Adolescents' Remembering of Sexual Television Narratives and their Relations with Positive Sexuality Components: A Biographic Resonance Perspective

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Declaration of interest: none.

Funding: This work was supported by Bijzonder Onderzoeksfonds under grant number C14/18/017

Abstract

Little to no knowledge exists about television's role in the sexual socialization of adolescents role from the perspective of remembrance and resonance of narratives dealing with sexuality. The current study aims to fill this gap in the literature by using three-wave data of 703 respondents (51.5% assigned female at birth, *M*age = 15.44. *SD* = 1.43). We explored reciprocal relations between adolescents' remembrance of resonating positive and negative messages included in sexual narratives on television and their positive sexuality components (e.g., sexual self-acceptance). Structural equation modeling showed that a respectful approach to different sexual expressions was related to the remembering of negative sexual television messages 5 months later. No other significant relations were found. Further, no differences were found based on adolescents' sexual experiences. The findings are discussed in the realm of the potential of using biographic resonance theory (BRT) of eudaimonic entertainment media to further explore the socializing potential of sexual television narratives.

Keywords: adolescents, sexuality, television, biographic resonance

Introduction

Developmental literature considers adolescents' sexuality development as one of the most life-altering developmental tasks, characterized by significant challenges throughout different contexts (e.g., social context) (Fortenberry, 2013). Considering adolescents' developmental sensitivities, and the abundance of sexual references in media, substantial attention has been given to the socializing potential of media in adolescents' sexuality development (e.g., Coyne et al., 2019). In particular, adolescents may especially experience resonance when viewing sexual narratives on television since this matches their unique sexual developmental life phase (Fortenberry, 2013), characterized by the stepwise exploration of sexual experiences (e.g., masturbation, kissing, having sexual intercourse). When experiencing resonance, it is argued that certain sexual narratives will 'stand out' and draw more attention than other messages that do not stimulate resonance. Thus, it is highly likely that adolescents will remember significant sexual narratives that they saw on television. The remembrance of certain sexual narratives on television may then offer adolescents much-needed information and guidance for constructing a positive sexuality (Maes et al., 2022).

So far, though, no existing studies have explored television's socializing role for adolescents' sexuality from the perspective of remembrance and resonance of narratives dealing with sexuality, in particular in entertainment offerings. The vast majority of the literature stems from theoretical approaches of cultivation theory (Gerbner, 1969), social cognitive theory (Bandura, 2011), and sexual script theory (Simon & Gagnon, 1986). Though highly necessary to ameliorate our knowledge on adolescents' sexual socialization, a limited focus on these theories only sheds light on one part of the socializing potential of television in adolescents' sexuality. Several theories in the context of entertainment fare point to the potentially powerful process of seeking out and remembering television narratives and the

role of resonance with one's biographical circumstances. In particular, biographic resonance theory of eudaimonic media entertainment (BRT, Klimmt & Rieger, 2021) aims to explain how and when a narrative matches one's own biography and thereby creates a specific meaning to the viewer (Klimmt & Rieger, 2021).

Although entertainment theories were not originally developed to explain sexual media effects, they may be highly relevant in this field of research. As such, with the current study, we thus aim to explore over-time reciprocal relations between adolescents' remembering of meaningful sexual television narratives and their positive sexuality components (e.g., sexual self-acceptance). When considering sexual television narratives, scholars have recently called for distinguishing between harmful and positive content embedded in sexual narratives (e.g., Maes & Vandenbosch, 2022). That is, recent content analytical work demonstrated that television narratives are (almost) equally loaded with messages that can benefit (e.g., messages promoting acceptance of LGBTQ+ community) as well as harm adolescents' sexuality development (e.g., sexual gender stereotypical messages) (Maes & Vandenbosch, 2022). Therefore, we acknowledge this important distinction in our suggested dynamics. Lastly, we pay attention to the role of biographical circumstances (i.e., stepwise exploration of sexual behaviors) that are likely to strengthen or diminish the impact of enduring positive or harmful sexual messages based on their experiences of resonance.

Adolescents' Positive Sexuality Development

During adolescence, the interplay between biological, cognitive, and psychosocial changes marks a period of self-discovery and stimulates the formation of sexuality (Fortenberry, 2013). In the literature, sexuality often denominates an inclusive category which refers to how adolescents describe, feel, or express their sexual selves (Diamond & Savin-Williams, 2009). Developmental scholars even point to sexuality construction being one of the most impactful and- at the same time- challenging developmental

tasks (Fortenberry, 2013). Adolescents are expected to navigate through profound physiological (e.g., elevated sexual hormones), cognitive (e.g., increased sexual self-reflection) and psychosocial changes (e.g., initiation of first romantic relationship) (Fortenberry, 2013). These changes introduce novel challenges in adolescents and stimulate them to seek meaning in and understanding of their personal situations.

Throughout the years, scholars have pointed to possible development of both negative- and positive-oriented components related to sexuality (e.g., Diamond & Savin-Williams, 2009). Indicators such as sexual uncertainty, sexual objectification, and the engagement in risky sexual behaviors for instance encompass an unhealthy or negative sexuality development and appear to be closely linked to a deprived mental well-being (e.g., Diamond & Savin-Williams, 2009). Positive aspects of sexuality development are then theorized to be beneficial for one's cognitive, mental, emotional, and social functioning and were recently conceptualized according to the significant contexts in which adolescents navigate their sexuality formation (i.e., intrapersonal and interpersonal contexts) (Maes et al., 2022). Particularly, scholars refer to adolescents' positive sexuality encompassing (a) acceptance of one's own sexuality (i.e., private context), (b) a positive approach to sexual relationships and (c) control over sexual interactions (i.e., sexual relational context), (d) resilience against challenging sexuality-related experiences (i.e., sexual relational and peer context), and (e) respectful approach to different sexual expressions (i.e., societal context).

Entertainment Fiction and Adolescents' Sexuality Development

Scholars have highlighted the significant role of entertainment fiction in adolescents' development of a healthy sexuality, next to the relevant role of parents and peers (e.g., Coyne et al., 2019). Adolescents spend more than an hour a day watching television, mainly via streaming services (Rideout et al., 2022). As sexual content remains a staple in mainstream

entertainment media, adolescents are thus highly likely to come across information about sexuality in an entertaining format (Malacane & Martins, 2017).

