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EMPIRICAL RESEARCH

# Adolescent Sexuality and Positive Well-Being: A Group-Norms Approach

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**Abstract** The link between adolescent sexual activity and psychological well-being is a controversial issue in developmental psychology. This cross-sectional study investigated the association between three aspects of teenage sexuality (genital sexual experience, age of sexual onset, and number of sex partners) and positive well-being (hedonic, eudaimonic, and overall) in a sample of 475 high school seniors (48% female; 89% White) from a single school district in a rural upstate New York community. Based on a group-norms perspective, we expected higher well-being in adolescents whose sexual behaviors followed group-normative patterns. As expected, sexually experienced and on-time (at age 16) students reported higher well-being than sexually inexperienced or late-onset (17 or older) students. Contrary to expectations, a high number of sex partners and an early sexual onset (15 or younger) were not related to lower well-being. Early-onset girls reported higher levels of well-being than normative-onset peers. Findings are discussed in relationship to theoretical perspectives and past empirical findings of teenage sexuality as a developmental asset versus risk.

**Keywords** Adolescent sexual behavior · Eudaimonic well-being · Hedonic well-being · Multiple sexual partners · High number of partners · Age of sexual onset

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## Introduction

Although adult sexual activity has multiple psychological and physical health benefits (Levin 2007; Whipple et al. 2003), the association between sexuality and well-being during adolescence has been a source of disagreement. Adolescent sexual activity in contemporary Western societies has been primarily discussed as a developmental risk factor, linked to a host of negative health and adjustment outcomes; therefore, it should be delayed as long as possible (Diamond and Savin-Williams 2009). At the same time, sexual curiosity and exploration are recognized as normative and healthy processes during adolescence (DeLamater and Friedrich 2002; World Health Organization 2002), and thus could potentially be considered developmental assets that facilitate rather than thwart teenagers' psychosocial adjustment. Compared to adjustment problems, positive correlates of teenage sexual activity have received little research attention. Furthermore, a number of theorists acknowledge the importance of normative trajectories and peer group norms in the link between various life experiences and well-being (Brooks-Gunn and Petersen 1983; Neugarten 1979; Newcomb 1996; Settersen 2003; Stratton and Spitzer 1967). Although a number of empirical studies document the associations between peer group norms and adolescent sexual activity (for reviews, see Kotchik et al. 2001; Zimmer-Gembeck and Helfand 2008), researchers seldom consider peer group norms when investigating the relationship between sexuality and well-being.

In the present study, we explore the links between well-being and three aspects of teenage sexuality: having a genital sexual experience, age of sexual onset, and number of sex partners. We contribute to the existing literature in two ways. First, we investigate the positive, rather than the

negative, dimensions of well-being. Our research orientation is firmly grounded in the field of positive psychology which argues that psychological thriving is not simply the absence of psychological distress, and therefore requires separate study (Keyes 2007; Seligman and Csikszentmihalyi 2000). Specifically, we focus on hedonic and eudaimonic well-being, two overlapping yet distinct aspects of positive well-being (Ryan and Deci 2001). Second, rather than a priori assume the directionality of the link between sexual activity and well-being, we consider the normative patterns of sexual activity among our sample of adolescents. Our population of two complete cohorts of adolescents from a single, homogeneous, small town community lends itself particularly well to this type of analysis. In this way, we explore a more nuanced and balanced perspective of adolescent sexuality.

## Teenage Sexuality and Well-Being in Developmental Perspective

Scholars have argued that adolescents are not yet cognitively and emotionally mature to negotiate the challenges of sex (Reyna and Farley 2006; Steinberg 2007), and decades of research have linked teenage sexual and romantic engagement to a variety of psychosocial adjustment problems, including depression, suicidality, poor school performance, low aspirations, delinquency, substance use, victimization, and disrupted family relationships (for reviews, see Connolly and McIsaac 2009; Kotchik et al. 2001; Zimmer-Gembeck and Helfand 2008). However, sexuality is an integral aspect of human ontogeny, with a developmental continuity of sexual feelings and behaviors that begin in early childhood and persist through late adulthood (de Graaf and Rademakers 2006). Furthermore, the increase in sexual desires and interests during adolescence is inherent in the physical maturation processes that occur during this period (Udry 1988). As such, engaging in sexual activity could be considered normative and healthy, allowing teenagers to experience pleasure and satisfaction, or helping them build positive personal characteristics, such as autonomy, confidence, and connectedness. Recognizing these positive potentials of adolescent sexual activity, several scholars suggest a shift in research and policy toward adolescent sexual health that goes beyond abstinence as the only positive outcome (Diamond and Savin-Williams 2009; Romeo and Kelley 2009; Russell 2005; Smith et al. 2005; Tolman et al. 2003).

These two perspectives of adolescent sexuality are not mutually exclusive. Engaging in sexual activity could present a developmental risk for some individuals, but an asset for others; it could sometimes be a risk and at other times an asset for the same individual; or it could simultaneously present both a risk and an asset for the same individual. Increased interest over the past decade in understanding and promoting psychological thriving, as opposed to the traditional focus on alleviating distress, has demonstrated that thriving and distress are not simply two ends of the same bipolar continuum (Seligman and Csikszentmihalyi 2000). Although negatively correlated, they form two distinct unipolar continuums: thriving requires not only the absence of distress, but also the presence of positive well-being (Pavot and Diener 1993; Keyes 2007). Given that negative well-being correlates have frequently been researched in relation to teenage sexuality, in this study we focus on its positive well-being correlates.

