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Adolescent Sexual Guilt and the Development of Self-Esteem During the Transition to Adulthood: The Moderating Effect of Race

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Abstract

Early adolescent sexual experiences have been found to be associated with lower levels of well-being; however, this relationship has been found to be better explained through the adolescent's perception of their sexual behavior. The present study explored the implications of adolescent sexual guilt on the development of self-esteem across emerging adulthood. Using secondary data from the National Longitudinal Study of Adolescent to Adult Health the present study found that self-esteem developed in quadratic fashion from adolescence to adulthood. Sexual guilt was associated with lower levels in self-esteem at each of the four time-points from adolescence to adulthood for both people of color and white individuals. The association between sexual guilt and the change in self-esteem was only significant for people of color. The study illustrates the importance of sex-positive conversations around sexual behavior and safety to reduce the development of guilt and the lasting influence guilt has on development. Additionally, this study illustrates unique risks which people of color experience.

Keywords Adolescence · Adulthood · Life-span · Race · Self-esteem · Sexual guilt

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Introduction

Adolescence has long been seen as a time of identity exploration (Arnett 2000; Erikson 1968). The biological and cognitive development that occurs during adolescence allows for further self-understanding as adolescents are now more likely to think and define themselves in the abstract. This identity development that occurs shapes development later in the life-span. For example, having a more solidified sense of one's identity has been found to be associated with higher levels of self-esteem (Arnett 2015b). Additionally, for many adolescents, this developmental stage is marked by early sexual experiences. These early sexual experiences can shape the adolescent's feelings towards their own sexual identity development and are an important developmental marker of this stage (Lefkowitz and Vasilenko 2014). Prior research has explored the implications of sexual behavior as it relates to negative outcomes and found that sexual behavior was associated with increases in depressive symptoms in adolescents (Vasilenko 2017). However, research has also found that adolescents are active participants in their own development and that their self-perceptions offer a better explanation for the development of poor mental health outcomes related to their sexual experiences. The sexual act alone is not what is associated with changes in mental health outcomes; the adolescent's cognitive processing of their sexual behavior is a better predictor of mental health outcomes (Vasilenko et al. 2014). This has been found to be true for the development of general guilt. For example, feelings of guilt which develop during adolescence have previously been found to influence development during later life stages (i.e. Kinnunen et al. 2010). Further research is necessary to understand this relationship between sexual guilt and mental health outcomes (specifically, self-esteem) longitudinally. What remains to be known is whether adolescent sexual guilt is associated with self-esteem at different points during the life-span and if adolescent sexual guilt is associated with the change trajectory of self-esteem across the life-span. Additionally, further research is necessary to understand demographic factors which shape this relationship. It will be important to understand how individuals in marginalized communities are impacted by sexual guilt. With this in mind, the present study uses a life-span developmental theoretical framework and seeks to elucidate the ways in which feelings of sexual guilt during adolescence influence the development of self-esteem across the transition to adulthood.

Theoretical Framework

The theoretical perspective we draw on to explore the development of self-esteem across the transition to adulthood reflects a life-span developmental theoretical framework (Baltes 1987). This framework recognizes that intra-individual development does not end after childhood and that important developmental milestones still exist in adulthood. The life-span perspective posits that inter-individual differences are of key importance and that it is imperative to explore differences in outcomes based on demographic identities. The life-span perspective also recognizes the influence which experiences at one point in the life-span can have on later stages of the

life-span. This theoretical framework is especially important in the study of the transition from adolescence to adulthood (Arnett 2000). Arnett (2000) theorized that further exploration was needed into the developmental experiences of 18–29-year-olds. According to Arnett (2000), the transition from adolescence to adulthood typically takes longer than in previous cohorts and many emerging adults feel as though they exist somewhere in between adolescence and adulthood. Thus, the experiences in adolescence are of profound influence on the experiences of emerging adulthood. Some have gone so far as to say that emerging adulthood is not a stage at all (e.g. Hendry and Kloep 2011) and that the long transition to adulthood is a process reserved for those in Western societies. However, for this study, we acknowledge that while there is variability in the experiences within the lived experiences of 18–29-year-olds (Arnett 2015a), emerging adulthood is a unique stage of development which needs further study using a life-span developmental framework.