The majority of content analytical work on sexual television narratives has been devoted to identifying content that can be deemed harmful for one's sexuality development. Particularly, research shows how sexual narratives on television sometimes portray characters being reluctant in exploring their sexuality (e.g., Kinsler et al., 2019), promote heteronormativity and related gender-stereotypical roles (Aubrey et al., 2020), and pay little attention to sexual risks (e.g., STDs) and responsibilities tied to sexual and romantic relationships (e.g., condom use, open communication with partner, consensual sex) (Maes & Vandenbosch, 2022). Yet, at the same time, recent literature also shows that sexual television narratives are equally loaded with sex-positive messages. Specifically, studies point to the presence of messages promoting a positive approach to sexual relationships (e.g., depiction of open communication between characters, consensual sex), characters accepting their sexual feelings and orientations, and respectful approaches to different sexual expressions of others (e.g., responding positively to "coming out" of other characters) (Maes & Vandenbosch, 2022; Kinsler et al., 2019). These positive messages may hold the potential to nourish positive sexuality development in adolescents. Moreover, the co-presence of these positive messages together with negative or harmful sexual messages underlines the complexity and heterogeneous nature of televised narratives adolescents are exposed to. Yet, so far, prior sexual media effects studies seem to neglect the presence of positive sexual messages in entertainment narratives, let alone their co-occurrence with harmful sexual messages.

These inattentions are reflected in sexual media effects research mainly expecting negative sexuality-related outcomes of television viewing (for an exception, please see Bond, 2021). Particularly, a rich body of cross-sectional studies as well as some longitudinal and experimental research have garnered evidence for television's role in shaping adolescents'

sexual beliefs, attitudes, and behaviors (e.g., Coyne et al., 2019). Scholars have for example reported links between adolescents' television viewing and their gender stereotypical beliefs (e.g., Vangeel et al., 2020), and sexual objectification of women (e.g., Peter & Valkenburg, 2007). Research has further demonstrated that in some cases, watching television can be linked to more frequent and riskier sexual activities in adolescents (e.g., O'Hara et al., 2012). Of note, effect sizes of these links are typically rather small and some studies even reported null effects (e.g., Ward & Grower, 2020).

The majority of these sexual media effects studies were guided by an impressive base of theoretical concepts and constructs described in social cognitive theory (Bandura, 2001), sexual script theory (Simon & Gagnon, 1986), and cultivation theory (Gerbner, 1969). These theoretical frameworks underline the socializing potential of televised narratives by referring to different explaining mechanisms (i.e., social learning; script acquisition, activation, and apprehension; and first-and-second-order cultivation). Other, theoretical frameworks such as the TEBOTS model (Slater et al., 2014) and, likewise, BRT (Klimmt & Rieger, 2021), build further on the concept of resonance described in cultivation theory (Gerbner, 1969) and highlight the importance of audience's lived experiences. Particularly, they hint at the potentially powerful role of remembering specific sexual narratives, as stimulated by elevation responses and a match between one's life phase and the topic of the narrative. Yet, so far, no existing research has paid attention to the potential explanatory value of biographic resonance in the context of sexual entertainment media effects.

Sexuality and Biographic Resonance

Two-factor models of entertainment differentiate between two types of entertainment experience: (1) a hedonic factor with the notion that entertainment is associated with fun, 'light-hearted' storylines and mainly results in enjoyment; and (2) a eudaimonic factor that is associated with deeper meaning, often challenging storylines that provide meaning to viewers

and mainly results in appreciation (Oliver & Bartsch, 2010; Vorderer & Reinecke, 2015). The latter is typically reflected in states of emotional elevation (e.g., feeling touched, inspired) (e.g., Oliver & Hartmann, 2010) and is argued to be highly subjective and inseparable from one's personal biography (Klimmt & Rieger, 2021). More specifically, Klimmt and Rieger (2021) underline the significant role of life experiences, incidents, and phases (Moos & Schaefer, 1986) that stimulate individuals' search for meaningfulness in entertainment media. In this way, they refer to the concept of resonance as discussed in cultivation research (Gerbner, 1969; Shrum & Bischak, 2001), yet they tackle this concept from a different perspective. Cultivation research approaches the notion of resonance as one of the main reasons as for why audiences experience variations in cultivation effects (Gerbner, 1969; Shrum & Bischak, 2001). Klimmt and Rieger (2021) then depart from the notion that each member of the audience 'reads' an entertainment message through their own biographical lens. If, in the context of the current study, an entertainment message about sexuality matches adolescents' sexuality-related life phase, this will presumably catalyze eudaimonia and meaningfulness, as reflected in elevation responses.

Klimmt and Rieger (2021) then suggest that these resonating and meaningful (as reflected in elevation responses) television narratives may have an enduring impact on one's self-concept. This impact may even be reciprocal, since the theory suggests that audiences 'read' entertainment narratives through their own biographical lens. Thus, audiences will pay attention to entertainment television narratives that match their existing self-concept and, thus, will then resonate with their biography at a later time point.

Applied to the context of adolescence, it may thus be likely that adolescents especially experience resonance and meaningfulness (reflected in their elevation responses) when viewing entertainment television narratives about sexuality. Particularly, as previously suggested, sexuality development during adolescence introduces novel challenges and life

questions (e.g., Diamond & Savin-Williams, 2009). Adolescents may thus remember specific meaningful sexual television narratives that 'stand out' against a stream of normal, less important narratives, depending on their unique biographical circumstances. Such biographical circumstances include, amongst others, adolescents' sexual experiences reflected by the typical and stepwise trajectory of adolescents' exploration of different sexual behaviors. Specifically, adolescents do not immediately engage in sexual intercourse, but rather take their time by exploring different sexual behaviors first in their private sphere (i.e., masturbation) followed by interpersonal intimate contact (i.e., cuddling, kissing, foreplay, and sexual intercourse) (Fortenberry, 2013). As adolescents progress in this stepwise trajectory, sexuality also becomes a more salient topic in their lives, leading to a heightened attention and attached meaningfulness to sexual narratives.

The remembrance of certain meaningful media may then offer adolescents much-needed information and advice for their construction of their sexuality. Indeed, Dajches and Aubrey (2022) demonstrated how bi/demi-/pan-sexual individuals' motivations to find meaning within music of Taylor Swift, whose music promotes support for the LGBTQ+ community, stimulated them to be more accepting of sexual orientation fluidity. Thus, eudaimonic experiences can assist people in developing positive perceptions of others' sexualities. In this way, the effects of eudaimonic entertainment range on a continuum from a self-focused to an outward-focused response (Oliver et al., 2018). The outward-focused response describes associations between eudaimonic entertainment and prosocial motivations, and feelings of connectedness with others (Oliver et al., 2018; Rieger & Klimmt, 2019). The self-focused response is present in research showing that eudaimonic entertainment can increase, for instance, self-acceptance through reflection (Khoo, 2016).

