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Instagram Sexualization: When posts make you feel dissatisfied and wanting to change your body

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Abstract

Instagram is a visually centered social media that involves the presence of sexualized imagery posted by users. Such Instagram sexualization may have a negative impact on women's body image. The present study examined whether exposure to Instagram sexualization, namely posts of sexualized women along with appearance-related comments, affected women's body satisfaction and cosmetic surgery intentions. In doing so, it also considered the moderating role of Instagram Addiction Proclivity (IAP). Young Italian female participants ($N = 247$) were randomly exposed to one of four video conditions resulting from the combination of either sexualized or non-sexualized women's pictures on Instagram, paired with appearance or neutral comments. In the sexualized picture condition participants' body dissatisfaction increased compared to pre-exposure levels and to the non-sexualized picture condition. The type of comments did not affect participants' body satisfaction. Moreover, IAP predicted cosmetic surgery intentions and moderated their reactions to Instagram content. Indeed, the higher the IAP, the higher the cosmetic surgery intentions of participants viewing sexualized pictures with neutral comments and non-sexualized pictures with body appearance comments. These findings suggest that female Instagram users should be aware of the negative impacts of viewing sexualized imagery as well as the role that IAP may play.

Keywords: Instagram; objectification; sexualization; body dissatisfaction; cosmetic surgery; Instagram Addiction.

Social media portraying idealized, and often sexualized, female bodies represent an important risk factor for the emergence of body image concerns among young women (Saiphoo & Vahedi, 2019). Among the photo-based social networks, Instagram is raising in popularity (Twenge et al., 2019) and it frequently includes sexualized targets (Deighton-Smith & Bell, 2018). Instagram also allows its users to make and view comments on posts that, when referring to the target's appearance, contribute to women's negative body image (Tiggemann & Barbato, 2018). However, research investigating the simultaneous impact of Instagram sexualized imagery and comments on women's appearance issues is scarce. The present study investigated the role these two aspects play on women's body satisfaction and cosmetic surgery intentions.

Sexualized Instagram: Pictures and Comments

According to the Objectification Theory (Fredrickson & Roberts, 1997), living in a context where women's bodies are sexualized by media contributes to women's sexual objectification, which occurs whenever they are evaluated for their appearance and treated as bodies that exist for others' pleasure. When visual imagery is concerned, the extent to which a woman is perceived as a sexual object depends on the level of sexualization (see sexualization-objectification link, Bernard et al., 2020). Sexualization has been often used as a synonym of sexual objectification, but it represents a broader concept that women are held to a narrow standard that equates physical attractiveness with being sexy (Ward, 2016). Hence, it refers to the extent to which a woman is presented as scantily dressed, posing sexy, and with suggestive facial expressions. To an increase of sexualization corresponds higher sexual objectification (Fasoli et al., 2018). Importantly, viewing sexualized media leads women to consider themselves as objects/bodies (i.e., self-objectification) and increases their body dissatisfaction and internalization of thin body ideals (see Ward, 2016). Social media seem to contribute to the latter phenomenon. Body concerns and body comparisons emerge when navigating social media (Fardouly & Vartanian, 2016), especially those who are visually centered (Marengo et al., 2018). In this regard, Instagram exposes individuals to different types of female imagery (e.g., thin ideals, photo edited pictures, fit inspirational, body positive) that,

in turn, affect women's body image (Brown & Tiggemann, 2016; Cohen et al., 2019; Kleemans et al., 2018). However, previous studies mostly considered targets' representation of the thin ideal rather than sexualization (see Vendemia & DeAndrea, 2018 for one exception), an aspect that warrants further investigation.