The Relationship Between Sexual Guilt and Well-Being

Guilt is an unpleasant feeling that can motivate an individual to act as a means of assuaging the feelings caused by the negatively perceived action (Stuewig et al. 2015). To conceptualize the relationship between sexual guilt and self-esteem it is first important to consider the relationship between a more general sense of guilt and well-being outcomes. Research has explored the negative implications of general guilt as it relates to psychological well-being (e.g., Velotti et al. 2016). Velotti et al. (2016) found that guilt was highly correlated with shame and that shame was associated with lower levels of self-esteem.

Prior research has focused more intently on unique forms of guilt which stem from certain experiences and behaviors. Sexual guilt is defined as "a generalized expectancy for self-meditated punishment for violating or anticipating violating standards of sexual misconduct" (Mosher and Cross 1971, p. 27). Prior research has found that sexual guilt is associated with lower levels of sexual desire (Brotto et al. 2012; Woo et al. 2011; Teimourpour et al. 2014), lower levels of sexual activity (Emmers-Sommer et al. 2018), higher levels of condom use (Wayment and Aronson 2002), less positive perspectives of sex (Emmers-Sommer et al. 2018), and fewer sexual partners (Wayment and Aronson 2002).

Additionally, prior research has found that certain demographic variables moderate the experiences of sexual guilt and that marginalized individuals are more likely to experience sexual guilt. Specifically, research has found that individuals experience sexual guilt differently based on race (Abramson and Imai-Marquez 1982; Woo et al. 2011), and gender (Darling et al. 1992; Emmers-Sommer et al. 2018). Likewise, sexual minority (i.e. lesbian, gay, and bisexual) individuals could experience higher levels of sexual guilt due to the addition of guilt associated with their sexual orientation (i.e. internalized homophobia or biphobia). Further research is needed to understand how these marginalized identities moderate an individual's experience of sexual guilt.

Additionally, prior research related to adolescent sexual behavior has focused on the relationship between the sexual behavior and psychological well-being (i.e.

Vasilenko 2017), however, an exploration into the association between guilt following the sexual behavior and well-being is not as pronounced (i.e. Abdolsalehi-Najafi and Beckman 2013). Abdolsalehi-Najafi and Beckman (2013) found that higher levels of sexual guilt were associated with lower levels of life-satisfaction. Additionally, Vasilenko et al. (2014) conceptualized a model linking adolescent sexual behavior with mental health and well-being. Of note, they theorize that a primary tenet of this model is the adolescent's perception of the sexual behavior. To Vasilenko et al. (2014), the adolescent evaluates their sexual behavior in a process of self-perception and that it is this cognitive process which influences the adolescent's well-being (Diener et al. 2003). This framework views adolescents as active participants in their development and recognizes that there is power in the adolescent's own cognitive processing of their life events. The negative association between adolescent sexual behavior and well-being is best explained through the adolescent's perception of this behavior. Additionally, Vasilenko (2017) also notes that the sexual guilt in adolescence is due, in part, to the timing of the sexual behavior; sexual behavior earlier in adolescence holds greater stigma as it is less of a normative milestone and, thus, may lead to more negative feelings about the sexual behavior. The societal messages they receive produce feelings of guilt when the individual is at a younger age in adolescence.

The Development of Self-Esteem Across the Transition to Adulthood

The present study is interested in the longitudinal relationship between sexual guilt and self-esteem. Self-esteem, feeling good about oneself (Rosenberg 1965), is one tenant of psychological well-being and has been found to increase with age as individuals transition from adolescence to adulthood (Orth and Robins 2014; Orth et al. 2010; Robins and Trzesniewski 2005). Self-esteem research is arguably more important during the transition from adolescence to adulthood as this is a time of major identity development and drastic changes in self-esteem. For example, self-esteem typically drops at the onset of adolescence (Trzesniewski et al. 2003) but Orth et al. (2010) found that self-esteem then develops in a quadratic fashion across the transition to adulthood. They found that self-esteem rises in a linear fashion through adolescence and emerging adulthood before leveling off and decreasing over the later part of the life-span (Orth et al. 2010). Using a life-span theoretical lens allows researchers to explore the developmental trajectory of self-esteem across the life-span (e.g., Erol and Orth 2011; Orth et al. 2010).