## Positive Well-Being

Positive well-being refers to optimal psychological functioning and experience. Many of its components have been identified over the past few decades, which can be organized into two relatively distinct, yet overlapping philosophical and empirical traditions (Ryan and Deci 2001). Hedonism considers well-being as consisting of positive cognitive evaluations and affective states, such as pleasure, happiness, and life satisfaction. Eudaimonism posits that well-being lies in the actualization of human potentials and successful coping with objective life challenges, such as developing and maintaining positive relations with others, self-acceptance, control over one's environment, autonomy, purpose in life, and growth. Hedonic and eudaimonic well-being have been established as related, yet unique aspects of thriving that distinguish between a happy and a meaningful life (Linley et al. 2009; Keyes et al. 2002). Both have been related consistently to longevity, health, and success (Chida and Steptoe 2008; Lyubomirsky et al. 2005; Pressman and Cohen 2005; Ryff and Singer 1998; Wood and Joseph 2010). Although initially considered to evaluate the lives of adults, they have since been recognized as vital to adolescent adjustment (Bornstein et al. 2003; **Suldo** et al. 2009). Grounding our study in this positive psychology research tradition, we investigate how hedonic and eudaimonic well-being relate to three aspects of teen sexuality: having genital sexual experience, age of sexual onset, and number of sex partners.

## Teenage Sexuality and Positive Well-Being

Past research on the links between teenage sexuality and positive well-being has been relatively scarce and unsystematic, and has yielded inconsistent results. Self-esteem, a eudaimonic well-being component, is the most frequently studied positive well-being aspect. In a recent review of teen sexuality and self-esteem, the links with *having sex* were positive in 13%, negative in 23%, and non-significant

in 63% of 52 studies; of the nine studies that focused on the link with *early onset*, one was positive, one was negative, and the rest were non-significant (Goodson et al. 2006). Of the two studies in this review that examined *multiple partners*, one was negative and one was non-significant; studies have also found positive links (Richter et al. 1993). Inconsistent results have also been reported in relationship to other eudaimonic well-being aspects. A set of integrative reviews recently evaluated the links between teenage sexuality and connectedness, assertiveness, social and romantic success, future outlook, autonomy, control, and self-efficacy (Gloppen et al. 2010; House et al. 2010; Markham et al. 2010). The association between these constructs and having sex, early onset, or multiple partners ranged from positive to negative, and were often non-significant. In some studies, findings were dependent on participants' gender, race, or age, but no consistent patterns emerged across all variables.

Hedonic well-being is the least studied positive aspect in relation to teen sexuality. Daily diary studies show that, at the state level, sexual experiences are preceded by, coupled with, and followed by higher positive and lower negative affect (Shrier et al. 2007, 2010). At the trait level, however, the links are less clear. Sexually experienced US, Canadian, and male Native American adolescents reported no differences in life satisfaction, happiness, or positive mood compared to virgin peers (Feldman et al. 1997; Harvey and Spigner 1995; Hellersted et al. 2006; Horne and Zimmer-Gembeck 2005); sexually experienced Native American females had higher life satisfaction and positive mood than virgin peers (Hellersted et al. 2006). Only one adolescent study examined hedonic well-being in regard to number of partners: having two or more partners (compared to none or one) was associated with lower life satisfaction among White (but not Black) youth (Valois et al. 2002). Thus, little is known about the links between various aspects of teenage sexuality and trait levels of hedonic well-being.

### Peer Group Norms and Well-Being

One explanation for the inconsistent results is the failure to consider that the association between teenage sexuality and well-being is not uniform across all adolescents or across all occasions within the same adolescent. With the exception of basic demographic characteristics, only a few of the myriad potential individual, interpersonal, and social factors have been examined (Russell 2005). One such factor is the normative patterns of sexual activity among adolescents' peer groups. Several theoretical models emphasize that engaging in a specific behavior can have negative well-being consequences for the individual if the behavior violates social norms dominant in one's reference group (Brooks-Gunn and Petersen 1983; Leary and Baumeister 2000; Neugarten 1979; Newcomb 1996; Settersen 2003; Stratton and Spitzer 1967). Non-normative behaviors likely lead to social rejection, threatening humans' fundamental need to belong to a social group (Baumeister and Leary 1995) and triggering a neurochemical process toward emotional and physical distress (Slavich et al. 2010). Sexual behaviors are highly socially regulated and closely monitored by one's peer group (Baumeister and Twenge 2002; DeLamater 1981). While certain behaviors may be considered deviant regardless of when they occur (e.g., a high number of sex partners), for behaviors expected to occur at some point in one's life (e.g., initiating sex), timing is crucial. Engaging in an age-normed behavior at the same time as the majority of one's peers (on-time), in contrast with earlier or later than the group-normative timing, is unlikely to be met with social sanctions (Neugarten 1979; Newcomb 1996; Settersen 2003). Although sexual behaviors are regulated across all social groups, the specific patterns vary greatly across different groups (Abma et al. 2010; Meier 2007).

Although group norms have been frequently studied as predictors of adolescent's sexual attitudes and behaviors (reviewed in Kotchik et al. 2001; Zimmer-Gembeck and Helfand 2008), they rarely have been examined as potential factors that influence the relationship between adolescent sexuality and well-being. These few studies have resulted in mixed findings. In a representative sample of US adolescents, Meier (2007) computed the normative age for losing one's virginity for each adolescent based on others of the same age, gender, race, and family income. One year later, girls who had sex early relative to their group had decreased levels of self-esteem; this was not the case for on-time or late-onset girls or boys in any onset group. In a relatively homogeneous sample of adolescents from a geographically contained rural community followed annually from 7th through 12th grade, sexual onset was categorized as early, on-time, or late based on the median age at first intercourse in the sample (Bingham and Crockett 1996; Crockett et al. 1996). Longitudinally, early onset was preceded by higher self-esteem and peer relations than on-time onset (as measured in 7th grade), and late starters scored lowest on both measures (Crockett et al. 1996). By their senior year, however, the three onset groups did not differ in self-esteem, peer relations, or positive affect (Bingham and Crockett 1996). Given these mixed results, more research is necessary to understand the role that group normative patterns play in the link between adolescent sexual activity and well-being.

