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Abstract

Women continue to be under-represented, stereotyped, and sexualized in online advertising when compared to men. [1] [2] [3] [4] Furthermore, there is evidence that such portrayals can have consequential real-world effects on how women behave and are treated. [5] [6] [7] [8] The goall of this study was to take a user-focused approach to understanding the impact of potential gender bias in online ads and to use resulting insights to start a discussion on, and inform, industry-wide 'good practices' for adoption.

In our study, we found that in the immediate term post-exposure to a single sexualized display ad immediately resulted in the following effects:

- Significantly higher Benevolent Sexism scores in men.
- A range of significant negative emotional reactions to sexualized ads among women. The degree of negative response was positively correlated with having a healthier self-concept, so that women with worse self-concepts were more likely to have a positive response to the sexualized ad.

These results have important long-term implications, particularly since research has shown that effects of images like these are cumulative over time. For example, long-term studies on media exposure indicated that repeated exposure to sexualized images in girls and adolescents can have significant long-term impact on their self-image. [9]

- Benevolent sexism is defined as a set of beliefs that include the idea women need protection and are inherently different, though complementary, to men. Benevolent sexism has been identified as a key, and generally hidden, contributor to gender disparities in the workplace. The measurable impact of a single sexualized image on this measure in men has wide-ranging potential implications for hiring and promotion practices overtime.
- Our findings imply that there are potentially significant, but unmeasured, negative responses, particularly by female users, to these images. Even though sexualized imagery in advertisements is often used to improve short term advertising effectiveness metrics such as brand recall, [10] these negative emotional responses could have significant implications for both user satisfaction, brand perception and long-term advertising efficacy.



Introduction

Advertising is ubiquitous in the modern world. Whether the ads are billboards on the highway or any variety of digital advertising formats, we are frequently exposed to the imagery and messages of advertising. The images in advertising often tend to reinforce societal stereotypes and ideals around gender, particularly for women. Much of the existing research on female representation, self-objectification and sexualization in advertising relates to print and other traditional media. [1] [2] [3] [4] However, while online advertising continues to grow (IAB reported 20% growth in internet advertising 2015 - 2014), we have found no studies that have looked specifically at the effect of gender portrayals and sexualization in online advertising on internet users.

There is a long history of research looking at how women are systematically sexualized and objectified in media generally, and in advertising in particular. [1] [2] [3] [4] [11] [12] There is a corresponding body of research on the societal implications of this sexualization and objectification. These effects are two-fold.

- First, studies have shown that this stereotyping, sexualization, and particularly self-objectification can significantly impact women by changing the way that they perceive themselves. [13] [14] For example, objectifying stimuli have been shown to measurably impact women's performance on STEM-related tasks, [5] and these effects have also been observed for other traditionally "male" competencies such as leadership. [16]
- Second, these images affect the way people view women in general. Multiple studies have found that objectification and sexualization leads to increased sexist attitudes, including, but not limited to women being seen as less competent than their male counterparts, particularly in the workplace. [6] [17] [18] [19] These objectifying and sexualizing depictions can lead to women being seen as less human. [20] [21] [22] [7] Men with a greater tendency to dehumanize women are more likely to show or excuse sexually aggressive behaviors. [23]



Given these findings, we conclude that it is possible and likely that online advertisements are showing content that indirectly promotes gender inequality, and in overt cases like hyper-sexualization, leads to negative publicity, user complaints and decreased long-term effectiveness of the advertisement itself. While clicks and other ubiquitous measures of short-term engagement have allowed for a host of useful data driven techniques to measure online advertising impact and efficiency tracking, the inherently short-term nature of these measurements may be missing critical information on longer term effects both for society, and for brand value. In this study, we wanted to identify, quantify and highlight the potential longer-term impact of sexualized and stereotyped online advertisements on sexist attitudes in both men and women, as well as the emotional responses to such media by female consumers.

Currently it is not obvious if the major online advertising platforms (Google, Bing, Yahoo, Facebook) [24][25][26][27] have specific policies on gender representation or sexualization in their products or advertisements (except when included under hate and violence) though Google has a policy against "imposing negativity in personalized advertising," which includes "negativity related to physical attributes or social interactions and Facebook does mention under "Shock Value" that "ads may not be shocking, sensational or disrespectful "which, it could be argued, gender objectification and sexualization are, although given their common usage it is unlikely that they are generally seen as such.