Prior research has also noted differences in self-esteem based on demographic variables. Notably, researchers have found that African American individuals report higher levels of self-esteem than white individuals and that Asian Americans report lower levels of self-esteem than white individuals (Bachman et al. 2011). Similarly, Shaw et al. (2010) found that when considering both race and age, older black adults had a steeper decline of self-esteem. Differences have also emerged based on sexual orientation. Consolacion et al. (2004) found that sexual minority individuals reported lower levels of self-esteem when compared to their heterosexual peers. Finally, gender differences have also been found.

Robins and Trzesniewski (2005) found that women reported lower levels of self-esteem as compared to men across childhood, adolescence, emerging adulthood, and adulthood. Mean scores for women were only higher in older adulthood (ages 80–90). Bachman et al. (2011) noted that differences could be due to "cultural traditions [which] give rise to different default patterns of behavior" (p. 447). Differences between minority and marginalized groups seem to illustrate that minority individuals may be comparing their self-worth to others in their own groups as opposed to those in the majority group (Bachman et al. 2011). Further research is needed to explore not only mean differences in self-esteem between demographic groups but also differences in the trajectory of change for self-esteem between these groups.

The Present Study

Whereas prior research has explored the association between sexual guilt and other operationalizations of psychological well-being including life-satisfaction (e.g. Abdolsalehi-Najafi and Beckman 2013), there is a lack of research related to the association between sexual guilt and self-esteem. There is also a lack of longitudinal exploration into the relationship between sexual guilt and the development of self-esteem as well as a need for further research related to the moderating effect of certain demographic variables; namely, race, gender, and sexual orientation. The present study builds off the work of Vasilenko et al. (2014) with the recognition that adolescents are active participants in their development; their own perceptions of their sexual behavior offer a stronger explanation for the association between sexual behavior and mental health outcomes. Using a life-span developmental framework which recognizes that experiences at one stage of influence development at later stages of life, the current study analyzes sexual guilt during adolescence and its association with the development of self-esteem across the transition to adulthood.

Sexual guilt is prevalent in adolescence and has been found to be associated with lower levels of well-being (Vasilenko 2017). Additionally, self-esteem has been found to increase in a quadratic nature with age, increasing through adolescence and emerging adulthood prior to leveling off (Orth et al. 2010). Finally, certain demographic variables have been found to moderate levels of sexual guilt (Abramson and Imai-Marquez 1982; Darling et al. 1992; Emmers-Sommer et al. 2018; Woo et al. 2011) and self-esteem (Bachman et al. 2011; Robins and Trzesniewski 2005; Shaw et al. 2010). Therefore, we hypothesize that

H1: sexual guilt will be negatively associated with self-esteem in adolescence,

H2: adolescent sexual guilt will also be negatively associated with self-esteem at later time points from adolescence to adulthood,

H3: adolescent sexual guilt will be associated with the trajectory of change in self-esteem across the transition to adulthood, and

H4: demographic features (race, sexual orientation, and gender) will contextualize this relationship and significantly moderate the individual's experience.