Similarly, if meaningful television narratives include positive messages as most often documented by prior content analytical work (e.g., Maes & Vandenbosch, 2022), the

remembrance of such content may translate itself in the construction of interrelated positive - self-and outward-oriented sexuality components. For instance, if adolescents remember the presence of characters being comfortable in expressing their sexual feelings and preferences, or open communication between characters, or positive responses to "coming out" of a character, this may result in adolescents learning sexual self-acceptance (i.e., self-oriented), but also learning how to positively and respectfully approach sexual relationships and others' sexual expressions (i.e., other-oriented) (Maes et al., 2022). Yet, if adolescents remember harmful messages embedded in meaningful sexuality narratives, this may stand in the way of a healthy sexuality construction. For instance, if adolescents' remembered sexuality narrative includes heteronormative and gender stereotypical messages as found in prior literature (Aubrey et al., 2020), this might decrease adolescents' abilities to learn sexual self-acceptance, and to positively and respectfully approach sexual relationships and others' sexual expressions. It is highly possible that remembered sexual meaningful narratives content can include both negative and positive sexuality content, as shown by prior literature (e.g., Maes & Vandenbosch, 2022). Therefore, it is necessary to identify and distinguish these types of messages when studying the learning potential of remembered meaningful sexual narratives. In this way, our obtained knowledge will more closely reflect adolescents' experiences with the televised landscape.

The Current Study

So far, theoretical processes described in biographic resonance of eudaimonic entertainment media theory (Klimmt & Rieger, 2021) have been understudied and, even, ignored in the context of sexual television effects among adolescents. Nevertheless, attention to adolescents' recalling of meaningful sexual narratives may pave the way to detect other, powerful sexual television media effects and shed light on experiences that can maximize healthy developments of sexuality. Moreover, it may explain reported relatively small effect

sizes and null-relations that are present in the current literature (Maes & Vandenbosch, 2022; Ward & Grower, 2020). Thus, the aim of the current study was to apply the theoretical perspective of the BRT (Klimmt & Rieger, 2021) to explore the socializing role of remembered meaningful television narratives for adolescents' positive sexuality development. Attention will be paid to the heterogeneous nature of sexual content on television, meaning that the current study differentiates between the remembrance of meaningful positive and negative sexuality messages, according theoretical conceptualizations in sexology literature and prior content analytical work. We more specifically first investigate the following hypotheses:

H1: Adolescents' remembrance of meaningful positive sexual messages from television is reciprocally related to their positive sexuality components (i.e., sexual self-acceptance, a positive approach to sexual relationships, and a respectful approach to different sexual expressions) over time.

H2: Adolescents' remembrance of meaningful negative sexual messages from television is reciprocally related to their positive sexuality components (i.e., sexual self-acceptance, a positive approach to sexual relationships, and a respectful approach to different sexual expressions) over time.

Attention is then paid to adolescents' biographical circumstances, as typified by adolescents' sexual experiences (i.e., stepwise exploration of sexual behaviors) (Fortenberry, 2013). Particularly, following BRT (Klimmt & Rieger, 2021) we explore following research question:

RQ1: Are the over-time, reciprocal relations between remembering meaningful positive and negative sexual messages from television and positive sexuality components (i.e., sexual self-acceptance, a positive approach to sexual relationships,

and a respectful approach to different sexual expressions) moderated by adolescents' sexual experience?

In figure 1, the hypothesized model can be found.

Method

Open Science Commitment

Our deidentified study data, preregistration, syntaxes, and outputs are freely available on OSF (https://osf.io/3hvju/).

Sample and Procedure

For the present study, three-wave panel data were used from a representative sample of Flemish (i.e., Belgian) adolescents (aged between 12 and 18). The data was collected between January 2020 and October 2020 at 16 Flemish high schools. In all, a total of 704 respondents filled in all variables of interest in a paper-and-pencil survey during class hours at baseline (M_{age} = 15.44, *SD* = 1.43). A small majority of this sample (51.5%) were assigned female at birth. In the second wave (i.e., June 2020), 492 respondents (M_{age} = 15.09, *SD* = 1.47) filled in the variables of interest via an online survey. Of this sample, the majority were assigned female at birth (68.5%). A drop-out rate of 35.12 % reflects the change in data collection methods as a response to physical distancing measures operative in June. In the third wave (i.e., October 2020), 297 respondents (M_{age} = 15.3, *SD* = 1.33) (drop-out rate of 39.63% since W2) filled in the online survey of W3. The majority of this sample were assigned female at birth (71%).

Data was used of respondents who participated in at least one of the three study waves (e.g., Erreygers et al., 2018). The total analytical sample consisted of 703 respondents of which the majority (51.5%) were assigned female at birth (M_{age} = 15.44. *SD* = 1.43). Following the Belgian secondary school system division, 40.8% of the respondents were in the first education level (i.e., in which they were being prepared for college education),

46.9% were in the middle education level (i.e., in which they were being taught primarily technical skills), and 11.8% were in the third education level (i.e., leading to professions, such as a baker). Of the total sample, 91.2% identified as heterosexual, while 4.6% identified as non-heterosexual and 3.6% did not know their sexual orientation yet. Using a multivariate logistic regression analysis with two groups of participants as dependent variables (1 = *included in this study*, 0 = *excluded from this study*), a possible attrition bias was assessed. Two significant differences emerged between adolescents who were included in this study and who were excluded from this study. In particular, older adolescents, *exp(B)* = 1.27, *B* = .24, $p < .001$, and adolescents following the first education level, *exp(B)* = 1.44, *B* = .37, $p < .05$, were more likely to be excluded from the study. Written active (i.e., from parents whose adolescents were older than 16 years old) and passive parental consent (i.e., from parents whose adolescents were younger than 16 years old) was obtained. The respondents were assured that the survey would be processed confidentially and anonymously and active consent was obtained at the outset of the survey. The respondents received a monetary incentive for their participation of respectively 5 and 7 euros at W2 and W3 in the form of a gift certificate. The study was approved by the ethical committee of [blinded for review].

Measures

Socio-demographic variables. Age, sex (0 = *assigned male at birth*, 1 = *assigned female at birth*), sexual orientation (1 = *heterosexual*, 2 = *gay*, 3 = *bisexual*, 4 = *other*, 5 = *I do not know yet*), and educational school track were questioned at W1 (1 = *first educational level*, 2 = *second educational level*, 3 = *third educational level*). Given the small proportion of respondents identifying as either gay, bisexual, or 'other', a dichotomous variable was created with 0 = *heterosexual*, 1 = *non-heterosexual*. Respondents who did not know their sexual orientation or education level were reported as missing.