Not only images, but also comments emphasizing physical appearance and sexual readiness represent instances of sexualization and objectification (Calogero et al., 2009). Research has mostly examined Instagram verbal content in the form of captions promoting body acceptance or disclaiming unrealistic body images that increase positive body image (Davies et al., 2020). Contrarily, viewing appearance comments (e.g., great body!) that are inherently objectifying elicits body dissatisfaction in young women (Tiggemann & Barbato, 2018) and emphasizes thin body idealization (Kim, 2020). Thus far, research has focused on Instagram images and comments separately. One notable exception looked at the interplay between facial appearance-related comments and selfies portraying women with or without make-up. The type of picture, but not the type of comment, affected body satisfaction (Politte-Corn & Fardouly, 2020). However, studies examining the combination of body sexualization and verbal sexualization referring to the body are missing, a research question tackled in the present study.

Cosmetic Surgery Intentions

Another aspect that has received very little attention is whether Instagram imagery impacts on women's cosmetic surgery intentions. Interestingly, cosmetic surgeries, namely optional procedures usually done to improve body appearance, have increased in recent years (Statista, 2019) paralleling the raise of visual platforms such as Instagram that make sexualization easily available (Twenge et al., 2019; Deighton-Smith & Bell, 2018). Research showed that sexually-objectifying experiences in daily life predict young women's acceptance as well as intention of having cosmetic surgery (Calogero et al., 2010; Vaughan-Turnbull & Lewis, 2015) and priming women with objectification-related words increase such intentions (Calogero et al., 2014).

Besides interpersonal objectifying experiences, media may contribute to increases in women's interest toward cosmetic surgery. Correlational research demonstrated that considering mass media as an influential source of information (Swami, 2009), watching appearance- and cosmetic-focused TV programs (Sharp et al., 2014), and using social media (de Vries et al., 2014) positively predict cosmetic surgery desires among young women. Moreover, viewing Instagram images of cosmetically enhanced female faces increases women's cosmetic surgery intentions, especially among those who intensively use Instagram (Walker et al., 2019). Still, research on Instagram sexualization effects on cosmetic surgery intentions is not available, a gap addressed by the present research.

Instagram Addiction Proclivity

Recently it has been put forward that the nature of Instagram use is an important individual difference to look at when examining the effects of Instagram imagery (Walker et al. 2019). Indeed, Instagram use has raised over time and is linked with body image (Saiphoo & Vahedi, 2019). However, how an individual uses Instagram varies from being a sporadic use to a compulsive addictive use (Kircaburun & Griffiths, 2018). Instagram Addiction (IA) represents a psychological dependency on using Instagram that may interfere with activities and duties and cause negative consequences for the individual (Ponnusamy et al., 2020). IA has become a social issue that could not be ignored when examining body image (Ponnusamy et al., 2020). First, heavy Instagram use predicts body dissatisfaction (Ahadzadeh et al., 2017) as well as cosmetic surgery proclivity (e.g., Walker et al., 2019). Second, IA or problematic Instagram use is directly linked with adolescents' body dissatisfaction (Yurdagül et al., 2019) and moderates the relationship between appearance-related photo activity on Instagram and body dissatisfaction (Lee, 2018). Given that the diagnosis of IA is not officially acknowledged (Ponnusamy et al., 2020) and researchers are moving away from "addiction" terminology regarding digital technology use (e.g., Montag et al., 2021), we prefer to use the term IA proclivity (IAP). We reasoned that IAP may intensify the impact of Instagram sexualized posts on women's body concerns due to their stronger reliability on Instagram as a

source defining body-related beliefs. To our knowledge, the moderating role of IAP when Instagram sexualized imagery and appearance-related comments are concerned has not yet been investigated.

Overview

This study examined whether exposure to sexualized (vs. non-sexualized) women's pictures posted on Instagram, together with appearance-related (vs. neutral) comments, increased women's body dissatisfaction and cosmetic surgery intentions. As in previous work, we focused on young women since young adults are those who mostly use Instagram (Twenge et al., 2019) and are affected by media sexualization exposure (Ward, 2016). In line with Tiggemann and Barbato (2018), we expected higher body dissatisfaction in the appearance comment condition than in the neutral comment condition. Extending previous work on media sexualization (Ward, 2016), we also expected greater body dissatisfaction after exposure to sexualized than non-sexualized Instagram's pictures. Such effects were expected to be the greatest when sexualized pictures were combined with appearance-related comments. We also examined whether similar patterns of results would occur for cosmetic surgery intentions. Finally, we investigated whether IAP moderated the above-mentioned effects. We hypothesized that the higher the IAP, the higher the negative impact of sexualized images and appearance comments on women's body satisfaction and cosmetic surgery intentions.