Method

Data and Participants

Data were collected using secondary data analysis with the National Longitudinal Study of Adolescent to Adult Health (Harris et al. 2009) including four waves across the transition from adolescence to adulthood. Wave 1 was collected when individuals were adolescents in 7th–12th grade ($M_{age} = 16.39$; $SD = 1.50$). Data collection followed up with Wave 2 collected approximately 2 years later while participants were still in adolescence ($M_{age} = 16.86$; $SD = 1.41$). Wave 3 was collected amidst the transition to adulthood when participants were in emerging adulthood between the ages of 18–26 ($M_{age} = 22.76$; $SD = 1.51$). Wave 4 was collected after the individuals had transitioned further to adulthood when participants were between the ages of 24–32 ($M_{age} = 29.23$; $SD = 1.51$). We narrowed our sample to individuals who had previously had sex prior to Wave 1. This sexual history was measured as a dichotomous variable asking whether they had previously been sexually active where 0 = *has not had sexual intercourse before* and 1 = *has had sexual intercourse before.* We were interested in exploring the guilt related to sexual behavior in the presence of actual sexual behavior and not in a hypothetical way; thus, it was important to include only adolescents who had previously had sex in order to answer our proposed hypotheses. Additionally, t tests revealed significant differences in the levels of self-esteem at waves 2–4 between those who were sexually active prior to wave 1 and those who were not indicating that they had unique experiences of self-esteem which needed further exploration. Individuals who had not previously had sex represented 60.6% of the original sample and were not included in our sample, leaving a total sample of 2565. 49% of the sample identified as women, and 60% identified as being white. Participants could mark more than one racial identity. 32.8% of participants selected African American, 3.9% of the sample selected Native American, 3.1% selected Asian American, and 6.2% of the sample marked "other." Additionally, 14% of the participants indicated at Wave 3 that they were sexual minorities (indicating that they were not "100% heterosexual").

Measures

Self-Esteem

Self-esteem was measured at W1, W2, W3, and W4 using the one available item from the secondary data which asked, "how often in the past week have you felt that you were just as good as other people." Participants responded on a Likert scale from *never or rarely* (0) to *most of the time or all the time* (3).

Sexual Guilt

Sexual guilt during adolescence was measured at W1 using the one item available from the secondary data which asked, "If you had sexual intercourse, afterward, you

would feel guilty." Participants responded on a Likert scale from *strongly disagree* (1) to *strongly agree* (5).

Data Analysis

The current study explores the influence that sexual guilt in adolescence has on initial levels of self-esteem as well as the development of self-esteem across the transition to adulthood. To accomplish this, latent growth curve analysis was conducted to assess the development of self-esteem. All analyses were run in Mplus version 8 (Muthén and Muthén 1998–2017) using full information maximum likelihood to handle missing data (Acock 2005) which ranged from .01 to 33% with larger missing data proportions due to the longitudinal nature of the data collection. The present study involved three stages of analysis: an initial model which only included self-esteem, a supplementary model which added in sexual guilt and demographic controls, and the final moderated models which explored group differences based on demographic identities. Model fit for all models was assessed using the parameters following the work of Hu and Bentler (1998) including root mean square error of approximation (*RMSEA* < .08), standardized root mean square residual (*SRMR*; < .08), Comparative Fit Index (*CFI* > .95), and Tucker Lewis Index (*TLI* > .95) in addition to the model Chi square (*p* < .05).

Initial Model

An initial change model was constructed analyzing the four data points of self-esteem without any predictor or control variables. Using the four time-points of self-esteem collected across the transition from adolescence to adulthood, a quadratic latent growth model was constructed holding the middle two time-points constant using nonlinear curve fitting (Curran et al. 2010; Kaplan 2009; Meredith and Tisak 1990). Since prior research has indicated that there are unique developmental trajectories of self-esteem, it is important to allow the middle points of the self-esteem trajectory to be freely estimated to more accurately reflect how self-esteem develops. Additionally, this method allows for additional degrees of freedom to be utilized.

Supplementary Model

After the unconditional model was fit, a latent growth model was then constructed which included sexual guilt during adolescence as a predictor of initial values and changes in self-esteem across the transition to adulthood. Model fit was assessed using the same indicators. Additionally, our model also controlled for the age at which the individual first had sex, gender which was coded as a dichotomous variable where 0 = *men* and 1 = *women*, race which was coded as a dichotomous variable where 0 = *person of color* and 1 = *white,* and sexual orientation which was coded as a dichotomous variable where 0 = *heterosexual* and 1 = *sexual minority.* Participants were coded as sexual minorities if, at Wave 3, they indicated that they were not "100% heterosexual".

Moderated Models

Finally, our study was also interested in finding significant differences between groups in our model based on demographic variables of interest (race, gender, and sexual orientation). Specifically, we were interested in whether there were differences in the path between sexual guilt and the initial level of self-esteem as well as the path between sexual guilt and the rate of change of self-esteem. Thus, the supplementary model was run as a multiple group comparison to test the moderating effect of race, gender, and sexual orientation. The supplementary model with predictor and control variables was fit to the data with all parameters freely estimated across both groups. Then, we constrained each path progressively. Chi square difference tests were used to compare the fit of the constrained models versus the unconstrained model to determine if constraining the path to be equal across groups significantly reduced model fit. This would suggest that this path is significantly different between groups (Cheung and Rensvold 2002).

