A Correlational Model of Rape Myth Acceptance and Psychosocial Factors among Medical School Students

By Danilo Antonio Baltieri, Fatima Elisa D’Ippolito Alcocer & Luiz Carlos de Abreu

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I. Introduction

A substantial body of literature shows that some persons can support beliefs that rape victims are responsible for their own fate. Stereotyped and prejudicial beliefs about rape and the victims and perpetrators can contribute to sexual violence by shifting blame for the assault from the perpetrator to the victim (Jain, 2011; Kamdar, Kosambiya, Chawada, Verma, & Kadia, 2017). Cultural, institutional, and personal aspects can further promote such equivocal judgment of the victims (Maddux & Yuki, 2006). Although rape myth acceptance can be a product of psychosocial aspects, it is also a response to messages from social, family, media, and groups that propagate the legitimacy of such myths. This study tests a correlational model involving some factors possibly related to rape myth acceptance. If an individual holds stereotypical or false beliefs about rape and the victims and perpetrators, he or she will likely have a negative attitude toward sexual assault survivors.

Although institutional, cultural, and individual aspects are specific fields of knowledge and research, it is not possible to disentangle one from another. For example, culture is the umbrella under which both social behaviors and individual beliefs exist. The world is full of unexploited psychological variations that offer a broad scope to develop and better test different theories (Henrich, 2015). In Brazil, for example, “the cultural structure of the nature of the sexual realities and the interpretation of the meanings of the sexual practices have been based on the distinctions between masculinity and femininity, activity and passivity, domination and submission, and so on (…). These distinctive roles are gradually internalized through a complex process of socialization beginning in the earliest moments of childhood” (Parker, 1991). Also, “traditionally, men gain respect by performing the role of the ‘macho’, that is, those with a virile and brave status. Thus, a man should demonstrate his virility, measured by the number of sexual conquests” (Hayes, 2011). It should be noted that we performed this study in a culture held up by a patriarchal structure, where there is socially demarcated roles of men and women, as well as learned beliefs. However, individuals may choose to act or think in ways that are contrary to the current cultural expectancies (Dressler, Balieiro, & Dos Santos, 1997).

Regarding rape myth acceptance, more men than women seem to blame the female victims for the assault (Basow & Minieri, 2011; Struckman-Johnson, 1992; Walfield, 2018); no study has suggested that women engage in such beliefs more frequently than men (Gravelin, Biernat, & Bucher, 2018). This is not surprising considering rape is mainly, if not exclusively, women’s concern, and sexist cultural views still predominate in many different societies (Prado Cortez, Boer, & Baltieri, 2011; Stoll, Lilley, & Pinter, 2017). There are, however, studies that show that there were no significant differences between men and women about blaming the victim (Abrams, Viki, Masser, & Bohner, 2003; Persson, Dhingra, & Grogan, 2018). Sexism, mainly the hostile kind that comprises negative attitudes toward individuals who violate traditional gender
stereotypes, seems to be a common denominator of rape myth acceptance (Chapleau, 2007) and can be associated with risky sexual behaviors (Glick, 1996). On the contrary, being non-heteronormative has been negatively correlated with rape myth acceptance (Worthen, 2017).

More women are victims of sexual assault than men (World Health Organization, 2003), and they experience a wide range of emotions such as shame, guilt, depression, and denial as a response to the traumatic event. Some victims even blame themselves for it, confusing their participation in the assault (McLindon, 2011). In a male-dominated society, women may accept the blame for their own victimization “because they are the gatekeepers in sexual interactions” (Bridges, 1991). Although it is possible that previous victimization and cultural expectations can influence women’ beliefs, this assertion cannot be generalized (Carmoody, 2001). Highly educated women may not condone these sexist statements. Some studies show a significant correlation between depression symptoms and rape myth acceptance among female victims (Arata, 1999; Feiring, Taska, & Chen, 2002). Other ones have shown a correlation between depression and justice sensitivity. In reality, in situations where a justice-sensitive individual is simply an observer, he or she tends to wish compensation for the victims and punishment for the perpetrators.