Method

Participants

The sample included 247 Italian young females¹²³. As shown in Table 1, participants were mostly heterosexual (88%), University students (61%), with high levels of education (51%). The sensitivity power analyses ($\alpha = .05$, Power $1 - \beta = .80$, $N = 247$) showed minimal detectable effects

¹ We excluded from the initial sample ($N = 255$) those who did not attend to the comments below the images ($n = 8$).

² $n = 3$ identified as non-binary and were retained in the analyses.

³ No BMI difference across conditions ($F(1, 239) < 1.69$, $ps > .194$, $\eta^2_p < .01$) emerged.

(MDE) ranging between Cohen's $f = .11-.17$, which fell in the small effect area. This study was part of a larger research project on body image and Instagram use; data on Instagram features obtained with data-mining approach are not presented here (contact the authors for more information).

Materials

Instagram Addiction Proclivity (IAP). Participants completed the Instagram Addiction Scale (IAS, Kircaburun & Griffiths, 2018) containing 15 items assessing compulsive Instagram use (e.g., “How often do you try to cut down the amount of time you spend on Instagram and fail?”) and its social effect (e.g., “How often do you prefer the excitement of Instagram instead of being with your close friends?”). Responses were provided on a 6-point Likert scale from 1 (*ever*) to 6 (*always*). Exploratory and confirmatory factor analyses supported the validity and reliability of IAS (Kircaburun & Griffiths, 2018). Average scores were calculated. The higher the score, the higher the IAP ($\alpha = .84$; $M = 1.94$, $SD = .55$, range = 1-4.20).

Experimental manipulation. Fifteen Instagram images were presented in a 4-minute video. Participants were randomly assigned to watch full-body pictures of light skin-colored women portrayed either in a sexualized or non-sexualized fashion, along with comments referring to either their body-appearance (appearance comments) or to the background locations (neutral comments). Given that in Italian society the majority of the population has a Caucasian ethnicity, we used sample images from women with a light skin color to match the skin color of our targeted participants. We operationalized sexualization as in previous studies (Fasoli et al., 2018; Hatton & Trautner, 2011). The sexualized pictures depicted women revealing their bodies (e.g., in bikinis) while engaging in sexual poses (e.g., showing the behind in a suggestive way). Their level of sexualization did not reach the level of hypersexualization observed in mass media (e.g., they were not naked or mimicking sexual acts; see Hatton & Trautner, 2011). Non-sexualized pictures showed fully clothed women in neutral poses (e.g., standing in front of the camera without suggestive poses or facial expressions). In line with previous literature (Bernard et al., 2020) and our pretests (see

Appendix in Supplementary material), only sexualized pictures elicited a perception of sexual objectification. However, both sets of stimuli portrayed thin and similarly attractive women (see Appendix in Supplementary material). Hence, our stimuli were distinguishable in terms of objective sexualization and perceived objectification but not attractiveness.

Appearance-related comments were objectifying comments in nature and mimicked comments made in everyday life (Holland et al., 2017). Similarly to Tiggemann and Barbato (2018), they consisted of positive appreciations of the woman's specific body parts or sensuality (e.g., "Wow, great legs!", "You are so sexy"). The neutral comments referred to appreciation of the locations or specific features of the view/background (e.g., "Beautiful beach!", "Wow, wonderful sunset"). Comments were adapted to each picture and were similar in wording, style, and length. Each image was shown for 15 seconds and then slid upwards with the emergence of the next picture, mimicking the Instagram browsing. Each picture was presented as an Instagram post with all its features (i.e., frame, logo, profile icon, account holder name). The name of the person who commented the post was obscured for allegedly privacy reasons.

