



# Attachment orientation and reasons for and reactions to “virginity” in college

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## Abstract

Prior research has shown that among sexually active people, attachment orientation is associated with motives for having sex. This study examined how attachment orientation is also associated with reasons for *not* having sex. More specifically, the study focused on whether attachment orientation was associated with reasons for not having sex among young adult virgins, as well as their emotional reactions to their virginity status. The sample consisted of 671 “virgin” college students obtained as part of a larger study. They completed an anonymous survey which included a measure of attachment orientation, ratings of the importance of several reasons for being a virgin, and emotional reactions to their virginity status. Results indicated that fearful and dismissing attachment young adults were more likely than secure attachment young adults to say they were still virgins because they were not ready to have sex (e.g., not been in love enough). Differences based on attachment style were also found for affective reactions to the virginity status. Preoccupied attachment young adults had the most negative reaction to their virginity status.

**Keywords** Virginity · Sexual inactivity in college · Attachment styles

Research on young adulthood sexuality has generally focused on issues related to being or becoming sexually active (see reviews by Olmstead, 2020; Perlman & Sprecher, 2012; Tillman, Brewster, & Holway, 2019). However, not all young adults, even in college, are sexually active. In fact, there has been a trend toward less sexual activity in young adulthood. A recent trend analysis of data from the General Social Survey, based on representative samples of Americans, found that recent cohorts were more likely than earlier cohorts of young adults to report having no sexual partners since the age of 18 (Twenge, Sherman, & Wells, 2017). A similar trend has been found in other national studies, including the National Survey of Family Growth data (e.g., Abma & Martinez, 2017).

Only a few studies, however, have focused on the group of sexually inactive young adults in college and specifically on those who have not yet had any genital sex and who therefore might be defined as still a “virgin.” The limited research that

has been conducted on young adult virgins has focused on such issues as motives and reasons for remaining a virgin, feelings about being sexually inactive, and the perceived stigma associated with this status (e.g., Gesselman et al., 2017; Sprecher & Regan, 1996). The present study extends this small literature on young adults who are virgins by examining how young college adults with different attachment styles vary in their reasons for and reactions to their virginity.

Because of the focus on attachment, this study also extends our understanding of the link between attachment and sexuality. Although attachment research has proliferated in the relationship science literature – with many studies examining how individuals’ attachment orientation is associated with how they function, feel, and behave in intimate relationships (Mikulincer and Shaver, 2018) – less research has been done on the role of attachment in people’s sexual attitudes and behaviors. Furthermore, the research that has examined links between attachment and sexuality has focused primarily on how people with different attachment orientations vary in their sexual functioning within relationships (e.g., Busby, Hanna-Walker, & Yorgason, 2020; McNeil, Rehman, & Fallis, 2018; Péloquin, Brassard, Lafontaine, & Shaver, 2014) and in sexual permissiveness more generally (Schmitt & Jonason, 2015; Sprecher, 2013). The role of attachment in regard to the experience of being sexually inactive has generally not been considered in past research.

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## Research on Virginity in Young Adults

Decades ago, abstinence or virginity until marriage was expected and valued, especially for women. For example, in his ground-breaking research of sexual attitudes among college students in the 1950s and 1960s, Reiss (1967) found that the most commonly endorsed standard was abstinence (i.e., the belief that one should not have sexual intercourse before marriage). More recently, however, sexual norms have changed and most young adults approve of and engage in premarital sexuality (McAnulty & Cann, 2012). According to a recent report from the Guttmacher Institute (2019), 65% of teens have had sexual intercourse by the age of 18. Various studies, including with The National Longitudinal Study of Adolescent to Adult Health (AdHealth) data, have indicated that the mean age of first intercourse in the U.S. is 16 to 17 (Vasilenko, Kugler, & Rice, 2016). Consequently, sexual inexperience (i.e., being a virgin) among late adolescents and young adults has become less prevalent and less normative. Nonetheless, even in today's relatively liberal sexual cultures, which also include hookup experiences (Berntson, Hoffman, & Luff, 2014; Garcia, Reiber, Massey, & Merriwether, 2012; Olmstead, 2020), a substantial number of young adults in college are virgins (McAnulty & Cann, 2012).