Remembrance of Meaningful Positive and Negative Sexual Messages from Television. Adolescents' were first asked to write down three entertainment television series they watched the most in the last five months at the three waves. Then, they were asked to briefly write down the most important storyline of each of these three television series about relationships, romance, sex and/or sexuality. The narratives the participants wrote down were then coded by two trained master's students, who were asked to identify positive and negative theoretical elements of sexuality embedded in the narratives. It was first checked whether the narratives written down actually covered the topic relationships, romance, sex, and/or sexuality (1 = *yes*) or described another topic (e.g., about a police car chasing criminals) or there were no narratives written down (= 0). If yes, coders were then asked to code positive elements embedded in the storylines, following theoretical conceptualizations of positive sexuality in adolescence (Maes et al., 2022) and existing content analytical work (e.g., Maes & Vandenbosch, 2022). The following categories were coded: sexual self-acceptance (0 = *no*, 1 = *yes*), acceptance of different sexual expressions (0 = *no*, 1 = *yes*), a respectful and positive approach to romantic and/or sexual relationships (0 = *no*, 1 = *yes*), and resilience against negative sexual experiences (0 = *no*, 1 = *yes*). As for negative sexuality elements, the following categories were coded following existing content analytical work (e.g., Aubrey et al., 2020): no sexual self-acceptance (0 = *no*, 1 = *yes*), a negative and disrespectful approach to different sexual expressions (0 = *no*, 1 = *yes)*, a negative and disrespectful approach to romantic and/or sexual relationships (0 = *no*, 1 = *yes*), negative responses to negative sexual experiences (0 = *no*, 1 = *yes*), and sexual gender stereotypes (0 = *no*, 1 = *yes*). A more detailed description of the codebook, together with definitions of each category and examples can be found in the supplementary materials.

Following best practices to assess intercoder reliability (O'Connor & Joffe, 2020), the students followed a three-hour training session in coding prior to the coding of the sample.

The first author of this study first taught them about theoretical conceptualizations of positive and negative sexuality, including their meaning and the implementation of the codebook. Questions or confusion about the codes were addressed and resolved during the training session. The students coded 20 storylines, which were not part of the sample, to practice and identify and solve problems in the codebook. The modifications to the codebook were informed by problems that arose during the training session. After the completion of the training session, the two students coded 10% of the sample of narratives from each wave independently in order to assess intercoder reliability. Krippendorff's alpha addressed intercoder reliability for the categorical variables while adjusting for chance (Krippendorff, 1980). Alpha statistics of .67 to .80 indicated substantial reliability, and alpha statistics greater than .80 indicated almost perfect reliability (Krippendorff, 1980). Krippendorff's alpha's were between .71 to 1 for all categories. Thus, all coded categories were deemed reliable.

To operationalize the remembrance of meaningful positive and negative sexual television messages, a five-step procedure was then followed. First, sum scores of remembrance of negative and positive messages were calculated for each narrative at each wave (score range positive messages: 0-4; score range negative messages: 0-5). Second, mean elevation responses to each narrative at each wave were calculated. Particularly, using a 7-point Likert scale (1 = *strongly disagree*, 7 = *strongly agree*), respondents were asked to which degree they felt the following emotions when they watched the narrative they wrote down: (1) emotionally touched, (2) inspired, (3) happy, and (4) sad (Oliver et al., 2012). The mean score of these four items related to each narrative at each wave was used to represent elevation. Third, the sum score of remembrance of positive/negative messages in each narrative (step 1)*the mean elevation response to each narrative (step 2) was calculated at each wave (e.g., sum of positive messages remembered in the narrative of television series 1

at W1*mean elevation response to the narrative of television series 1 at W1) (maximum score positive messages: 4*7 = 28; maximum score negative messages: 5*7 = 35). Fourth, each score of step 3 was then divided by 4 (for the positive messages) or 5 (for the negative messages), resulting in a maximum score of 7. Fifth and finally, a mean score was calculated by summing up each positive/negative message score of step 3 per wave and dividing by three. The last step then results in the mean remembrance of meaningful positive (M_{W1} = .08, SD_{w1} = .24, M_{W2} = .06, SD_{w2} = .22, M_{W3} = .04, SD_{w3} = .19), and negative sexual messages from television (M_{W1} =.06, SD_{w1} = .14, M_{W2} = .05, SD_{w2} = .15, M_{W3} = .03, SD_{w3} = .11). The measure for remembering positive meaningful messages, r = .30- .46, p < .001 had stability across the three waves. As for remembering negative meaningful messages, stability was found between W1 and W2, r = .18, p < .001, and between W2 and W3, r = .22, p < .001, but not between W1 and W3, p > .05.

Sexual Experience. Respondents' sexual experience was measured at W1 by participants indicating with yes (= 1) or no (= 0) their experience with the following sexual behaviors: (1) masturbation, (2) cuddling, (3) kissing, (4) foreplay and (5) sex. Respondents' scores were summed up, with higher scores indicating a greater sexual experience (M = 2.52, SD = 1.76). For RQ2, responses were categorized into "low sexual experience" (28%), including scores 0 (= no sexual experience) and 1 (= masturbation), "middle sexual experience" (27.7%), including scores 2 (= cuddling) and (= kissing), and "high sexual experience" (23.8%), including scores 4 (= foreplay) and 5 (= sexual intercourse). Note that 20.5% of respondents did not want to share information about their sexual experiences and, therefore, were reported as missing.

Positive Sexuality. The items of the subscales of sexual self-acceptance, a positive approach to sexual relationships, and a respectful approach to different sexual expressions of the Positive Sexuality in Adolescence Scale (PSAS) (Maes et al., 2022) were used.