Body dissatisfaction. Body dissatisfaction and mood were assessed before and after the experimental manipulation via the state Visual Analogue Scale (VAS; Heinberg & Thompson, 1995). Participants indicated whether they felt satisfied with their physical appearance (reversed-coded), satisfied with their weight (reversed-coded), as well as depressed, anxious, angry, confident (reversed-coded), and happy (reversed-coded) in that moment on a thermometer from 0 (*not at all*) to 100 (*very much*). The items were randomized. Two body dissatisfaction indexes were created by averaging the two items measured pre, $r(247) = .80, p < .001$, and post, $r(247) = .87, p < .001$, manipulation. Similarly, the five mood items were averaged to form two indexes measuring pre ($\alpha = .72$) and post ($\alpha = .75$) manipulation negative mood. However, they were not considered any further since the manipulation did not affect them. VAS is a measure sensitive to small changes, difficult to recall in repeated assessments, and has been largely used in media and body satisfaction studies (Tiggemann & Barbato, 2018).

Cosmetic surgery intentions. The 5-item Consider subscale (e.g., “In the future, I could end up having some kind of cosmetic surgery”) of the Italian version of the Acceptance of Cosmetic Surgery Scale (Stefanile et al., 2014) assessed cosmetic surgery intentions. Answers were provided on a 7-point Likert scale from 1 (*completely disagree*) to 7 (*completely agree*). Ratings were averaged so that the higher the score, the higher the cosmetic surgery intentions ($\alpha = .91$). The scale has good convergent and discriminant validity (Stefanile et al., 2014).

Procedure

Recruitment happened both in person (e.g., at the University libraries) and via social media posts. Participants were asked to volunteer for a study on Instagram use. The inclusion criteria were being a female and having an Instagram account. Those who volunteered to participate were booked for the experiment. The experiment was conducted individually by female researchers in quiet labs or private homes using laptops or tablets. First, participants read the study information page presenting the cover story and introducing the procedure, and signed a written consent form. The cover story introduced the study as investigating short-term memory for Instagram images presented in a video. To reduce suspicion on the pre/post measurements, participants were told that they would be asked to complete ostensibly unrelated tasks aimed at interfering with their memory process and, for the same reason, materials may be on similar topics. Hence, participants completed the pre-exposure measure of body dissatisfaction. Then, they were randomly assigned to watch one of four videos defining the experimental condition. Afterwards, they completed the post-exposure measures of body dissatisfaction and the cosmetic surgery intentions scale (for other measures not affected by our manipulation see the Appendix). Next, participants answered a number of memory questions about the video including attention check items. Finally, participants reported their demographics, were thanked, debriefed, and provided final consent to data use. At least 3 days prior to the experimental session, participants completed an online study allegedly aiming at validating new attitudes scales, which included the IAS ($n = 36$ participants did not participate). The study was approved by the University of Padova, School of Psychology ethics committee.

Results

In all the analyses, we included BMI as a covariate to control for its effects. BMI is associated with body image concerns (e.g., Calogero et al., 2009; Kim, 2020; Politte-Corn & Fardouly, 2020).

Instagram exposure effects

Body dissatisfaction. A 2 (picture: sexualized vs. non-sexualized) x 2 (comment: appearance vs. neutral) x 2 (time: pre vs. post-exposure; within subjects) mixed ANCOVA was conducted on body dissatisfaction. BMI was a significant predictor, $F(1, 238) = 35.55, p < .001, \eta^2_p = .13$. Importantly, the Picture x Time interaction was significant, $F(1, 238) = 7.33, p = .007, \eta^2_p = .03$. Participants' body dissatisfaction increased following exposure to sexualized pictures compared to pre-exposure levels, but this was not the case in the non-sexualized picture condition (see Table 1). No other significant effects emerged, $F_s(1, 238) < 2.87, p_s > .091$.

