



How Sexual Information Sources are Related to Emerging Adults' Sex-Positive Scripts and Sexual Communication

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Accepted: 23 December 2022 / Published online: 7 January 2023

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Abstract

Prior research suggests that parents, peers, and media are popular sources of sexual information and beliefs among emerging adults. Sex-positivity is an orientation toward sex that emphasizes open-minded beliefs and communication about varying sexual behaviors, preferences, and orientations. The current study investigated whether these sexual information sources were associated with emerging adults' endorsement of sex-positive and sexual orientation-related sexual scripts, and if these sources and scripts were associated with sexual communication among a sample of college students ages 18–22 ($n=341$). Results indicate that learning from television was positively related to sex-positive sexual script endorsement, and that sex-positive scripts were associated with more positive sexual communication. An interaction also emerged between gender and learning from television on sex-positive script endorsement, and between gender and learning from social media on sexual orientation-related script endorsement. The implications of these findings are contextualized within emerging adults' sexual agency and behavior. Future directions of research are also discussed.

Keywords Sex-positivity · Social cognitive theory · College students · Sexual scripts · Sexual communication

Introduction

During emerging adulthood individuals explore their sexuality and become socialized into romantic and sexual relationships (Arnett, 1995). It is during this time that emerging adults learn about sex through formal sexual education programs, as well as through informal sources of sexual information (Lavie-Ajayi, 2020). Formal

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sexual education is considered “curriculum-based sex education programs, taught within school classrooms... [and] informal sexual education refers to other unstructured sources of sex information to which an individual might be exposed” (Lavie-Ajayi, 2020, p. 486). These informal sources of sexual information include parents, peers, and media (Burkill & Waterhouse, 2019; Edwards, 2016) and are central in emerging adults’ internalization of sexual scripts. Specifically, interpersonal (e.g., parents, peers) and mediated (e.g., television content, movies, and social media) sources of sexual information heavily influence emerging adults’ sexual script internalization (Coyne et al., 2019; Wright et al., 2012) through a process of sexual socialization in which knowledge and values pertaining to sexual behavior are acquired.

Research on the nature of the beliefs and scripts shaped by these informational sources often focuses on disease transmission and other aspects of risk (DiIorio et al., 2003), gender or sexual roles (Ward, 2003), or unrealistic relationship expectations that all may lead to unsafe sexual activity and/or adverse sexual health outcomes (Masters et al., 2013). Less attention has been devoted to the potential for these information sources to promote sex-positivity, which emphasizes open-minded beliefs and communication about varying sexual behaviors, preferences, and orientations (Glickman, 2000).

Here we investigate the relationship between interpersonal and mediated sexual information sources and sex-positive scripts, as well as the relationship between sex-positive scripts and sexual communication to improve our understanding of whether these sources convey sexual values and beliefs that could result in healthy sexual conversations.

Sex-positivity

Sex-positivity is rooted in the understanding that sex is devoid of valence in that it is neither inherently good nor inherently bad (Glickman, 2000). Rather, Glickman (2000) argues that sex-positivity allows individuals to conceptualize sex as a subjective experience in which each person is agentic in their exploration of and relationship with sex. Therefore, a sex-positive mindset provides individuals with a sense of comfort when approached with sexual topics in communication or sexual behavioral requests. Sex-positivity also provides a framework through which to consider the importance of honesty and openness when exploring one’s sexuality and when communicating about sexual topics with others (Glickman, 2000; Ivanski & Kohut, 2017).

Critics of sexual education believe that comprehensive sex education that emphasizes condom use and other safe sexual practices provides students with mixed messages and promotes sexual activity (Stanger-Hall & Hall, 2011). This has led some to incorrectly believe that sex-positivity promotes the advocacy for or implication of more frequent sexual behaviors (Williams et al., 2013). Therefore, the goal of sex-positivity as a framework is not to persuade individuals to increase their sexual activity, but to foster a sense of security and comfort in those wanting to communicate and engage in sex and all of its related behaviors and topics (Harden, 2014),

as well as to reassure those individuals of the normalcy of those behaviors and conversational topics (Glickman, 2000). Furthermore, sex-positivity emphasizes the importance of thinking about sexual behaviors in a positive and accessible manner (Harden, 2014; Williams et al., 2015).

Although few, researchers whose studies are situated within sex-positive frameworks argue that individuals' emotional, cognitive, and relational elements of sexuality determine individual sexual development, for better or for worse (Harden, 2014). For instance, Glickman (2000) argues that adopting a sex-positive framework can allow all sexual partners a greater level of understanding of the consequences and expectations of engaging in a particular sexual activity, while encouraging individuals to nurture the relationship they have with their own sexuality. Sex-positivity also contributes to the normalization of sex, sexuality (Glickman, 2000), sexual preferences, and sexual orientations (Harden, 2014). Therefore, advocates of sex-positivity emphasize that sex-positivity is beneficial and applicable for everyone (Glickman, 2000; Williams et al., 2013), although it may look different for everyone as well (Queen & Comella, 2008). Sex-positivity can also have a profound influence on young adults in particular, as they are in the early stages of exploring their sexualities and learning the intricacies associated with sexual experiences (Brown et al., 2006). A sex-positive framework can guide conversations with young adults by informing them of the responsibilities associated with sex without communicating shame (Philpott et al., 2006).

