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Malamuth, N. M., & Check, J. V. (1985). The effects of aggressive pornography on beliefs in rape myths: Individual differences. *Journal of Research in Personality*, 19(3), 299–320. [https://doi-org.stetson.idm.oclc.org/10.1016/0092-6566\(85\)90021-2](https://doi-org.stetson.idm.oclc.org/10.1016/0092-6566(85)90021-2)

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Can use this one instead: Spence, J. T., Helmreich, R., & Stapp, J. (1973). A short version of the Attitudes toward Women Scale (AWS). *Bulletin of the Psychonomic Society*, 2(4), 219–220. <https://doi-org.stetson.idm.oclc.org/10.3758/BF03329252>

4. Ref. "Beck, 1990" is cited in the body but its bibliographic information is missing. Kindly provide its bibliographic information in the list.

Beck A. (1990). *Beck Anxiety Inventory manual*. Orlando, FL: Harcourt Brace.

5. References [Jochen & Valkenburg, 2007, Lipsey, 1998, Vega & Malamuth, 2007] were provided in the reference list; however, this was not mentioned or cited in the manuscript. As a rule, all references given in the list of references should be cited in the main body. Please provide its citation in the body text.

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It is still "in press"

# Pride and prejudice and zombies...and statistics: Effects of powerful female role-models in media on attitudes towards women, and female viewer anxiety

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## Abstract

At present, there have been a number of studies examining the sexualization of female characters in various media. However, most studies to date have not clearly delineated whether sexualized images or the presence of assertive versus passive female characters influences negative attitudes toward women in viewers, as well as female viewer anxiety. The present study investigated whether the inclusion of powerful female characters in movies with sexualized content influences both male and female viewers' attitudes towards women as well as anxiety responses of female reviewers. Participants included 134 undergraduate students attending a private liberal arts university in the southern region of the United States. Participants were randomized to watch one of three movie conditions: first, movies that involve strong female lead characters, but which also include sexualized characters, Second, movies that involve strong female lead characters without sexualization and third, movies that involve sexualized female characters without strong portrayals (i.e. damsels in distress). Participants were measured on attitudes toward women, rape myth acceptance and anxiety. Results indicated little support for the view that sexualized media impacted viewers' attitudes toward women, rape myth acceptance or anxiety.

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## Keywords

Sexualization

Attitudes toward women

Anxiety

Mass media

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## Introduction

Over the last few decades many scholars have suggested that exposure to sexual and violent media plays a role in the development of sexual attitudes and gender stereotypes, particularly in adolescents (Escobar-Chaves et al. 2005). For instance, one common concern is that exposure to sexualized images of female characters may promote negative attitudes toward women and girls in real life. However, evidence on this issue has remained mixed (Ferguson 2012). Media content described as sexualized falls under a large umbrella with the commonality of depicting female characters as objects for male desire. Some previous research suggests that increased exposure to sexually explicit media is correlated with increased support for violence against women, and a tendency towards the acceptance of rape myths by men (Malamuth et al. 1985). Interestingly, other studies have found inverse effects, with erotic media consumption correlated with increased egalitarian attitudes (Kohut et al. 2015) Unfortunately, most of these studies are carried out with a focus on pornographic content, and thus leaves considerable room for exploration to be done in terms of influence of alternative media categories (i.e. movies).

#### AQ1

Although numerous studies have examined the impact of sexualized media on male attitudes toward women, results have not always been consistent. One potential reason for this inconsistency could be due to variables aside from media sexualization that have not been carefully controlled in some prior experiments. An example of this is the use of multiple forms of media within an experiment, such as the comparison of pornography to slasher films (Linz et al. 1988). These forms of media can be contrasted in the behavior exhibited by the women in addition to the presence of sex. Pornography often depicts acts of sexuality as a mutually pleasurable experience, and often lends itself to women assuming an assertive role (although we acknowledge that the debates on pornography are complex, Diamond et al. 2011). Conversely, slasher films often portray women who express sexuality in a negative light, and they are often chastised for demonstrating sexually assertive behavior, such as through torture or death (Ferguson and Hartley 2009).