Specifically, respondents rated 15 statements in total, reflecting sexual self-acceptance (e.g., "I enjoy exploring my sexual feelings and desires [e.g., fantasizing about my crush]"), a positive approach to sexual relationships (e.g., "I think it is important that a partner feels safe when we're being intimate"), and a respectful approach to different sexual expressions (e.g., "Everyone has different sexual desires, this is unique for every person and should be respected") using a 7-point Likert scale (1 = *Strongly disagree*, 7 = *Strongly agree*). Principal Components Analyses (PCA) supported the three-dimensional factor structure of the items (range explained variance W1-W3 = 71.38% - 75.02%). All subscale measures had a strong stability across the three waves, $r_{self\text{-}acceptance}$ = .52- .65, $p < .001$, $r_{positive\ approach}$ = .36-.44, $p < .001$, $r_{respectful\ approach}$ = .67-.73, $p < .001$. In this study, the Cronbach's coefficients alpha's were .86, .82, .83 for sexual self-acceptance for respectively W1, W2, and W3. For a positive approach to sexual relationships, Cronbach's alpha's were .89, .93, and .94 for respectively W1, W2, and W3. As for a respectful approach to different sexual expressions, Cronbach's alpha's were .90, .92, and .87 for respectively W1, W2, and W3. Mean scores were used, with higher scores representing a higher sexual self-acceptance (M_{w1} = 5.39, SD_{w1} = 1.04, M_{w2} = 5.74, SD_{w2} = .93, M_{w3} = 5.85, SD_{w3} = .94), positive approach to sexual relationships (M_{w1} = 6.20, SD_{w1} = .74, M_{w2} = 6.26, SD_{w2} = .88, M_{w3} = 6.35, SD_{w3} = .86), and respectful approach to different sexual expressions (M_{w1} = 5.52, SD_{w1} = 1.33, M_{w2} = 5.93, SD_{w2} = 1.31, M_{w3} = 6.07, SD_{w3} = 1.20).

Data Analysis

Descriptive analyses and correlations were calculated using SPSS 26.0. The reciprocal relations between adolescents' remembrance of positive and negative elements of sexual television narratives, and positive sexuality components were tested using Structural Equation Modeling (SEM) in Mplus version 8.7 (Muthén & Muthén, 2018). Full information maximum likelihood estimation (FIML) was used to deal with missing data. To test the moderating potential of sexual experience, multiple group comparisons were conducted.

Particularly, a model in which the cross-lagged and autoregressive paths were allowed to differ between adolescents with low, middle, and high sexual experience was compared to the fit of a model in which these paths were constrained to be equal. If the chi square difference test of these two models was significant, difference parameter tests were then conducted. Model fit was evaluated using three goodness-of-fit-indices: the root mean square error of approximation (RMSEA), the Bentler Comparative Fit Index (CFI) and the Tucker-Lewis Index (TLI) (Hu & Bentler, 1999). CFI and TLI values between .90 and .95 and RMSEA values between .05 and .08 indicate an acceptable model fit, and CFI and TLI values larger than .95 and RMSEA values smaller than .05 indicate good model fit (Kline, 2012). Following recent recommendations of Wright et al. (2022), results from the parsimonious models (i.e., focal predictors only) and of the models adjusted for demographic variability (i.e., focal predictors and demographic covariates) will be reported. This approach is used to avoid a confounding scenario, since age, sex, sexual orientation, and educational level can be linked to one's sexual media uses and sexual health.

Results

Descriptive results

Table 1 shows the zero-order correlations for the variables at the different time points.

Structural Equation Modeling

The hypothesized model initially did not show an adequate fit with the data, $\chi 2$ (1150) = 2892.58, $p < .001$, RMSEA = .05, CFI = .89, TLI = .87, SRMR = .09. Following other scholars (e.g. Kline, 2012), we consulted modification indices and correlated error terms of the positive sexuality components if these correlations were theoretically meaningful. We correlated the errors of item 12 (" I think it is important that, during an intimate activity, my partner can say "no" when they do not want to do something") and item 13 at W1 (I only

want to approach a partner respectfully ") (MI = 63.92, EPC = .12). We further correlated item 9 ("I think it is important that a partner feels safe when we're being intimate") and 12 of W2 (MI =32.65, EPC = .09). Errors of item 13 ("Even though I am hoping for an intimate moment with someone, If they don't want to, I would show respect for this decision") and item 12 of W2 were also correlated (MI =38.97, EPC = .10). Finally, error terms of item 14 ("If I would be intimate with someone, I think it is important that we both enjoy it") and 15 ("If I would be intimate with someone, I would make sure my partner is satisfied") of W1 were correlated (MI = 28.72, EPC = .16). After these modifications, the model showed an acceptable model fit, $\chi 2$ (1146) = 2733.80, p < .001, RMSEA = .04, CFI = .90, TLI = .90; SRMR = .09[1].

Figure 2 shows that autoregressive relations emerged for the remembrance of resonating positive and negative sexual messages at across the three waves, $p < .001$. Further, autoregressive relations were found for sexual self-acceptance, a positive approach to sexual relationships, and a respectful approach to different sexual expressions across the three waves, $p < .001$. The model further shows a relation between remembrance of resonating positive sexual messages at W1 and the remembrance of resonating negative sexual messages at W2, $p < .01$. Also, remembrance of resonating positive sexual messages at W2 was linked to remembrance of resonating negative messages at W3, $p < .001$, and remembrance of resonating negative sexual messages at W2 was linked with remembrance of resonating positive messages at W3, $p < .05$. Results demonstrated significant relations between respectful approach to different sexual expressions at W1 and remembrance of resonating negative sexual messages at W2, $p < .01$. Finally, a respectful approach to different sexual expressions at W2 was linked to a positive approach to sexual relationships at W3, $p = .01$.

[1] The model adjusted for demographic variability also showed an acceptable model fit, χ^2 (1290) = 2900.86, $p <$ .001, RMSEA = .04, CFI = .90, TLI = .88, SRMR = .08. Similar results as in the parsimonious model emerged.

As for the differences between low, middle, and high sexually experienced adolescents, the chi-square difference test showed a significant difference between the constrained and unconstrained model, $\Delta\chi^2(100) = 194.39$, $p < .001$. Though, when more specifically looking into the path-by-path parameter difference tests, no differences between low, middle, and high sexually experienced adolescents emerged, $p > .05$.

Discussion

With the current study, we aimed to apply a novel perspective to the socializing potential of television in adolescents' sexuality development. Particularly, it is the first known study to apply the previously understudied theoretical approaches of biographic resonance of eudaimonic entertainment media (Klimmt & Rieger, 2021) to examine the role of meaningful sexual narratives in adolescents' positive sexuality development. The study expands the literature as it pays attention to adolescents' remembrance of meaningful televised storylines and the embeddedness of both positive and negative messages in these narratives. Its focus on adolescents' positive sexuality development further aims to present a more balanced view on sexual media effects (e.g., Rutledge, 2020).

