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DOI

[10.1007/s10508-016-0902-4](https://doi.org/10.1007/s10508-016-0902-4)

Publication date

2017

Document Version

Final published version

Published in

Archives of Sexual Behavior

[Link to publication](#)

Citation for published version (APA):

Rousseau, A., Beyens, I., Eggermont, S., & Vandenbosch, L. (2017). The dual role of media internalization in adolescent sexual behavior. *Archives of Sexual Behavior*, 46(6), 1685-1697. <https://doi.org/10.1007/s10508-016-0902-4>

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The Dual Role of Media Internalization in Adolescent Sexual Behavior

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Received: 30 June 2015 / Revised: 4 November 2016 / Accepted: 10 November 2016 / Published online: 16 December 2016
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Abstract Sexualizing media content is prevalent in various media types. Sexualizing media messages and portrayals emphasize unattainable body and appearance ideals as the primary components of sexual desirability. The internalization of these ideals is positively related to self-objectification and sexual body consciousness. In turn, self-objectification and sexual body consciousness affect adolescents' sexual behavior, albeit in opposing directions. While objectifying self-perceptions are linked to higher levels of sexual behavior, body consciousness during physical intimacy is linked to lower levels of sexual behavior. Based on this knowledge, the present three-wave panel study of 824 Belgian, predominant heterosexual adolescents ($M_{\text{age}} = 15.33$; $SD = 1.45$) proposes a dual-pathway model that investigates two different pathways through which the internalization of media ideals may impact adolescents' sexual behavior. An *inhibitory* pathway links media internalization to lower levels of sexual behavior through sexual body consciousness, and a *supportive* pathway links media internalization to higher levels of sexual behavior through self-objectification. Structural equation analyses supported the proposed dual-pathway, showing that the impact of media internalization on adolescents' sexual behavior proceeds through an inhibitory

pathway and a supportive pathway. Regarding the supportive pathway, media internalization (W1) positively predicted sexual behavior (W3), through valuing appearance over competence (W2). Regarding the inhibitory pathway, media internalization (W1) positively predicted body surveillance, which, in turn, positively predicted sexual body consciousness (all W2). Sexual body consciousness (W2) is negatively related to sexual behavior (W3). From a sexual developmental perspective, these findings emphasize the importance of guiding adolescents in interpreting and processing sexualizing media messages.

Keywords Media internalization · Self-objectification · Sexual body consciousness · Sexual behavior · Sexualizing media

Introduction

Sexualizing media content is prevalent in virtually every media genre (e.g., Bradley, 2013; Graff, Murnen, & Krause, 2013) and emphasizes the body and appearance ideals as primary components of sexual desirability (e.g., American Psychological Association [APA], 2007; Aubrey, 2007). Although physical appearance is a natural occurring component of sexual desirability, the narrowly defined standards used by popular media to define sexual attractiveness are rather artificial constructs of a cultural practice that is called sexualization. In particular, sexualizing content is characterized by a focus on curvaceously thin women and lean muscular men; these often unattainable body shapes are considered to be important cues for being sexually attractive (e.g., Flynn, Park, Morin, & Stana, 2015; Gunter, 2014). As such, sexualizing media tend to portray these appearance ideals as providing an important advantage for attracting the opposite sex (e.g., Northup & Liebler, 2010).

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Because sexualizing messages are prevalent in the media that are popular among adolescents (Savin-Williams & Diamond, 2004), scholars have examined their potential influence on adolescents' sexual well-being (e.g., APA, 2007; Martino et al., 2006; O'Hara et al., 2008). However, research on the relationships between exposure to sexualizing content and adolescent sexual behavior has revealed contradictory findings. While some studies found that sexualizing media exposure accelerates the initiation of and progress in adolescents' sexual trajectory (Brown et al., 2006; Martino et al., 2006; Ybarra, Strasburger, & Mitchell, 2014), other studies reported either no or an inhibitive impact of sexualizing media exposure on adolescent sexual behavior (Lude et al., 2011; Steinberg & Monahan, 2011; Tiggemann & Williams, 2012) and sexual self-perceptions (Doomwaard et al., 2014).

These inconsistent findings may be explained by literature on self-objectification and sexual body consciousness. While research has revealed that the use of sexualizing media triggers self-objectification in adolescents and, in turn, accelerates young people's sexual trajectory (Vandenbosch & Eggermont, 2015), research has also demonstrated (e.g., Aubrey, 2007; Vandenbosch & Eggermont, 2014) that sexualizing media trigger sexual body consciousness (i.e., concerns about bodily appearance during physical intimacy; Wiederman, 2000) and that this sexual body consciousness is related to the inhibition of sexual behavior (e.g., van den Brink, Smeets, Hessen, Talens, & Woertman, 2013; Wiederman & Sarin, 2014). Notably, within media effects research, both self-objectification and sexual body consciousness have been linked to the same underlying cause: the internalization of media appearance ideals. This media internalization entails the endorsement of media appearance ideals as a personal goal and standard and is reflected by individuals' tendency to compare themselves with ideal images in the media (Thompson & Stice, 2001).

Drawing on the above findings, and following recent evidence that the internalization of sexualized media ideals may cause attitudinal and behavioral changes (e.g., Vandenbosch & Eggermont, 2014, 2015), the main objective of the present study is to investigate the indirect link between media internalization and adolescent sexual behavior. More particularly, the present three-wave panel study proposes a dual-pathway model that addresses and integrates an *inhibitory* pathway, linking media internalization to lower levels of sexual behavior through sexual body consciousness, and a *supportive* pathway that relates media internalization to higher levels of sexual behavior through self-objectification. Acknowledging that adolescent sexual conduct encompasses different types of behavior (Impett, Schooler, & Tolman, 2006; Tolman & McClelland, 2011), sexual behavior in this study includes petting behavior as well as sexual intercourse. The proposed dual-pathway model also acknowledges earlier research that showed that media internalization enhances the development of a multidimensional objectified self-concept (Vandenbosch & Eggermont, 2012). As such, the current study aims to investigate

this multidimensional process of self-objectification (Vandenbosch & Eggermont, 2014) in relation with sexual body consciousness (Wiederman, 2000) as a mechanism underlying the relationship between media internalization and sexual behavior.