Results

Initial Model

Our initial model revealed mean scores for self-esteem to be 1.89 at W1, 1.91 at W2, 2.27 at W3 and 2.20 at W4 supporting the use of a quadratic growth model to illustrate the development of self-esteem as it levels off during late emerging adulthood. Results from the initial unconditional model indicated good model fit (χ^2 [3] = 13.81, $p < .01$, $CFI = .98$, $TLI = .97$, $RMSEA = .04$, $SRMR = .02$) and shows that self-esteem follows a quadratic trajectory from adolescence to adulthood.

Supplementary Model

The supplementary model included sexual guilt as a predictor variable and controlled for demographic variables (race, gender, sexual orientation, and the age of first sex). Means, standard deviations, and correlations for the variables of interest in our supplementary model can be found in Table 1. The supplementary model featuring predictor and control variables shows moderate model fit (χ^2 [16] = 111.59, $p < .001$, $CFI = .88$, $TLI = .77$, $RMSEA = .05$, $SRMR = .03$). Results from the supplementary latent growth model can be found in Table 2 and indicate that sexual guilt in adolescence was significantly associated with initial levels of self-esteem in adolescence ($b = -.10$, $p < .001$, $\beta = -.15$). Sexual guilt in adolescence was not significantly associated with the rate of change in self-esteem across the transition to adulthood ($b = .03$, $p > .05$, $\beta = .07$).

We were also interested in the associations between demographic variables. Women reported lower levels of self-esteem at Time 1 ($b = -.11$, $p < .01$, $\beta = -.09$) but identifying as a woman was not associated with changes in self-esteem ($b = .04$,

Table 1 Reports of self-esteem, sexual guilt, race, gender, and first sex age: correlations, means, and standard deviations ($N=2565$)

Variables	1	2	3	4	5	6	7	8	9
Self-esteem									
1. Time 1	–								
2. Time 2	.39**	–							
3. Time 3	.24**	.30**	–						
4. Time 4	.22**	.25**	.31**	–					
Predictors									
5. Sexual guilt	− .10	− .09**	− .08**	.004	–				
6. Sexual orientation	− .04	− .08**	− .03	− .05	.02	–			
7. Gender	− .07**	− .07**	− .06*	− .06*	.12**	.27**	–		
8. Age at first sex	.003	.02	.04	− .02	.09**	.02	.21**	–	
9. Race	.02	.04	.09***	.02	.03	.03	.05*	.21***	–
M	1.89	1.93	2.27	2.20	2.55	.14	.49	14.23	.60
SD	1.03	1.01	.97	.90	1.08	.35	.50	2.43	.49
Range	0–3	0–3	0–3	0–3	1–5	0–1	0–1	0–19	0–1

*$p<.05$; **$p<.01$; ***$p<.001$ (two-tailed)

Table 2 Latent growth curve analysis of self-esteem across four time-points; supplementary model with predictor variables ($N=2565$)

Variables	Intercept	Slope
Sexual guilt	− .15***	.07
Race	.02	.08
Gender	− .09**	.05
Sexual orientation	− .06	.03
Age at first sex	.05	− .06

**$p<.01$; ***$p<.001$ (two-tailed)

Model fit: χ^2 [16] $=111.59$, $p<.001$, $CFI=.88$, $TLI=.77$, $RMSEA=.05$, $SRMR=.03$

$p>.05$, $\beta=.05$). Identifying as a sexual minority was not associated initial levels of self-esteem ($b=-.11$, $p>.05$, $\beta=-.06$) or the change in self-esteem ($b=.04$, $p>.05$, $\beta=.03$). Identifying as a person of color was not significantly associated with initial levels ($b=.02$, $p>.05$, $\beta=.02$) or the change in self-esteem ($b=.07$, $p>.05$, $\beta=.08$). Finally, the age at which an individual had sex was not associated with initial levels ($b=.01$, $p>.05$, $\beta=.05$) or the slope ($b=-.01$, $p>.05$, $\beta=-.06$) of self-esteem.