To test the difference between conditions and allow us to compare our findings with previous studies, we followed Tiggemann and Barbato's (2018) approach and conducted an ANCOVA on post-exposure body dissatisfaction controlling for pre-exposure body dissatisfaction and BMI. The significant main effect of picture, $F(1, 238) = 7.17, p = .008, \eta^2_p = .03$, indicated that participants exposed to sexualized pictures reported greater body dissatisfaction than participants exposed to non-sexualized pictures (see Table 1). No other significant effects emerged, $F_s(1, 238) < 2.79, p_s > .096$.

Cosmetic surgery intentions. A 2 (picture: sexualized vs. non-sexualized) x 2 (comment: appearance vs. neutral) ANCOVA with BMI as a covariate showed no significant effects, $F_s(1, 238) < .80, p_s > .371$. Participants' cosmetic surgery intentions were not directly affected by our manipulation.

IAP moderation effects

Using PROCESS (Model n.3; Hayes, 2013), we tested the moderating role of IAP on each dependent variable. We entered picture (sexualized = 1, non-sexualized = 0), comment (appearance

= 1, neutral = 0), IAP (continuous, centered), and their two-way and three-way interactions as predictors.

Since body dissatisfaction was a pre-post measure, we created a differential index by subtracting body dissatisfaction scores pre-exposure from post-exposure scores, so that the higher the index the higher the body dissatisfaction post-manipulation exposure compared to pre-exposure. The main effect of picture was the only significant result ($b = 4.18$, $t = 2.89$, $p = .004$), overall model, $F(8, 198) = 1.90$, $p = .062$, $R^2 = .07$.

Concerning cosmetic surgery intentions, as shown in Table 2, IAP emerged as a significant positive predictor. Additionally, the three-way interaction of Picture x Comment x IAP was significant and significantly increased the amount of variance explained ($\Delta R^2 = .02$, $p = .044$). As shown in Figure 1, the higher the IAP, the higher participants' intentions to undergo cosmetic surgery after exposure to both sexualized pictures with neutral comments ($b = .84$, $t = 2.17$, $p = .031$) and non-sexualized pictures with body appearance comments ($b = 1.15$, $t = 2.21$, $p = .028$).

Discussion

This research extends previous literature on the effects of viewing Instagram imagery in several ways. First, Instagram sexualization increased young females' body dissatisfaction compared to pre-exposure levels and to exposure of non-sexualized pictures of similarly attractive women. Thus, we showed that Instagram sexualization is an influential factor above and beyond thin-body ideal representation and attractiveness as observed in previous work (Brown & Tiggemann, 2016). Thus, this result provides further support for the application of the objectification theory framework to social media and contributes to the research on sexualized mass media (Ward, 2016). In this respect, as in our study, the level of social media sexualization may be less extreme and more socially acceptable than the hypersexualization observed in other media (Hatton & Trautner, 2011). Therefore, our results imply that viewing 'non-extreme' sexualized peers on Instagram can have a negative impact on body image. Second, contrary to previous research (Tiggemann & Barbato, 2018), appearance-related comments did not affect women's body

satisfaction. As one of the first studies combining social media images and comments, it appears that the visual nature of Instagram is more influential than comments on women's body satisfaction. This result is in line with research showing that face focused imagery (i.e., selfies with or without make-up) is more effective than comments (Politte-Corn & Fardouly, 2020). Third, IAP was not only a predictor of cosmetic surgery intentions, but also modulated women's reactions to Instagram content: the higher the IAP, the higher the cosmetic surgery intentions of women viewing sexualized pictures with neutral comments and non-sexualized pictures with body appearance comments. This novel result is important because it extends the correlational literature demonstrating a link between objectifying experiences and cosmetic surgery intentions (Calogero et al., 2010). Here, we showed that higher IAP levels influence women's decisions to undergo cosmetic surgery after being exposed to objectifying features (sexualized imagery or objectifying comments) appearing on Instagram feeds.