The FTC currently does not have any guidelines for gender representation or sexualization, although it has provided guidelines on other issues such as false or misleading ads (i.e. those not backed up by scientific evidence).

An opportunity exists to inform the industry and advertisers about the potential societal and commercial effects of advertising that sexually objectifies women.



Study Methodology

We conducted two separate surveys to analyze the effects of sexualized images in advertising on online users. Both surveys randomized among four different advertising images; two "control" images and two using fairly typical instances of the sexualized imagery often found in online advertisements. The first study looked at a representative sample of both men and women and scored both genders on a version of the Ambivalent Sexism Inventory [28] including measures of both hostile sexism (overtly negative views of women) and benevolent sexism (more subtly problematic). The second focused on female consumers and measured women's self-objectification levels $^{[13]}$ as well as their emotional response to the advertisements. For both surveys respondents were placed under cognitive load to more closely resemble the "distracted" state of mind exhibited by most users in an online advertising environment. Cognitive load was induced by asking respondents to recall a ten digit number while being exposed to either the sexualized or control images. Cognitive load was released by asking respondents to report the number prior to measurement of the main outcome variables in both surveys. (See appendix for a complete description of tools and surveys)



Study Results

The findings of Survey 1 (Sexism in male and female users) found that in men, exposure to a single ad with sexualized imagery (considered both "slightly inappropriate" and "inappropriate" images) significantly increased benevolent sexism in men (p < .05 in a linear regression including Age, and Experimental Treatment; Age was also a significant predictor of benevolent sexism). This difference is also significant at the .05 level for Complementary Gender Discrimination as an individual sub-component of benevolent sexism as well.

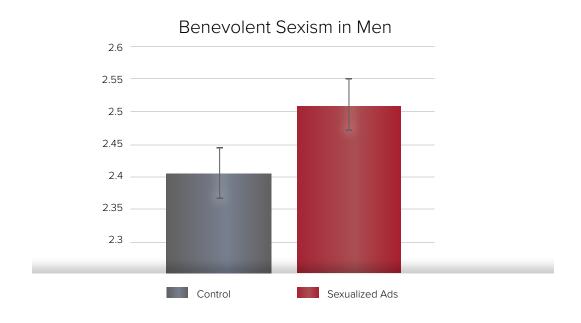


Figure 1: Benevolent Sexism results in men recorded after seeing one ad (n = 1273)



of Benevolent Sexism Control Sexualized Ads 2.9 2.7 2.5 2.3 2.1 1.9 1.7 Average of Protective Average of Average of Complementary Gender Paternalism Heterosexual Discrimation Intimacy

Effects of Sexualized Ads of Sub-Axes

Figure 2: Benevolent Sexism sub-group results in men recorded after seeing one ad

Given previous findings around the effects of benevolent sexism in men in the workforce by seniority, we also analyzed the effect of sexualized advertising on men by job title and found that the strongest effect of sexualized ads was mainly fournd in men in the "Entry Level" (n = 152) and "Intermediate Management" (n = 329) bins. These men had generally lower levels of benevolent sexism in the control condition, but **saw the largest increases when exposed to sexualized images** (p < .05, 2 sample t-test). On the other hand, we found that **men in middle management positions had the highest overall levels of benevolent sexism** and showed no significant treatment effects.



Sexualized Ads Control 2.7 2.6 2.5 2.4 2.3 2.2 2.1 Entry Level Intermediate Middle Owner/ Senior Management Management Executive/ C-Level

Benevolent Sexism Effect by Job Level in Men

Figure 3: Benevolent Sexism results by job level recorded after seeing one ad

While women exposed to sexualized ads did show a somewhat increased level of both hostile and benevolent sexism, these were not statistically significant, and we did not find significant differences in hostile sexism for male users.

The results of **Survey 2**: Self objectification and ad responses in female users: the likability of the sexualized ad was lower in women, and those women with positive responses to the sexualized ad had higher levels of self-objectification.

Result 1: Sexualized ads were considered more unlikable, generated lower interest in the advertised product, and generated more negative emotional responses than the control ads in female users. These differences were significant for all four measures (p << .001, regression on treatment and age).