Moderated Models

Finally, the present study was interested in exploring whether demographic variables significantly moderated the results of the supplementary model. Chi square difference tests revealed no significant differences between groups based on sexual

Table 3 Reports of self-esteem, sexual guilt, gender, and first sex age: correlations, means, and standard deviations for white ($N = 1542$) individuals and people of color ($N = 1019$; bolded)

Variables	1	2	3	4	5	6	7	8
Self-esteem								
1. Time 1	–	**.43*****	**.26*****	**.26*****	**.06***	**−.01**	**−.04**	**−.02**
2. Time 2	.37***	–	**.30*****	**.34*****	**.02**	**−.02**	**−.01**	**−.004**
3. Time 3	.22***	.30***	–	**.34*****	**.05**	**.03**	**−.03**	**−.01**
4. Time 4	.19***	.18***	.28***	–	**.01**	**−.03**	**−.03**	**−.08***
Predictors								
5. Sexual guilt	.02	.04	.04	.004	–	**−.12****	**.02**	**.30*****
6. Sexual orientation	−.06*	−.12*	−.08*	−.05	−.01	–	**.24****	**.04**
7. Gender	−.10*	−.11**	−.09*	−.06*	−.001	.30**	–	**.31****
8. Age at first sex	.02	.04	−.05	−.02	.34**	−.001	.12**	–
M	1.91/**1.86**	1.97/**1.88**	2.34/**2.15**	2.22/**2.18**	2.58/**2.52**	.15/**.12**	.51/**.46**	14.64/**13.59**
SD	.99/**1.09**	.95/**1.08**	.91/**1.05**	.86/**.95**	1.07/**1.10**	.36/**.34**	.50/**.50**	2.10/**2.75**
Range	0–3	0–3	0–3	0–3	1–5	0–1	0–1	0–19

*$p < .05$; **$p < .01$; ***$p < .001$ (two-tailed)

Table 4 Latent growth curve analysis of self-esteem across four time-points; moderated model with predictor variables for people of color (bolded; $N = 1019$) and white individuals ($N = 1542$)

Variables	Intercept	Slope
Sexual guilt	−.12**/**−.22*****	−.002/**.19***
Gender	−.14***/**−.01**	.08/**−.004**
Sexual orientation	−.10*/**−.01**	.03/**.02**
Age at first sex	.06/**.02**	−.03/**−.08**

*$p < .05$; **$p < .01$; ***$p < .001$ (two-tailed)

Model fit: χ^2 [24] = 38.42, $p < .05$, $CFI = .98$, $TLI = .96$, $RMSEA = .02$, $SRMR = .02$

orientation (comparing sexual minority to heterosexual individuals) or gender (comparing women to men). However, Chi square difference tests revealed a significant difference in the association between sexual guilt and the slope of self-esteem (χ^2_{diff}[25] = 42.46, $p < .05$) when comparing people of color to white individuals. Thus, the final model compared people of color and white individuals. Model fit was good for this final multiple group model (χ^2 [24] = 38.42, $p < .05$, $CFI = .98$, $TLI = .96$, $RMSEA = .02$, $SRMR = .02$). For this model, individuals with missing data for their race were dropped ($N = 4$) leaving two groups: people of color ($N = 1019$) and white individuals ($N = 1542$). Correlations, means, and standard deviations for both racial groups are presented in Table 3.

Results from our final modal can be found in Table 4. Our hypotheses were partially confirmed. Sexual guilt in adolescence was significantly associated with initial levels of self-esteem for both people of color ($b = −.14$, $p < .001$, $\beta = −.22$) and white individuals ($b = −.07$, $p < .01$, $\beta = −.12$). However, sexual guilt in adolescence

was only associated with the slope for people of color ($b = .09$, $p < .05$, $\beta = .19$) and not white individuals ($b = -.001$, $p > .05$, $\beta = -.002$).