According to Anderson (2013), individuals' sexual health, physical health, mental health, and overall well-being are associated with sex-positive components such as their sexual satisfaction, sexual self-esteem, and sexual pleasure. Moreover, sex-positivity is conceptualized as, "an ideology that promotes, with respect to gender and sexuality, being open-minded, non-judgmental and respectful of personal autonomy, given that there is consent" (Ivanski & Kohut, 2017, p. 223). Given the connections between sex-positivity, respect, safe sex behaviors (e.g., condom use; Philpott et al., 2006) and access to sexual health information and treatments (e.g., STI clinics, abortion, birth control; Ivanski & Kohut, 2017), sex-positivity provides a framework for non-traditional sexual education in which interpersonal and mediated sources of information can openly inform individuals' sexual beliefs and scripts, as well as influence how they approach sexual communication with their partners.

However, although these studies offer important contributions to sex-positivity, most of these findings are outdated. This lack of empirical attention sex positivity has received may emanate from a societal and scholastic view of sex positivity as "something dangerous because it celebrates sexual diversity and inclusivity" (Belous & Schulz, 2022, p. 5). Moreover, despite the positive associations connected to sex positivity, Belous and Schulz (2022) argue that key features of the multifaceted construct are understudied, primarily due to the difficulty of measuring sex positivity. Therefore, the current study uses a sex-positive framework to understand how individuals' sex-positive scripts may benefit their sexual communication.

Sexual Communication

Prior research in the sexual communication literature has conceptualized sexual communication as communication during sex or communication about sex, with few exceptions (i.e., symbolic interactionism, Brogan et al., 2009). Researchers who regard sexual communication as communication during sex have a hard time empirically evaluating such communication due to the observational nature required to study such phenomena, as well as the idiosyncratic and nonverbal manners in which such communication can be displayed between couples during sex (Sprecher & Cate, 2004). Despite Brogan et al.'s (2009) scale development to help improve empirical investigations of communication during sex, little research has still been conducted in this area (Sprecher & Cate, 2004). Therefore, communication about sex remains the most common form of sexual communication research. The scholars interested in such investigations typically study how couples communicate about sex and their sexual relationships (Brogan et al., 2009).

Partners who engage in frequent sexual communication with one another about their sex lives experience greater sexual and relational satisfaction (MacNeil & Byers, 2009). Cupach and Metts (1991) theorized that couples' sexual satisfaction in relationships can be increased through sexual communication in two ways. First, the disclosure of likes and dislikes generates increased sexual satisfaction as such disclosure helps individuals obtain more of what sexually appeals to them, thus increasing sexual pleasure within the relationship. Second, considering such disclosures are vulnerable in nature, the disclosure of sexual preferences enhances intimacy and thus, relational satisfaction.

Sexual Scripts

Sexual script theory (SST) defines sexual scripts as internalized organizations of beliefs, perceptions, and meanings associated with societal constructions of sexuality (Simon & Gagnon, 1998) and/or a particular sexual referent (Gagnon & Simon, 1973), such as media or particular individuals (e.g., a partner). These sexual scripts are unconscious mental schemas that guide individuals' behavior and information processing during a sexual experience (Frey & Hojjat, 1998), as sexual scripts are "involved in learning the meaning of internal states, organizing the sequences of specifically sexual acts, denoting novel situations, setting limits on sexual responses and linking meanings from nonsexual aspects of life to specifically sexual experiences" (Gagnon & Simon, 1973, p. 19). Furthermore, SST posits that sexual scripts solve two problems: (1) allowing the self to participate in desired forms of sexual behavior, and (2) aid in accessing the desired outcome experiences that are associated with the desired behavior (Simon & Gagnon, 1986). Sexual scripts, therefore, outline and guide what one defines as appropriate and accepted regarding sexual behavior, status, roles, and modes of expression (Reed & Weinberg, 1984).

Sexual scripts help connect individuals' seemingly episodic sexual behaviors and others' responses to them into a coherent pattern (Jones & Hostler, 2001). Research

has determined that when these scripts are activated, a unique but rather predictable behavioral outcome will follow, influenced by individuals' interpersonal and intrapsychic scripts and the unique situational contexts (Jones & Hostler, 2001). Therefore, sexual scripts are considered blueprints for individuals' sexual behaviors by specifying their sexual partners, activities, and circumstances (Atwood & Dershowitz, 1992).

Observational learning is one mechanism through which the learning of sex-positive sexual scripts may occur. Bandura (1986) notes that when an action or behavior is observed, the observer may gather scripts and use those scripts to then guide their behavior. In media content, these scripts are generally adapted from mediated and societal expectations surrounding sexuality (Masters et al., 2013). Sexual scripts, which are especially pertinent to young, college-aged women (Seabrook et al., 2017), have the potential to lower sexual satisfaction, self-esteem, sexual self-efficacy, and generally negatively impact the sexual wellbeing of both young women and young men (Seabrook et al., 2016). Seabrook et al. (2017) also noted that in accordance with Social Cognitive Theory (SCT; Bandura, 1986), exposure to scripts through television may lead to viewers' internalization of these scripts, such that viewers then apply them to their relationships, especially if the scripts are rewarded on television. The internalization of these scripts then shapes expectations about appropriate or realistic sexual encounters (Masters et al., 2013; Simon & Gagnon, 1998). Previous research links heterosexual scripts and gendered scripts to negative real-life behaviors and effects, respectively (Seabrook et al., 2016, 2017).