## Current Study

In the present study, we test the relationship between teenage sexuality and positive well-being by applying a

group-norms-based approach to a unique and contemporary sample of adolescents. Similar to Bingham, Crocket, and colleagues (Bingham and Crockett 1996; Crockett et al. 1996), our sample consists of a geographically contained, homogeneous group of adolescents. This allowed us to construct sample-specific norms for sexual activity based on the majority (median) experiences. By contrast to the vast majority of studies on adolescent sexuality, we focus on the positive, rather than the negative, dimension of well-being. Furthermore, by assessing both hedonic and eudaimonic well-being, we include a more complete and theoretically grounded exploration of positive well-being than other studies that have focused on isolated components of positive well-being. Finally, we diverge from past studies that focus exclusively on penile–vaginal intercourse. Instead, we define "sex" as any genital experience, including genital touching, oral, and anal behaviors. This approach complements the understanding that adolescents have as to what counts as sex (Byers et al. 2009) and validates the experiential importance of other sexual behaviors that can lead to both psychological and physical pleasure as well as harm.

Based on this group-norms perspective, we predict that the directionality of the link between the three aspects of sexual activity and positive well-being will depend on what is typical of the majority in the sample. Thus, if the majority has engaged in genital sexual activity, sexually experienced students will report higher hedonic, eudaimonic, and overall well-being than their inexperienced peers; the reverse will be true if the majority of our sample is sexually inexperienced. Given that most US adolescents have at least one genital sexual experience before the age of 18 (Mosher et al. 2005), we expected that, to the extent that our sample is similar to the general teenage population, the former (higher well-being) is more likely than the latter. Our second prediction is that those who became sexually active at a normative age for our sample ("on-time") will have higher well-being than those who initiated sex before ("early") or after ("late") the normative age. Our final prediction is that, among sexually experienced students, those with a number of sex partners higher than the median will report lower well-being than those with a number of partners at or below the median. However, given the differing perspectives of teenage sexuality and the conflicting evidence in support of each, we entertained competing hypotheses. To the extent that teenage sexual activity universally poses a developmental risk, sexually experienced students, early starters, and those with high numbers of sex partners will report lower well-being than sexually inexperienced students, late starters, and those with few partners regardless of group norms. The opposite findings will be found if teenage sexuality is a universally positive force in teenagers' lives.

In all analyses, we include interactions with biological sex because sexuality may be linked differentially to well-being for boys and girls (Zimmer-Gembeck and Helfand 2008). Boys often report earlier engagement in sexual activity, as well as higher numbers of partners (Mosher et al. 2005). Furthermore, early sexual engagement and sex with multiple partners is still considered more acceptable for men than for women of all ages (Crawford and Popp 2003). In addition to sex, we control for several demographic and personal characteristics that have been related consistently to sexual activity in adolescents, including parents' education, family structure, religiosity, and educational aspirations. Specifically, adolescents from lower-SES or single-parent families, less religious adolescents, and those with lower professional aspirations engage in sexual activity earlier and with more partners (for reviews, see Diamond and Savin-Williams 2009; Kotchik et al. 2001; Zimmer-Gembeck and Helfand 2008) and they also are more likely to report lower psychological health compared to adolescents from higher-SES or two-parent homes, with higher religiosity or aspirations (Wong et al. 2006; Haase et al. 2008; Nickerson et al. 2007; Rushton et al. 2002).

## Method

### Participants

Participants were 484 high school seniors in a single high school representing one school district in a city of 20,000 residents in rural upstate New York. Nine surveys were returned incomplete or with substantial amount of missing data, and were thus excluded from the sample. The remaining 475 students (52% males) spanned the ages 16 to 20 years ($M = 17.3$, SD $= 0.54$), with 97% of all students either 17 or 18. The majority of participants was white (89%); 3% was Hispanic; 2% was Native American; and the rest was African American, Asian, or multiracial. Regarding religious beliefs, 58% was Catholic, 16% was Protestant, 19% was atheists, and the rest reported "other religions." The largest proportion of students (41%) indicated that their father or mother had a high-school education; 34% had a college degree or more; 19% had some college education; and 6% had less than a high school degree. Forty-four (13 female and 31 male) students did not provide sexual behavior data; they did not differ from those who responded to these questions on any demographic or well-being variables (all $ps > .05$). Two additional students had missing well-being data, resulting in an analytical sample of 429.

## Procedures

The present sample represented the population of two consecutive cohorts of seniors at the same high school: the class of 2008 (213 students surveyed in April, 2008) and the class of 2009 (271 students surveyed in October, 2008). Data collection procedures were identical for each cohort. The paper-and-pencil questionnaire was given to all seniors present in mandatory on-campus English classes (total classes = 30) over the course of one school day. In each class, the study was described by a senior researcher with two research assistants present to answer any questions. Questions about sexuality and well-being were embedded in a range of questions, which asked about friendships, school-sponsored activities, gender roles, Internet use, and other behaviors. Participants were given approximately 40 min to complete the questionnaire, at which point they were compensated with $5.

The research design and questionnaire was approved by the school district and the Institutional Review Board of the authors. Prior to the survey administration, a letter was sent by the school district to all parents of seniors describing the study's purpose: "We are interested in what you do in your spare time, sports and activities that interest you, what you believe in, and the people you like to hang out with." The study was not presented as focusing on sexuality. No parent withdrew a child from the study; neither did any student withdraw from the study prior to or during administration. Although school records were not fully available, we estimate that 11% of the senior class was not exposed to the questionnaire because they were absent, attended a vocational program outside the school, had already fulfilled their English requirement, or were taking advanced placement English at a local university the day the survey was administered.