Discussion

Our initial model found that self-esteem developed in a quadratic trajectory across adolescence and emerging adulthood following the work of Orth et al. (2010). Wave 1 included the lowest level of self-esteem during these four waves which reflects the developmental experiences that correspond with this stage. Adolescence marks an important milestone in human development as the individual begins to develop their own unique identity separate from the family of origin. Additionally, adolescents experience a sense of egocentrism in which they feel as though the world is focused on them. These experiences help to explain the lower levels of self-esteem in adolescence. Following adolescence, the participants in our study saw an increase in their levels of self-esteem. Arnett (2000) and others have theorized that the period of emerging adulthood is marked by continued identity development and optimism as the emerging adults reflect on their numerous possibilities which lie ahead. Although there is an inherent privilege related to emerging adulthood and this developmental stage may be a process unique to Western cultures, these experiences seem to exist for the participants in our sample as they saw an increase in their self-esteem during this transition to adulthood. Finally, our participants' level of self-esteem leveled off in a quadratic fashion at Wave 4 when they had reached adulthood. It should be noted that our multiple group comparison revealed that mean scores for self-esteem in white individuals followed this quadratic trajectory. However, mean scores for self-esteem in people of color did not see the decrease at Wave 4 which prior research has found. This difference reflects the work of Bachman et al. (2011) that cultural differences elicit unique trajectories of the development of self-esteem. Further research is necessary to better understand this unique trajectory which people of color experienced.

What makes the current study unique is our exploration into the influence which sexual guilt in adolescence has on self-esteem development. First, results from our supplementary model find that sexual guilt is associated with lower levels of self-esteem during adolescence and indicate that the guilt attached to having sexual intercourse put adolescents at risk for lower levels of self-esteem. When an adolescent perceives that people would think less of them for having had sexual intercourse, they are more likely to think less of themselves as well. This illustrates that guilt surrounding sexual intercourse can tear away at an individual's views of their individual self-worth. Thinking ecologically, our participants seem to be influenced by their contextual surroundings. The opinions of the individuals and groups which surround them arguably have an influence on their feelings of guilt. Our study also indicated that this relationship persisted across the four-time points from adolescence to adulthood. As Table 1 indicates, adolescent sexual guilt was negatively associated with self-esteem at each of the time points following for both people of color and white individuals. An adolescent who experiences guilt related to their sexual behavior is predicted to have lower levels of self-esteem as they transition to

adulthood. These findings illustrate that, through a life-span perspective, sexual guilt during adolescence influences the individual during later life stages as they transition to adulthood.

The present study also explored the moderating effect of various demographic identities including race, gender, and sexual orientation as it was imperative to understand any differences present for marginalized groups. Results indicated that there were no significant differences based on gender or sexual orientation. It is important to note that this does not mean that there were no differences in the levels of self-esteem or sexual guilt. Our results echoed the prior research indicating lower levels of self-esteem and higher levels of sexual guilt for these marginalized communities. However, our results indicated that there were no differences based on gender or sexual orientation in how sexual guilt was associated with the trajectory of change for self-esteem. Results from our final model found a significant relationship between adolescent sexual guilt and the change in self-esteem from adolescence to adulthood in people of color only. For people of color, higher levels of sexual guilt during adolescence were associated with a faster change in self-esteem across the transition to adulthood. Whereas this specific form of guilt had an association with each of the time points in white individuals, it did not help to predict the trajectory of change on which white participants developed. These findings illustrate cultural differences related to sexuality and sexual guilt. Ideas and beliefs towards sexual behavior vary across cultures and this variance impacts the sexual guilt and shame that individuals experience. This guilt then has implications for the development of self-esteem in these racial minority communities. These cultural differences put people of color at risk related to how they feel about themselves; a risk that is not shared by white adolescents making the transition to adulthood.

Implications

Prior research has found that negative views towards one's own sexual self, difficulty adjusting to a new culture, and religiosity were associated with higher levels of sexual guilt (Abdolsalehi-Najafi and Beckman 2013). The present study illustrates the lasting association that this form of guilt has on individuals as they transition to adulthood. This research is imperative for practitioners working with adolescents as well as parents of adolescents. Adolescents are often beginning to explore their own sexual identity and it is during this time that many adults offer information and opinions to adolescents related to sexual behavior. While individuals have different methods for discussing sexual behavior with adolescents as well as diverse opinions related to the applicability of such information at this developmental stage, the current research illustrates that feeling guilty about being sexually active is actually a detriment to their well-being for many years. Whatever the method, the goal of conversations surrounding sexual behavior should be reducing the guilt attached to the behavior.