Sexual Information Sources

Youth learn about sexual behaviors from a variety of both interpersonal and mediated sources, although not all sources of learned information are likely to be relevant under all circumstances (Bleakley et al., 2018). Meta-analyses and literature reviews focusing on parental communication about sex have suggested communication with parents is associated with modest increases in condom and contraceptive use (Widman et al., 2016), as well as positive attitudes toward condoms that are associated with intentions to consistently use condoms and delay sexual intercourse (Rogers, 2017). Parents often transmit values, expectations, and knowledge, with an increased focus on biological topics (e.g., menstruation, reproduction; especially among mothers) and the negative consequences of sex (e.g., STDs; Fletcher et al., 2015). Some cross-sectional studies have found that parental communication is associated with increased sexual behavior (Somers & Ali, 2011; Somers & Paulson, 2000), but this might be explained by the notion that parental communication about sex typically happens after emerging adults' initiation of sexual activity (Somers & Paulson, 2000).

Peers are critical sources of sexual information, most frequently relaying information regarding dating, relationships, and partner attractiveness, among other topics (Lefkowitz et al., 2004). Young adults' learning about sex from peers is linked to positive behavioral beliefs (i.e., good things will result from having sex; Bleakley et al., 2018), as well as normative perceptions about a higher frequency of peer

engagement in risky sexual behaviors, which influences their own participation in risk behaviors (Maxwell, 2002). For example, Busse et al.'s (2010) found that the frequency of youths' communication about sex with friends increased positive attitudes about having sex, and that those attitudes were related to increased intention to have sex. This learning process can be explained through observational learning and the development of normative beliefs as described in Bandura's SCT (1986), which emphasizes that individuals' modeling of peer behavior is more likely to occur if they believe that the behavior is one that will be rewarded (e.g., social benefits, the experience of greater pleasure). The modeling that occurs and the subsequent rewards may promote emerging adults' perceptions that inflate the frequency with which their peers engage in sex, thus influencing engagement in sex behaviors (Bleakley et al., 2011a, 2011b; Maxwell, 2002).

Finally, adolescents use the media for both entertainment and informational purposes, with an increased emphasis on information related to pubescent development, such as sex (Brown et al., 2005), in an attempt to solicit sexual information regarding topics of interest to them (Bleakley et al., 2009, 2011a, 2011b). Specifically, these mediated sources transmit sexual scripts to emerging adults about how to talk about sex and behave in sexual situations (Dillman Carpentier et al., 2017), primarily because sexual talk is more frequently depicted in media content than sexual behaviors (Dillman Carpentier et al., 2017). However, these scripts are often gendered and heteronormative, communicating different values to men than women (Kim et al., 2007). The media model sexual behavior by introducing sexual scripts (Ward, 2003), which are typically adapted from media and societal expectations surrounding sexuality (Masters et al., 2013). In a study examining sexual values among young men, more gendered sexual stereotypes and sexual freedom were communicated from media compared to other sources, although learning these topics from peers was relevant as well (Epstein & Ward, 2008). Epstein and Ward (2008) also concluded that parents were more likely to communicate abstinence until marriage to their sons. These findings suggest that there may be mixed messaging based on gender from media and peers that reflect a range of values, but overall peers and media have the potential be sources of sexual information that is more positive towards sex in general.

Empirical research has documented the harm sexualized media messaging, in contrast to parent or peer sexual communication, may cause young women. Specifically, media play a large role in forming emerging adults' self-perceptions by providing them with ideals to internalize (e.g., the thin ideal) and feedback on the importance of their social group, value, or status (Ward, 2004). Mainstream media often contain sexually explicit content (Ward, 2003) and objectifying characterizations of women that highlight their sexual appearance, sex appeal, and physical beauty (Ward, 2016). Such objectification and sexualization of women are persistent and commonplace (Ward et al., 2015) in media, making exposure to these portrayals unavoidable (Fredrickson & Roberts, 1997). Women who internalize these sexualized portrayals may engage in self-objectification. Their experiences with sexual objectification can result in the development of eating disorders, lower self-esteem, mental health issues (Moradi & Huang, 2008), and reduced enjoyment of sexual intercourse due to monitoring their body and appearance during sex (Nelson

& Purdon, 2011; Steer & Tiggemann, 2008). Therefore, sex-positive media content that does not depict sexualized versions of women, their bodies, or their sexualities may have protective and beneficial effects for young women's health, well-being, and self-image.

Considering the increasing societal recognition of differences in sexuality and individuals' sexual choices (Harden, 2014) and the increasing sexual diversity in television content (Smith et al., 2021) that would be consistent with a sex-positive perspective, there is an opportunity to investigate whether learning from parents, peers, and media is related specifically to sex-positive sexual scripts and sexual communication. As researchers investigate the associations between sexual communication and subjective relationship outcomes (i.e., relationship and sexual satisfaction; Jones et al., 2018), studying potential correlates of and influences on sexual communication is increasingly necessary. Therefore, the current study seeks to examine how individuals' self-reported learning from sexual information sources is associated with their endorsement of sex-positive sexual scripts and their sexual communication, as well as how their sexual script endorsement is related to their sexual communication. We therefore ask to what extent learning from mothers, fathers, peers, television, movies, and social media is associated with sex-positive sexual script endorsement (RQ1) and sexual communication (RQ2), and do these relationships vary by sex (RQ3)? Based on the tenets of sex positivity that endorse open and honest sexual communication, we hypothesize that (H1) individuals' sexual communication with their partners will be positively associated with their endorsement of sex-positive sexual scripts.