#### AQ2

### Female Sexualization with and without Power in Media

Contrary to traditional media effects theories which emphasize sexualized portrayals of women as influencing male aggression, the “Buffy Effect” theory<sup>1</sup> (Ferguson 2012) suggests that depictions of female passivity/assertiveness are more crucial. The depiction of women as either submissive or assertive, weak or

powerful thusly plays a more influential role in attitudes towards women, as opposed to the presence of sexualization in media. According to this approach, the presence of sexuality (or violence) itself is less key to determining attitudinal outcomes toward women, than whether primary female roles are presented in a positive or negative light. In essence, the framing of sexuality or sexualized violence, is more crucial than the mere presence or absence of sex or sexualized violence. As an example, the popular television show, *Law and Order: SVU* often features sexual depictions ranging from consenting sexualization and partial nudity through to violent sexual acts such as rape. Yet, the presence of strong female leads such as Olivia Benson, appear to eliminate any of the effects we might have expected on attitudes toward women due to sexualized content (Ferguson 2012; Lee et al. 2011).

Classical conditioning can be used to explain the “Buffy Effect” theory. Prior views of sexualized violence suggested that incorporating female sexualization with physical violence promote negative attitudes towards women, acceptance of rape myths, and acceptance of physical violence towards dating partners (Malamuth and Briere 1986). In other words, sexualization and violence have a magnifying effect on one another in relation to negative outcomes. But from the perspective of classical conditioning, it is possible that this assumption may not hold when sexualization is paired with strong female characters who aggressively participate in a film or movie’s action sequences. Classical conditioning is a process of learning by which an innate response to a potent stimulus comes to be acquired in response to a previously neutral stimulus; this is accomplished by consistently repeated pairing of the neutral and potent stimulus. Accordingly, this suggests that individuals can also be primed and conditioned to assume more favorable, empirically accurate, and supportive attitudes towards women through the pairing of female power (a neutral stimuli) with a stimulus that previously evokes a positive emotional reaction (in this case female sexuality). As such, the present study explores the potential for the pairing of female assertiveness and power (a neutral stimuli) with female sexuality (a positive stimuli) to result in the acquisition of positive attitudes toward female power via classical conditioning.

Speaking theoretically, the presumption of some prior media research has suggested that sexualized representations of female characters might serve the purpose of cultivating negative attitudes toward women. However, in much prior research sexualized images have often been confounded with passive or “damsel in distress” portrayals of female characters, thus confounding sexualization with low power. The Buffy Effect theory suggests that low power, rather than sexualization, is more

instrumental in determining subsequent attitudes toward women. Thus, disentangling the impacts of sexualization from power in an experimental design would be a worthwhile undertaking.

## The Present Study

The vast majority of studies on the effects of the media's portrayal of females on attitudes towards women have focused on the presence of sexualization, and violence. These are important topics of study, no doubt, and can be partly attributed to the rise of second and third wave feminism, which emphasized gender norms, cultural inequalities, and the role of women in society. However, little research has been conducted on the effects of powerful female roles in media in a context lacking sexualization. One study found that positive female role models within the context of sexually violent media reduced viewers' negative attitudes towards women and resulted in female viewers feeling less anxious (Ferguson 2012). Furthermore, as was mentioned, -sexualized media may not play as large a role in influencing attitudes towards women; as does the portrayal of women in a behavioral and intellectual (assertive vs. subservient) capacity. On the basis of this understanding, the following two hypotheses are proposed:

H1: Men exposed to sexualized media with a powerful portrayal of women will demonstrate lower negative attitudes towards women and rape myth acceptance relative to a sexualized media without a powerful female representation.

H2: Women exposed to sexualized media with a powerful portrayal of women will demonstrate lower negative attitudes towards women and rape myth acceptance relative to sexualized media without a powerful female portrayal.