Across the three waves, the autoregressive paths were all significant. These paths are expected in a traditional cross-lagged models and they indicate rather straightforwardly that, for example, adolescents who had scored higher on prominent positive sexuality components, are more likely to score higher on these components at a later time point, in comparison to those who had lower scores at an earlier time point. Further, over-time links between remembering meaningful negative and positive sexual messages, as well as the correlations of the remembrance of these messages per wave, illustrate the heterogeneous nature of sexual narratives. Prior studies show that messages that are considered harmful, such as characters being mocked for their sexuality, were often followed by characters showing resilience against the mocking (Maes & Vandenbosch, 2022). This study thus further exemplifies the

complexity and multilayerdness of the sexual content adolescents are not merely exposed to, but that they remember and perceive as meaningful. This finding is highly imperative for future research and we encourage researchers to take into account the complexity of the content adolescents are confronted with. By paying attention to and distinguishing different content types adolescents remember, we can make more accurate and realistic inferences about the impact of media.

Results further partially confirm selective dynamics as explained BRT (Klimmt & Rieger, 2021). It appears that adolescents' respectful approach to different sexual expressions was related to the remembrance of meaningful negative sexual messages on television at a later time point. It may be possible that adolescents who already hold a respectful approach to different sexual expressions are particularly sensitive to messages that might harm others' sexualities, which may lead them to remembering these messages more vividly. Also, as we know from prior content analytical work, messages depicting sexual diversity are often included in storylines as a reaction to negative messages in which, for example, a character's sexual orientation is being mocked (Kinsler et al., 2019; Maes & Vandenbosch, 2022). Hence, it is not that surprising that adolescents who have a respectful approach to different sexual expressions also remembered meaningful negative messages embedded in sexual narratives.

Our study shows that the remembrance of meaningful sexual messages (both negative and positive) was not linked to adolescents' positive sexuality components over time. Thus, we carefully assume that adolescents do not experience a long-lasting, durable impact of the remembrance of meaningful sexual narratives on their own positive sexuality development. Nevertheless, possible explanations for the found null-relations hint at the value of applying a resonance perspective. First, even though eudaimonic preferences appear to have a long-term impact on media users' well-being (e.g., Reinecke & Kreling, 2022), the dynamics as

described in resonance theory are possibly not detectable over longer time periods, including the 5-month intervals in the current study. Instead, they may only be present as more quickly arising and dissipating effects. As described by Klimmt and Rieger (2021), part of what makes certain narratives so 'powerful' is that viewers memorize these few narratives from the enormous flow of entertainment messages they come across their life span. So, the narratives are considered important and impactful because they are remembered across a longer-time period. Most probably, this concerns only an exceptional small amount of daily media fare. The impact of remembering a certain narrative may be more immediate and only present over a shorter time-period with limited time lags between days or weeks (at most). Further, it should be noted here that we questioned participants to name narratives that contained issues about sexuality included in the television series they mentioned. Biographic resonance, however, is a seldomly occurring special case. For future studies, it should be taken into account to specifically ask about stories that made a difference in one's life or were meaningful to the person.

Therefore, there may be mismatch between our data and theoretical assumptions of BRT (Klimmt & Rieger, 2021). Adolescents may remember and use a sexual narrative they stored in their memory across a long-time period as an input at a certain time point, for example when having a first sexual experience with a partner. Correlations detected in the current study hint at the possible presence of this immediate impact, though research is needed to specifically tests these assumptions. Adoptions of experimental and experience sampling methods may help clarify the nature of the dynamics as described in the theoretical frameworks. Moreover, different narratives and embedded sexual experiences could also elicit different degrees of response or influence a resonance with adolescents' own sexual experiences. Interesting factors here could be, for example, the realism of narratives or the similarity between protagonist and recipient.

Second, since biographical circumstances of the audience are considered a key factor in remembering significant narratives and its impact (Klimmt & Rieger, 2021), we paid attention to the potential moderating role of adolescents' sexual experience. Yet, it is likely that null-relations emerged because sexual experience was not the fitted biographical circumstance to detect the suggested links. Presumably, other factors that more explicitly determine the developmental biography of adolescents, such as pubertal timing and age and, thus, the lived experiences typifying these developmental indicators, may be more profound indicators of the conditional boundaries of resonating dynamics. For instance, pubertal timing (e.g., reflected by girls' menarche and boys' semenarche) is an important factor determining how adolescents experience their own maturation in comparison to others. When one has an early pubertal timing in comparison to their peers (who have an on-time or late pubertal timing), research shows that feelings of isolation and worrying (especially among girls) can arise (e.g. Mendle et al., 2007). In this way, they can attach more value to narratives resonating with their lived experiences as an early maturing adolescent. Thus, we recommend scholars to further explore these developmental biographies as potential indicators of conditional boundaries present in resonating sexual media effects. We especially encourage scholars to pay attention to the impact of resonating narratives for children who are in the midst of transitioning from their tween years to adolescent years. Tween television viewers are assumingly more receptive to the impact of messages about sexuality (Dajches & Aubrey, 2020) as tween's sexuality development is just emerging. Moreover, their encounters with sexual messages in televised narratives will increase when entering adolescence (Signorielli & Bienevour, 2015). Thus, when tweens transition to adolescence and, thus, gradually view televised content targeted to adolescents, there might be a heightened variation in their exposure to sexual messages in narratives. The latter may then result in the remembering of powerful and resonating sexual narratives and, presumably, lead to more prominent changes

in these young viewers' sexuality. Indeed, the found null-relations in our study point to the possibility of a ceiling effect. Adolescents' levels of the positive sexuality components were already relatively high, which likely makes the additional impact of remembering meaningful sexual messages embedded in television narratives rather minimal. With tweens still transitioning from childhood to adolescence, it may be possible that such ceiling effects are less pronounced.

This study can be considered a starting point for other research endeavors to take into account theoretical assumptions described in BRT (Klimmt & Rieger, 2021) and the potential importance of eudaimonic entertainment experiences when exploring the socializing potential of television. Particularly, future (experimental) research is encouraged to empirically identify the differential factors that can induce and facilitate resonance with certain sexual narratives when adolescents are watching television. For example, the development of parasocial relationships (Rubin & McHuhgh, 1987), transportation into the narrative (Green & Brock, 2003) and identification with characters (Cohen, 2001) in interaction with users' biographies (e.g., pubertal timing) (see e.g., TEBOTS, Slater et al. 2014). Further, scholars are recommended to pay attention to the complexity of emotional arrangements (e.g., elevation responses) that are suggested to mediate the impact of resonating entertainment experiences (Janicke-Bowles et al., 2021). In the current study, these elevation responses were operationalized in combination with one's remembrance of sexual messages. Yet, they may be a standing-alone mediating factor for the guidance of resonating narratives in individuals' formation of their self-concept, in the current study described as their self-concept regarding sexuality.