Media Internalization and Adolescent Sexual Behavior

As adolescents mature, they gradually become more curious about sexuality and sexually oriented relationships (Forbes & Dahl, 2010). This curiosity makes them more sensitive to environmental cues that may provide sexual information. Among the available information sources, scholars have stressed the importance of media (Bleakley, Hennessy, Fishbein, & Jordan, 2009), as media frequently provide youth with ideas and scripts for their own romantic and sexual behavior (Ward, 2003). However, previous content analytic research has shown that media offer a rather distorted image of human sexuality, in which particular types of bodies are glamorized and sexual desirability is highly appearance-focused via a strong visual emphasis on narrowly defined body ideals (e.g., Bradley, 2013; Graff et al., 2013).

Such biased coverage of sexual content leads viewers to endorse the belief that one's value comes from one's sexual attractiveness and that one's sexual attractiveness should be evaluated against well-defined standards, such as a very thin yet curvaceous body for women and a V-shaped torso for men. The endorsement of such sexualized beliefs holds important implications for adolescents' body image and sexual behavior (see Ward, 2016, for a review). Accordingly, concerns have been voiced about the impact of sexualized media content and, more importantly, the internalization of such content on adolescent sexual behavior (e.g., Martino et al., 2006; Vandenbosch & Eggermont, 2015).

Considering the central role of bodily appearance in both sexual media content and sexual behavior (Cash, Maikkula, & Yamamiya, 2004), scholars have often relied on objectification theory (Fredrickson & Roberts, 1997) to explain the potential impact of sexualizing media use (e.g., Aubrey, 2006; Vandenbosch & Eggermont, 2015). Accordingly, the present study builds on the objectification theory (Fredrickson & Roberts, 1997) and literature inspired by this theory (e.g., Moradi & Huang, 2008) to explain how the internalization of media appearance ideals may both inhibit and motivate sexual behavior.

The Multidimensional Objectified Self-Concept

Fredrickson and Roberts (1997) postulate that exposure to media content that emphasizes the body as the sole instrument of sexual attractiveness triggers a sexual objectification experience

that can result in self-objectification. Self-objectification occurs when individuals apply an observer's perspective on their body. Self-objectifying individuals consider themselves as objects that are solely valued for their outward appearance (Fredrickson & Roberts, 1997). Such an objectified self-concept manifests itself through the valuing of appearance over competence (Noll & Fredrickson, 1998), that is, a greater emphasis on observable appearance-based body attributes (e.g., sex appeal, weight) at the expense of competence-based body attributes (e.g., energy level, stamina) (=first component). In addition, an objectified self-concept is characterized by body surveillance, that is, a continuous monitoring of one's physical appearance (=second component) (McKinley & Hyde, 1996).

Several researchers have confirmed and refined objectification theory by adding new components that are both constitutive for and constituted by an objectified self-concept. For instance, Moradi and Huang (2008) extended objectification theory by adding "the internalization of media appearance ideals" as a third component of the objectified self-concept. Internalization refers to the degree to which individuals come to incorporate societal standards of appearance into their own personal belief systems (Thompson & Stice, 2001). Vandebosch and Eggermont (2012, 2013) were among the first to empirically test the multidimensional process of self-objectification proposed by Moradi and Huang (2008). Their study revealed that the endorsement of media appearance norms as one's own standards (i.e., media internalization) serves as a trigger for the development of an objectified self-concept. More precisely, their results showed that the internalization of media appearance ideals positively predicts adolescents' motivation to value their appearance over competence and to continuously monitor their physical appearance (i.e., body surveillance).

More recently, Vandebosch and Eggermont (2014) suggested that a fourth component could be added to the multidimensional process of self-objectification, namely, the extent to which a person focuses on his or her bodily appearance during physical intimacy (i.e., sexual body consciousness; Wiederman, 2000). The follow-up study on the multidimensional process of self-objectification (Vandebosch & Eggermont, 2014) demonstrated that after body surveillance had taken place, body surveillance induced a preoccupation with bodily appearance during sexual intimacy in adolescent girls. This result is consistent with prior research (Aubrey, 2007) that identified body surveillance as the mediating variable linking sexually objectifying media to higher levels of sexual body consciousness, and supports Fredrickson and Roberts (1997) suggestion that the adoption of an observer's perspective may carry over to sexual settings.

In sum, the internalization of media appearance ideals supports media users to value appearance over competence and engage in body surveillance. Body surveillance will subsequently increase sexual body consciousness. In line with these findings, our first hypothesis postulates the following:

Hypothesis 1 The internalization of media appearance ideals will positively predict a multidimensional objectified self-concept that follows a three-step process (i.e., valuing appearance over competence, body surveillance, and sexual body consciousness).

Vandebosch and Eggermont (2015) have suggested that the different dimensions of the multidimensional objectified self-concept may be differently related to sexual behavior. In particular, literature reports that valuing appearance over competence and sexual body consciousness relate to sexual behavior in opposite directions: While the pathway from the objectified self-concept through the valuing of appearance over competence *supports* sexual behavior (e.g., Vandebosch & Eggermont, 2014), the pathway from the objectified self-concept through sexual body consciousness *inhibits* sexual behavior (e.g., Milhausen, Buchholz, Opperman, & Benson, 2015; Steer & Tiggemann, 2008). As such, we assume that two opposing pathways exist by which media internalization affects sexual behavior: a supportive pathway, in which media internalization supports sexual behavior, and an inhibitory pathway, in which media internalization inhibits sexual behavior.

The Supportive Pathway

The valuing of appearance over competence has been linked to adolescent sexual behavior (Claudat & Warren, 2014; Vandebosch & Eggermont, 2015). Specifically, scholars have found that adolescents who value appearance-based body attributes over competence-based body attributes are more likely to initiate sexual intercourse (Vandebosch & Eggermont, 2015), which is consistent with earlier research (Pearson, Kholodkov, Henson, & Impett, 2012) that described body objectification as the strongest predictor of early coital debut among adolescents.