Higher rape myth acceptance scores seem to be a factor in risky sexual behaviors (Kalichman et al., 2005). Also, some studies have demonstrated that male aggression against women and inconsistent condom use may be related and that some men can use sexual tactics to ensure unprotected sex (Davis, 2010; Davis & Logan-Greene, 2012). Among men, high score on hostile sexism seems to be linked to lower condom use (Ramiro-Sanchez, Ramiro, Bermudez, & Buela-Casal, 2018). Individuals engaging in inconsistent condom use could be solely focusing on the reward of sex than the consequences of such conduct (Cortez, Boer, & Baltieri, 2011). Furthermore, issues of power, control over interaction with sexual partners, and the use of psychoactive substances are factors associated with pernicious sexual practices (Parsons, Bimbi, Koken, & Halkitis, 2005). Also, sensation-seeking, high impulsiveness, and risk-taking are linked to risky sexual practices (Kalichman, Heckman, & Kelly, 1996). Thus, inconsistent condom use can be an indicator of impulsiveness and transgression (Halkitis & Parsons, 2003).

Alcohol and drugs are common elements in rape cases, especially those that occur on university campuses (Abbey, 1996). Many studies have shown that intoxicated victims are blamed more often for the assault than those who were sober; in contrast, the drunker the perpetrator, the more excuses he gives for his behavior (Qi, 2016; Richardson, 1992).

Although it is crucial to investigate how different segments of the population endorse rape myths, university students comprise a relevant group because they are at high risk of facing sexual assault (Daigle, 2013).

Considering this, we hypothesized the following: being a heterosexual male, using drugs and inconsistent condom use can act as supportive factors for rape myth acceptance; in contrast, considering a sample of well-educated participants, a history of being sexually abused in childhood, depression scores, and being non-heteronormative do not.

II. Method

a) Procedure

We performed a cross-sectional study to investigate correlations between some psychosocial variables, mainly those potentially related to rape myths, such as biological sex, sexual orientation, drug use, and depression. The investigators were specially trained medical graduate and postgraduate medical students. The Ethics Committee of ABC Medical School, Santo André, São Paulo, Brazil approved this study.

b) Participants

Between September 2016 and August 2019, a total of 280 medical students aged 18 and above, from the first through the sixth year at the medical school, were randomly selected and recruited to participate in this study. The researchers assured participants that only the researchers would see the data, that all data would be kept confidential, and that the partaking was voluntary. Brazilian law does not allow financial compensation for participants of any researches.

Participant-important outcomes were compared based on 13 variables: biological sex, age, race, marital status, lifetime alcohol use, lifetime drug use (mainly marijuana), family members with alcohol/drug use problems, sexual abuse history, inconsistent condom use, sexual orientation, and scores of depression symptoms, drug use severity, and rape myth acceptance. We codified sex as male, female, and intersex. We did not codify monthly income as our participants were pursuing a full-time course.

c) Measures

The participants provided information through a self-reported questionnaire, which included items assessing sociodemographic characteristics and the following: the Beck Depression Inventory (BDI), Drug Abuse Screening Test (DAST), and Illinois Rape Myth Acceptance (IRMA).

The Beck Depression Inventory

This 21-item inventory measures behavioral responses related to depression among adults and adolescents. Scores above 10 (in the range 0–63) indicate the presence of a depressive syndrome (Beck,
The Illinois Rape Myth Acceptance
Sgrillo Scarpati (2014) validated The Illinois Rape Myth Acceptance Scale – Short form (IRMA)(McMahon, 2011), an update of the 1999 version of the IRMA (Payne, 1999), in a sample of university students in Brazil. This instrument consists of 22-item scale that includes statements on a woman and man’s role in a sexual situation that may lead to assault; it addresses women as the victims and men as the perpetrators. Participants indicate how much they agree with each statement on a 5 point scale from strongly disagree to strongly agree. Higher scores indicate more rejection of rape myths. This instrument has four factors: Factor 1 or “She asked for it” has statements such as “If a woman is raped while she is drunk, she is at least somewhat responsible for letting things get out of control” and “When women go around wearing low-cut or short skirts, they are just asking for trouble”; Factor 2 or “He did not have intention” has statements such as “When men rape, it is because of their strong desire for sex” and “Men did not usually intend to force sex on a woman, but sometimes they get too sexually carried away”; Factor 3 or “It was not really a rape” has statements such as “If a woman does not physically resist sex, it really cannot be considered rape” and “If the rapist does not have a weapon, you really cannot call it a rape”; and Factor 4 or “She lied” has statements such as: “Rape accusations are often used as a way of getting back at men” and “Women who are caught having an illicit affair sometimes claim that it was rape”. The global internal consistency of this validated instrument was \( \alpha = 0.72 \), and the internal consistencies of the 4 factors were 0.74, 0.64, 0.68, and 0.71, respectively. The factor “He did not have intention” showed low internal consistency, which may mean a poor correlation between each item of this factor.

d) Analysis
Univariate analyses were used to compare the sociodemographic and psychometric factors between the male and female participants. Categorical variables were compared using the \( \chi^2 \) or Fisher’s exact tests, following the Monte Carlo method. Continuous variables were compared using student’s t-test.