Method

Sample

Participants ($n=414$) were recruited in Fall 2020 via a Communication Studies subject pool at a large mid-Atlantic university and were offered extra credit for participating. To be eligible to participate in the current study, students needed to be emerging adults, or 18–22 years old; those who responded and were older or younger were excluded from data analyses. After further eliminating incomplete responses in which at least 50% of the data were missing, a total of 341 participants remained. Full participant demographics are reported in Table 1.

Procedure

After the university's Institutional Review Board approval was obtained, data were collected as a part larger study about sex-positive media content. Informed consent was obtained from all individual participants included in the study. Participants responded to a Qualtrics survey which assessed participants' consumption of sex-positive media and their beliefs, efficacy, and intentions regarding sex-positive sexual behaviors. Demographic data was collected as well as other relevant covariates.

Table 1 Sample descriptive statistics

Participant characteristics, attitudes, and behaviors (N = 341)	Scale range	% or Mean (SD)
Age*	18–22 years old	20.12 years old (1.21 years old)
Time spent with television/movies*	0 min—15 h in 30 min intervals	2.09 h (1.62 h)
Sensation seeking*	1–5	3.35 (0.74)
Race*		
White		85.39
Gender*		
Female		54.41
Sexuality*		
Heterosexual		92.22
<i>Previous sexual experience*</i>		
Has not had sexual intercourse		10.88
Has had sexual intercourse		79.41
Preferred not to answer		9.71
Sex-positive scripts	1–5	3.98 (0.68)
Sexual orientation-related scripts	1–5	4.05 (0.85)
Sexual communication	1–6	3.75 (0.67)

*Variables used as covariates

Measures

Sexual Information Sources

Participants were asked to indicate which of the following people in their lives they have learned about sex from, and to select all that apply: their mother, father, sister(s), brother(s), cousin(s), grandmother, grandfather, friends, teachers, doctors, religious leaders (e.g., ministers, priests, or rabbis), or other individuals. The phrase "learned about sex" was clarified in the survey using the following description: "when we say, 'learn about sex,' we mean sexual intercourse, pregnancy, STIs, safe sex, consent, and general attitudes toward sexual behavior." The responses were coded such that a 1 indicated that the source was selected as a sexual information source, and 0 indicated that the source was not selected. Only learning from mothers, fathers, and friends were included in the analysis given the literature that supports parents and peers as particularly influential regarding sexual cognitions and behavior.

Participants were also asked what media they had learned about sex from and selected from all of the following sources that applied: television shows, movies, the internet, magazines, videogames, music, social media, YouTube, and other media sources. These variables were then coded with 1 indicating that the source was selected as a sexual information source, and 0 indicating that the source was not selected. Here we include television, movies, and social media because the influence

of these media can be similar to that of peers (Brown et al., 2005) and through which observational learning and behavioral modeling is more likely.

Sex-positive Sexual Scripts

Participants were asked to indicate their agreement with 7 sex-positive sexual scripts using a 5-point Likert scale (1 = *strongly disagree*, 5 = *strongly agree*). The following scripts were evaluated: having sex should be viewed as a normal part of dating relationships; having a “one-night stand” is okay as long as both partners agree that’s all it is; no sexual act should be considered immoral as long as both are consenting adults (Trinh et al., 2014); sex outside of marriage is okay as long as protection is used to prevent HIV, STDs, and pregnancy (Day Fletcher et al., 2015); people with a lot of sexual experience should expect a negative reputation (reverse-coded; Seabrook et al., 2016); sexual orientation does not hinder one’s ability to achieve success; same-sex couples are appropriate role models for young people (Kinsler et al., 2019). Based on the face validity of the scripts, they were grouped into sexual orientation-related scripts (e.g., “sexual orientation does not hinder one’s ability to achieve success” and “same-sex couples are appropriate role models for young people”) and sex-positive scripts (e.g., all other scripts) in data analysis. The Cronbach’s alpha for the sex-positive scripts was 0.67, and the sexual orientation scripts were correlated at $r=0.31$, $p<0.001$. Means and standard deviations for sex-positive and sexual orientation-related scripts are recorded in Table 1.

Sexual Communication

Sexual communication was assessed using the 6-item Dyadic Sexual Communication Scale (Catania, 2011; Catania et al., 1989). This scale measures how respondents perceive the discussion of sexual matters with their partners. Participants’ responses regarding the perceived sexual communication with their current or most recent partner (or how they think they would respond if they had never been in a sexual relationship) were measured on a 6-point Likert scale (1 = *strongly disagree*, 6 = *strongly agree*). Example items include, “I find some sexual matters are too upsetting to talk about with my primary partner (R),” “It is easy for me to tell my primary partner what I do or do not like to do during sex,” and “My primary partner really cares about what I think about sex.” Higher scores indicate increasing quality of sexual communication (Catania et al., 1989). The Cronbach’s alpha for the scale was 0.83. Means and standard deviations are recorded in Table 1.