Research has identified many reasons that college virgins have for their lack of sexual activity, including ethical/moral reasons, not having met the "right" person, not being ready (or not being in love), and fear of negative outcomes including pregnancy and sexually transmitted infections (STIs) (Heywood, Patrick, Pitts, & Mitchell, 2016; Patrick, Maggs, & Abar, 2007; Patrick, Maggs, Cooper, & Lee, 2011; Sprecher & Regan, 1996). In addition, young adult virgins may have a variety of possible reactions to their sexual status, ranging from viewing it as a gift or an honor to viewing it as a stigma (Carpenter, 2001, 2005; Eriksson & Humphreys, 2014; Gesselman et al., 2017). Relatedly, college students who are virgins may have a variety of emotional reactions to their sexual inactivity. These emotions can be both positive (e.g., happiness) and negative (e.g., embarrassment) (Caron & Hinman, 2013; DeLamater, 1991; Sprecher & Regan, 1996). In the research on reasons for and reactions to virginity, variation has been examined primarily based on gender. Female virgins have been found to feel more positively about their virginity status than male virgins (Sprecher & Regan, 1996; Sprecher & Treger, 2015). Women also tend to rate more reasons as important for their virginity (ethics, fear of outcomes), whereas the primary reason men rate as more important than women is not having a willing partner (Sprecher & Regan, 1996). In addition, male virgins tend to see virginity as a stigma to a greater degree than do female virgins (Eriksson & Humphreys, 2014). There are other individual difference variables beyond gender, however, that are likely to explain variation in reasons for and reactions to virginity. Some prior

research (Sprecher & Treger, 2015) has considered other demographic variables beyond gender, such as ethnicity and religious involvement.<sup>1</sup> In the present study, attachment orientation is considered, which is one of the most commonly examined individual difference variables in the relationship literature (Mikulincer & Shaver, 2018).

## Attachment and Sexuality

Since the development of adult attachment theory in the late 1980s (Hazan & Shaver, 1987), attachment theory has been a major paradigm within the relationship field in the study of individual differences in relationship functioning and outcomes. Secure individuals (who are low in both anxiety and avoidance) have positive views of their relationships and tend to be comfortable with closeness and intimacy. Individuals who are high in attachment avoidance tend to be uncomfortable with intimacy, whereas individuals high in attachment anxiety tend to be preoccupied with intimacy but at the same time not trusting of others.

As noted above, considerable research has examined how attachment orientation is associated with a variety of relationship behaviors and outcomes (Mikulincer & Shaver, 2018). However, less research has examined how attachment is associated with sexuality. Over a decade ago, Bogaert and Sadava (2002, p. 198) wrote "surprisingly little research has been conducted on attachment and sexuality." Another review article, written a decade later, also claimed that "the number of (empirical) articles on the interplay between sex and attachment is still limited" (Dewitte, 2012, p. 106). Although research linking attachment and sexuality has increased over the past decade, even a recent empirical article on attachment and sexuality (Busby et al., 2020) noted the sparse literature on associations between attachment and several sexuality-related variables including sexual debut.

The research that has been conducted linking attachment to sexuality has often taken a relational perspective, with a focus on how adults' attachment orientation is associated with their sexual functioning, sexual satisfaction, and sexual communication within the context of a current romantic relationship (Bimbaum & Reis, 2019). Not surprisingly, this research indicates that secure attachment orientation is associated with positive sexual experiences, including more frequent and satisfying sex, having sex to express love to one's partner and to intensify the relationship, and being responsive to a partner's sexual needs. Insecure attachment is associated with more

<sup>1</sup> Findings included that Black virgin participants, to a greater degree than virgins of other races, indicated they were still a virgin because of the belief that premarital sex was inappropriate and fear of negative outcomes (e.g., pregnancy). Black participants also had more positive emotional reactions to their virginity than did participants of other races. Furthermore, religiosity was a strong predictor of endorsing the reason that premarital sex was wrong.

negative outcomes related to sex in relationships, such as less frequent and less satisfying sex, more negative emotions during sex, and more sexual problems (e.g., Birnbaum, 2007; Birnbaum, Reis, Mikulincer, Gillath, & Orpaz, 2006; Bogaert & Sadava, 2002; Brassard, Shaver, & Lussier, 2007; Péloquin et al., 2014; Tracy, Shaver, Albino, & Cooper, 2003).