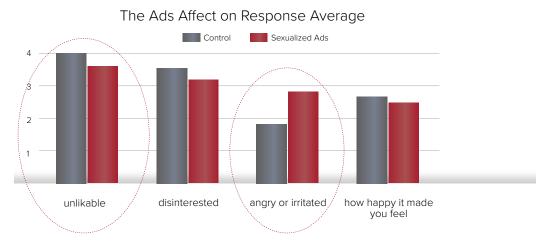


Figure 4: Likability of ads recorded for women after seeing one ad (n = 1915)



Result 2: Women who were exposed to sexualized ads and reported more positive responses to sexualized ads were also more likely to have high-levels of self-objectification (correlation between self-objectification and liking the sexualized ads, r = .11, p < .01). Specifically, women with measurably healthier self-concepts are the ones most likely to respond negatively to sexualized imagery. While the current study cannot show causality (i.e. whether seeing the ads led the women to respond in a self-objectifying manner vs. women who have higher self-objectification find these ads appealing), this result is particularly interesting in light of previous studies that found that exposure to these kinds of images can engender self-objectification. [14] since the current result indicates that some advertisers using these images might also benefit from women's self-objectification.

Aggregate Self Objectification by Likabillity for Treatment Group

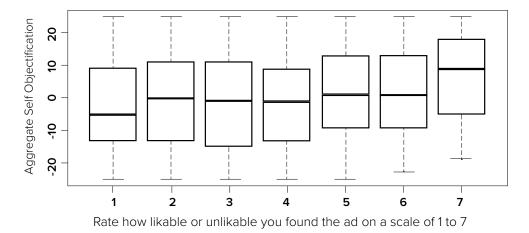


Figure 5: Self-objectification in relation to their associated likeability of ad, women only

This finding suggests the possibility of a vicious cycle where sexualized ads encourage higher levels of self-objectification, which in turn can potentially lead to more positive responses to sexualized ads i.e. repeated exposure to these sorts of ads may increase their efficacy, but at the cost of healthy self-perception among certain types of women who are viewing them.



Discussion

The psychological literature currently indicates that objectification and sexualization of women in the media can have wide-ranging effects, from increasing the rates of eating disorders, [13] increasing the likelihood of sexual harassment, [23] or affecting women's performance and evaluation in the workplace. [5] [6] [8]

Benevolent sexism in men negatively impacts women's success in the workplace. Experiments show that men with high levels of Benevolent Sexism assign less challenging work to women. Studies in both the energy industry and Wall Street show that while women received more positive comments in written evaluations this did not translate into tangible gains: they were not promoted or considered leadership material, indicating that complimentary language was a result of benevolent sexism.^{[29][30]}

In this study we have shown that a single, short exposure to a sexualized ad has a measurable impact on sexism in men. This is especially true for men in entry level and intermediate roles, and it could be argued that these men are most likely to interact with young women who are starting their careers. In practice men are exposed to many such images in a given day.

Potentially reflecting the aggregating impact of these images (in addition to potential generational effects), middle managers showed the highest levels of benevolent sexism. The cumulative impact of these sexualized images on benevolent sexism in male peers and managers could have far-ranging impact for women in the workplace generally, and in STEM careers specifically.

Beyond the social implications of the sexualized imagery, there may be significant commercial implications around the simple effectiveness of the ad. While the common belief is that these ads may generate more clicks, we have shown that they may be generating significant negative responses which largely go unmeasured in digital environments. These intense emotional responses to ads can be linked to longer term brand attitude. [31] [32] The significant negative response to advertisements that we observed in our study mirrors previous findings with respect to women's negative responses to sexualized imagery in print ads, which show that women often have strong negative reactions to these sorts of creative treatment. [33] [34] [35]

This study was an exploratory assessment of the sexualization of women in online advertising. Further research is recommended in order to identify and propose next steps and solutions for advertisers and online advertising companies.



Recommendations for Further Research

Based on current findings and areas not assessed, we suggest pursuing further research in the following areas:

Expand study to cover prevalence and degree of certain types of gender portrayals in online images

Objectification

- Responses from women in different geographies. Women portrayed as subjects with agency vs. as objects (e.g., as decoration).
- Investigate the between-group differences in self-objectification (i.e. extend beyond findings already recorded for self-objectification and the relationship with the likability of the ad).