Coy (2013) and Ramsey and Hoyt (2015) have pointed at body dissociation, that is, losing awareness of one's own desires and bodily feelings, as an explanation for this relationship. Individuals who value appearance over competence find it difficult to acknowledge their own desires and concentrate instead on their body as a physical object that needs to be desired and used by others (Impett et al., 2006; Ramsey & Hoyt, 2015). In turn, individuals who view themselves as a sexual object and who have a diminished ability to act in accordance with their own desires, show lower levels of sexual agency (Impett et al., 2006). A decreased level of sexual agency is linked to more advanced sexual experiences and the inability to refuse sexual requests (e.g., Curtin, Ward, Merriwether, & Caruthers, 2011).

Based on this reasoning, we hypothesize that valuing appearance over competence plays an explanatory role in the relationship between media internalization and adolescents' increased sexual behavior. As such, our hypothesis on the supportive pathway reads:

Hypothesis 2 Media internalization supports higher levels of sexual behavior through valuing appearance over competence.

The Inhibitory Pathway

Higher levels of sexual body consciousness are associated with lower levels of sexual behavior (La Rocque & Cioe, 2011; van den Brink et al., 2013). The self-conscious focus on the body during physical intimacy appears to play an inhibitory role in one's sexual functioning (Cash et al., 2004; La Rocque & Cioe, 2011; van den Brink et al., 2013).

Literature explains that individuals are socialized into the idea that an adequate sex partner needs to conform to norms regarding physical attractiveness and sexiness (Dove & Wiederman, 2000). However, as this standard of sexual attractiveness is almost impossible to attain, people's tendency to monitor their physical appearance to conform to internalized media appearance ideals likely leads to the experience of a gap between their own body and the body ideal prescribed by media (e.g., Bessenoff, 2006). The perceived failure to attain the ideal of sexual attractiveness can lead to a negative outcome expectancy, as it may induce anxiety about a sexual partner's negative response to one's body (e.g., Weaver & Byers, 2013). As negative outcome expectancies and performance anxiety have been identified as two types of threats that activate the sexual inhibitory system, which is responsible for avoidant sexual behavior (e.g., Bancroft & Janssen, 2000; Bancroft, Graham, Janssen, & Sanders, 2009), we presume that sexual body consciousness negatively relates to adolescent sexual behavior (e.g., La Rocque & Cioe, 2011).

In line with this reasoning, research showed that sexual body consciousness is negatively related to girls' sexual activity, in that it inhibits girls to engage in sexually intimate relations (La Rocque & Cioe, 2011; Yamamiya, Cash, & Thompson, 2006). Therefore, we hypothesize that sexual body consciousness plays an inhibitive role in the relationship between media internalization and adolescents' sexual behavior. As such, our hypothesis on the inhibitive pathway reads:

Hypothesis 3 Media internalization supports lower levels of sexual behavior through a shared process of body surveillance and sexual body consciousness.

In sum, we aim to examine the explanatory power of two different pathways that underlie the relationship between adolescents' media internalization and adolescent sexual behavior. All hypotheses are summarized in Fig. 1. The model controls for age, gender, and body mass index, as prior research showed that these factors may affect both hypothesized pathways, due to their relatedness with body image (Calzo et al., 2012) and sexual functioning (Cash et al., 2004).

Moreover, we aim to test whether gender moderates the relationships of our hypothesized model. While valuing appearance over competence (e.g., Gunter, 2014), body surveillance (e.g., Grabe, Hyde, & Lindberg, 2007), and sexual body consciousness (e.g., Meana & Nunnink, 2006) vary across gender, with women reporting higher scores on all variables, studies have rarely examined whether these concepts differently mediate the relationship

between media internalization and sexual behavior for boys and girls. However, past research has demonstrated that, compared to men, women's sexual functioning is far more sensitive to cultural factors such as media images (Baumeister, 2000; Toates, 2009). Accordingly, women's sexual motivation may be more easily aroused or inhibited by retrieving and processing desire-related cultural information, a process termed erotic plasticity (Baumeister, 2000). Given women's sexual functioning as culturally responsive and media's relatively stronger emphasis on the female body and appearance as primary components of sexual desirability, body image may play a more important role in women's sexual functioning (e.g., Graham, Sanders, Milhausen, & McBride, 2004). In support of this reasoning, scholars recently noted that a woman's perception of her physical attractiveness is an important factor in the perception of herself as a sexually desirable object and in eliciting sexual desire or the motivation to engage in sexual activities (Graham et al., 2004). Drawing on these findings, the following hypothesis is generated.

Hypothesis 4 The supportive and inhibitory path will be stronger among girls than among boys.

Method

Participants and Procedure

A three-wave panel study with intervals of 6 months was conducted among an adolescent sample (12- to 18-years old). Ethical approval for the study was granted by the institutional board of the host university. Survey data were gathered by means of a two-step sampling method. First, secondary schools from different educational and geographical backgrounds were asked to participate in our

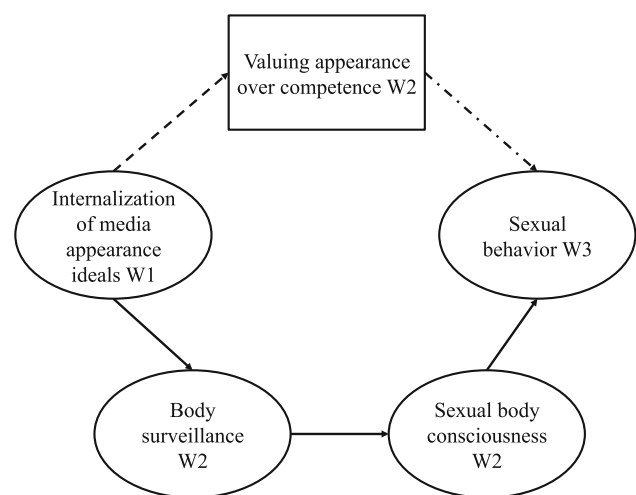


Fig. 1 Hypothesized model examining the impact of the internalization of appearance ideals, through valuing appearance over competence, body surveillance, and sexual body consciousness. *Striped lines* represent the supportive pathway; *solid lines* represent the inhibitory pathway

study. Second, the 12 schools that agreed to participate were visited. At the time of visit, all enrolled students were asked to fill in a pencil-and-paper questionnaire.¹ Participants were informed on the confidentiality of their answers before they started completing the survey. As a reward, participants were entered into a lottery to win a reward card. Overall, this approach resulted in a total sample of 1504 completed questionnaires at baseline, 1426 completed questionnaires at Wave 2, and 1433 completed questionnaires at Wave 3.