As it stands little research has been done on mood responses to sexualized media. Explicitly sexual films were found to promote anxiety in women (Ferguson 2012; Wishnoff 1978) although more recent research in this area is surprisingly limited. Additionally, this genre of film has been associated with increases in depressed mood in women. However, the presence of a positive female role in sexually explicit films demonstrated a decrease in depressed mood (Laan et al. 1994). As such, the following hypotheses were investigated regarding mood responses in participants (men & women) to sexually explicit media with powerful female roles:

H3: Women exposed to sexualized media with powerful portrayals of women will not show increases in anxiety relative to women exposed to sexualized media without powerful portrayals of women.

H4: Men exposed to sexualized media with powerful female roles will not show increased anxiety relative to neutral media.

## Methods

Note that methods for this study were preregistered and the preregistration is available at: <https://osf.io/wq89f/>

## Participants

The participants included 134 undergraduate students attending a private liberal arts university in the South of the United States. The participants were more often female (73.9%) than male. Regarding ethnicity, a majority identified as white non-Hispanic (61.2%), with smaller percentages of African American (11.9%), Hispanic (17.9%), Asian (4.5%) and one participant who did not indicate. The median year in school was the sophomore year. The participants were recruited from the research pool of the psychology department at the university.

## Measures

*Negative Attitudes Towards Women* The Attitudes Toward Women scale (ATW; Spence and Helmreich 1978) examines participants' attitudes toward egalitarian roles for women in society using 15 Likert-scale items. In the current sample, the coefficient alpha was .729.

AQ3

*Rape Myth Acceptance* The 22-item Illinois Rape Myth Acceptance Scale (RMA; McMahon and Farmer 2011) was used to assess for belief in rape myths. Items are 5-point Likert scale and assess for acceptance of pro-rape beliefs across multiple realms. Example items include "If a girl doesn't physically fight back, you can't really say it was rape" and "Rape accusations are often used as a way of getting back at guys." Coefficient alpha for the current sample was .915.

*Anxiety* The Beck Anxiety Inventory (BAI; Beck 1990) is a well-validated clinical measure of anxiety which uses 21 Likert-scale items. For the current sample, coefficient alpha was .929.

AQ4

**Movies** Movies were selected to vary related to the degree they demonstrate strong portrayals of female characters and the degree to which female characters are sexualized. Two exemplar movies were used for each of three movie conditions. First, movies that involve strong female lead characters, but which also include sexualized characters. Second, movies that involve strong female lead characters without sexualization and third, movies that involve sexualized female characters without strong portrayals (i.e. damsels in distress). Movies were matched by genre and overall presence of female characters to keep the movies similar on variables other than those of interest to the study.

The Table below highlights each of the movie exemplars and the condition in which they were included. Given that matching media conditions is difficult, and no movie can fully represent a category, two exemplars were chosen for each condition. In each case, the movie had to feature a female character in a lead role. In the sexualization and power condition, these female characters were typically strong and assertive in an action context, but also highly sexualized and physically attractive. In the power condition, the female characters were strong and assertive, but their sexuality was not emphasized. In the sexualization condition, the sexual appeal of the female lead characters was emphasized but they typically did not take on stronger or more assertive roles, being closer to damsel-in-distress or similar tropes.

| <b>Sexualization &amp; Power</b>                   | <b>Power</b>                        | <b>Sexualization</b>                    |
|--|-------------------------------------|---|
| Natasha Romonov (Avengers)                         | Hermione Granger (Harry Potter)     | Mikaela Banes (Transformers)            |
| Elizabeth Bennet (Pride and Prejudice and Zombies) | Wichita & Little Rock (Zombie Land) | Casey Becker & Sidney Prescott (Scream) |

## Procedure

Participants were randomly assigned to movie conditions in exchange for extra credit. Approximately 5–10 participants watched a movie in small groups for any given session. Any given movie condition might have several sessions; thus all 134 participants attended a movie session and saw one of the movie conditions.