Another line of research that has examined links between attachment and sexuality has focused on how individuals' attachment orientation is associated with their overall (lifetime) sexual attitudes and sexual behaviors. The findings from this line of research show distinct patterns of sexuality as a function of attachment orientation. Secure attachment has been found to be associated with the belief that sex should occur in the context of relationships, having fewer lifetime partners, and the decreased likelihood of participating in hookups and extra-dyadic relationships (e.g., Brennan & Shaver, 1995; Cooper, Shaver, & Collins, 1998; Paul, McManus, & Hayes, 2000; Schmitt & Jonason, 2015; Sprecher, 2013). This pattern of sexuality would be consistent with the theory's characterization of securely attached people valuing emotional intimacy. Avoidant attachment has been found to be associated with greater acceptance of and engagement in casual sex (Brennan & Shaver, 1995; Feeney, Noller, & Patty, 1993; Gentzler & Kerns, 2004). Avoidant individuals' interest in casual sex can be a strategy used to avoid intimacy. Attachment researchers have argued that people high on anxious (preoccupied) attachment, because of their intense intimacy needs, may be willing to have sex even when they do not desire it, for the purpose of initiating or maintaining a relationship and to avoid being rejected. For example, research has shown that anxious attachment is associated with participating in unwanted sex (Feeney, Peterson, Gallois, & Terry, 2000; Gentzler & Kerns, 2004) and with early sexual intercourse and a greater number of partners (Bogaert & Sadava, 2002).

Both lines of research – the research that has focused on the link between attachment and sexuality in romantic relationships and the research that has examined how attachment is associated with overall lifetime sexual attitudes and behaviors – suggest that people of different attachment orientations have sex for different reasons. Individuals with a secure attachment style are more likely than individuals with other attachment styles to have sex to express love for a partner. Anxious attachment people, to a greater degree than people with other attachment styles, have sex to reduce insecurity and as a way to feel loved and to seek reassurance. Avoidant attachment individuals may have sex to satisfy individual needs (e.g., Davis, Shaver, & Vernon, 2004; Schachner & Shaver, 2004; Segovia, Maxwell, DiLorenzo, & MacDonald, 2019; Snapp, Lento, Ryu, & Rosen, 2014).

Just as individuals with different attachment orientations may vary in the reasons they have sex, attachment orientation

may be associated with the reasons for *not* having sex among young adults who are virgins. For example, young adult virgins who have an insecure attachment style may (to a greater degree than those who are securely attached) endorse reasons for virginity that refer to feeling insecure (e.g., too shy, feeling undesirable) and not being in love enough. Furthermore, individuals with an avoidant/dismissing attachment style may be more likely than individuals with other attachment styles to report that they do not feel ready to have sex. It is also speculated that young adult virgins with a secure attachment style will feel more positively and less negatively about their virginity status than young adults with other attachment styles. Finally, it was also explored how virgins of different attachment styles may vary in their perceived likelihood of becoming sexually active in the near future, and in the pressure they receive to remain a virgin versus to become sexually active, which are other variables that have been considered in recent research on virginity (Sprecher & Treger, 2015).

In sum, the research questions posed in this study are the following:

*RQ1:* How are young adult virgins' attachment orientations associated with the reasons they endorse for being a virgin?

*H1:* Adult virgins who have a secure attachment style will have a more positive emotional reaction to their virginity status than adult virgins who have an insecure attachment style.

*RQ2:* How are young adult virgins' attachment orientations associated with other reactions to their virginity status (e.g., the likelihood of becoming sexually active in the near future)?

## Method

### Participants

The participants for this study were from a larger sample of college students at a public Midwestern U.S. university. The study began in 1990 and surveyed successive cohorts of students who were enrolled in a social science class. However, a measure of attachment style was not added to the survey until the fall of 1997. From the sample of participants who completed the survey during a semester between fall of 1997 and spring of 2019, the subsample that was selected for this study were those who reported they had not had sexual intercourse (or another intimate genital activity) and who completed questions about their reactions to their virginity status. The final sample for this study further excluded those who had responses out of the range for three or more items, had other evidence of faulty data, and/or responded yes to a question

that appeared later in the survey that asked whether they had had sexual intercourse. (See supplementary file available from the author for more detail about inclusions and exclusions.)

In the final sample for analysis ( $N = 671$ ), 68.7% were women, 31.1% were men, and one participant indicated a gender other than man or woman.<sup>2</sup> Although there were more women than men in this sexually inexperienced sample, this gender imbalance was also true of the larger sample (65% for the same period) and reflects the gender distribution of the university, especially in social science classes. The modal age of the sample was 19; 90.8% were between 18 and 21. A majority (82.4%) were White; 8.8% were Black, and the remaining chose another race/ethnicity or “other.”

## Procedure

The process of collecting the data remained constant over the years of data collection. The survey was administered in the same social science class (a sociology of human sexuality class) and in the same way each semester. The participants were presented with a paper survey during class time and asked to anonymously complete their responses on machine-readable op-scan sheets. Those who did not wish to participate were permitted to study their class materials or do another activity without penalty. The survey was described as being conducted for both research and instructional purposes. It was administered early each semester so that the findings could be presented later in the semester to the class. Most of the students in each semester participated in the study (estimated to be 95% or more).