## Measures

The 19-page questionnaire assessed a number of variables; only the measures used in this study are described below. Descriptive information for these variables is presented in Table 1.

### *Dependent Variables: Positive Well-Being*

*Hedonic Well-Being* The Satisfaction with Life Scale (SWLS; Diener et al. 1985) assessed life satisfaction, the cognitive component of hedonic well-being. SWLS is a 5-item measure frequently used with adolescents. Extensive research with individuals of all ages and across different countries demonstrates strong internal consistency and test–retest stability of the SWSL, as well as good construct and discriminant validity (for reviews, see Gilman and Huebner 2003; Pavot and Diener 1993; Proctor et al. 2009). Participants rated agreement to each item on a 6-point Likert scale from 1 (strongly disagree) to 6 (strongly agree), with higher scores indicating greater life satisfaction. Consistent with other adolescent samples, internal consistency was high (Cronbach's alpha = .83).

*Eudaimonic Well-Being* Eudaimonic well-being was measured with the 18-item Scales of Psychological Well-Being (SPWB; Ryff and Keyes 1995), which assesses how well one copes with life challenges in six domains: self-acceptance, autonomy, purpose in life, relations with others, environmental mastery, and personal growth. It also provides a total score of positive psychological functioning. Previous research has used the subscales individually (Linley et al. 2009), the total SPWB score (Taylor et al. 2003), or both (Wood and Joseph 2010). Because we held no differential hypotheses for the subscales and because the number of items per subscale was small, we used the total SPWB score. The SPWB has established internal structure, internal consistency, test–retest stability, and construct validity among adults (Keyes et al. 2002; Linley et al. 2009; Ryff and Keyes 1995; for a review see McDowell 2010). Recent studies with adolescents and young adults report similar psychometric properties (Casullo and Solano 2001; Cheng and Chan 2005; Fernandes et al. 2010; Kitamura et al. 2004; Paradise and Kernis 2002; Ruini et al. 2009; Schwartz et al. 2009; Taylor et al. 2003; van Dierendonck 2005; Vleioras and Bosma 2005). Participants rated agreement to each item on a 6-point scale from 1 (strongly disagree) to 6 (strongly agree). After recoding six negatively scored items, responses were averaged such that higher scores indicate higher eudaimonic. Cronbach's alpha was 0.79.

*Overall Positive Well-Being* Although, as discussed earlier, eudaimonic and hedonic well-being tap into distinct aspects of positive well-being, in the present sample average SWLS and SPWB scores were strongly correlated, $r = .60$, $p < .0001$. Thus, to obtain the most reliable results, we also used a composite (an average score) of these two scales, which represented the participants' overall positive well-being.

### *Independent Variables: Sexual Experiences*

Students indicated the number of boys and girls (separately for each sex) with whom they have "had sex" (defined as "any kind of genital contact, including vaginal or anal intercourse, oral sex, or genital touching"), and the age at which they first had sex with a boy and/or a girl.[1] Based on these responses, the following variables were constructed.

[1] Due to concerns within the participating school, no additional questions regarding sexual activity were asked.

**Table 1** Descriptive information about participants' sexual activity, well-being, and control variables used in the study

| Variable | Categorical variables | | | | |
|---|---|---|---|---|---|
| | Men | | Women | | Sex difference |
| | *n* | % | *n* | % | $\chi^2$ |
| Father's education (some college or more)[a] | 109 | 51 | 107 | 50 | 0.06 |
| Parents married[a] | 149 | 70 | 141 | 66 | 0.80 |
| Had Sex[a] | 165 | 77 | 151 | 70 | 2.61 |
| Number of partners[b] | | | | | 6.53 |
| One | 54 | 33 | 68 | 45 | |
| Two | 32 | 19 | 25 | 17 | |
| Three | 29 | 17 | 20 | 13 | |
| Four | 8 | 5 | 10 | 7 | |
| Five or more | 42 | 26 | 28 | 18 | |
| Onset[c] | | | | | 0.42 |
| Early (15 or earlier) | 72 | 44.5 | 63 | 41.5 | |
| On-time (16) | 67 | 41.5 | 63 | 41.5 | |
| Late (17 or later) | 23 | 14 | 25 | 17 | |

| | Continuous variables[d] | | | | |
|---|---|---|---|---|---|
| Variable | *M* | SD | *M* | SD | *t* test |
| Religiosity[a] | 2.01 | 1.02 | 2.25 | 1.03 | 2.44* |
| Aspirations[a] | −0.16 | 0.93 | 0.19 | 0.81 | 4.24*** |
| Eudaimonic well-being[a] | 4.57 | 0.63 | 4.67 | 0.56 | 1.68[†] |
| Hedonic well-being[a] | 4.06 | 1.09 | 4.12 | 1.17 | 0.57 |
| Overall well-being[a] | 4.32 | 0.79 | 4.40 | 0.80 | −1.04 |

Religiosity—scored on a scale of 1 (not at all) to 5 (very); aspirations—expressed in standardized scores (a mean of educational aspiration and future job prestige); psychological well-being—mean of the total SPWB (range 1–6); subjective well-being—mean of SWLS range 1–6; overall well-being—mean of SWLS and SPWB

[a] Based on all men ($n = 214$) and women ($n = 215$)

[b] Based on all sexually experienced men ($n = 165$) and women ($n = 151$)

[c] Three sexually experienced men failed to provide onset data, therefore these analyses are based on all sexually experienced women ($n = 151$) and all but three sexually experienced men ($n = 162$)

[d] Higher scores denote greater presence of the variable

[†] $p < .10$; * $p < .05$; ** $p < .01$

*Ever Had Genital Sexual Experience* Students who reported at least one genital sex partner of either sex were categorized as sexually experienced, whereas those without such experiences were categorized as sexually inexperienced.