Covariates

Demographic information was collected and included as covariates in the analyses. These variables included participants’ race, age, gender, and sexual orientation. Race, gender, and sexuality were recoded for purposes of data analysis. Scales measuring sensation-seeking (i.e., explore strange places; do frightening things; have friends who are exciting and unpredictable; liking new and exciting experiences, even if it requires breaking the rules; Stephenson et al., 2003) and time spent with

television/movies (e.g., the total amount time spent yesterday watching television or movies) were also utilized as covariates. Sensation-seeking items were measured on a 5-point Likert scale, with 1 being “strongly disagree” and 5 being “strongly agree.” Time spent watching television/movies was measured using a dropdown box including 30 min time intervals from zero to 15 h and were recoded so that the values represented hours of time spent watching television or movies. Descriptive statistics for the covariates are in Table 1.

Statistical Analyses

Descriptive statistics and correlations were calculated for all variables included in the analysis. Pearson correlations were used for all continuous variables and polychoric correlations were used for the categorical variables. A multivariate regression was used to answer H1. All statistical analyses were conducted using STATA 17.0.

Results

The descriptive statistics of the sample are reported in Table 1. Participants reported learning about sex most frequently from television (85.63%) and movies (84.16%), followed by peers (71.85%) and social media (60.12%). Parents (i.e., mothers, 55.13%; fathers, 29.03%) were the least popular sources utilized by this sample. The means and standard deviations of sex-positive and sexual orientation-related scripts by each source are reported in Table 2.

H1 posited that individuals' endorsement of sex-positive scripts will be associated with their sexual communication. Our results were partially consistent with this hypothesis, in that individuals' endorsement of sex-positive scripts was significantly related to the higher quality of sexual communication, whereas their endorsement of sexual orientation-related scripts was not significant. Results of the regression analysis are reported in Table 4. Covariates that were statistically significant at the $p < 0.05$ level included being female and participants' age.

RQ1 asked which sources of sexual information are related to individuals' endorsement of sex-positive sexual scripts. Results of the multivariate regression analysis are reported in Table 3. Regarding sex-positive scripts, data indicated that only emerging adults who reported learning about sex from television were more likely to agree with sex-positive scripts. Covariates that were positively associated with sex-positive script endorsement ($p < 0.05$) included being female, having prior sexual experience, and increased time spent with television/movies. Additionally, Black participants' sex-positive script endorsement was lower than White participants' sex-positive script endorsement. Regarding sexual orientation-related scripts, results indicated that no sources of sexual information were related to individuals' sexual orientation-related script endorsement. Being female was positively associated with sexual orientation-related script endorsement ($p < 0.05$), whereas Black participants had lower sexual orientation-related script endorsement than White participants.

Table 2 Means of sex-positive and sexual orientation-related scripts by each source and by gender

	Sex-positive scripts		Sexual orientation-related scripts		Sex-positive scripts: women		Sexual orientation-related scripts: women		Sex-positive scripts: men		Sexual orientation-related scripts: men	
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	
<i>Interpersonal sources of information</i>												
Learning from mom	4.07 (0.68)	4.15 (0.81)	4.23 (0.64)	4.31 (0.75)	3.81 (0.68)	3.92 (0.79)						
Learning from dad	3.88 (0.66)	3.92 (0.82)	4.01 (0.83)	4.21 (0.82)	3.86 (0.59)	3.87 (0.74)						
Learning from friends	4.05 (0.63)	4.13 (0.43)	4.19 (0.62)	4.32 (0.79)	3.85 (0.59)	3.86 (0.79)						
<i>Mediated sources of information</i>												
Learning from TV	4.05 (0.64)	4.09 (0.84)	4.21 (0.61)	4.30 (0.80)	3.85 (0.62)	3.84 (0.79)						
Learning from movies	4.03 (0.66)	4.08 (0.85)	4.18 (0.65)	4.28 (0.81)	3.85 (0.62)	3.85 (0.81)						
Learning from social media	4.02 (0.66)	4.02 (0.86)	4.17 (0.61)	4.17 (0.83)	3.82 (0.68)	3.84 (0.83)						

Table 3 Multivariate regression results

Independent variables	Sex-positive scripts Unstandardized coefficient (Standard error) b(se)	P value	Sexual orientation-related scripts Unstandardized coefficient (Standard error) b(se)	P value
Learn mom	0.11 (0.08)	0.2	0.06 (0.11)	0.57
Learn dad	-0.07 (0.10)	0.48	0.03 (0.13)	0.84
Learn friends	0.08 (0.09)	0.36	0.15 (0.11)	0.19
Learn TV	0.36 (0.13)	0	0.14 (0.17)	0.42
Learn social media	-0.06 (0.08)	0.47	-0.17 (0.11)	0.11
Learn movies	-0.16 (0.12)	0.19	-0.15 (0.16)	0.36
Age	0.00 (0.04)	0.95	-0.01 (0.05)	0.93
<i>Race and ethnicity (referent group: White)</i>				
Black	-0.42 (0.15)	0	-0.53 (0.20)	0.01
Hispanic	-0.19 (0.13)	0.15	-0.10 (0.18)	0.58
Female	0.28 (0.09)	0	0.49 (0.12)	0
Sexual intercourse	0.34 (0.13)	0.01	0.15 (0.17)	0.36
TV time	0.03 (0.01)	0.01	0.03 (0.02)	0.08
Sensation seeking	0.10 (0.05)	0.06	0.05 (0.07)	0.53
Sexuality	-0.11 (0.16)	0.48	-0.01 (0.20)	0.96
Gender x learn TV interaction—sex-positive scripts	-0.62 (0.24)	0.01	-	-
Gender x learn social media interaction—sexual orientation-related scripts	-	-	0.40 (0.20)	0.04