Results from the present study also have implications for the development of adolescent's sexual identity. Adolescents who have negative feelings, including guilt, surrounding their sexual behaviors will be at greater risk for negative mental health

outcomes. The current study supports the model set forth by Vasilenko et al. (2014) which noted that the adolescent's perception of their sexual behavior held explanatory power for their well-being. If an adolescent's cognitive appraisal of their sexual identity is negative, they are at greater risk for lower levels of well-being; in the case of the present study, self-esteem. Those working with adolescents should work to support the positive view of the adolescent's sexual identity as this perception is associated with well-being development.

Our study also illustrated the lasting implications of sexual guilt for individuals later in life. The use of latent growth curve modeling allowed for this investigation and illustrated this lasting influence. Practitioners working with adolescents can use this study as an impetus for supportive programming surrounding sexuality during this stage. Educational programming dealing with sexuality can help to reduce stigma and guilt surrounding sexuality. This involves a focused effort to avoid guilt-inducing language to discuss sexuality. Adolescents can get stuck in a cycle of guilt surrounding sexuality experience and this guilt influences their well-being later in life. Parents and teachers who have discussions on sexuality with adolescents can change that cycle by discouraging guilt. This involves a shift away from viewing sexuality solely through a risk perspective (Lefkowitz and Vasilenko 2014) and, instead, viewing sexuality development as a developmentally appropriate milestone during adolescence.

The racial differences found in our model also provide implications for practitioners. Specifically, as our model indicates, the sexual guilt people of color experience in adolescence has a significant impact on the trajectory of their self-esteem development. This puts this marginalized group at greater risk for detrimental implications related to their self-esteem. Our model illustrates that people of color are at risk for this whereas their white counterparts are not. Practitioners should acknowledge these cultural differences while working with adolescents.

Limitations and Future Directions

Our study is limited in our use of secondary data. Our study utilized single items for analysis for our variables of interest (sexual guilt and self-esteem) and so further research would benefit from the use of multiple items to construct these variables. Whereas this data was of immense help due to its longitudinal nature, newer data would be beneficial to better understand more recent cohorts of adolescents and emerging adults. The more recent shifts in social acceptance of premarital sex, cohabitation, and same-sex marriage illustrate a changing landscape related to sexual identity and, thus, sexual guilt.

Further research would also benefit from a different measure of sexuality. Namely, the secondary data utilized an item which asked about sexual behavior with a qualifying statement which identified that sex is "when a male inserts his penis into a female's vagina" (Harris et al. 2009). This qualifier limits the participant to a one-track idea of what sex is, namely that sex involves a penis and a vagina only. This can be limiting for individuals who identify as a gender and/or sexual minority or individuals who have a different understanding of what constitutes "sex" and

"virginity" (Costa 2018). Additionally, further research would benefit from understanding sexual guilt as a result of any sexual behavior and not just that resulting from sex involving the insertion of a penis into a vagina.

It would also be important to better understand the implications for sex-positive support from parents and other adults and how this support is associated with the present model. The current model does not explore deeper understandings of the potential sources of the guilt and so additional exploration into these relationships would be important. Whereas sexual guilt is accounted for in our model, the item does not identify the source of said guilt. Finally, as further time points of The National Longitudinal Study of Adolescent to Adult Health are released, it will be important to explore the continued development of self-esteem to determine if the trajectory remains consistent and whether adolescent sexual guilt continues to have an influence.

Conclusion

Adolescence is marked by a time of identity development which includes that of one's sexual identity. Too often first sexual experiences are followed by feelings of guilt which can have a lasting influence. The present study found that adolescent sexual guilt is associated with lower levels of self-esteem at each individual time point from adolescence into adulthood and that it is associated with the developmental trajectory of self-esteem for people of color. For practitioners and parents, it is important to find ways to encourage safe-sex practices or abstinence while not fostering guilt in their adolescent.

Compliance with Ethical Standards

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