*Sexual Onset* The age of sexual onset was based on the age at which participants first had sex with a partner (for youth with partners of both sexes, the earlier of the two ages was used). Three sexually experienced males failed to provide these data and were excluded from analyses involving this variable. Among the remaining 313 sexually experienced students, sexual onset ranged from 12 to 18 years of age; 16 years was the median and modal age for both sexes. Those who initiated sex at age 16 were considered the *on-time* onset group, those initiating sex at age 15 or earlier were considered the *early* onset group, and those who initiated sex at age 17 or later were considered the *late* onset group. The number of students in the late onset group was relatively small (23 males and 25 females). These students did not differ from those who were currently aged 17 or older and had not yet initiated sex (97% of the sexually inexperienced, $n = 110$) in any of the well-being or control variables (all $ps > .10$ for both sexes). To increase statistical power, the two groups were combined to form the *late* onset group. Three students who were 16 years old and sexually inexperienced were excluded from these analyses.

*Number of Sex Partners* Among the sexually experienced, the total number of sex partners was obtained by

summing the number of male and female partners reported by each participant. For both sexes, this number ranged between 1 and 100, with a median of 2 (mode = 1). Based on the median, students who reported one or two partners were considered the *low* group; those with three or more partners were categorized as the *high* group.[2]

*Control Variables*

*Father's Education* Father's education was coded as 1 (some college or more) or 0 (high-school diploma or less). Mother's education was used when father's information was missing.

*Family Composition* Family composition was coded as 1 (parents married) or 0 (parents separated, divorced, never married to each other, or deceased).

*Religiosity* After identifying their religious affiliation by birth, students rated the strength of their religious beliefs on a scale of 1 (not at all religious) to 5 (very religious).

*Aspirations* Professional aspirations were measured with two items. Students reported the highest educational degree they hoped to attain, from high-school diploma (1) to professional or doctoral degree (5), and indicated (as an open-ended response) the job they hoped to have, coded on a scale of lowest (1) to highest (7) job prestige, based on Hollingshead's occupational prestige scale (1958). We constructed the measure of aspirations by standardizing the two sets of responses and computing their mean.

Statistical Analyses

We explored the link between well-being and teenage sexuality in a series of hierarchical linear regressions. Separate regressions were run for hedonic, eudaimonic, and overall well-being as outcomes, and for each of the three aspects of teenage sexuality (having a genital experience, age of sexual onset, and high number of sex partners) as predictors. Control variables were entered in Step 1. The sexuality predictor (coded as a dummy variable) was entered in Step 2, and interaction terms between the predictor and participant's sex were entered in Step 3. Interactions that were at least marginally significant were probed further using simple slopes. Where interactions were not significant, we only discuss main effects (Step 2 results).

[2] Three students (two men and one woman) reported more than 30 partners (between 50 and 100). Because these constitute outliers, we initially ran all analyses both including and excluding these individuals. All results were identical. In the interest of preserving statistical power, we chose to keep these participants in the analytic sample.

## Results

Summary of Descriptive Findings

Table 1 presents descriptive sample information. The majority of students (74%) reported having at least one genital sexual experience. Sexual onset ranged from 12 to 18 years of age, with 16 years being the median and modal age for both sexes. With 16 as the normative age of sexual onset, 130 students were classified as *on-time* (42% of the sexually experienced), 135 were classified as *early* (43% of the sexually experienced), and 158 were classified as *late* (including 15% of the sexually experienced and all students who were currently aged 17 or older and had not yet initiated sex). Based on the median number of sex partners, students who reported one or two partners (57%) were considered the *low* group ($n = 179$); those with three or more partners (43%) were categorized as the *high* group ($n = 137$). The percentage of male and female adolescents falling into each category was comparable for all three sexual experience variables (all $ps > .05$). Consistent with prior studies of youth, well-being scores were fairly normally distributed with a skew toward the high end of the scale for SWLS ($M = 4.10$, SD = 1.13), SPWB ($M = 4.62$, SD = 0.60), and their composite ($M = 4.36$, SD = 0.79).

Genital Sexual Experience and Positive Well-Being

Table 2 displays the regression analyses results for the first predictor—having a genital sexual experience. After controlling for family background, religiosity, and aspirations, being sexually experienced was a significant predictor of higher hedonic, eudaimonic, and overall well-being. Interactions with participant's gender were not significant, indicating that this was true for both sexes. Given that being sexually experienced was the norm in the sample, these results support the predictions made by a group-norms perspective.

Sexual Onset and Positive Well-Being

To test the links between the second predictor—sexual onset—and positive well-being, we compared on-time (at age 16) students with both early-onset (age 15 or earlier) and late-onset (age 17 or later) peers. Results regarding late onset confirm the group-norms predictions in respect to hedonic, eudaimonic, and overall well-being (Table 3). In all three cases, the negative and statistically significant main effects of late-onset and non-significant interaction terms indicated that late-onset students of both sexes reported lower well-being than on-time peers.