To develop a correlational model, we performed structured equation modeling (SEM). Maximum likelihood estimation was used to estimate the fit of the model. The Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), Goodness of Fit Index (GFI), Adjusted GFI (AGFI), Root Mean Square Error of Approximation (RMSEA), and Standardized Root Mean Square Residual (SRMR) were used to evaluate the model fit. Some recommendations regarding the values for global model fit were adopted — specifically, CFI, TLI, GFI, and AGFI values greater than 0.90, and RMSEA and SRMR values lower than 0.08 were deemed indicative of an acceptable model fit (Gislove et al., 2013; Hu & Bentler, 1999). As the chi-square value is dependent on the sample size, we calculated the ratio of chi-square relative to the degrees of freedom (\( \chi^2/df \), where a value of 2 or lower is an acceptable \( \chi^2/df \) ratio (Tabachnick & Fidell, 2007).

III. Results
Of the returned questionnaires, 11 (3.93%) were discarded due to incomplete answers, leaving 269 participants. Of these, 175 (65.06%) were female, and the mean age of the total sample was 21.35 (SD = 2.51) years. Our sample did not have intersex or transgender participants.

The global internal consistency of the IRMA for this sample was \( \alpha = 0.70 \), and the internal consistencies of the 4 factors were 0.72, 0.62, 0.72, and 0.73, respectively. Again, Factor 2 (He did not have intention) show low internal consistency, which is in line with the validated version in Brazil.

Descriptive Analysis
In Table 1, we decided to compare the male and female participants in terms of sociodemographic and psychosocial factors because a large number of studies have shown higher rape myth acceptance among men than women. In fact, the male participants did show significantly higher rape myth acceptance for all factors than their counterparts. With respect to other variables, there were no significant differences between the male and female participants in terms of mean age, race, marital status, inconsistent condom use, lifetime alcohol use, lifetime drug use, family history of alcohol/drug use problems, being non-heteronormative, and DAST scores. However, female participants had higher BDI scores as well as prevalence of sexual abuse history.
Table 1: Socio-demographic and psychometric features between male and female university students