A total of 824 adolescents completed the measures used in this study for all three waves (56.6% boys and 43.4% girls) and were included in the analytical sample. The mean age was 15.33 years (SD = 1.45) and the majority of the sample was born in Belgium (95.0%). With regard to sexual orientation, the sample was predominantly heterosexual (97.8%), followed by 1.6% bisexual and .6% homosexual.

Measures

Internalization of Media Appearance Ideals

The Internalization subscale of the Sociocultural Attitudes Toward Appearance Scale (Thompson, van den Berg, Roehrig, Guarda, & Heinberg, 2004) was used to measure adolescents' internalization of media appearance ideals. Participants used a 5-point scale ranging from 1 (I totally disagree) to 5 (I totally agree) to evaluate nine statements, such as "I try to look like characters on TV" and "I compare my appearance to the appearance of people in magazines." Both the scale's reliability and validity have been demonstrated by prior research (Thompson et al., 2004). The reliability test in this study indicated that two items decreased the alpha coefficient. Consequently, these two items (i.e., "I compare my body to the bodies of TV and movie stars" and "I compare my appearance to the appearance of TV and movie stars") were deleted. After removing these items, the Cronbach's alpha improved from .82 to .92 for Wave 1, from .82 to .93 for Wave 2, and from .85 to .94 for Wave 3. Higher scores indicated greater internalization of media appearance ideals.

Valuing Appearance Over Competence

Valuing appearance over competence was assessed using a modified version (Vandenbosch & Eggermont, 2015) of Noll and Fredrickson's original Self-Objectification Questionnaire (1998). Participants were asked to rate the importance of 12 body attributes on a 10-point scale ranging from 1 (not at all important) to 10 (very important). Principal components analysis, using direct oblimin, yielded two factors: appearance-based (e.g., physical

attractiveness, sex appeal) and competence-based attributes (e.g., physical energy level, stamina). The difference between the mean scores of the newly formed appearance (Girls $\alpha_{w1} = .75$; $\alpha_{w2} = .77$; $\alpha_{w3} = .80$; Boys $\alpha_{w1} = .84$; $\alpha_{w2} = .85$; $\alpha_{w3} = .86$) and competence-based (Girls $\alpha_{w1} = .80$; $\alpha_{w2} = .80$; $\alpha_{w3} = .83$; Boys $\alpha_{w1} = .83$; $\alpha_{w2} = .86$; $\alpha_{w3} = .87$) factors addressed the estimated level of valuing appearance over competence (ranging from -9 to 9). Positive scores on this measure indicated valuing appearance as more important than competence.

Body Surveillance

Participants completed the Surveillance Subscale of the Objectified Body Consciousness Scale (McKinley & Hyde, 1996). Participants evaluated four statements (e.g., "I often compare how I look with how other people look") on a 5-point Likert scale, ranging from 1 (Almost never) to 5 (Almost always). Internal consistency was demonstrated in each wave ($\alpha_{w1} = .79$; $\alpha_{w2} = .81$; $\alpha_{w3} = .82$). Higher scores indicated greater body surveillance.

Sexual Body Consciousness

Five items were adapted from the Body Image Self-Consciousness Scale (Wiederman, 2000). Participants indicated their level of agreement with each of the five items (e.g., "I felt very nervous when my boyfriend explored my body and touched it everywhere during sex") on a 5-point scale ranging from 1 (Almost never) to 5 (Almost always). Participants who did not yet engage in sexual intercourse were requested to fill in an adapted scale, which included items that referred to hypothetical situations of having sexual intercourse (e.g., "I would feel nervous if my (future) boyfriend would explore my body and touch it everywhere during sex"). Mean scores were computed across the five items, such that higher scores indicated higher consciousness during sexual activity with a partner. The scale evidenced internal consistency reliability across the different waves ($\alpha_{w1} = .78$; $\alpha_{w2} = .82$; $\alpha_{w3} = .95$).

Sexual Behavior

Sexual behavior was operationalized by means of a multi-item question. Participants were asked whether they had ever engaged in each of the following sexual behaviors: "French kissing," "Having your breasts/penis touched by a guy/girl," "Touching the vagina/penis of your partner," and "Having sexual intercourse." Engagement in a particular sexual behavior was coded 1, and the inverse was coded 0. To avoid problems with the dichotomous nature of each of these four items, sexual experience with a particular behavior was recoded by adding a specific weight to each variable. In particular, more sexually advanced behaviors were given a higher weight. An overall estimate of sexual behavior was calculated by summing across the scores on all four items. Higher scores indicated more sexual behavior.

¹ All of the questionnaires, as used in the study, are available upon request.

Control Variables

Age, gender, and body mass index (BMI) were included as control variables. Self-reported measures of height and weight were used to estimate BMI, which was calculated as weight (kg) per square height (m).

Results

Descriptive Statistics and Zero-Order Correlations

Descriptive statistics are presented in Table 1. A multivariate analysis of variance (MANOVA) using Pillai's Trace indicated significant differences between boys and girls on all relevant variables of Wave 1, $V = .35$, $F(6, 817) = 73.17$, $p < .001$, $\eta^2 = .35$. Separate univariate ANOVAs showed that girls scored higher on the internalization of media appearance ideals, $F(1, 822) = 77.82$, $p < .001$, $\eta^2 = .09$, valuing appearance over competence, $F(1, 822) = 267.34$, $p < .001$, $\eta^2 = .25$, body surveillance, $F(1, 822) = 172.79$, $p < .001$, $\eta^2 = .17$, sexual body consciousness, $F(1, 822) = 98.79$, $p < .001$, $\eta^2 = .11$, and sexual activity, $F(1, 822) = 12.70$, $p < .001$, $\eta^2 = .02$.

Zero-order correlations showed significant relationships between the internalization of media appearance ideals, valuing appearance over competence, body surveillance, sexual body consciousness, and sexual behavior (Table 2).