Links between early onset and well-being differed for young men and women, as indicated by the significant

**Table 2** Unstandardized regression coefficients (*B*), standard errors (SE), and 95% confidence intervals (95% CI) for the association between having a genital sexual experience and well-being

| Predictor | Hedonic well-being | | | | Eudaimonic well-being | | | | Overall well-being | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | $R^2\Delta$ | *B* | SE | 95% CI | $R^2\Delta$ | *B* | SE | 95% CI | $R^2\Delta$ | *B* | SE | 95% CI |
| Step 1 | .08*** | | | | .08*** | | | | .09*** | | | |
| Controls | | | | | | | | | | | | |
| Step 2 | .02** | | | | .02** | | | | .02** | | | |
| Had sex | | 0.38** | 0.12 | (0.14, 0.62) | | 0.20** | 0.06 | (0.07, 0.32) | | 0.29** | 0.08 | (0.12, 0.45) |
| Step 3 | .00 | | | | .00 | | | | .00 | | | |
| Had sex × gender | | −0.21 | 0.24 | (−0.68, 0.27) | | −0.17 | 0.13 | (−0.27, 0.23) | | −0.11 | 0.17 | (−0.44, 0.22) |
| Total $R^2$ | .10*** | | | | .10*** | | | | .11*** | | | |

Control variables include gender, father's education, family structure, religiosity, and aspirations. Includes all participants ($n = 429$). Had sex is dummy coded 1 (sexually experienced) and 0 (sexually inexperienced)

† $p < .08$; * $p < .05$; ** $p < .01$; *** $p < .001$

**Table 3** Unstandardized regression coefficients (*B*), standard errors (SE), and 95% confidence intervals (95% CI) for the association between age of sexual onset and well-being

| Predictor | Hedonic well-being | | | | Eudaimonic well-being | | | | Overall well-being | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | $R^2\Delta$ | *B* | SE | 95% CI | $R^2\Delta$ | *B* | SE | 95% CI | $R^2\Delta$ | *B* | SE | 95% CI |
| Step 1 | .08*** | | | | .09*** | | | | .09*** | | | |
| Controls | | | | | | | | | | | | |
| Step 2 | .02* | | | | .03** | | | | .03** | | | |
| Early | | 0.03 | 0.13 | (−0.24, 0.29) | | 0.04 | 0.07 | (−0.10, 0.18) | | 0.04 | 0.09 | (−0.15, 0.22) |
| Late | | −0.30* | 0.13 | (−0.56, −0.04) | | −0.20** | 0.07 | (−0.33, −0.06) | | −0.25** | 0.09 | (−0.43, −0.07) |
| Step 3 | .01† | | | | .01† | | | | .01* | | | |
| Early × gender | | −0.60* | 0.27 | (−1.13, -0.08) | | −0.31* | 0.14 | (−0.58, −0.04) | | −0.46* | 0.19 | (−0.82, −0.09) |
| Late × gender | | −0.21 | 0.26 | (−0.72, 0.30) | | −0.23 | 0.14 | (−0.50, 0.04) | | −0.22 | 0.18 | (−0.57, 0.13) |
| Total $R^2$ | .11*** | | | | .13*** | | | | .13*** | | | |

Control variables include gender, father's education, family structure, religiosity, and aspirations. Includes all sexually experienced participants who provided sexual onset information and participants aged 17 or older who were not yet sexually experienced ($n = 423$). Sexual onset is coded using two dummy variables: early onset, coded 1 (age 15 or earlier) and 0 (age 16 or later), and late onset, coded 1 (age 17 or later) and 0 (age 16 or earlier)

† $p < .08$; * $p < .05$; ** $p < .01$; *** $p < .001$

interactions for both outcomes. To understand the nature of these interactions, we conducted simple slopes analyses contrasting early and on-time groups (excluding the late group). Contrary to group norms predictions, early-onset young women reported higher eudaimonic ($B = 0.20$, $SE = 0.10$, $p = .04$), marginally higher hedonic ($B = 0.35$, $SE = 0.20$, $p = .07$), and higher overall well-being ($B = 0.28$, $SE = 0.14$, $p = .04$) than on-time peers. Among males, the slopes for the early-onset group were in the predicted negative direction, but did not reach significance for eudaimonic ($B = -0.10$, $SE = 0.09$, $p > .10$), hedonic ($B = -0.26$, $SE = 0.19$, $p > .10$), or overall well-being ($B = -0.18$, $SE = 0.13$, $p > .10$), suggesting that young men who initiated sex earlier than on-time peers did not report markedly lower well-being. Figure 1 presents the adjusted means for eudaimonic well-being for the three sexual onset groups, illustrating these sex differences.

## Number of Sex Partners and Positive Well-Being

The final research question concerns the number of genital sex partners among the sexually experienced. From a group-norms perspective, having more sex partners than the majority of sexually experienced participants should be related to lower well-being. Because the median number of partners in our sample was two, we considered those with three or more partners as having a high number of partners. As Table 4 indicates, the group-norms predictions were not confirmed, nor were the alternative predictions based on the perspectives of teenage sexuality as universally

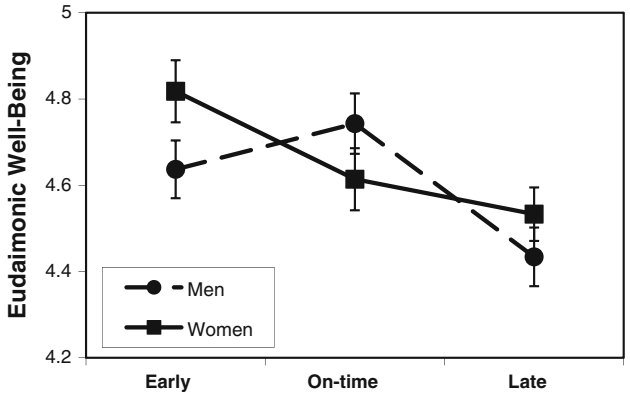


**Fig. 1** Estimated adjusted means for eudaimonic well-being scores of young women and men initiating genital sexual activity early (15 or younger), on-time (16), and late (17 or later). Eudaimonic well-being—mean of the total SPWB score (range 1–6). Means adjusted for father's education, family structure, religiosity, and aspirations. Includes all sexually experienced participants who provided sexual onset information and participants aged 17 or older who were not yet sexually experienced ($n = 423$)

negative or universally positive. Having three or more partners was not significantly related to hedonic, eudaimonic, or overall well-being in either sex.