Bolded coefficients indicate significance at .05 or below. Error terms correlated for sex-positive and sexual orientation-related scripts, $N=278$. Regression coefficients are main effects, from a model that did not include the interaction term

Table 4 Sexual communication regression

Sexual communication	Unstandardized coefficient (standard error) b(se)	P value
Sex-positive scripts	0.16 (0.07)	0.02
Sexual orientation-related scripts	0.07 (0.05)	0.15
Learn mom	0.08 (0.09)	0.37
Learn dad	0.03 (0.10)	0.75
Learn friends	0.06 (0.09)	0.47
Learn TV	-0.04 (0.13)	0.77
Learn social media	-0.03 (0.08)	0.74
Learn movies	0.02 (0.12)	0.91
Age	0.10 (0.04)	0.01
<i>Race</i>		
Black	0.15 (0.15)	0.34
Hispanic	0.18 (0.13)	0.17
Female	0.31 (0.09)	0
Sexual intercourse	0.21 (0.13)	0.1
TV time	0.01 (0.01)	0.61
Sensation seeking	0.11 (0.06)	0.05
Sexuality	-0.10 (0.16)	0.52
Gender x learn TV interaction	0.23 (0.24)	0.34
Gender x learn social media interaction	0.15 (0.15)	0.33

Bolded coefficients indicate significance at 0.05 or below. Error terms correlated for sex-positive and sexual orientation-related scripts. $N=278$

RQ2 asked which sexual information sources would be related to individuals' sexual communication. Results of the multivariate regression analysis are reported in Table 4. These findings indicated that no sources of sexual information were related to individuals' sexual communication quality. Covariates that were statistically significant at the $p < 0.05$ level included being female and participants' age.

RQ3 asked if any of these relationships varied by sex. To answer this research question, interactions with participants' sex and learning from each source were inserted into the regression model. Results indicated that there was a significant crossover interaction between being female and learning from television on sex-positive script endorsement. As shown in Fig. 1, female participants who reported learning about sex from television had more positive sex-positive scripts than male participants. To consistently assess our research question, we also tested for significant interactions on sexual orientation-related scripts although the main effect was not significant. Bedeian and Mossholder (1994) claim that it is both possible to have a significant interaction when the main effect is not significant (i.e., when the effect is in opposite directions), and that a significant main effect is not a requirement to test for interaction effects. As such, we found a significant

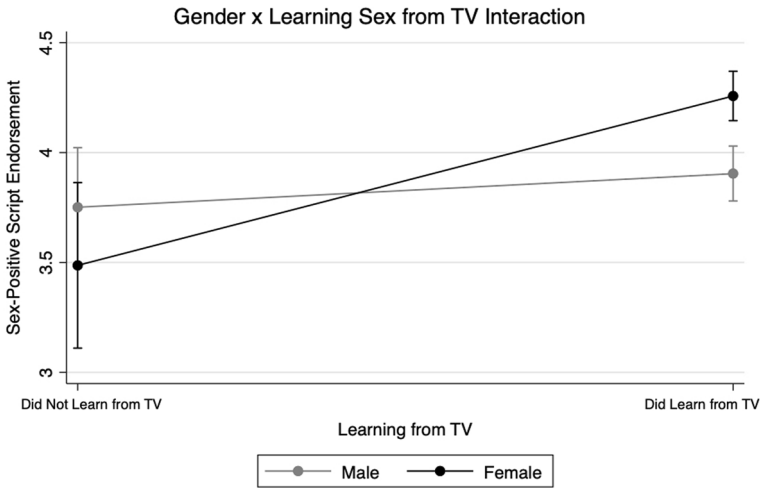


Fig. 1 Gender and learning sex from TV interaction on sex-positive script endorsement

interaction between being female and learning from social media on sexual orientation-related script endorsement. As shown in Fig. 2, female participants who reported learning about sex from social media had lower endorsements of sexual orientation scripts. No significant gender-based interactions emerged regarding individuals' sexual communication.