Informed consent was obtained from each participant prior to beginning the session. All participants viewed a 30-min excerpt of the exemplar movie. In each case, the movies were simply shown from the beginning for the first 30 min, so as to avoid contextual confusion issues. This length of time allowed, in each case, for

significant participant exposure to the main female characters in each movie, including enough exposure to include sexualization or portrayals of strength as warranted per condition. Generally, this was about 1/3 of the length of most of the movies. After the movie, participants completed the study questionnaires. This was followed by a debriefing including screening for hypothesis guessing. Total session time was approximately one hour. University IRB approval was obtained prior to beginning data collection.

Analyses were fairly straightforward 3 (condition)  $\times$  2 (gender) ANOVA designs.<sup>2</sup> A prior power analysis employing G\*Power and targeting an effect size of  $r = .20$  (this effect size is consistent with effect sizes commonly found in meta-analyses of media effects and is also consistent with some guidelines for “practical” significance; Ferguson 2009), suggested that a sample of 200 would be sufficient. Because of the small size of the university we were unable to reach this number within the time frame allotted for the study.<sup>3</sup> Using post-hoc sensitivity analysis, it would require a slightly higher effect size of  $r = .27$  to achieve “statistical significance.” Therefore, our analysis of results will focus on interpretation of effect size. The dependent variables were the ATW, RMA and the BAI.

## Results

Regarding the outcome related to ATW, the ANOVA results revealed a significant effect for gender [ $F(1, 126) = 8.539, p = .004, \eta_p^2 = .063$ ], with men expressing more negative attitudes toward women post viewing across all conditions. Main effects for movie condition [ $F(1, 126) = 0.948, p = .390, \eta_p^2 = .015$ ] and the interaction between movie condition and gender [ $F(2, 126) = 0.103, p = .902, \eta_p^2 = .002$ ] were non-significant. Means and standard deviations are presented in Table 1. Effect sizes for the movie condition were near zero, and an examination of means and standard deviations did not suggest any trend in the direction of more sexualized media promoting negative attitudes toward women (though non-significant, the most positive ATW scores were actually in the sexualized media condition.)

**Table 1**

Means and standard deviation for all analyses

| Group                                  | ATW | RMA | Anxiety |
|--|-----|-----|---------|
| Powerful female                        |     |     |         |
| Higher scores on RMA indicate less RMA |     |     |         |



| Group                                  | ATW          | RMA           | Anxiety       |
|--|--------------|---------------|---------------|
| Male                                   | 30.60 (3.81) | 84.80 (15.85) | 36.13 (9.08)  |
| Female                                 | 33.23 (3.89) | 96.53 (12.40) | 37.70 (10.94) |
| Sexualized female                      |              |               |               |
| Male                                   | 31.50 (5.28) | 80.50 (12.50) | 29.40 (7.96)  |
| Female                                 | 34.71 (4.56) | 91.21 (8.53)  | 41.43 (12.93) |
| Power and sexualized                   |              |               |               |
| Male                                   | 29.36 (4.62) | 81.21 (12.57) | 38.07 (15.82) |
| Female                                 | 32.95 (6.39) | 90.60 (15.00) | 36.90 (10.53) |
| Higher scores on RMA indicate less RMA |              |               |               |

Regarding the outcome related to RMA, the ANOVA results revealed a significant effect for gender [ $F(1, 125) = 13.314, p < .001, \eta_p^2 = .096$ ], with men expressing more acceptance of rape myths across viewing conditions. Main effects for movie condition [ $F(1, 125) = 1.597, p = .207, \eta_p^2 = .025$ ] and the interaction between movie condition and gender [ $F(2, 125) = 0.082, p = .921, \eta_p^2 = .001$ ] were non-significant. Means and standard deviations are presented in Table 1. We conducted post-hoc Bayesian analyses using planned contrasts, comparing the powerful female condition against the sexualized condition and the sexualization/power condition. Bayes factors for the contrast between power and sexualization conditions favored the null ( $BF = 2.54$ .) The contrast between power and sexualization/power also favored the null albeit weakly ( $BF = 1.65$ ). Thus, although the best interpretation supports a null result, results for RMA should be construed with some caution.