Stereotypes

 Women portrayed in stereotypical roles (e.g. as subordinate vs. leaders, in domestic vs. work environments, etc.), similar to Lean In's collaboration with Getty Images, 2014

Representation

• Gender proportions in the world portrayed by advertising. More research recommended for understanding LGBT portrayal in ads.

Sexualization

• Investigate male portrayals of sexualization across a spectrum defined by established criteria with gender-specific modifications.

Business Impact

Determine whether online advertisements are showing content that indirectly
promotes gender inequality, and in overt cases like hyper-sexualization, leads
to negative publicity and user complaints, decreased long-term effectiveness
of the advertisement and possibly, regulatory scrutiny.



Evaluate impact of specific gender-centric triggers on male and female notions of gender.

Self-Objectification (longer-term)

Effect - Self-Objectification. Implied Social Effects: lower confidence/self-esteem, belief in one's capabilities and cognitive performance; increased eating disorders, early onset of sexuality.

Women in STEM (implied by current findings)

Effects - Benevolent Sexism, Implicit gender biases in STEM. Implied Social effects: decreased self-selection and mentorship of women in STEM, decreased tendency to recruit, hire, reward or promote women in STEM.

Women in Leadership (implied by current findings)

Effects - Benevolent Sexism and Attribution of leadership traits to men vs. women. Implied social effects - Decreased presumption of competence and assessment in women and social penalties for assertive behavior and other leadership traits.

Test related hypotheses:

- Advertisers use sexualized images because it's the norm (and not because they result in higher revenues or ROIs)
- Advertisers Ads would be as successful, if not more so, if they used less sexualized images
- Advertisers would be more likely to improve the quality of their ads (in terms
 of stereotypes and sexualization) if an industry spokesperson (eg IAB) took a
 stand to highlight this issue and identify areas for improvement
- Advertisers use sexualized images in Gaming Ads because they believe the stereotype of male gamers and focus on males as their target audience, though current rates are almost 50/50 [36]
- Improving the quality of our Ads in terms of gender representation will have long-term neutral to positive effects on the number of women going into STEM and neutral to reduced sexual aggression in men



Appendix

Detailed Tools and Survey Descriptions

SURVEY 1

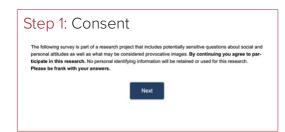
U.S. Representative demographics: Female: 52%, Male: 48%, ages representative of U.S. demographics

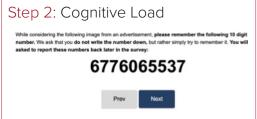
SURVEY 2

Women, U.S. residents - ages representative of U.S. demographics

Survey Demographics and Execution Details

Survey respondents were recruited using Survey Monkey and responded to the survey online. In return a small donation was made to a cause of their choice.











0 0							
Step 5: Survey Instrument 2. Below is a series of statements concerning men and women and their relationships in contemporary society. Please indicate the degree to which you agree or disagree with each statement on a scale of 0 to 5.							
There are actually very few women who get a kick out of teasing men by seeming sexually available and then refusing male advances.	0	0	0	0	0	0	
People are often truly happy in life without being romantically involved.	\circ	0	0	0	0	0	
Despite accomplishment, men are incomplete	0	0	0	0	0	0	



Exhibits

Stimuli images to proxy ad copies were created from stock photos from Shutterstock (Signed model release filed with Shutterstock, Inc. copyright differs) to represent the range of control (inanimate object), control (woman in work outfit), to slightly inappropriate (clothed, but sexual pose and skin showing) and inappropriate (suggestive pose and a lot of skin showing).

Control (inanimate object)

Accessories for every look



BY MKKMC

Slightly inappropriate



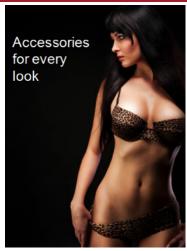
BY VALUA VITALY

Control (woman in work outfit)



BY YURALAITS ALBERT

Inappropriate



BY SERGEY MIRONOV



Survey 1: Sexism in male and female users

In this survey our primary measure was the Ambivalent Sexism Inventory.