## Measures

**Attachment Style** In one section of the survey, participants were given the four descriptions of attachment styles (Relationship Questionnaire; RQ) from Bartholomew and Horowitz’s (1991) four-category model, and asked to select the option that best described them. The paragraphs refer to fearful, preoccupied, dismissing, and secure attachment styles. Although other attachment measures are available today (see Ravitz, Maunder, Hunter, Sthankiya, & Lancee, 2010), the RQ has been the most widely used self-report measure of adult attachment (Konrath, Chopik, Hsing, & O’Brien, 2014). As noted in Konrath et al., strong evidence exists for the measure’s psychometric properties including that it has been found to be highly correlated with other measures of attachment (e.g., Brennan, Shaver, & Tobey, 1991) and demonstrates strong stability over time.

<sup>2</sup> The question on gender did not include more than three options until the most recent version of the survey.

**Reasons for Virginity** Participants were presented with a list of 13 reasons that people may have for not yet having sexual intercourse and asked to indicate how important each was for why they had not yet had sexual intercourse (or another genital activity if homosexual). Some of the items were originally adapted from a list of reasons used in early research by Herold and Goodwin (1981). Participants responded to each item on a 1 = *not at all important* to 4 = *very important* response scale.

A principal components analysis (PCA) with varimax rotation was conducted with the 13 items.<sup>3</sup> Four components were extracted that accounted for a total of 63% of variance in the items. The first factor included high factor loadings ( $> .60$ ) for three items that referred to not having sex because sex was viewed as inappropriate (“It is against my religious beliefs,” “Fear of parental disapproval,” and “I believe that intercourse before marriage is wrong”). The mean of the three items represented the total index for *Belief that premarital sex is inappropriate* ( $\alpha = .80$ ). The second factor that was extracted had three items that loaded above .60; the items referred to fear of negative consequences of having sex (“Fear of pregnancy,” “I worry about contracting HIV,” “I worry about contracting another STD”). The mean of the three items represented the total index of *Fear of negative outcomes* ( $\alpha = .82$ ). The third factor had three items that loaded above .50; the items were: “I do not feel ready to have premarital intercourse,” “I have not been in a relationship long enough or been in love enough,” and “I have not met a person I wanted to have intercourse with.” The mean of the three items represented the total index, *Not ready* ( $\alpha = .66$ ). Finally, four items loaded ( $> .45$ ) on the fourth factor that was extracted. However, because the Cronbach’s alpha was low ( $\alpha = .50$ ), and only slightly higher ( $\alpha = .58$ ) after eliminating the item with the lowest factor loading, it was decided not to combine the four items into a total index and instead to retain them as separate items for the analyses. The items were: “My current/past partner was not willing,” “I lack desire for sex,” “I have been too shy or embarrassed to initiate sex with a partner,” and “I don’t feel physically attractive or desirable.”

**Affective Reactions about Virginity** Participants were asked how *proud*, *guilty*, *anxious*, *embarrassed*, and *happy* they felt about their virginity status on a response scale that ranged from 1 = *not at all* to 5 = *a lot*. These emotions have been considered in prior research examining sexual decision-

<sup>3</sup> PCA was chosen rather than Common Factor Analysis because even though the results generated from the two methods are typically very similar, the purpose of PCA is to create index variables from a large set of measured variables in the most optimal way (e.g., <https://www.theanalysisfactor.com/the-fundamental-difference-between-principal-component-analysis-and-factor-analysis/>) which was the goal for the analysis. Although results are presented for the component scores created from the PCA, a supplementary file is available from the author with the results for each individual item making up these component scores.

making (e.g., DeLamater, 1991) and virginity (Sprecher & Regan, 1996; Sprecher & Treger, 2015). An index of positive affect to virginity was represented by the mean of *proud* and *happy* ( $\alpha = .82$ ). An index of negative affect was represented by the mean of the items *guilty*, *anxious*, and *embarrassed* ( $\alpha = .64$ ).

**Likelihood of Becoming a Nonvirgin** Willingness to begin sexual activity was assessed with three items: (1) “If you were in a close relationship with a partner who desired sexual intercourse and the opportunity were available, would you engage in premarital sexual intercourse?” (2) “How likely are you to engage in sexual intercourse before you get married?” and (3) “How likely are you to engage in sexual intercourse during the next year?” The response options ranged from 1 = *absolutely would not* to 6 = *absolutely would*. An index of the likelihood of becoming a nonvirgin was represented by a mean of the three items ( $\alpha = .91$ ).