Regarding the outcome related to anxiety, the ANOVA results revealed no significant effect for gender [ $F(1, 126) = 2.610, p = .109, \eta_p^2 = .020$ ], or movie condition [ $F(1, 126) = 0.180, p = .835, \eta_p^2 = .003$ ] and the interaction between movie condition and gender [ $F(2, 126) = 1.842, p = .163, \eta_p^2 = .028$ ] was also non-significant. Means and standard deviations are presented in Table 1. Effect sizes for the movie condition were very small, but an examination of means and standard deviations did suggest a slight trend in favor of the “Buffy Effect” hypothesis. Females were more anxious in the sexualized, but not sexualization/power condition, with males least anxious in the sexualization condition. Thus, we conducted post-hoc Bayesian analyses using planned contrasts, comparing both men and women in the sexualized condition and the

sexualization/power condition. Bayes factors for the contrast for males favored the null ( $BF = 2.34$ ) although it is important to emphasize that this was based on a small number of males ( $n = 19$ ). The contrast for females results also favored the null albeit more conclusively ( $BF = 3.26$ ). Thus, the best interpretation of results appears to be consistent with the null.

As exploratory analyses we reran the ANOVAs including whether the participants reported having seen the movie previously as a covariate. Doing so did not substantially change the results of the prior analyses. Prior exposure to the movie as a covariate was unrelated to ATW ( $p = .112$ ), RMA ( $p = .648$ ), or anxiety ( $p = .248$ ).

## Discussion

Hypothesis 1 predicted that men exposed to sexualized media with a powerful portrayal of women would demonstrate decreased negative attitudes towards women and rape myth acceptance relative to a sexualized media without a powerful female representation. Hypothesis 2 predicted that women exposed to sexualized media with a powerful portrayal of women would demonstrate decreased negative attitudes towards women and rape myth acceptance compared to sexualized media without a powerful female portrayal. These hypotheses were not supported by the acquired data. Movie condition was not shown to significantly affect the attitude towards women for either gender. Although the results did show men expressing greater negative attitudes towards women and rape myth acceptance, this was attributed to a gender effect and not the movie condition or the interaction between gender and movie condition.

Hypothesis 3 predicted women exposed to sexualized media with powerful portrayals of women would not show increases in anxiety compared to neutral media and women exposed to sexualized media without powerful portrayals of women will show increased anxiety. Hypothesis 4 predicted men exposed to sexualized media with powerful female roles would not show increased anxiety compared to neutral media. ~~Neither hypothesis was supported by the data~~ Results did not support any effect of movie condition on anxiety. However, there was a slight trend observed where females were more anxious in sexualized, but not the sexualization/power movie condition and males least anxious in the sexualized condition.

Ultimately, these results suggest that media effects on attitudes towards women and rape myth acceptance with regard to movie conditions with or without the presence of powerful female role-models may not be ~~entirely cogent~~ of practical value.

However, other studies have suggested that the inclusion of strong, independent female characters in media appear to negate the influence of sexual and violent content (Ferguson 2012). The current study was unable to find further evidence for this given that sexualization in media appeared to produce little tangible effect at all regarding attitudes toward women. Future studies could explore the nuances observed between these studies, such as strictly testing the effects of female character depiction on attitudes towards women and viewer anxiety in the absence of any sexual context. In other words, the impact of assertive versus passive female characters could be examined in other film genres with less emphasis on direct sexuality. As such, the results of this study should be used with discretion.