Further research should corroborate the overall pattern of results. Indeed, our effect sizes were in line with previous work on appearance-related comments and Instagram imagery (Politte-Corn & Fardouly, 2020; Tiggemann & Barbato, 2018), but were smaller than studies involving thin ideal or body positivity imagery (Cohen et al., 2019). Moreover, possible underlying mechanisms need to be considered. For instance, appearance-based social comparison is a mediator of Instagram use and body dissatisfaction (Brown & Tiggemann, 2016) and hence may be involved in Instagram influence on cosmetic surgery intentions. It is also worth noting that our sample consisted of white Italian women viewing Instagram images of white women, thus we cannot generalize our results to other ethnicities and countries. Finally, research should investigate whether Instagram male sexualization affects men similarly.

Given the Instagram rise in popularity, and the increasing number of women having cosmetic procedures, our findings are particularly worrisome and call for practical interventions. Educating young women to view media critically seems to protect them from media's negative effects (McLean et al., 2016). Alternatively, following Instagram accounts spreading body-positive

content may counteract Instagram sexualization effects given that body-positive messages improve body satisfaction (Cohen et al., 2019).

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Table 1

Demographic Information and ANCOVAs Results for Body Dissatisfaction by Picture and Time of Assessment.

Demographic Information		
<i>Sexual Orientation % (n)</i>	Heterosexual	88% (217)
	Lesbian	3% (7)
	Bisexual	7% (17)
	Other/no answer	2% (6)
<i>Education % (n)</i>	High School or lower degree	49% (122)
	BSc degree	38% (93)
	MSc degree	13% (32)
<i>Instagram usage % (n)</i>	Less than 10 min per day	5% (11)
	10-30 min per day	21% (44)
	31-60 min per day	28% (59)
	More than 1 hr per day	46% (96)
<i>Occupation % (n)</i>	Student	61% (151)
	Worker	22% (55)
	Working student	14% (35)
	Unemployed	3% (4)
<i>Age</i>	Range (19-32)	$M = 23.36$ $SD = 2.35$
<i>BMI</i>	Range (15.62-58.13)	$M = 22.00$ $SD = 3.97$
ANCOVAs results		
<i>Picture</i>		
<i>Time</i>		
	Non-sexualized $M (SD)$	Sexualized $M (SD)$
Pre	49.62 _a (26.36)	49.42 _a (27.96)
Post	49.97 _a (26.20)	53.40 _b (29.25)
Adjusted post $M (SE)$	49.93 _a (.94)	53.49 _b (.94)

Note: Means across each column (and the row for Adjusted post means) that do not share the same subscript are significantly different from each other at $p < .05$ level (Bonferroni-adjusted).

Table 2

Moderation model with Picture (sexualized = 1, non-sexualized = 0), Comment (appearance = 1, neutral = 0), IAP (continuous, centered) and Their Two-Way and Three-way Interactions as Predictors of Cosmetic Surgery Intentions.

	<i>b</i>	<i>SE b</i>	<i>t</i>	<i>p</i>	<i>F(df)</i>	<i>R</i> ²
Model				.077	1.81(8,198)	.07
Intercept	2.38	.91	2.62	.009		
BMI	.04	.04	.98	.327		
Picture	-.35	.24	-1.43	.153		
Comment	-.15	.25	-.62	.532		
IAP	.53	.23	2.30	.023		
Picture X Comment	-.69	.49	-1.40	.163		
Picture X IAP	-.06	.46	-.13	.900		
Comment X IAP	.28	.46	.61	.545		
Picture X Comment X IAP	-1.87	.92	-2.03	.044		