Given the paucity of research on the links between number of partners and positive well-being among adolescents and the variety of operationalizations of "multiple partners" considered particularly risky or problematic in past research, we further explored the link between number of partners and well-being by running similar regressions using two other key values as cutoff points: two or more, and four or more partners. Two partners or more is the most frequently used definition of multiple partners, particularly in research with adolescents (Valois et al. 2002; Whitaker et al. 2000). Four partners or more distinguished the most sexually active quartile of students (28% of the sexually active) and represented the point at which the percentage of those reporting any number of partners dropped to less than 10% (Table 1). It is also the Centers for Disease Control and Prevention definition of "multiple" partners (http://www.cdc.gov/HealthyYouth/sexualbehaviors/). Having two or more partners (compared to one) was not a significant predictor of hedonic ($B = 0.03$, SE $= 0.06$, $p > .10$), eudaimonic ($B = 0.05$, SE $= 0.13$, $p > .10$), or overall well-being ($B = 0.04$, SE $= 0.09$, $p > .10$) for either sex (no interaction effects). Similarly, students with four or more partners did not differ from those with one to three partners in hedonic ($B = -0.24$, SE $= 0.14$, $p = .08$), eudaimonic ($B = -0.03$, SE $= 0.07$, $p > .10$), or overall well-being ($B = -0.13$, SE $= 0.09$, $p > .10$). There were no interaction effects.[3]

[3] We also ran regressions with number of partners as a continuous predictor of the three well-being outcomes. Prior to analyses, all

## Discussion

Knowledge about the sexual feelings and behaviors of adolescents, their links to psychological well-being, and the factors that matter for this association is crucial for understanding adolescent development. This study, using a group-norms perspective, examined the links between three aspects of teenage sexual activity (having a genital sexual experience, age of sexual onset, and number of sex partners) and three aspects of positive well-being (hedonic, eudaimonic, and overall). Consistent with predictions of the group-norms approach, adolescents who were *less* sexually active than their peer group reported lower levels of well-being. Specifically, youth with no sexual experience and those initiating sex later than the normative age of 16 scored lower on hedonic, eudaimonic, and overall well-being. Predictions that adolescents who were *more* sexually active that the group norm would report lower well-being than normative peers were not confirmed. Specifically, early-onset boys reported levels of well-being similar to those of on-time boys; early-onset girls reported *higher* well-being than on-time girls. In addition, reporting a high number of sex partners was not linked to well-being for either sex.

Our findings of lower well-being among less sexually active adolescents were consistent with group-norms based models and theories suggesting that sexual experiences violating normative group patterns are linked to lower well-being (Brooks-Gunn and Petersen 1983; Leary and Baumeister 2000; Neugarten 1979; Settersen 2003; Stratton and Spitzer 1967). In a group of adolescents in which the majority initiated sexual activity by the age of 16, delaying sexual experience beyond this age might be an indicator of lack of social skills or social rejection. However, our findings were also consistent with the perspective of sexual exploration as a normative adolescent developmental task, necessary for establishing a healthy sexual life in adulthood (Diamond and Savin-Williams 2009). Given that most adolescents begin puberty before the age of 12 and reach sexual maturity by the age of 16 (Walvoord 2010), engaging in sexual exploration during this time may indicate a healthy curiosity triggered by the activation of sex hormones. Contrary to expectations based on a group-norms approach, earlier and more active sexual engagement was not linked to lower well-being, and even may be linked to higher well-being. These results further support the perspective of adolescent sexuality as normative, suggesting that even in the absence of majority support,

Footnote 3 continued
responses of more than 20 partners (6 cases) were recoded to 20 to reduce the impact of outliers; the variable was then log transformed to reduce non-normality. Results were not significant for any outcomes in either sex. Tables available on request.

**Table 4** Unstandardized regression coefficients (*B*), standard errors (SE), and 95% confidence intervals (95% CI) for the association between high number of partners and well-being

| Predictor | Hedonic well-being | | | | Eudaimonic well-being | | | | Overall well-being | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | $R^2$ Δ | *B* | *SE* | 95% CI | $R^2$ Δ | *B* | *SE* | 95% CI | $R^2$ Δ | *B* | *SE* | 95% CI |
| Step 1 | .06** | | | | .08*** | | | | .07** | | | |
| Controls | | | | | | | | | | | | |
| Step 2 | .00 | | | | .01 | | | | .00 | | | |
| High | | 0.01 | 0.13 | (−0.24, 0.26) | | 0.10 | 0.06 | (−0.02, 0.30) | | 0.06 | 0.09 | (−0.11, 0.23) |
| Step 3 | .00 | | | | .00 | | | | .00 | | | |
| High × gender | | −0.01 | 0.25 | (−0.51, 0.48) | | 0.09 | 0.13 | (−0.16, 0.33) | | 0.04 | 0.17 | (−0.30, 0.38) |
| Total $R^2$ | .06** | | | | .09*** | | | | .07** | | | |

Control variables include gender, father's education, family structure, religiosity, and aspirations. Includes all sexually experienced men and women ($n = 316$). High number of sex partners is dummy coded 1 (three or more) and 0 (one or two partners)

† $p < .08$; * $p < .05$; ** $p < .01$; *** $p < .001$

exploring one's sexuality can be a marker of psychological thriving. This is consistent with past findings that sexually active youth have an independent and mature personality, positive self-image, and better peer relationships (Costa et al. 1995; Crockett et al. 1996; Rafaelli and Crockett 2003; Savin-Williams 1998; Waller and Dubois 2004).