To assess whether adolescents who completed all three questionnaires ($N = 824$) differed from those who completed only the first questionnaire ($N = 297$), a MANOVA analysis was conducted. Using Pillai's Trace, the analysis revealed

significant differences with respect to relevant Wave 1 variables, $V = .047$, $F(6, 1114) = 9.20$, $p < .001$, $\eta^2 = .05$. Separate univariate ANOVAs on the outcome variables showed that adolescents who participated in all three waves reported lower levels of sexual activity ($M = 2.95$, $SD = 3.65$ vs. $M = 4.23$, $SD = 4.13$), $F(1, 1119) = 24.92$, $p < .001$, $\eta^2 = .02$, higher levels of internalization ($M = 2.50$, $SD = .87$ vs. $M = 2.31$, $SD = .84$), $F(1, 1119) = 11.10$, $p < .005$, $\eta^2 = .01$, higher levels of body surveillance ($M = 3.10$, $SD = .83$ vs. $M = 2.85$, $SD = .89$), $F(1, 1119) = 18.41$, $p < .001$, $\eta^2 = .02$, and higher levels of sexual body consciousness ($M = 2.51$, $SD = .83$ vs. $M = 2.24$, $SD = .91$), $F(1, 1119) = 22.89$, $p < .001$, $\eta^2 = .02$) than those who did not participate in all three waves. No significant differences were found for valuing appearance over competence.

Testing the Hypothesized Model

The hypothesized relationships were tested by means of structural equation modeling (AMOS) using the maximum likelihood method. In order to examine the indirect relationship between media internalization and sexual behavior through the inhibitory and supportive pathway, we specified user-defined estimands using a bootstrapping procedure (Cheung & Lau, 2008). Multiple imputations were performed, since the bootstrapping method does not allow the sample to include missing values (Honaker & King, 2010). Following Byrne (2006), we used three indices to evaluate the fit of our model: the chi-square-to-degrees-of-freedom ratio (χ^2/df), the root-mean-square error of approximation (RMSEA), and the comparative fit index (CFI). An acceptable model fit is expressed in a χ^2/df ratio of < 3.0 , an RMSEA value of $< .06$ (a value between .05 and .09 indicates a fair model fit and a value

Table 1 Descriptive statistics

	Boys ($N = 466$)		Girls ($N = 358$)		Gender differences <i>t</i> test
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Internalization W1 ^b	2.31	.81	2.78	.87	$t(951) = -8.79^{***}$
Valuing appearance over competence W1 ^c	-1.47	1.45	.05	1.45	$t(964) = -15.79^{***}$
Valuing appearance over competence W2 ^c	-1.31	1.47	.37	1.39	$t(964) = -17.35^{***}$
Body surveillance W1 ^b	2.79	.77	3.48	.76	$t(979) = -13.47^{***}$
Body surveillance W2 ^b	2.84	.80	3.51	.74	$t(970) = -13.30^{***}$
Sexual body consciousness W1 ^b	2.27	.75	2.83	.81	$t(980) = -10.86^{***}$
Sexual body consciousness W2 ^b	2.16	.71	2.82	.83	$t(834.31) = -12.68^{***}$
Sexual behavior W1 ^d	2.66	3.36	3.30	3.95	$t(796.72) = -2.85^{**}$
Sexual Behavior W2 ^d	3.47	3.74	4.50	4.25	$t(841.22) = -2.07^*$
Sexual behavior W3 ^d	3.94	3.96	4.54	4.28	$t(841.81) = -2.23^*$

* $p < .05$; ** $p < .01$; *** $p < .001$

^a Absolute range, .48 to 2.43

^b Absolute range, 1 to 5

^c Absolute range, -9 to 9

^d Absolute range, 0 to 10

Table 2 Zero-order inter-order correlations

	Int W1	VA W1	VA W2	BS W1	BS W2	Sbc W1	Sbc W2	Sex W1	Sex W2	Sex W3
Int W1	1	.39***	.33***	.56***	.50***	.24***	.24***	.12***	.14***	.15***
VA W1		1	.70***	.49***	.40***	.12***	.10***	.29***	.25***	.26***
VA W2			1	.46***	.44***	.16***	.12***	.25***	.25***	.24***
BS W1				1	.71***	.29***	.25***	.15***	.14***	.15***
BS W2					1	.26***	.31***	.06	.06**	.06
Sbc W1						1	.63***	-.28***	-.28***	-.27***
Sbc W2							1	-.26***	-.29***	-.31***
Sex W1								1	.85***	.80***
Sex W2									1	.89***
Sex W3										1

Int internalization of appearance ideals, VA valuing appearance over competence, BS body surveillance, SBC sexual body consciousness, Sex sexual behavior

* $p \leq .05$; ** $p \leq .01$; *** $p \leq .001$

below .05 indicates a close model fit), and a CFI value above .90, but preferably above .95 (Byrne, 2006). Our model controlled for the baseline value of age, gender, and body mass index and for prior values on each criterion variable by using them as predictors of the endogenous variables. For instance, valuing appearance over competence at Wave 1 was entered as an exogenous variable, predicting valuing appearance over competence at Wave 2. All variables at Wave 1 were allowed to covary, and same-item residuals were allowed to correlate across measurement occasions. Acknowledging the problem of multicollinearity within multiple mediator models, we further allowed the residuals of all three mediators to covary with each other.