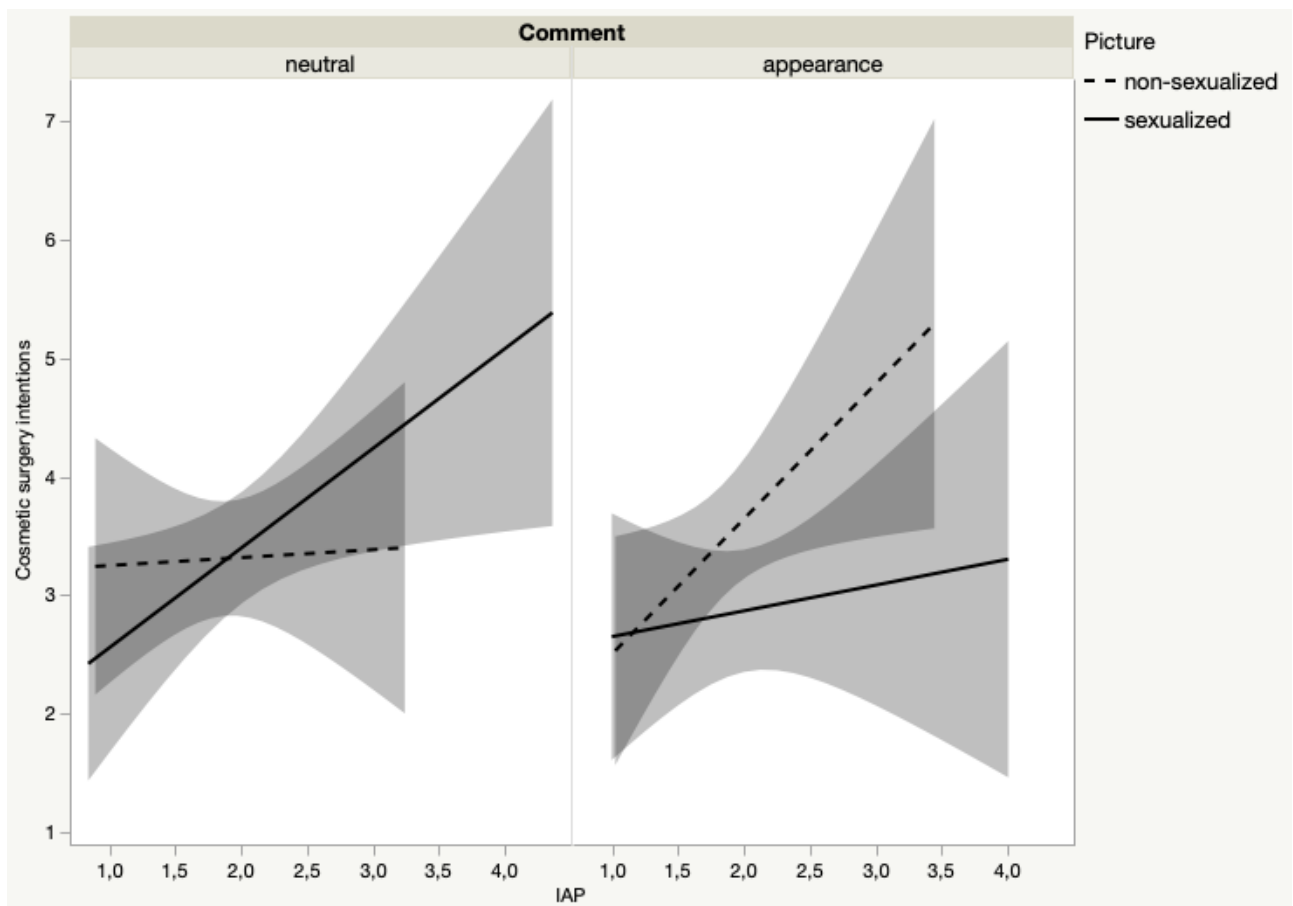


Figure 1. Cosmetic Surgery Intentions as a Function of Picture (Non-sexualized vs. Sexualized), Comment (Neutral vs. Appearance) and Instagram Addiction Proclivity (IAP).