability (*Violence Against Women*, 2021).

This work aims to increase awareness about the phenomenon of hentai, its implications, and consequences, as well as the prevalence of rape myths and sexual violence in the college setting. Since cartoons and animated shows primarily target children and

young people, easy distribution and access of hentai can pose a problem; therefore, its use should be further researched (Dines & Sanchez, 2023). Future studies ought to explore the differences among hentai pornography users and mainstream pornography users, as well as investigate the specificities of the themes portrayed in hentai and their impact on human cognitions and behavior.

As with any type of pornography, it is important to discuss its pros and cons in accurate, age-appropriate, and scientifically backed sex education programs in school, to prevent people from unquestioningly believing harmful myths about rape and sexuality, which can be learned from pornography. This work established relationships that can be addressed and prevented early on in a person's life, to prevent possibly aggressive sexual behaviors, as well as other adverse effects of ignorance about sexual violence.

To conclude, this work paves the way for additional research into the impact of animated and fantastical pornography in a population where sexual violence is rampant. It provides researchers with insight into this genre of pornography, as well as what aspects of its use could be relevant in predicting sexual aggression. This study further supports existing evidence connecting pornography use with sexually aggressive behaviors and rape myths endorsement, strengthening the growing body of literature in favor of the existence of these relationships.

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## Appendixes

### Appendix A

#### *Participant Characteristics (n = 906)*

| Variable            | <i>n</i> | %    |
|---------------------|----------|------|
| Gender              |          |      |
| Female              | 533      | 58.8 |
| Male                | 373      | 41.2 |
| Age ( <i>M/SD</i> ) | 22.15    | 5.12 |
| Marital Status      |          |      |
| Single              | 830      | 91.8 |
| Married             | 26       | 2.9  |
| Civil Union         | 40       | 4.4  |
| Separated           | 2        | 0.2  |
| Divorced            | 2        | 0.2  |
| Other               | 4        | 0.4  |
| Education           |          |      |
| Bachelor's Degree   | 588      | 65.2 |
| Master's Degree     | 253      | 28.1 |
| Doctorate Degree    | 31       | 3.4  |
| Other               | 30       | 3.3  |

## Appendix B

*Descriptive frequencies for SABS critical items;*

| Item  | Men      |      | Women    |      |
|---|----------|------|----------|------|
|   | <i>n</i> | %    | <i>n</i> | %    |
| How many times have you attempted to have sexual contact with a woman/man by threatening to end your relationship?<br><b>[Quantas vezes tentou ter contacto sexual com um/a mulher/homem ameaçando acabar com a vossa relação?]</b>   | 18       | 3.4  | 14       | 3.8  |
| How many times have you attempted to have sexual contact with a woman/man by saying things that you didn't mean?<br><b>[Quantas vezes tentou ter contacto sexual com um/a mulher/homem dizendo coisas que no fundo não queria dizer?]</b>   | 85       | 16.0 | 83       | 22.3 |
| How many times have you attempted to have sexual contact with a woman/man by pressuring her/him with verbal arguments?<br><b>[Quantas vezes tentou ter contacto sexual com um/a mulher/homem pressionando-a/o com argumentos verbais?]</b>  | 48       | 9.0  | 28       | 7.5  |
| How many times have you attempted to have sexual contact with a woman/man by questioning her/his sexuality (suggesting that she/he may be frigid or gay)?<br><b>[Quantas vezes tentou ter contacto sexual com um/a mulher/homem questionando a sua sexualidade (sugerindo que ela/ele poderia ser frígida/o ou lésbica/gay)?]</b> | 24       | 4.5  | 20       | 5.4  |

| Item   | Men      |     | Women    |     |
|--|----------|-----|----------|-----|
|  | <i>n</i> | %   | <i>n</i> | %   |
| How many times have you attempted to have sexual contact with a woman/man by using your position of power or authority (boss, teacher, babysitter, counselor, or supervisor)?<br><b>[Quantas vezes tentou ter contacto sexual com um/a mulher/homem usando a sua posição de poder ou autoridade (baby-sitter, professor/a, conselheiro/a, supervisor/a, patrão/patroá, entre outros)?]</b> | 20       | 3.8 | 6        | 1.6 |
| How many times have you attempted to have sexual contact with a woman/man between 12 and 18 years of age who was 5 or more years younger than yourself?<br><b>[Quantas vezes tentou ter contacto sexual com um/a mulher/homem com 12 a 18 anos de idade e mais nova/o 5 ou mais velha/o que você?]</b>   | 37       | 6.9 | 18       | 4.9 |
| How many times have you attempted to have sexual contact with a woman/man by getting her/him drunk or high?<br><b>[Quantas vezes tentou ter contacto sexual com um/a mulher/homem levando-a/o a embriagar-se ou a drogar-se?]</b>  | 20       | 3.8 | 8        | 2.1 |
| How many times have you attempted to have sexual contact with a woman/man by taking advantage of a compromising position she/he was in (being where she/he did not belong or breaking some rule)?<br><b>[Quantas vezes tentou ter contacto sexual com um/a mulher/homem tirando partido de uma situação comprometedorá onde ela/ele estava]</b>  | 17       | 3.2 | 19       | 5.1 |