In addition, a closer examination of the recipients' attitude towards sexuality and the overall narrative might be of interest. We argue that psychological predispositions influence the effect of narratives: We all have certain values and moral beliefs that not only influence

selection of media (content) and how we perceive narratives or certain characters (Raney & Janicke, 2014); sexuality also poses a highly sensitive topic that might elicit negative feelings in adolescents who feel insecure about their sexuality and bodies and thus might be a cognitive challenge that could not only influence entertainment experiences (Bartsch & Hartmann, 2017), but also identification and resonance processes.

Practical Implications

Besides the study's implications for theory and research as discussed above, the present study also holds a number of practical implications for different groups: parents and guardians, educators, and practitioners (e.g., psychologists). One of the main insights the study provides is that adolescents remember storylines surrounding sexuality and that they attach meaningfulness to these narratives. It is interesting to note that when adolescents write down the storylines they most vividly remembered, these narratives often included both messages that can be considered beneficial for one's sexuality development and messages that can harm one's sexuality development. It is this multilayerdness that adolescents are confronted with when watching television that needs attention and framing from parents, educators, and practitioners. Particularly, it is necessary that the adult world recognizes the complexity of the content adolescents are confronted with and are knowledgeable, supportive, and involved when discussing this content. For example, it is important to keep early and open dialogues with children and adolescents about the sexual content they are confronted with and, relatedly, how they feel about their own sexuality. Parents, educators, and professions should be aware that experiences of adolescents with sexual media may differ between adolescents due to a number of factors, for example their own process regarding sexuality development.

Limitations

The current study is not without limitations. First, we do want to underline that the current study is the first to explore the long-term impact of remembering meaningful sexual narratives (and not self-reported mere exposure) from a resonance perspective. Therefore, we do suggest that additional testing is needed. More specifically, we encourage future research to further explore the validity of our operationalization of remembering meaningful narratives (tied to a certain topic), and its impact in longitudinal research. Additionally, researchers are recommended to adopt an experimental design to assess the causal inferences and possible short-term nature of the dynamics as described in the BRT. Further, a possible attrition bias was present with older adolescents, and adolescents following the first education level, being more likely to be excluded from the study. Relatedly, due to the COVID-19 pandemic, we needed to change our data collection methods from paper-and-pencil surveys at school (W1) to online surveys at home (W2 and W3). This resulted in rather large drop-out rates. Lastly, the study was conducted in Flanders, Belgium, limiting the generalizability of the current study's findings to other cultural contexts. Belgium is known to be a liberal and progressive country when it comes to adolescent sexuality (e.g., Štulhofer & Rimac, 2009). Therefore, it may be possible that different dynamics emerge when the remembering of sexual narratives are explored in a non-Western sample. Hence, cross-nationally comparative research is necessary to study the potential context sensitivity of the results.

Conclusions

This study is the first to apply a biographic resonance perspective when exploring the role of sexual television narratives in adolescents' positive sexuality development. Attention was paid to the heterogeneous nature of televised storylines about sexuality by operationalizing the remembrance of both negative and positive messages embedded in sexual narratives. Results demonstrated that a respectful approach to different sexual expressions was related to the remembering of meaningful positive and negative sexual

television messages 5 months later. No evidence was found for the assumed long-term durable impact of remembering meaningful sexual narratives on adolescents' positive sexuality development. Further, no differences were found in the suggested dynamics based on adolescents' sexual experience. The findings suggest that, possibly, the dynamics as described in resonance theory are not detectable over longer time periods. Instead, they may only be present as more quickly arising and dissipating effects. Further, presumably sexual experience is not the fitted biographical circumstance to indicate the conditional boundaries in the suggested dynamics. Future research is recommended to explore other biographical factors that may determine the presence of resonating media effects in the context of sexuality and are suggested to further explore the theoretical assumptions of biographic resonance.

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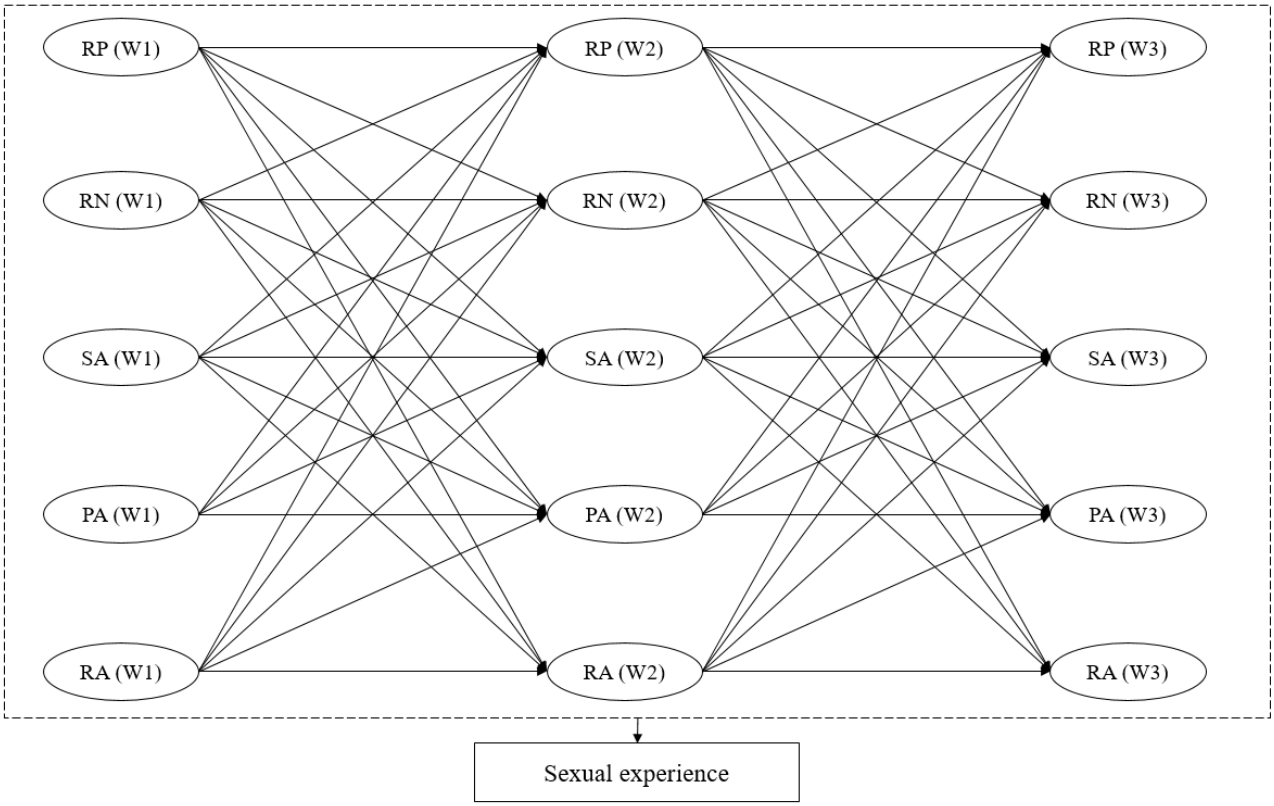
Table 1