**Social Pressure** The participants were also asked how much pressure they receive to remain a virgin and how much pressure they receive to become sexually active. The two questions were: (1) “How much pressure have you received from others (e.g., dating partners, peers) to have sexual intercourse?”; and (2) “How much pressure have you received from others (e.g., parents, peers) to remain a virgin?” Each question was followed by a 4-point response scale ranging from 1 = *a lot* to 4 = *none*, but then was recoded so that the higher score indicated greater pressure.

## Analytic Plan

The main analysis conducted to compare individuals with different attachment styles was an ANOVA analysis. Gender was also included in the analysis to control for gender and to determine whether gender moderated the association between attachment orientation and the reasons for and reactions to virginity.

## Results

### Reasons for Virginity

Column 1 of Table 1 presents the mean importance ratings for each reason for virginity, for the total sample. The reasons that the participants rated as most important for not yet having had first sex were not being ready (e.g., not having been in love enough) and fear of negative outcomes (e.g., pregnancy, STI). All of the reasons for virginity, however, had a mean score above 1, indicating that every reason was rated as at least somewhat important by some of the participants for their sexual inactivity.

To examine whether participants with different attachment styles differed in how important they rated the various reasons for their virginity, a two-factor ANOVA was conducted with attachment style and gender as the factors. Gender<sup>4</sup> was included in order to examine attachment style differences controlling for gender and also to examine whether gender moderated the association between attachment orientation and reasons for virginity. Table 1 presents the mean importance ratings for the different attachment styles and the statistical results from the ANOVA results.

A significant effect for attachment style was found for the factor scale score of *not being ready*. Participants with a fearful attachment style and participants with a dismissive attachment style had the highest scores. Follow-up Bonferonni tests (conducted through Oneway ANOVA) indicated that the scores for both groups were statistically significantly higher than the scores for secure attachment participants. In addition, the scores for the fearful attachment individuals were statistically significantly higher than the scores for participants with a preoccupied attachment style.

A statistically significant effect for attachment style was also found for the reason, *too shy or embarrassed to initiate sex*. Individuals with a fearful attachment style had the highest scores. Their scores were statistically significantly higher than the scores for the individuals with a secure attachment style, as indicated by the follow-up Bonferonni tests. In addition, scores for secure attachment young adults were statistically significantly lower than scores for preoccupied and dismissive attachment young adults.

The ANOVA results also indicated a significant main effect of attachment style for the reason, *feeling physically unattractive or undesirable*. Individuals with a fearful attachment style and individuals with a preoccupied attachment style had the highest mean scores. Their scores were statistically significantly higher than that for both secure attachment individuals and dismissive attachment individuals.

The gender x attachment style interaction was not statistically significant for any of the reasons for virginity ( $F$ s ranged from .15 to 1.88), which indicates that gender did not moderate the association between attachment orientation and the ratings of the reasons. This analysis, however, yielded a statistically significant main effect for gender for all of reasons ( $F$ s ranged from 4.24 to 19.45). Women rated all of the following reasons as more important than did men: *belief that premarital sex is inappropriate*, *fear of negative outcomes*, *not being ready*, *lack of desire for sex*, and *feeling unattractive and undesirable*. Conversely, men rated two reasons as more important than women: *partner not willing* and *too shy or embarrassed to initiate sex*. For the means for men and

<sup>4</sup> These analyses did not include the one participant who chose a gender other than man or woman.