<table>
<thead>
<tr>
<th>Variables</th>
<th>Male Students (n = 94)</th>
<th>Female Students (n = 175)</th>
<th>test</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age, mean (SD)</td>
<td>21.46 (2.16)</td>
<td>21.29 (2.67)</td>
<td>$t = 0.54$, 267df</td>
<td>0.59</td>
</tr>
<tr>
<td>Race, n (%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>82 (87.23)</td>
<td>153 (87.43)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-White</td>
<td>12 (12.77)</td>
<td>22 (12.57)</td>
<td>$\chi^2 &lt; 0.01$, 1df</td>
<td>0.93</td>
</tr>
<tr>
<td>Marital status, n (%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>93 (98.94)</td>
<td>174 (99.43)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married/Common-law</td>
<td>1 (1.06)</td>
<td>1 (0.57)</td>
<td>$\chi^2 = 0.20$, 1df</td>
<td>&gt; 0.99</td>
</tr>
<tr>
<td>Sexual abuse in childhood, n (%)</td>
<td>6 (6.38)</td>
<td>26 (14.86)</td>
<td>$\chi^2 = 4.19$, 1df</td>
<td>0.04*</td>
</tr>
<tr>
<td>Preservative use, n (%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consistent use</td>
<td>62 (65.96)</td>
<td>109 (62.28)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inconsistent use</td>
<td>32 (34.04)</td>
<td>66 (37.72)</td>
<td>$\chi^2 = 0.36$, 1 df</td>
<td>0.55</td>
</tr>
<tr>
<td>Lifetime alcohol use, n (%)</td>
<td>83 (88.30)</td>
<td>161 (92.00)</td>
<td>$\chi^2 = 0.99$, 1df</td>
<td>0.32</td>
</tr>
<tr>
<td>Lifetime illicit drug use, n (%)</td>
<td>43 (45.74)</td>
<td>81 (46.29)</td>
<td>$\chi^2 &lt; 0.01$, 1 df</td>
<td>&gt; 0.99</td>
</tr>
<tr>
<td>Family members with alcohol/drug use problems, n (%)</td>
<td>53 (56.38)</td>
<td>100 (57.14)</td>
<td>$\chi^2 = 0.01$, 1df</td>
<td>0.90</td>
</tr>
<tr>
<td>Non-heteronormativity, n (%)</td>
<td>13 (13.83)</td>
<td>15 (8.57)</td>
<td>$\chi^2 = 1.81$, 1df</td>
<td>0.18</td>
</tr>
<tr>
<td>BDI, mean (SD)</td>
<td>8.11 (8.54)</td>
<td>10.42 (7.35)</td>
<td>$t = -2.32$, 267df</td>
<td>0.02*</td>
</tr>
<tr>
<td>DAST, mean (SD)</td>
<td>4.72 (3.69)</td>
<td>5.18 (3.81)</td>
<td>$t = -0.94$, 267df</td>
<td>0.35</td>
</tr>
<tr>
<td>IRMA, mean (SD)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Factor 1</td>
<td>27.87 (2.49)</td>
<td>29.05 (1.70)</td>
<td>$t = -4.21$, 267df</td>
<td>&lt; 0.01**</td>
</tr>
<tr>
<td>Factor 2</td>
<td>27.18 (3.86)</td>
<td>28.14 (2.69)</td>
<td>$t = -2.38$, 267df</td>
<td>0.02*</td>
</tr>
<tr>
<td>Factor 3</td>
<td>24.31 (1.43)</td>
<td>25.75 (0.71)</td>
<td>$t = -3.28$, 267df</td>
<td>&lt; 0.01**</td>
</tr>
<tr>
<td>Factor 4</td>
<td>22.02 (3.75)</td>
<td>23.81 (2.11)</td>
<td>$t = -4.99$, 267df</td>
<td>&lt; 0.01**</td>
</tr>
</tbody>
</table>

Note: BDI, Beck Depression Inventory; DAST, Drug Abuse Screening Test; IRMA, Illinois Rape Myth Acceptance; * p < 0.05; ** p < 0.01

Given that the variable “male” was strongly associated with all factors of the IRMA, and that there were significant differences between the male and female participants in two other variables, we decided not to include it in the SEM to avoid weakening the influence of the hypothesized variables on rape myth acceptance.

**SEM Analysis**

Items were loaded uniquely on their relevant factors, and the factor loadings were fixed at 1.0. Then, the sample was evaluated using bootstrapping (400 bootstrap samples) with the Bollen-Stine Bootstrap statistic being conducted to verify absolute fit. As it is shown in Figure 1, the model fitted the data well, with
IV. Discussion

This study supports previous research that being male and using drugs are supportive factors for blaming the victim, while being non-heteronormative is not. However, holding up our initial hypotheses but somewhat disagreeing with other studies, depression levels and sexual abuse history did not support rape myth acceptance.

Although comparisons between the male and female participants in terms of depression symptoms and sexual abuse history were not the main goal of this study, the higher mean scores on depression in women than in men, mainly among young people (Albert, 2015; Cyranowski, Frank, Young, & Shear, 2000; Ford & Erlinger, 2004), and higher prevalence of sexual abuse history in women (World Health Organization, 2003) have already been widely demonstrated.

Each factor of the IRMA assesses a group of myths that function to neutralize the perpetrator’s responsibility. However, the Factor “It wasn’t really rape” does not properly include a victim-blaming or responsibility-denying component (Mouilso, 2013); it seems to be a subtle construct of victim-blaming. This factor simply presumes that a woman consented to a sexual relationship because she did not display any kind of a physical reaction against the act, neither presumably “instigated” male sexual instincts.

Participants with higher depression scores could have perceived this and reacted more strongly. In fact, some studies have shown that depressive individuals seem to react more intensely to injustice and threats of rejection (Schmitt, 2005). In addition, having a low threshold for injustice can make sensitive individuals recognize more cases of it than those who are insensitive.