| Item   | Men      |     | Women    |     |
|--|----------|-----|----------|-----|
|  | <i>n</i> | %   | <i>n</i> | %   |
| <b>(estando ela/ele num sítio onde não pertencia ou quebrando alguma regra)?]</b>  |          |     |          |     |
| How many times have you attempted to have sexual contact with a woman/man by threatening to use some degree of physical force (holding her/him down, hitting her/him, etc.)?<br><b>[Quantas vezes tentou ter contacto sexual com um/a mulher/homem ameaçando usar algum tipo de força física (puxando-a/o, agarrando-a/o, atingindo-a/o, entre outros)?]</b> | 14       | 2.6 | 11       | 2.9 |
| How many times have you attempted to have sexual contact with a woman/man by threatening to harm yourself?<br><b>[Quantas vezes tentou ter contacto sexual com um/a mulher/homem ameaçando magoar-se a si mesmo/a?]</b>  | 13       | 2.4 | 7        | 1.9 |



## Appendix C

*Descriptive statistics for ECVS items;*

| Item  | Men      |           | Women    |           |
|---|----------|-----------|----------|-----------|
|   | <i>M</i> | <i>SD</i> | <i>M</i> | <i>SD</i> |
| Offenders are, almost always, acquaintances of the victim.<br><b>[Os agressores são, quase sempre, desconhecidos da vítima.]</b>  | 2.32     | 1.06      | 2.00     | 0.95      |
| If a person has already had sexual relations with the other, then you can't talk about sexual violence.<br><b>[Se uma pessoa já tiver mantido antes relações sexuais com a outra, então não se pode falar de violência sexual.]</b> | 1.23     | 0.70      | 1.07     | 0.39      |
| Only «indecent» people are victims of sexual aggression.<br><b>[Só são vítimas de agressões sexuais as pessoas «indecentes».]</b>   | 1.24     | 0.76      | 1.06     | 0.43      |
| Only people that can't get a partner commit sexual aggression.<br><b>[Só as pessoas que não conseguem arranjar parceiros(as) é que cometem agressões sexuais.]</b>  | 1.45     | 0.88      | 1.21     | 0.64      |
| People say they were victims of sexual violence when they want to get revenge on someone.<br><b>[As pessoas dizem que foram vítimas de violência sexual quando se querem vingar de alguém.]</b>                                     | 2.28     | 1.09      | 1.65     | 0.85      |
| Forcing your partner (husband/wife) to have sexual relations isn't rape.<br><b>[Forçar o(a) cônjuge (marido/esposa) a ter relações sexuais não é violação.]</b>   | 1.36     | 0.94      | 1.12     | 0.60      |
| There are people that deserve to be raped.  | 1.42     | 1.03      | 1.09     | 0.47      |