Our observed model, presented in Fig. 2, showed a good fit to the data, RMSEA = .04, CFI = .95, $\chi^2/df = 2.98$, $p < .001$. Figure 2 presents the standardized regression weights of the esti-

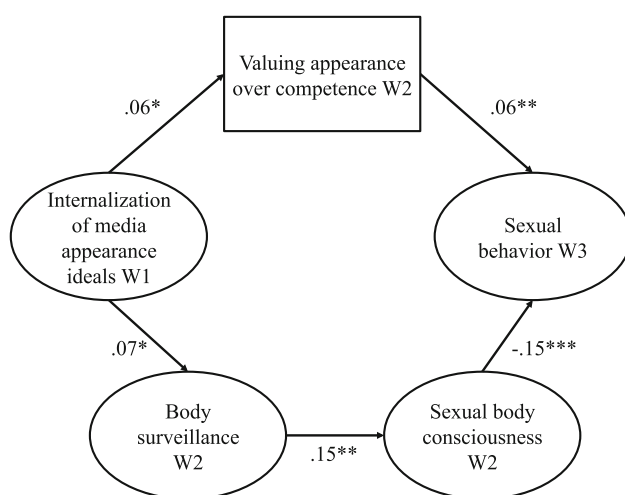


Fig. 2 Final model examining the impact of the internalization of appearance ideals through valuing appearance over competence, body surveillance, and sexual body consciousness. Note values reflect standardized coefficients; * $p \leq .05$; ** $p \leq .001$; *** $p \leq .001$

mated paths. For reasons of graphical parsimony, the measurement details and control variables are not given. The model explained 81.3% of the variance in sexual behavior, 64.5% of the variance in sexual body consciousness, 67.3% of the variance in body surveillance, and 47.9% of the variance in valuing appearance over competence.

In line with Hypothesis 1, we found that media internalization positively predicted valuing appearance over competence, body surveillance, and sexual body consciousness. First, a positive relationship between media internalization at Wave 1 and adolescents' valuing appearance over competence at Wave 2 was found, $\beta = .06$, $B = .18$, $SE = .08$, $p < .05$. The model further indicated that the internalization of media appearance ideals at Wave 1 also positively predicted body surveillance at Wave 2, $\beta = .07$, $B = .09$, $SE = .04$, $p < .05$. In turn, body surveillance at Wave 2 was positively associated with adolescents' sexual body consciousness at Wave 2, $\beta = .15$, $B = .12$, $SE = .04$, $p < .01$.

With respect to Hypothesis 2, the results supported the proposition of a supportive pathway, in that valuing appearance over competence at Wave 2 positively predicted adolescents' sexual behavior at Wave 3, $\beta = .06$, $B = .01$, $SE = .00$, $p < .01$. In line with Hypothesis 3, the results also provided evidence for the existence of an inhibitory pathway, as sexual body consciousness at Wave 2 negatively predicted adolescents' sexual behavior at Wave 3, $\beta = -.15$, $B = -.08$, $SE = .01$, $p < .001$. In addition to estimating both hypothesized pathways, we also tested whether there was a direct relationship between media internalization and adolescents' sexual behavior. Results indicated a positive relationship between media internalization at Wave 1 and adolescent sexual behavior at Wave 3, $\beta = .05$, $B = .03$, $SE = .01$, $p < .05$.

To further examine the dual-pathway structure, as hypothesized by Hypotheses 2 and 3, indirect effects were calculated for both pathways. User-defined estimands (Arbuckle, 2013) were created to calculate the individual indirect impact of the

supportive and inhibitory pathway, respectively. A 95% bias-corrected bootstrap confidence interval was used to test the significance levels (e.g., Bekalu & Eggermont, 2015). Consistent with the study prediction of an inhibitory pathway, body surveillance and sexual body consciousness (Wave 2 variables) emerged as mediators of the relationship between media internalization at Wave 1 and lower levels of sexual behavior at Wave 3 ($-.001 = .07 \times .15 \times -.15$; $p = .03$). Media internalization at Wave 1 positively predicted body surveillance at Wave 2, which, in turn, was positively related to sexual body consciousness at Wave 2. Sexual body consciousness at Wave 2 negatively predicted sexual behavior at Wave 3. Similarly, the hypothesis of a supportive pathway could be confirmed as well, with valuing appearance over competence at Wave 2 significantly linking media internalization at Wave 1 with higher levels of sexual behavior at Wave 3 ($.001 = .06 \times .06$; $p = .02$).

Testing the Moderating Role of Gender

To test whether the observed model would be stronger among girls (H4), we conducted a multiple group analysis (Jöreskog, 1971) with gender as our grouping variable. Following Byrne (2006), we used a two-step method to assess the moderating role of gender. In the first step, metric invariance was measured to investigate whether the meaning of the constructs was equivalent for boys and girls. To this end, we constrained the factor loadings of each construct to be equal across gender. Following Cheung and Rensvold (2002), metric invariance is supported if the difference in CFI (Δ CFI) between the unconstrained and the constrained model does not exceed .01. According to the global model fit, the difference in CFI was not significant (CFI unconstrained model = .932; CFI constrained model = .929; Δ CFI < .01), indicating metric invariance. In the second step, structural invariance was measured by constraining all structural weights to be equal across gender. The difference between the CFI values (CFI unconstrained model = .929; CFI constrained model = .930; Δ CFI < .01) met the recommended cutoff criterion of .01, indicating that the observed model was not moderated by adolescents' gender.

Discussion

The current three-wave panel study aimed to broaden our understanding of how adolescents' media internalization affects their sexual behavior. While scholars have repeatedly proven that sexual media exposure is associated with more advanced sexual behavior among adolescents (e.g., Martino et al., 2006; Ybarra et al., 2014), this study was the first to look at both the *inhibiting* and *supporting* role of media internalization in adolescent sexual behavior. In line with the hypothesis of a dual-pathway model, our results supported

the contention that media internalization can be linked to both higher and lower levels of adolescent sexual behavior.

The results of the current study offer three key contributions. First, the present study advances the literature on media, body image, and sexuality, in that our analysis revealed a joined impact of bodily and sexuality related factors on the relationship between media internalization and adolescents' sexual behavior. In particular, our study was among the first to extend the multidimensional model of self-objectification (Vandenbosch & Eggermont, 2012, 2013) with sexual body consciousness to explain the association between the internalization of media appearance ideals and adolescent sexual behavior. Furthermore, examining the shared influence of both bodily and sexuality related factors was essential to fully grasp the double role of media internalization in adolescents' sexual behavior. The direction of the indirect relationship between media internalization and sexual behavior reversed between the supportive pathway (including solely bodily related factors) and inhibitory pathway (including bodily and sexuality related factors). Future research should therefore continue to investigate the combined influence of bodily and sexuality related mediators, rather than assessing these factors separately in distinct models.