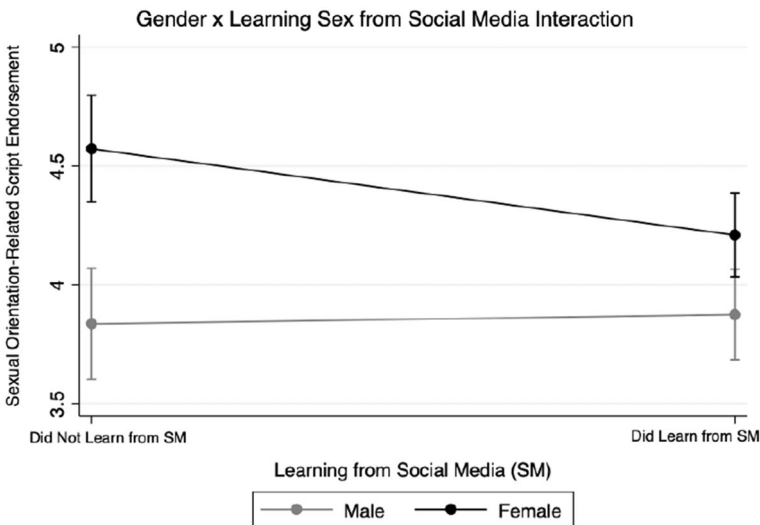


Fig. 2 Gender and learning sex from social media interaction on sexual orientation-related script endorsement

Discussion

Previous research indicates that parents, peers, and the media are sources of sexual information among emerging adults. The current study investigated whether these sources were associated with emerging adults' endorsement of sex-positive scripts and perceptions of their sexual communication. Findings suggest that learning from television was related to higher endorsements of sex-positive scripts, and that sex-positive scripts were associated with individuals' sexual communication. An interaction also emerged between gender and learning about sex from television on sex-positive script endorsement, and between gender and learning about sex from social media on sexual orientation-related script endorsement. The implications of these results for emerging adults' sexual agency and behavior are further contextualized within the current literature below.

One key finding was that individuals' endorsement of sex-positive scripts was positively associated with their sexual communication. Considering that sex positivity stresses honest communication about sex (Glickman, 2000; Ivanski & Kohut, 2017) and that a key component of sex-positivity is a comfortable and open-minded orientation to sex and sexuality (Glickman, 2000), it is unsurprising that individuals who reported stronger agreement with sex-positive scripts also reported higher perceptions of sexual communication quality with their partners. Moreover, sex positivity may allow couples to better navigate conversations about sexually taboo topics, such as incorporating additional people into their sexual activities or expressing interest in non-traditional sexual activities (e.g., kink or BDSM; Fahs, 2014). Not only does sex positivity emphasize open communication about sexual desires (Glickman, 2000; Ivanski & Kohut, 2017), but it also encourages the receiver of such disclosures— in this case, the other individual in the relationship— to maintain a non-judgmental mindset as to not perpetuate stigma (Brickman & Willoughby, 2017), which may have unintended positive relational outcomes. Researchers interested in sex-positive communication within relationships could examine sex-positive sexual disclosure processes as an area of future research.

Interestingly, descriptive statistics revealed that television and movies were the most used sources of sexual information, surpassing social media as an informant by more than 20%. Despite the widespread use of social media, adolescents continue to spend much of their media time watching television content on cable networks or through streaming services, with teens' average screen time increasing significantly in the years following the COVID-19 pandemic. Adolescents continue to rely heavily on television programming for socio-environmental information (Rideout et al., 2022). Therefore, given that television and movies/videos are still so prominent among this population, it is likely that scripts and societal-level narratives regarding sexual behavior are cultivated through exposure to television and movie/video content (Seabrook et al., 2016). Moreover, as social media use varies dramatically from individual to individual, popular television and movie content can additionally be reinforced through the popular press and larger cultural conversations.

Additionally, the current study found that learning from television was associated with the endorsement of sex-positive scripts. Sexual scripts influence

emerging adults' sexual health, pleasure, risk-taking, and dysfunction (Collins et al., 2017), and research has primarily focused on scripts pertaining to risky sexual content or gender roles (Masters et al., 2013; Seabrook et al., 2016; Ward, 2003). However, exposure to positive sexual scripts on television may also be internalized by youth audiences and eventually applied to their own sexual behaviors (Seabrook et al., 2016). Endorsement of gendered sexual scripts on television was associated with less confidence regarding condom use and shameful feelings regarding one's level of sexual experience (Seabrook et al., 2017). Young adults' internalization of sex-positive scripts may render opposite effect, in that sex-positive scripts on television may be associated with feelings of self-acceptance and sexual liberation rather than shame (Glick, 2000). Johnson's (2017) findings support this argument in that exposure to such positive media messages about sex was associated with lower levels of self-stigma. However, future research is needed to empirically determine if sex-positive sexual scripts are indeed associated with sexual self-acceptance and increased self-esteem.

Content analyses of recent television content by Smith et al. (2021) and the GLAAD Media Institute (GLAAD, 2022) both indicate that inclusive, diverse, and sex-positive storylines, characters, and scripts are more prevalent on television than ever before. Therefore, it is likely that emerging adults, especially women, have an increasing or even equal chance of learning and internalizing sex-positive messages instead of or in equal amounts to gendered sexual scripts. Specifically, the current study found that when emerging adults learned about sex from television, women were more likely to attain sex-positive scripts than men. This interaction may indicate that, although gendered and heteronormative scripts are still present on television (Seabrook et al., 2016), sexual scripts regarding women's sexuality and pleasure, as well as sex-positive scripts, are increasingly accessible as well (Smith et al., 2021). These supplemental sex-positive scripts may be especially impactful for women, given the history and prevalence of gendered and heteronormative scripts encouraging women to be sexually passive, prioritize the (sexual) needs of men, and find value in their appearance and sex appeal (Seabrook et al., 2017). Considering the male-centric nature of traditionally gendered scripts (Kim et al., 2007), it may be the case that sex-positive sexual scripts are less influential for men because these scripts are less likely to advocate for or explicitly address men's sexuality.