| Item  | Men      |           | Women    |           |
|---|----------|-----------|----------|-----------|
|   | <i>M</i> | <i>SD</i> | <i>M</i> | <i>SD</i> |
| <b>[Há pessoas que merecem ser violadas.]</b>   |          |           |          |           |
| There comes a point where no man or woman is made of steel.   | 2.96     | 1.65      | 2.06     | 1.50      |
| <b>[Há um certo ponto a partir do qual nenhum homem/nenhuma mulher é de ferro.]</b>   |          |           |          |           |
| If sexual violence isn't used, you can't say the sexual act was forced.   | 1.39     | 0.90      | 1.09     | 0.41      |
| <b>[Se não for usada violência física, não se pode dizer que o acto sexual foi forçado.]</b>  |          |           |          |           |
| When women say no (to sex), a lot of times, they want to say yes.   | 1.61     | 1.03      | 1.19     | 0.57      |
| <b>[Quando as mulheres dizem não (ao sexo), muitas vezes, querem dizer sim.]</b>  |          |           |          |           |
| If a person sexually provokes another, they can't complain after that they were raped.  | 1.57     | 1.00      | 1.16     | 0.59      |
| <b>[Se uma pessoa provoca sexualmente outra, não se pode depois queixar de ter sido violada.]</b>   |          |           |          |           |
| Most rape charges are false or exaggerated.   | 1.91     | 1.01      | 1.25     | 0.58      |
| <b>[A maioria das queixas de violação é falsa ou exagerada.]</b>  |          |           |          |           |
| If a person exposes themselves (for example, going out at night alone or going to places with a bad reputation), it's their fault if they're a victim of sexual aggression. | 1.49     | 0.97      | 1.12     | 0.49      |
| <b>[Se uma pessoa se expõe (por exemplo, saindo à noite sozinha ou frequentando locais com má reputação), a culpa é sua, se for vítima de uma agressão sexual.]</b>         |          |           |          |           |

| Item  | Men      |           | Women    |           |
|---|----------|-----------|----------|-----------|
|   | <i>M</i> | <i>SD</i> | <i>M</i> | <i>SD</i> |
| A lot of rape charges are made up when people's partners express that they want to end the relationship.<br><b>[Muitas queixas de violação são inventadas quando os(as) companheiros(as) expressam o desejo de terminar a relação.]</b> | 2.14     | 1.12      | 1.47     | 0.84      |
| Sexual offenders are, in their majority, people with an appearance different from others.<br><b>[Os agressores sexuais, na sua maioria, são pessoas com um aspecto diferente das outras.]</b>   | 1.67     | 1.02      | 1.27     | 0.63      |
| If a person doesn't physically assault or hurt the other, then the sexual aggression is less serious.<br><b>[Se uma pessoa não agredir fisicamente nem magoar a outra, então, a agressão sexual é pouco grave.]</b>                     | 1.53     | 0.98      | 1.12     | 0.47      |
| Some people experience sexual pleasure when they get raped.<br><b>[Algumas pessoas têm prazer sexual quando são violadas.]</b>  | 2.71     | 1.34      | 1.99     | 1.17      |
| Some people secretly want to be raped and would like for it to happen.<br><b>[Algumas pessoas têm o desejo secreto de ser violadas e gostariam que tal acontecesse.]</b>  | 2.93     | 1.28      | 2.28     | 1.22      |
| There are women that like when men use a little force when convincing them to have sex.<br><b>[Há mulheres que gostam que os homens usem um pouco de força para as convencer a ter sexo.]</b>   | 3.02     | 1.24      | 2.46     | 1.21      |
| A lot of rape charges are made up when people regret what they've done.   | 2.43     | 1.25      | 1.58     | 0.93      |

| Item  | Men      |           | Women    |           |
|---|----------|-----------|----------|-----------|
|   | <i>M</i> | <i>SD</i> | <i>M</i> | <i>SD</i> |
| <p><b>[Muitas queixas de violação são inventadas quando as pessoas se arrependem do que fizeram.]</b></p> <p>If a person who was raped has an «indecent?» sexual behavior, then the sexual aggression is less serious.</p> <p><b>[Se uma pessoa violada tiver um comportamento sexual «indecente», então, a agressão sexual é menos grave.]</b></p> | 1.36     | 0.84      | 1.11     | 0.50      |
| <p>Forcing your boyfriend/girlfriend to have sexual relations isn't rape.</p> <p><b>[Forçar o(a) namorado(a) a ter relações sexuais não é violação.]</b></p>  | 1.26     | 0.78      | 1.06     | 0.45      |
| <p>A rape charge that is made days after the act probably isn't true.</p> <p><b>[Uma queixa de violação feita dias após o acto, provavelmente, não é verdadeira.]</b></p>   | 1.33     | 0.80      | 1.08     | 0.45      |
| <p>A person pressuring another to have sexual relations can be a way to express love and involvement.</p> <p><b>[Uma pessoa pressionar a outra para ter relações sexuais pode ser uma forma de expressar amor e envolvimento.]</b></p>  | 1.77     | 1.12      | 1.14     | 0.53      |
| <p>If a person doesn't physically resist, then you can't say they were a victim of sexual aggression.</p> <p><b>[Se uma pessoa não resistir fisicamente, então, não se pode dizer que foi vítima de agressão sexual.]</b></p>   | 1.42     | 0.93      | 1.09     | 0.45      |
| <p>“Those who walk in the rain, get wet”, those who don't want to be sexually assaulted should avoid exposing themselves to the risk.</p>   | 2.06     | 1.42      | 1.34     | 0.85      |