Second, the present study extends previous findings by demonstrating the dual role of media internalization in adolescent sexual behavior. Using a dual-pathway model, we identified two distinct processes responsible for the impact of media internalization on adolescents' sexual behavior: an inhibiting process and a supporting process. While most media research has focused on how sexual content is tied to higher levels of sexual experiences (e.g., Martino et al., 2006), little or no attention has been paid to how the internalization of appearance ideals in such content may delay sexual activities. Nevertheless, the attainment of satisfactory sexual relationships is an important developmental task in adolescence (e.g., Tolman & McClelland, 2011), as previous research (Reissing, Laliberté, & Davis, 2005) stressed the importance of positive sexual experiences in the development of positive sexual self-schema (i.e., positive cognitive representations of sexual aspects of the self that are derived from past experiences, Anderson & Cyranowski, 1994, p. 1079). In turn, a positive sexual self-schema has been linked with higher levels of sexual functioning and satisfaction (Li, Rew, & Chen, 2015). However, sexually avoidant adolescents, who lack confidence to engage in sexual activities due to negative body perceptions, are not in a position to disconfirm negative sexual self-perceptions and to develop positive sexual self-schema (e.g., Reissing et al., 2005).

Third, researchers have traditionally perceived women as more vulnerable to sexualizing experiences (e.g., APA, 2007; Zurbriggen & Roberts, 2013). Although girls scored significantly higher on the internalization of media appearance ideals, valuing appearance over competence, and body surveillance, the present study showed that the observed relationships among our main variables did not differ across gender. Hence, it might be desirable for future research to give equal attention to male and

female experiences of (media) sexualization, as well as the possible consequences that arise from such sexualizing experiences.

Consistent with the idea of a *supportive pathway*, our study showed that media internalization is positively related to adolescent sexual behavior, through valuing appearance over competence. In line with previous research, the results indicated that media internalization positively predicted adolescents' valuing appearance over competence (e.g., Moradi & Huang, 2008; Dakanalis et al., 2014; Nowatzki & Morry, 2009), which, in turn, was positively tied to adolescents' sexual behavior.

The finding of a supportive pathway corresponds with recent objectification theory research that has linked self-objectification with both lower levels of sexual assertiveness and higher levels of sexual risk taking (e.g., Ramsey & Hoyt, 2015; Tolman, 2013). Specifically, scholars argued that individuals who are being socialized into sexual objects would experience more difficulties with asserting sexual choices and advocating their own sexual feelings (e.g., Brotto, Heiman, & Tolman, 2009; Nowatzki & Morry, 2009). Additionally, individuals who possess lower levels of sexual agency more frequently exhibit sexual risk behavior (Schooler, Ward, Merriwether, & Caruthers, 2005). Knowing that the internalization of media appearance ideals increases adolescents' propensity to objectify themselves in sexual contexts (e.g., Erchull, Liss, & Lichiello, 2013), it might be arguable to point at media internalization as a possible trigger of adolescents' lower level of sexual assertiveness or agency. Moreover, as argued by Fine and McClelland (2006), constraints on sexual agency can give rise to sexual risk behaviors, including unwanted sex (Curtin et al., 2011; Impett et al., 2006).

Leaning on these empirical insights, we expect that media internalization may indirectly add to adolescents' lower levels of sexual agency within sexual contexts, via valuing appearance over competence. Since adolescents who lack control over sexual situations experience more difficulties in refusing (unwanted) sexual proposals, the aforementioned processes might provide a feasible explanation for the accelerating impact of sexualizing media on sexual behavior.

Congruent with the hypothesis of an *inhibitory pathway*, our results demonstrated that body surveillance and sexual body consciousness serially mediated the relation between media internalization and adolescents' lower experience with sexual behavior. In particular, the internalization of media appearance ideals was positively related to adolescents' body surveillance (e.g., Aubrey, 2006; Fitzsimmons-Craft et al., 2012), which, in turn, positively predicted adolescents' concern about their physical appearance during sexual activities (i.e., sexual body consciousness) (e.g., Aubrey, 2007). A lack of self-confidence about one's bodily appearance during sexual intimacy eventually negatively predicted adolescents' sexual behavior (e.g., van den Brink et al., 2013).

As with the supportive path, the results of our inhibitory path analysis again provide support for the relationships that have been proposed by Fredrickson and Roberts (1997) and other objecti-

fication scholars. First, congruent with their idea of media as a sexualizing agent, constitutive for the development of an objectified self-concept among its users, we evidenced a positive relationship between media internalization and adolescents' body surveillance, confirming earlier studies (e.g., Fuchs, 2011; Knauss, Paxton, & Alsaker, 2008). Second, body surveillance positively predicted sexual body consciousness, which supports Fredrickson and Roberts (1997) suggestion that general body surveillance may carry over into sexual settings, in the form of sexual body consciousness (e.g., Steer & Tiggemann, 2008). Lastly, our data also supported Fredrickson and Roberts (1997) expectation that individuals' objectified body consciousness would be associated with their diminished (healthy) sexual functioning, in that sexual body consciousness was positively tied to lower levels of sexual experience (e.g., Cash et al., 2004; La Rocque & Cioe, 2011; van den Brink et al., 2013; Wiederman, 2000).

These findings can be interpreted within the *dual control model* (Bancroft & Janssen, 2000; Janssen & Bancroft, 2007), which posits that both sexual arousal and motivation (e.g., the drive to engage in sexual encounters) result from the interaction between two different cognitive processes: the sexual excitatory system and the sexual inhibitory system (Janssen & Bancroft, 2007). The sexual excitatory system (SES) can be triggered by attentional focus on external and internal sexual cues, such as sexual fantasies or the observation of a physically attractive partner, and is responsible for the activation of human sexual behavior. Contrary to the SES, activation of the sexual inhibitory system (SIS) is mainly triggered by performance anxiety and negative outcome expectancies (Janssen, Vorst, Finn, & Bancroft, 2002) and reduces the likelihood that one will exhibit a sexual behavior (e.g., Bancroft et al., 2009). Whether a sexual stimulus will elicit a sexual response, depends on the extent to which both systems are activated (e.g., Janssen et al., 2002).