Several recent studies, albeit mainly with video games, have likewise failed to find appreciable effects for sexualized media on attitudes toward women (Beck and Rose in press; Read et al. 2018). This would be the third relatively recent such study. There may be several reasons why null effects are newly appearing. One possibility is that positive portrayals of women are becoming more common across media, irrespective of sexualization. A second possibility is that positive messages about body esteem have permeated enough that they are undoing any limited effects of media. A third possibility is that media effects in this realm may be part of psychology's larger replication crisis. In several areas of media effects this has been under recent discussion such as in media violence research (e.g. McCarthy et al. 2016) and in body image research (e.g. Want 2014). It is possible that similar issues may be at play for media sexualization.

Related to this possibility of false positive results, we would have a clearer picture were there more preregistered studies that could limit the potential for researcher expectancy effects to influence results. With a pool of preregistered studies, it might be possible to compare those studies to non-preregistered studies via meta-analysis, to get a sense of the possibilities for false positive results and the magnitude of bias in the field. The current study provides one example of such a preregistered study.

## Limitations

Limitations associated with this study include matching the experimental and control media presented so as to vary only in relation to the independent variables. Deliberate care was employed in identifying proper controls, however matching media in experimental studies is known to be difficult (Adachi and Willoughby 2010). Future studies should be mindful of potential confounding with regard to media condition. Second, media effects in the current study were very small in

effect size, and as such the results should not be over-interpreted. Third, the current study employed a female majority sample and entirely college-aged group of subjects. As such, population generalization should be used only with great discretion. It is also worth noting that we did not ask about sexual orientation or relationship status, both factors which could potentially play into any media effects. Fourth, the main female characters in all media conditions presented were non-Hispanic Caucasian, which may or may not have influenced subject responses. Lastly, the duration of media exposure was limited to 30-min for the sake of participant time commitment. The time of media exposure may not have allowed for responses that were fully independent of previously held beliefs, but instead either qualified or contended those which already existed. Future studies could consider the effects of female character depiction in a non-sexual context in order to assess the further isolate the effect of assertive vs passive female characters.

We would welcome further preregistered studies that improve upon the limitations of our study. For instance, future studies could incorporate in depth content analyses to ensure that control and experimental conditions are matched as carefully as possible. This is particularly true given how difficult it often is to match media conditions so that they are similar other than only regarding the variables of key interest. Other studies might tease out the variables of power and sexualization in different ways. For instance, we did not include a condition with neither power nor sexualization. For future studies, it might be interesting to include such a group as a more baseline control.

## Conclusions and Future Implications

The current study helps illuminate the role of sexualization in fictional media on attitudes toward women in real life. Although short-term in nature, the current experiment suggests that such media exposures may have limited impact on viewer attitudes. It is cautioned that policy makers and scholars may need to be more judicious in ascribing cultivation-related effects to sexualized media in the general public.

We note that there are many good artistic and moral reasons to advocate for better representations of female characters in film. The authors of this report fully support these advocacy goals. However, we have observed that other advocates for such representations of female characters may often refer to the belief that exposure to fiction can cultivate hostile attitudes toward women in real life. The current data do not suggest this is likely, nor do we feel previous research has adequately supported such beliefs with well-standardized preregistered data. Thus, our suggestion to

advocates is to be cautious in asserting real-life effects on viewer attitudes, and focus instead on the artistic and moral value of egalitarian representations of female characters in film.

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## Compliance with Ethical Standards

*Conflict of Interest* The authors have no conflicts of interest to declare.

*Informed Consent* All research described within passed local IRB and was designed to comport with federal standards for human participants research included proper informed consent.

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AQ5

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AQ6

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<sup>1</sup> The name of the theory refers to *Buffy the Vampire Slayer* a television show featuring a strong female lead in an action/horror themed narrative.

<sup>2</sup> Our original preregistration document suggested we would analyze the results using ANCOVA with gender as a covariate. Upon data analysis, given that gender was included in our hypotheses, we felt it made more sense to include gender as a dependent variable. We here certify that this alteration was not made in order to achieve any particular desired set of results, and that, when rerunning the data using ANCOVA, the primary effects of media type did not change.

<sup>3</sup> The lead author graduated and moved away for graduate school, necessitating discontinuation of data collection.