**Table 1** Reasons for Virginity: Descriptive Results for the Total Sample and Differences Based on Attachment Style

	Total Sample ( <i>N</i> =671) Mean <i>SD</i>	Secure Attachment ( <i>n</i> =202) Mean <i>SD</i>	Fearful Attachment ( <i>n</i> =242) Mean <i>SD</i>	Preoccupied Attachment ( <i>n</i> =134) Mean <i>SD</i>	Dismissive Attachment ( <i>n</i> =86) Mean <i>SD</i>	<i>F</i>	<i>p</i>	$\eta_p^2$
<i>Reasons</i>								
<i>Factor scale scores</i>								
Belief that premarital sex is inappropriate	2.10 (0.99)	2.14 (1.04)	2.07 (0.92)	2.10 (1.02)	2.08 (1.06)	.241	.868	.001
Fear of negative outcomes	2.63 (1.01)	2.49 (1.00)	2.76 (1.00)	2.54 (0.99)	2.69 (1.02)	1.16	.324	.005
Not being ready	2.71 (0.95)	2.45 <sub>ab</sub> (0.95)	2.96 <sub>ac</sub> (0.90)	2.57 <sub>c</sub> (0.94)	2.87 <sub>b</sub> (0.93)	6.71	<.001	.030
<i>Scores for Items not included in Factor Scores</i>								
Partner not willing	1.83 (1.18)	1.75 (1.15)	1.80 (1.19)	1.90 (1.19)	1.96 (1.25)	.292	.831	.001
Lack of desire for sex	1.41 (0.84)	1.29 (0.71)	1.52 (0.90)	1.35 (0.81)	1.46 (0.95)	1.61	.186	.007
Too shy or embarrassed to initiate sex	1.90 (1.08)	1.58 <sub>abc</sub> (0.89)	2.13 <sub>a</sub> (1.13)	1.90 <sub>b</sub> (1.09) <sub>c</sub>	1.98 <sub>c</sub> (1.14)	10.29	<.001	.046
Feel physically unattractive or undesirable	1.87 (1.07)	1.41 <sub>ab</sub> (0.80)	2.17 <sub>ac</sub> (1.08)	2.19 <sub>bd</sub> (1.18)	1.64 <sub>cd</sub> (0.94)	21.55	<.001	.091

The *F* values are from a 4 (attachment style) × 2 (gender) ANOVA, and thus the effect of attachment style controls for gender. Means with the same subscripts in a row are statistically significantly different from each other, based on a follow-up Bonferonni test conducted within Oneway ANOVA (for the reasons with a significant *F* value from ANOVA). The *n* size varied as a function of missing values on the particular item or index. Confidence intervals are available in supplementary analyses available from the author. The supplementary analyses also include the results for attachment style differences in the individual reasons that are included in the composite scores

women, see a supplementary document available from the author (also see Sprecher & Treger, 2015).

## Emotional Reactions to Virginity

The first two rows of Table 2 present the scores on the indices of positive and negative emotions to virginity for the total sample and for individuals of different attachment styles. The participants had a more positive reaction than a negative reaction to their virginity ( $t[668] = 18.41, p < .001$ ).

A 4 (attachment style) × 2 (gender) ANOVA was conducted on each emotion index, and statistically significant differences based on attachment style were found for both emotion indices (see Table 2). On the positive emotions index, secure attachment young adults had the highest mean. Their scores

were statistically significantly higher than that for fearful attachment participants and preoccupied attachment participants, as indicated by follow-up Bonferonni tests. On the negative emotions index, individuals with a preoccupied attachment style had the highest score, whereas individuals with a secure attachment style had the lowest score. Bonferonni follow-up tests indicated that both the preoccupied attachment participants and the fearful attachment participants had statistically significantly higher scores than individuals with a secure attachment style. Furthermore, preoccupied attachment participants scored higher than dismissive attachment participants.

The interaction between attachment style and gender was not statistically significant for either emotion index ( $F[1655] = 1.12, p = .341, \eta_p^2 = .005$ , for positive emotions;

**Table 2** Other Reactions to Virginity: Descriptive Results and Differences as a Function of Attachment Style

	Total Sample ( <i>N</i> =671) Mean <i>SD</i>	Secure Attachment ( <i>n</i> =202) Mean <i>SD</i>	Fearful Attachment ( <i>n</i> =242) Mean <i>SD</i>	Preoccupied Attachment ( <i>n</i> =134) Mean <i>SD</i>	Dismissive Attachment ( <i>n</i> =86) Mean <i>SD</i>	<i>F</i>	<i>p</i>	$\eta_p^2$
Positive Emotions to Virginity	3.56 (1.15)	3.78 <sub>ab</sub> (1.07)	3.45 <sub>a</sub> (1.18)	3.43 <sub>b</sub> (1.17)	3.54 (1.17)	6.01	<.001	.027
Negative Emotions to Virginity	2.27 (0.91)	2.04 <sub>ab</sub> (0.82)	2.38 <sub>a</sub> (0.92)	2.49 <sub>bc</sub> (0.96)	2.16 <sub>c</sub> (0.89)	10.77	<.001	.047
Likelihood of Becoming a Nonvirgin	3.61 (1.50)	3.55 (1.62)	3.62 (1.45)	3.75 (1.44)	3.53 (1.46)	.31	.820	.001
Pressure to Remain a Virgin	2.39 (1.00)	2.45 (1.01)	2.41 (0.98)	2.37 (0.97)	2.21 (1.09)	1.61	.185	.007
Pressure to Become Sexually Active	2.55 (0.96)	2.51 (0.98)	2.59 (0.99)	2.52 (0.88)	2.58 (1.02)	.863	.460	.004