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.
1. RP W1	1	.44***	.30***	.27***	.32***	.15***	.11***	.12**	.13**	.16***	.12*	.05	.21***	.15***	.11	-.07	.05	.19***	.10***	-.08*
2. RP W2		1	.33***	.08*	.38***	.28***	.10**	.13**	.09	.11**	.12**	.03	.17***	.16***	.16**	-.06	.04	.17***	.20***	-.08*
3. RP W3			1	.02	.25***	.35***	.02	.07	.12*	.10*	.13**	.05	.16***	.14***	.14**	-.07	.07	.15***	.15***	-.03
4. RN W1				1	.19**	.04	.02	.05	.00	.08*	.06	.09	.07	.05	.06	-.06	-.01	.12***	.06	-.09**
5. RN W2					1	.22***	.05	.08	-.01	.05	.11*	.03	.16***	.08	.09	-.10	-.02	.16***	.12***	-.10**
6. RN W3						1	-.02	.02	.09	.06	.10	-.01	.12***	.06	.16**	-.17***	.05	.18***	.00	-.10**
7. SA W1							1	.65***	.55***	.44***	.27***	.26***	.28***	.19***	.20***	.40***	.13***	-.11***	.03	.06
8. SA W2								1	.52***	.43***	.46***	.27***	.30***	.32***	.23***	.40***	.18***	.00	.07	.08
9. SA W3									1	.31***	.31***	.56***	.30***	.26***	.34***	.33***	.24***	.14*	-.02	-.01
10. PA W1										1	.38***	.35***	.33***	.29***	.19**	.11**	.02	.15***	.11**	-.04
11. PA W2											1	.44***	.22***	.33***	.30***	.15*	.08	.19***	-.02**	.04
12. PA W3												1	.31***	.28***	.40***	.05	.05	.24***	.02	-.08
13. RA W1													1	.73***	.68***	-.09*	-.11***	.39***	.21***	-.09*
14. RA W2														1	.73***	.06	-.05	.34***	.14**	-.06
15. RA W3															1	.11	.02	.30***	.05	-.05
16. SE																1	.41***	-.20	-.04	.32***
17. Age																	1	.02	.00	.33***
18. Sex																		1	.08	-.13***
19. SO																			1	-.02
20. EL																				1

Note. **p* < .05; ***p* < .01; ****p* <.001. PR = remembrance of positive sexual messages, NR = remembrance of negative sexual messages, SA = sexual self-acceptance, PA= positive approach to sexual relationships, RA = respectful approach to different sexual expressions.

Figure 1

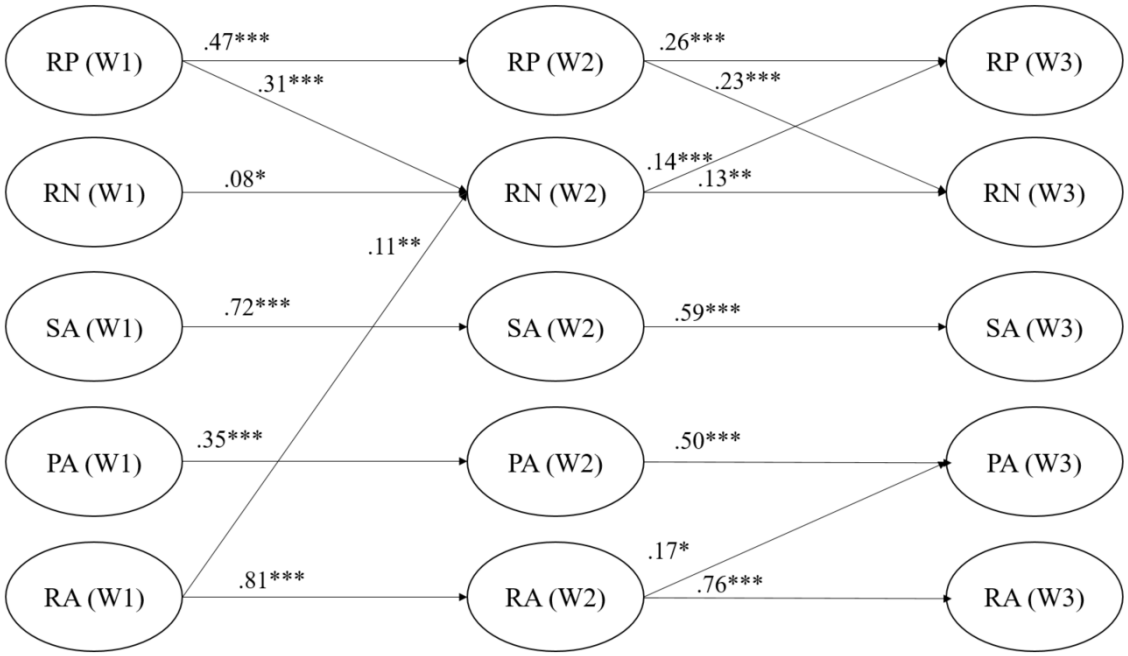
Hypothesized model



Note. RP = remembrance of positive sexual messages, RN = remembrance of negative sexual messages, SA = sexual self-acceptance, PA= positive approach to sexual relationships, RA = respectful approach to different sexual expressions.

Figure 2

Parameter Estimates of the hypothesized model



Note. *p < .05; **p < .01; ***p <.001. PR = remembrance of positive sexual messages, NR = remembrance of negative sexual messages, SA = sexual self-acceptance, PA= positive approach to sexual relationships, RA = respectful approach to different sexual expressions. Coefficients represent standardized betas. For clarity, measurement parts, in-wave correlations, and residual variances are not shown