Our findings may appear discrepant from previous investigations that linked teenage sex, particularly early onset and multiple sex partners, with mental health problems (Kotchik et al. 2001; Zimmer-Gembeck and Helfand 2008). However, although mental health problems and positive well-being are negatively correlated (Pavot and Diener 1993), the two are not mutually exclusive. In fact, studies that include both types of measures find that sexually active adolescents report higher depression, anxiety, or suicidality, but also higher life satisfaction, self-esteem, or social connectedness than sexually inexperienced peers (Hellersted et al. 2006; Longmore et al. 2004; Valle et al. 2005). One explanation of these findings is that sexual activity can be both a risk factor and an asset for the same individual. Alternatively, sexual activity could present a risk factor for some youth, but an asset for other adolescents; in this case, the sexually active group of adolescents would consist of two subgroups—those who are doing particularly well and those who are doing particularly poorly compared to the sexually inexperienced group. Future research should use measures of both positive and negative well-being and take a person-centered rather than variable-centered analytic approach in order to clarify this issue.

Another explanation for discrepancies between our study and past research is our broad definition of sex that included non-intercourse genital contact. Most studies that examine well-being and teenage sexuality focus exclusively on sexual intercourse. Although both non-intercourse and intercourse activities require close physical intimacy and may be meaningful to adolescents, they might have different well-being correlates. For example, Dalton and Galambos (2008) found that over the course of 6 months, oral sex, but not intercourse, was related to positive affect in college freshmen. Intercourse carries greater sexual health risks than genital touching or oral sex, and experiencing sexual health problems is linked to increases in distress (Buffardi et al. 2008; Robertson et al. 2004). Intercourse is also more imbued with meaning than other sexual acts and perhaps more closely socially monitored, leading to more substantial consequences for conforming or violating group norms. In addition to these differences between intercourse and non-intercourse genital sexual acts, additional error in our measure may have been introduced if some students, despite being provided with a definition of "sex," nonetheless used their own definition of sex. Finally, due to limitations posed by the school administration on the number of sex-related question, there was no way to distinguish between coercive and consensual sexual experiences. Future research should ask about intercourse and non-intercourse behaviors separately, and eliminate non-consensual experiences from analyses.

Our sample of two complete cohorts of adolescents from a circumscribed homogeneous small town community lent itself particularly well to examining age-graded and other norms for sexual behavior. Even though we did not directly assess students' perceptions of normative sexual patterns, most high school students in a closed group would likely have a general idea of the other students' level of sexual activity. Sexual issues and experiences are frequently discussed and shared among young people of both sexes (Epstein and Ward 2008; Lefkowitz et al. 2004) and peers often serve as one of the main sources of sex-related information (Powell 2008; Wood et al. 2002). Moreover, although young people typically overestimate the liberality of their peers' sexual standards and behaviors, their

perceptions of whether a specific behavior or attitude is endorsed by the majority of group members are usually accurate (Hines et al. 2002; Lambert et al. 2003). Future research using a group-norms approach should include measures of both participants' perceptions of normative patterns and of actual normative patterns.

One of the main limitations of our study is its cross-sectional design, which prevents determination of the directionality of established links. Although it is possible that engaging in sexual exploration leads to greater life satisfaction and psychological growth, it is also possible that adolescents who are more satisfied with their lives and more autonomous or socially connected are also more likely to engage in sexual exploration (Crockett et al. 1996). Furthermore, given the age of our participants and our sample's normative age for sexual debut, late onset would have been more salient to participants and less prone to retrospective recall biases at the time of the data collection than early onset, rendering our study better able to capture the links between well-being and late, rather than early onset. Longitudinal research that follows youth from a younger age is necessary to address these issues. In addition, our sample of small town, predominantly Catholic, low income adolescents represents only one of many adolescent subgroups that exist in the US today. Before generalizing these findings to other subgroups, they need to be replicated in different samples with different sexual norms and patterns.

Future research also should include statistical controls for personality, as the shared variance between some traits (primarily extraversion and neuroticism) and well-being is well-known (Lucas and Fujita 2000). Although some contend that life satisfaction is the key indicator of hedonic well-being (Veenhoven 1988), future studies should also assess affect, the other constituent part of hedonic well-being (Diener et al. 1999). Due to time limitations, we were unable to include these additional measures. The variance in well-being explained by the sexual behavior variables was relatively small, indicating that sexuality is one of many factors influencing well-being, and future studies should attempt to include more of these factors to get a more complete predictive model of positive well-being. Finally, because of the novelty of our approach to adolescent sexuality and the paucity of past findings on many positive well-being components, we chose to focus on the two higher-order factors of positive well-being, hedonic and eudaimonic well-being. Future research needs to assess and analyze individual components of positive psychological functioning separately to establish whether the positive links between teenage sexuality and well-being that emerged in our study are limited to certain well-being components or universal across all components.

Although many questions remain unaddressed, these data contribute to moving the field toward reconceptualizing teenage sexuality from a deviant behavior to potentially a developmental asset and a positive force. Sexual activity can undoubtedly be a source of physical and mental suffering for adolescents (when, for example, it is coerced, leads to unwanted pregnancy, or results in social ostracism); however, it can also be a source of pleasure, satisfaction, and growth. More research is needed to understand the specific individual, interpersonal, and social conditions under which sexual exploration plays a positive role in adolescent development. The normative group patterns explored here is only one of many such potential factors.

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