Although sexual orientation-related scripts or sexual communication were not associated with learning from parents, peers, or the media, a significant interaction emerged between gender and learning about sex from social media on sexual orientation-related script endorsement. The other sexual sources of information may not have contributed to such script endorsement due to how "learning about sex" from each source was conceptualized. For instance, learning about sex was clarified as learning about sexual intercourse, pregnancy, STIs, safe sex, consent, and general attitudes toward sexual behavior from each source; therefore, participants may not have considered learning about sexual orientation from these sources in their responses, and or these sources may not have communicated or depicted topics related to sexual orientation due to the predominantly heterosexual makeup of our sample ($n=308$; 92.2%). Relatedly, these sexual orientation-related scripts would likely be irrelevant to sexual communication occurring between the straight

individuals in this sample and their partners. However, regarding the interaction between learning about sex from social media and gender on sexual orientation-related script endorsement, it is possible that given most of our sample is heterosexual, their social media content may reflect that as well. As social media content is more homogenous to people's networks, women using social media to learn about sex are likely constrained to their heteronormative microcosm on social media which may negate the presence and thus, endorsement, of those scripts. Reinforcement of heteronormative scripts may be related to less sex positive beliefs. Additionally, women might be exposed to more sexualized information on social media than men, which in turn may be associated with or explain why they have lower sex positive beliefs. Although the small proportion of queer sexualities made it difficult to analyze these variables by group (i.e., sexual orientation), future studies interested in sexual orientation-related scripts should replicate the current study using a predominantly LGBTQ+ sample.

Though our findings do not offer empirical support for parents, peers, movies, or social media as sexual informants, we have several ideas as to why these sources were not relevant to emerging adults in this study. First, both mothers and fathers tend to discuss topics related to sexual risk rather than sex-positive topics when discussing their child's sexual behaviors (Evans et al., 2020), which may be why learning from parents was not significant to emerging adults' sex-positive scripts. Although peer communication about sex tends to incorporate sex-positive topics such as emphasizing hookups and casual sex (Astle et al., 2022; Epstein & Ward, 2008), peers also endorse and reinforce traditional gender stereotypes "that characterize women as pretty, virtuous, and relationship-oriented and men as sex-hungry, aggressive sexual predators" (Epstein & Ward, 2008, p 121). This type of peer communication may counter or negate other sex-positive topics for the emerging adults in this study. Regarding the mediated sources of information, it is likely that audience members become more involved with characters in television than in movies due to being exposed to them over a longer period of time. Relatedly, social media posts may be too diverse in nature to be conducive to internalizing specific sexual scripts. It also may be the case that the lack of variability in how the sources of sexual information were collected (0 = not selected, 1 = selected) contributed to not finding significant relationships among most sources of sexual information. However, the significant relationships reported here offer important findings that advance the scant literature on sex positivity and sexual behavior and communication, therefore providing a foundation in which future research can build upon.

Limitations and Future Directions

This study is not without its limitations. First, the generalizability of the sample is limited because the participants were predominantly White, heterosexual college students; therefore, the results found here may not extend beyond such a population. Second, the sex positive and sexual orientation-related scripts were categorized using face validity. Although face validity has been referred to as a weak type of validation, it is known as a first step in the process of validating survey items (Switzer et al., 1999). Therefore,

considering that no established scale of sex positive scripts currently exists, face validity was deemed sufficient in classifying the two categories of scripts, as validating a sex positive script scale is beyond the scope of this study. However, researchers interested in sex positivity should create and validate a sex positive script measure in the future. Third, causal order cannot be established due to the cross-sectional nature of the survey. For instance, individuals who already had sex-positive views toward sex may have been more likely to select television content that reflected their beliefs or openly engage in sexual communication with their partner. Fourth, sex positivity may be affected by religious values that were not assessed in this study. Future studies should incorporate items that measure religious beliefs to evaluate the role of religion in the regulation of sex-positivity and sexuality. Finally, the content of what was learned from each sexual source of information was not assessed, and learning from each source was perceptive. Therefore, the data do not provide information about what modeling occurred, what information was communicated, and what types of content are specifically linked to sex-positive scripts.

Conclusion

Sexual information is frequently learned through parents, peers, and media, and traditionally the focus has been on learning about gender and heteronormative scripts that could be problematic. Here we focus on sex-positive scripts that emphasize inclusiveness and an approach to sex that is healthier (Glickman, 2000). This study aims to identify how learning about sex from informal sexual education sources informs individuals' sex-positive and sexual orientation-related script endorsement, and how those sources of information and types of scripts contribute to individuals' sexual communication. Results indicate that of the sexual information sources that include learning from parents, peers, television, movies, and social media, only learning from television was associated with sex-positive scripts among emerging adults. We also found that individuals' endorsement of sex-positive scripts was associated with their sexual communication, but not their endorsement of sexual orientation-related scripts. Future research should examine how sex-positive scripts are related to couples' relational and sexual outcomes, and whether that relationship works through sexual communication.

Funding The authors declare that no funds, grants, or other support were received during the preparation of this manuscript.

Declarations

Conflict of interest The authors have no relevant financial or non-financial interests to disclose.

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