| Item  | Men      |           | Women    |           |
|---|----------|-----------|----------|-----------|
|   | <i>M</i> | <i>SD</i> | <i>M</i> | <i>SD</i> |
| <p><b>[“Quem anda à chuva molha-se”, quem não quiser ser agredido sexualmente deve evitar expor-se ao risco.]</b></p> <p>If a person gets raped while they’re under the influence of alcohol or other drugs, then a least a part of the blame is theirs.</p> <p><b>[Se uma pessoa é violada quando está alcoolizada e/ou sob efeito de outras drogas, então, pelo menos uma parte da culpa é dela.]</b></p> | 1.53     | 1.05      | 1.10     | 0.48      |
| <p>If a person accepts an act with a sexual nature with another (i.e., cuddles, kisses) then that means they want to have sexual relations with that person.</p> <p><b>[Se uma pessoa aceita algum acto de natureza sexual com outra (e.g., carícias, beijos), então, isso quer dizer que ela aceita ter relações sexuais com essa pessoa.]</b></p>   | 1.44     | 0.90      | 1.07     | 0.40      |
| <p>If a person really doesn’t want to get raped, they can defend themselves.</p> <p><b>[Se uma pessoa não quiser mesmo ser violada, ela consegue defender-se.]</b></p>  | 1,39     | 0.93      | 1.08     | 0.37      |
| <p>If a person who was raped wasn’t a virgin anymore, the rape is less serious.</p> <p><b>[Se uma pessoa violada já não era virgem, a violação é menos grave.]</b></p>  | 1.19     | 0.73      | 1.06     | 0.41      |

## Appendix D

*Non-standardized regression coefficients, and lower and upper limits of the 95% CI for male participants*

|           | <i>B</i> | <i>SE B</i> | 95% CI          |
|-----------|----------|-------------|-----------------|
| Frequency |          |             |                 |
| a         | 6.08     | 1.90        | [2.349, 9.803]  |
| b         | 0.04     | 0.003       | [0.032, 0.045]  |
| c'        | 0.17     | 0.15        | [-0.127, 0.463] |
| c         | 0.40     | 0.15        | [0.111, 0.699]  |
| ab        | 0.24     | 0.05        | [0.072, 0.452]  |
| Intensity |          |             |                 |
| a         | 3.51     | 1.73        | [0.114, 6.908]  |
| b         | 0.04     | 0.003       | [0.032, 0.045]  |
| c'        | -0.09    | 0.12        | [-0.325, 0.137] |
| c         | 0.04     | 0.13        | [-0.226, 0.298] |
| ab        | 0.13     | 0.08        | [0.005, 0.295]  |

*Note.* a = direct effect hentai pornography use - rape myths endorsement; b = direct effect rape myths endorsement - sexually aggressive behavior; c' = hentai pornography - use sexually aggressive behavior; c = total effect; ab = indirect effect/mediation model.

## Appendix E

*Non-standardized regression coefficients, and lower and upper limits of the 95% CI for female participants*

|           | <i>B</i> | <i>SE B</i> | 95% CI          |
|-----------|----------|-------------|-----------------|
| Frequency |          |             |                 |
| a         | 4.26     | 1.66        | [0.992, 7.524]  |
| b         | 0.07     | 0.01        | [0.055, 0.076]  |
| c'        | 0.17     | 0.13        | [-0.089, 0.428] |
| c         | 0.45     | 0.18        | [0.086, 0.809]  |
| ab        | 0.28     | 0.18        | [0.004, 0.714]  |
| Intensity |          |             |                 |
| a         | 1.47     | 1.26        | [-1.011, 3.955] |
| b         | 0.06     | 0.005       | [0.055, 0.074]  |
| c'        | -0.02    | 0.11        | [-0.244, 0.202] |
| c         | 0.07     | 0.14        | [-0.199, 0.347] |
| ab        | 0.07     | 0.06        | [-0.057, 0.292] |

*Note.* a = direct effect hentai pornography use - rape myths endorsement; b = direct effect rape myths endorsement - sexually aggressive behavior; c' = hentai pornography - use sexually aggressive behavior; c = total effect; ab = indirect effect/mediation model.