Applying this theoretical model to our results and, more specifically, to our inhibitory pathway, we might argue that the internalization of media appearance ideals, body surveillance, and sexual body consciousness function as a chain that can activate the sexual inhibitory system. First, content analyses consistently proved that media carry the idea that physical appearance is of value, especially in romantic and sexual relationships (e.g., Ward, 1995). The appearance standards that are being equated with sexiness are often narrowly defined and associated with a particular body type that is almost impossible to attain (e.g., Flynn et al., 2015; Rohlinger, 2002; Vandenberg & Eggermont, 2013).

Second, despite their impossibility to match these body types, individuals often internalize these unrealistic ideals of attractive sexiness as a standard for themselves. Third, due to the internalization of media appearance ideals, individuals come to gauge their sexual attractiveness against those media images of physical perfection (i.e., body surveillance), which, in turn, will increase the likelihood that they will be left concerned about and dissatisfied with their (sexual) physical appearance (i.e., (sexual) body consciousness). Since adolescents have been taught that attractive

sexiness is an important prerequisite in attracting romantic partners (e.g., Rivadeneyra & Lebo, 2008), the idea that one will not appear as sexy toward his or her partner may foster the development of sexual anxiety (i.e., performance anxiety) as well as the development of negative outcome expectancies (e.g., romantic rejection by devaluing partners). As negative outcome expectancies and performance anxiety have been identified as two types of threats that inhibit sexual behavior (e.g., Bancroft et al., 2009), this might explain why negative body consciousness is a negative predictor of adolescents' sexual behavior.

The findings of the current study are limited in some respects. First, participants were recruited from a European sample composed mainly of White adolescents. Given the existence of race differences in the relationship between media and sexual behavior (Brown et al., 2006), our results can thus not be extrapolated to a more diverse ethnic population. Second, experimental research is needed to fully understand the causal relationships among our studied variables. These experimental designs may focus on outcomes, such as willingness to engage in sexual behavior (Van Oosten, Peter, & Vandebosch, 2015) and intentions to engage in sexual behavior (Bleakley, Hennessy, Fishbein, & Jordan, 2008). Third, we cannot rule out the possibility that the results derived from our hypothetical body image self-consciousness scale do not apply to real-life situations or reflect nervousness about having sex rather than concerns about one's bodily appearance during sex. Fourth, in support of our inhibitory pathway, we theoretically link 'valuing appearance over competence' to lower levels of sexual agency, which, in turn, has been linked to higher levels of sexual risk taking (e.g., Schooler et al., 2005). Unfortunately, we did not gather data on sexual risk taking, rendering it impossible to test the dual-pathway model for sexual risk behavior. Fifth, adolescents who did not participate in all three waves reported higher levels of sexual experience and lower levels of internalization, body surveillance, and sexual body consciousness. Given that positive sexual experiences are related to higher levels of body satisfaction and lower levels of body consciousness (van den Brink et al., 2013), attrition bias may have had some impact on the study findings. Future studies might consider the protective role of consensual sexual experiences in the relationship between adolescents' media exposure and their sexual attitudes and behavior.

Finally, it is important to note that we do not imply that adolescents are passive media recipients. In line with prior studies, we acknowledge that adolescents play an active role in their interpretation of media content and can respond differently to the same sexualizing media content (Valkenburg, Peter, & Walther, 2016). Hence, future studies should consider how individual difference (e.g., self-esteem, sexual orientation) and social context (e.g., relationship status) variables influence the way in which sexualizing media content is processed.

Despite these limitations, the present study provides evidence for the dual role of media internalization in adolescent sexual behavior. An important next step is to investigate the relative importance of each of the pathways. Given that media effects

can be enhanced by individual difference and social context variables (Valkenburg et al., 2016), it is important to examine which adolescents are particularly prone to value appearance over competence and/or to develop sexual body consciousness. Considering the role of personality in adolescents' sexual development and vulnerability toward self-objectification (e.g., Miner-Rubino, Twenge, & Fredrickson, 2002; Swami, Taylor, & Carvalho, 2011), it might be interesting to extend the impact of personality characteristics to our supportive and inhibitory pathways. Contextual factors, such as being in a romantic relationship, are worthy of exploring as well, as recent studies emphasized the impact of relationship satisfaction and partner objectification on individuals' sexual functioning and self-objectification (e.g., DeVille, Ellmo, Horton, & Erchull, 2015; Ramsey & Hoyt, 2015).

Our findings also hold important implications for parents, educators, and policy makers concerned with the effects of sexualizing media on adolescents' sexual socialization. First, our results demonstrate that the internalization of media appearance ideals is the common origin of both pathways linking media with higher and lower levels of sexual behavior. We therefore confirm scholars' call for the design of media literacy programs that help prevent adolescents from internalizing media appearance ideals (e.g., Wilksch, Tiggemann, & Wade, 2006). Up to now, however, most studies have considered the protective role of media literacy in adolescents body image and health behavior, without paying much attention to the way it might affect adolescents' sexual behavior (e.g., McLean, Paxton, & Wertheim, 2013; Primack & Hobbs, 2009). Future research should therefore continue to examine the integration of appearance ideal internalizations within media literacy programs, albeit this time with the focus shifted to its impact on adolescents' sexual behavior. Parents may also empower their children to critically reflect on media imagery and messages. Previous research has already stressed the impact of parental mediation in mitigating and reinforcing the effects of media exposure on youth sexual behavior (e.g., Fisher et al., 2009; Guo & Nathanson, 2011). Future research may investigate how different parental mediation strategies (restrictive vs. active mediation) relate to the different mechanisms proposed in our dual-pathway model.

Overall, our findings highlight two different pathways through which media internalization may impact adolescents' sexual behavior: an inhibitory pathway and a supporting pathway. Although we acknowledge that mediated appearance ideals are just one of many forces contributing to adolescents' sexual development, we hope that the patterns documented here will encourage further study of the role of media internalization.

Funding This study was funded by a grant from the Research Foundation Flanders (FWO) (Grant No. 1145212N) granted to the last author.

Compliance with Ethical Standards

Conflict of interest All authors declare that they have no conflict of interest.

Ethical Approval This article does not contain any studies with animals performed by any of the authors. All procedures performed in studies involving human 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.

Informed Consent Informed consent was obtained from all individual participants included in the study.

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