The *F* values are from a 4 (attachment style) × 2 (gender) ANOVA, and thus the effect of attachment style controls for gender. Means with the same subscripts in a row are statistically significantly different from each other, based on a follow-up Bonferonni test conducted within Oneway ANOVA (for those reactions with a significant *F* value from ANOVA). The *n* size varied as a function of missing values on the particular item or index. Confidence intervals are available in supplementary analyses available from the author

and  $F[1653] = 1.96$ ,  $p = .119$ ,  $\eta_p^2 = .009$ , for negative emotions), which indicates that gender did not moderate the association between attachment orientation and emotional reactions to virginity. A main effect for gender was found for each index, however ( $F[1655] = 52.81$ ,  $p < .001$ ,  $\eta_p^2 = .075$  for positive emotions and  $F[1653] = 11.26$ ,  $p = .001$ ,  $\eta_p^2 = .017$  for negative emotions). Women had higher scores to the positive emotions index and lower scores to the negative emotions index than did men (means available in supplementary analyses available from the author).

### Other Reactions to Virginity

No differences based on attachment style were found in the perceived likelihood of becoming a nonvirgin (see Table 2). A follow-up 4 (attachment style)  $\times$  2 (gender) ANOVA yielded no statistically significant attachment style  $\times$  gender interaction to this item ( $F[3655] = .39$ ,  $p = .761$ ,  $\eta_p^2 = .002$ ). However, a main effect for gender was found ( $F[1655] = 32.85$ ,  $p < .001$ ,  $\eta_p^2 = .048$ ). Men were more likely than women to believe that they would become a nonvirgin in the near future (see supplementary analyses available from the author).

In addition, no differences were found based on attachment style in pressure to remain a virgin or in pressure to become sexually active, as shown by the means in Table 2. A follow-up 4 (attachment style)  $\times$  2 (gender) ANOVA indicated that gender did not moderate the associations (i.e., there was no statistically significant gender  $\times$  attachment style interaction:  $F[3653] = 1.34$ ,  $p = .261$ ,  $\eta_p^2 = .006$  for the item on pressure to remain a virgin, and  $F[3654] = .75$ ,  $p = .526$ ,  $\eta_p^2 = .003$  for the item on pressure to have sex). Whereas no gender differences were found in pressure to have sex, a gender effect was found pressure to remain a virgin,  $F[3653] = 22.22$ ,  $p < .001$ ,  $\eta_p^2 = .033$ . Women reported more pressure than men to remain a virgin (see supplementary analyses available from the author).

### Discussion

This study contributes to two areas of literature: (1) the study of attachment and sexuality; and (2) the study of virginity in college. This study demonstrated that college students' attachment orientation was associated with their reasons for being a virgin and their emotional reactions to their virginity status.

The attachment style of the participants was associated with their reasons for being a virgin; in particular, some reasons were rated to be more important by participants with an insecure attachment style. The finding that young adult virgins who identified as having a fearful attachment style rated the reason not being ready (e.g., not in love enough) more important than individuals with other attachment styles (and especially those who were secure in their attachment style) is

consistent with the theory's characterization of the avoidant-fearful attachment style. Such individuals find it difficult to trust others and are often fearful of getting too close to others (Mikulincer & Shaver, 2018). Dismissive-avoidant young adults also scored higher on the reason not being ready (e.g., not in love enough) relative to the secure and preoccupied attachment young adults. These individuals are comfortable without close relationships and thus it is not surprising that they have not been in love enough or been in a relationship long enough.

Although sexual norms began changing in the 1960s (Twenge, Sherman, & Wells, 2015; Wells & Twenge, 2005), with very few college students over the past two decades endorsing the abstinence standard identified many years ago by Reiss (1967), some young adults likely still decide not to have sexual activity because of their personal sexual belief that premarital sex is inappropriate. The mean for this reason in this sample of virgin students was 2.10, which reflects a slight to somewhat important response. However, no differences were found in the importance ratings of this reason based on attachment style.

Other reasons for virginity that were considered in this study had to do with insecurities or deficiencies (e.g., too shy or embarrassed to initiate sex, not having a willing partner). Although no differences were found based on attachment style for the importance attributed to the reason of not having a willing partner, statistically significant differences based on attachment style were found for several other reasons. Fearful and dismissive attachment participants scored higher on the reason, *too shy or embarrassed*, especially compared to secure participants. The largest association found for attachment style was for the reason, *feel physically unattractive or undesirable*. Both fearful attachment young adults and preoccupied attachment young adults scored higher on this reason – which is consistent with the theory's characterization of these attachment styles as having anxiety and being insecure (Mikulincer & Shaver, 2018).