The myths transferring responsibility onto the victims (Factors 1 and 4) positively correlated with higher drug use scores but negatively with being non-heteronormative. Youth substance users can attribute their own responsibilities to others. More recently, the perception of drug users as rational pleasure-seekers has legitimated management focused on individual responsibility; it has been important to transform young people into self-reflexive and responsible citizens (Ekendahl, 2020). Several people believe that intoxicated men can misinterpret different behaviors, including women’s. Despite these beliefs, our study suggests that even sober drug users can maintain these misconceptions. Drug users may demonstrate interpersonal problems and impaired or distorted perceptions of emotions in others. In fact, deficits in social processing can persist even after long periods of abstinence (Kornreich et al., 2001; Miller, Bershad, & de Wit, 2015; Preller et al., 2014).

Studies have also suggested that non-heteronormative individuals are less likely to support
rape myths than heterosexual men and women (Worthen, 2017); reasons presented to explain this finding include the former being raped more frequently (Balsam, Rothblum, & Beauchaine, 2005), being less sexist, adhering less to patriarchal gender norms, and supporting feminist ideas more commonly than the latter. However, not all non-heteronormative individuals abandon patriarchal and cultural norms. For example, Lesbians can have a certain animosity toward heterosexual women and support rape myths (Brewster, 2010); this can also be true to some extent vis-à-vis bisexuals and transsexuals.

Although individuals who have suffered sexual abuse can feel confused about their role in the assault, recent social movements, such as #MeToo, have emphasized the need to raise awareness about the prevalence and harms of such acts; survivors have started rejecting more strongly the societal norms that previously demanded their silence or even acceptance (AcAdam, 1999). This system of false beliefs regarding victim-blaming where “victims have been denigrated for their role in the rape, even to the extent whereby the victim is held responsible for the assault” (Grubb, 2012; Tyson, 2019) has been vehemently challenged. Thus, the survivors have manifested their desire to give voice to their injuries. Therefore, it is important to listen to the victims because “they did not lie”.

As the results show, inconsistent condom use did not correlate with any factors of the IRMA but did with sexual abuse history. Sexual or physical abuse during childhood (Hamburger et al., 2004), use of psychoactive drugs, and personality-related factors (such as reward dependence) have been associated with the inconsistent condom use (Cortez et al., 2011). Different researchers have already correlated unprotected sexual practices with search for higher physical stimulation, attempts to cope with emotional fatigue and stress, a chaotic lifestyle, and alcohol and drug abuse (Kalichman et al., 1996; Kelly, Bimbi, Izienicki, & Parsons, 2009).

Moreover, with the exception of being male, no other variable tested was correlated with the factor “He did not have intention”. It is possible that the factor’s low internal consistency in our sample affected its significant correlation with other variables. Nonetheless, this factor assumes that men have a great need for sex due to a presumable higher sexual impulsivity. We also believe that in a group of medical students who have the privilege of maintaining contact with different individuals on a university campus as well as with patients belonging to diverse cultural and social backgrounds, a reduction in prejudice and misunderstandings is possible and extremely positive (Taschler, 2017).

Rape myths are still supported mainly by men and drug users. What, however, can be considered as positive is that some variables that previously correlated with these myths, such as depression and sexual abuse history, did not in our study. Although we still live in a patriarchal society, university students can be encouraging to question their personal and sexual roles, and recreate our culture. To cultivate an inclusive and unbiased environment, it is important that no victim be pressured into taking responsibility for a sexual assault and reducing the blame on the perpetrator. Women combating sexual stereotypes represent freedom and dignity, which are important in a fair society.

This study has several limitations that must be listed:

a) The path model limits the interpretation of the results; although it shows directionality of the relationships, it is unable to establish causality between the variables

b) Some individual (personal) variables are not evaluated in the correlational model, such as sex and race

c) This study does not take into account institutional and situational factors possibly related to the rape myth acceptance (Gravelin et al., 2018);

d) The IRMA entails a general tendency toward victim-blaming, which may have affected the reliability of the findings (Dawtry, Cozzolino, & Callan, 2019)

e) An evaluation of social desirability is suitable to increase the reliability of these findings.

Compliance with Ethical Standards

Potential conflicts of interest: None. Authors have not received any grants.

Ethical Approval: All procedures performed in the participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. This study was approved by the Ethics Committee of the ABC Medical School.

Informed Consent: All participants signed a consent form to partake in this study.

Constraints on publishing: There are no any constraints.

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60. Taschler, M. & West, K. (2017). Contact with counter-stereotypical women predicts less sexism,
less rape myth acceptance, less intention to rape (in men) and less projected enjoyment of rape (in women). Sex Roles, 76, 473-484.