To determine the level of hostile and benevolent sexism, users were shown statements in randomized order and asked to rate their agreement on a scale from 0-5 where 0 = totally disagree and 5 = completely agree as per the Ambivalent Sexism Inventory, answers to these questions were then used to compute numerical scores for levels of both hostile and benevolent sexism.^[28]

Notably this scale includes measures of both hostile sexism, which measures more overtly negative beliefs about women, and benevolent sexism, which is much more likely to go unrecognized. Benevolent sexism covers a variety of views that generally fall under three separate headings, all measured by the inventory:

- Protective Paternalism the belief that women need to be sheltered and protected
- Complementary Gender Discrimination the belief that women and men fill "separate but equal" roles in the world
- Heterosexual Intimacy the belief that men are incomplete without women

Benevolent sexism

- Women have a quality of purity that few men possess
- Women should be cherished and protected by men
- Despite accomplishment, men are incomplete without women
- Women have a more refined sense of culture and taste
- Men should sacrifice to provide for women
- A good woman should be set on a pedestal
- Every man ought to have a woman he adores
- Women, compared to men, tend to have a superior moral sensibility
- In a disaster, women ought not necessarily be rescued before men.
- People are often truly happy in life without being romantically involved.
- Men are complete without women

The benevolent sexism score, using the above, is the average of all options on the 0 - 5 range except for the last 3 options, for which the inverse of scoring is averaged.



Hostile sexism

- Women exaggerate problems they have at work
- Women are too easily offended
- Women seek to gain power by getting control over men
- Women fail to appreciate all that men do for them
- Feminists are making entirely reasonable demands of men
- Very few women enjoy teasing men by seeming sexually available and then refusing male advances

The hostile sexism score using the above, is the average of all options on the 0 - 5 range except for the last 2 options, for which the inverse of scoring is averaged.

These more subtle forms of sexism are often responsible for gender disparities in the workplace and classroom. [8]

To assess the potential effects of sexualized advertising images on sexism in users we compared levels of hostile and benevolent sexism, as well as the three subscores within benevolent sexism after exposure to control vs. sexualized ads in both men and women.



Survey 2: Self-objectification, and ad responses in female users

The primary measures for Survey 2 were "self-objectification", the tendency of women to value appearance-based, rather than competence-based, attributes in themselves, as well as their responses to the advertisement itself - including how much they liked the ad, how interested they were in the advertised product, as well as both negative and emotional responses to the ad.

To determine the level of self-objectification of women, survey respondents were shown attributes in a randomized order which align with vanity or competence.

Survey participants were asked; "We are interested in how people think about their bodies. The question below identifies 10 different body attributes. We would like you to rank order these body attributes from that which has the greatest impact on your physical self-concept (rank this a "9"), to that which has the least impact on your physical self-concept (rank this a "0"). "

[Options were in randomized order for each participant.]

- physical attractiveness
- weight
- sex appeal
- body measurements (e.g. chest, waist, hips)
- firm, sculpted muscles
- strength
- physical coordination
- health
- physical fitness level
- energy levels (e.g. stamina)



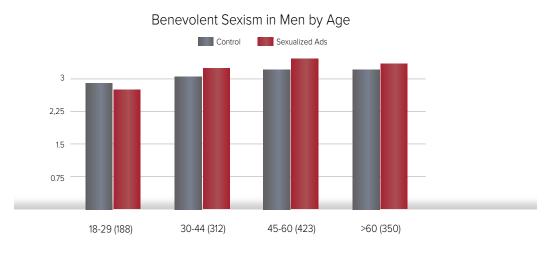
Category	Factor
Vanity	physical attractiveness weight sex appeal body measurements (e.g. chest, waist, hips) firm, sculpted muscles
Competence	strength physical coordination health physical fitness level energy levels (e.g. stamina)

Table 1: Self-objectification assessment table. [13]

Higher scores related to the vanity attributes and lower scores related to competence are related to higher self-objectification and lower self-concepts. Conversely, lower scores related to the vanity attributes and higher scores related to competence are related to lower self-objectification and healthier self-concepts. [13]

Additional Analysis and Graphs

Age is also significant (significant at 0.01 Level) in determining Benevolent Sexism Scores. Men aged 30-60 saw the largest increase in Benevolent Sexism Scores after exposure to the Sexualized Ad while control levels of Benevolent Sexism increase with age.





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