Overall, the sample had a more positive than negative reaction to their virginity. However, this difference was greatest for secure attachment young adults, as securely attached participants reported the highest level of positive emotions and the lowest level of negative emotions to their virginity, relative to young adults with other attachment styles (particularly those who had preoccupied or fearful attachment styles). These results are consistent with other research that shows that secure attachment young adults have positive feelings about their current life situation (Bylsma, Cozzarelli, & Sumer, 1997; Fraley, 2019). Preoccupied attachment young adults had the most negative reaction to their virginity status, which may reflect their intense intimacy needs. They may want to have sexual intimacy with others but be reluctant to get close enough to others to have this occur.

No differences based on attachment style were found for the likelihood of becoming a nonvirgin, pressure from others to remain a virgin, or pressure from others to become sexually active. Thus, while young adults' reasons for and reactions to virginity may differ based on their attachment style, their forecasts for the future do not. In addition, it makes sense that the pressure young adults receive from their network (to remain sexually inactive or to become sexually active) would not be affected by their attachment style.

Although the focus of this study was not on gender differences in virginity experience (this was a focus of prior publications based on earlier cohorts from the larger sample; see Sprecher & Regan, 1996; Sprecher & Treger, 2015), the findings presented with this analytic sample (that overlapped with but also included more recent cohorts of students), showed a consistent pattern of gender differences, as presented in the supplementary document. Women tended to rate more reasons as important for their virginity than men, including *not being ready*, *fear of negative outcomes* (e.g., fear of pregnancy), and the *belief that premarital sex is inappropriate* (e.g., against religious beliefs). Women also rated *lack of desire for sex* and *feeling physically unattractive or undesirable* to be more important than men. Men rated higher than women *partner not willing* and *too shy or embarrassed to initiate sex*. Women also had a more positive reaction and a less negative reaction to their virginity, perceived a lesser likelihood of becoming a nonvirgin, and believed they received more pressure to remain a virgin. The pattern of results suggests that men are more reluctant virgins than women (see also Sprecher & Treger, 2015). Although gender differences were found, gender did not moderate the attachment style differences that were the focus of this study.

### Strengths, Limitations, and Future Research Directions

A strength of this study was the large sample of adult virgins, which was made possible by collecting data over many years with successive cohorts of students in a university setting. The virgin students in the sample were likely more representative of college virgins than they would have been had they been self-selected specifically for a study on virginity. Instead, they were obtained from a larger sample of college students, many of whom were nonvirgins. Therefore, they are likely to represent college virgins more than would a volunteer sample self-selected based on virginity status.

Although the participants were not self-selected, a limitation is that they all came from one class in one university setting. It is possible that the subpopulation of students enrolled in a class focusing on sexuality would differ from those in other classes. Another limitation is the measure of attachment used. Although the forced choice Relationship Questionnaire (RQ; Bartholomew & Horowitz, 1991) has

been a widely used self-report measure of adult attachment with demonstrated reliability and validity (Konrath et al., 2014), there are many other attachment measures available today, including multiple-item scales that assess degree of anxiety and degree of avoidance (Brennan, Clark, & Shaver, 1998).

An interesting future study would be to include a longitudinal design that begins with a sample of sexually inactive adolescents and follows them over time through the transition to sexual debut. Such a study could examine how attachment style affects the experience of and reactions to transitioning from virginity to sexual debut.

### Implications and Conclusions

Public health officials have developed prevention efforts aimed at convincing adolescents to delay the onset of sexual activity, particularly because early initiation of sex is associated with negative health outcomes particularly if it occurs under less than ideal conditions, i.e., no contraception, not feeling ready, partner or peer pressure (Sprecher, O'Sullivan, Drouin, Verette-Lindenbaum, & Willetts, 2019). However, sexual activity in college is often considered normative. Therefore, young adults who are not sexually active in college likely have less pressure to remain sexually inactive and more diverse reasons and reactions for their sexual decision-making. The findings of this study suggest that reasons for and affective reactions to sexual decision-making and current sexual status are linked to general relationship personality (attachment orientation) – information that would be useful to college counselors who advise students on interpersonal issues. In conclusion, this study contributes to the literature on attachment orientation and sexuality by considering how reasons for and reactions to *sexual inactivity* are associated with individuals' attachment styles.

**Supplementary Information** The online version contains supplementary material available at <https://doi.org/10.1007/s12144-021-01535-8>.

**Data Availability** The data analyzed for the current study are available from the corresponding author on reasonable request.

### Declarations

**Statement of Conflict of Interest** The author states that there is no conflict of interest.

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