



# Subjective Reactions to First Coitus in Relation to Participant Sex, Partner Age, and Context in a German Nationally Representative Sample of Adolescents and Young Adults

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## Abstract

Analysis of a Finnish nationally representative student sample found that subjective reactions to first intercourse (mostly heterosexual; usually in adolescence) were highly positive for boys and mostly positive for girls, whether involved with peers or adults (Rind, 2022). The present study examined the generality of these findings by examining subjective reactions to first coitus (heterosexual intercourse) in a German nationally representative sample of young people (data collected in 2014). Most first coitus was postpubertal. Males reacted mostly positively and uncommonly negatively in similar fashion in all age pairings: boy–girl (71% positive, 13% negative); boy–woman (73% positive; 17% negative); man–woman (73% positive, 15% negative). Females' reactions were more mixed, similar in the girl–boy (48% positive; 37% negative) and woman–man (46% positive, 36% negative) groups, but less favorable in the girl–man group (32% positive, 47% negative). In logistic regressions, adjusting for other factors, rates of positive reactions were unrelated to age groups. These rates did increase, in order of importance, when participants were male, their partners were close, they expected the coitus to happen, and they affirmatively wanted it. Reaction rates were computed from the Finnish sample, restricting cases to first coitus occurring in the 2000s, and then compared to minors' reactions in the German sample. The Finns reacted more favorably, similarly in both minor–peer and minor–adult coitus, with twice the odds of reacting positively. It was argued that this discrepancy was due to cultural differences (e.g., Finnish culture is more sex-positive). To account for the reaction patterns shown in the adolescent–adult coitus, sizably at odds with expectations from mainstream professional thinking, an evolutionary framework was employed.

**Keywords** First coitus · Subjective reactions · Adolescent–adult sex · Child sexual abuse · Primate evolution · Reproductive value

## Introduction

First coitus (i.e., heterosexual vaginal intercourse) can be a landmark event, one of “immense personal and social significance” (Hawes et al., 2010, p. 137) with “a special power to shape future sexual and nonsexual adjustment” (Laumann et al., 1994, p. 321). In sexual science, therefore, understanding its subjective meaning for the debuting participant has value. Most research on first coitus, however, has not investigated subjective meaning, instead directing attention to other areas such as age of debut, associated risks, and means of intervention (Hawes et al., 2010). When the participant

in first coitus is a minor (i.e., under age 18), understanding subjective meaning may be additionally valuable, given that minors are generally considered more impressionable. And when the minor's partner is significantly older (e.g., by 5 or more years), then understanding subjective meaning is especially important, given the common belief that such an experience may constitute a special ordeal, with substantial negative effects (Rind, 2021).

The present study examined subjective reactions to first coitus in relation to participants' age class (i.e., minor or adult), partners' relative age class (i.e., peer or older), and a variety of contextual factors. A nationally representative German sample of adolescents and young adults was employed to achieve population estimates. Minor–adult first coitus, given its special concern, formed the major focus of this investigation.

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### Three Perspectives

Rind and Welter (2016) described three main perspectives that have framed research attempts to understand “child sexual abuse” (CSA), the broad category that generally includes minor–adult coitus. The first, the CSA paradigm, which consolidated by the early 1980s, challenged and then quickly replaced the pre-1980s common professional view that events labeled CSA, absent aggravating factors, were generally not harmful (Finkelhor, 1979; Jenkins, 1998). It averred that CSA was almost uniquely traumatic and intensely harmful, especially the more physically intimate (referred to as “severe”) the sex, with sexual intercourse being the worst case. Following this perspective, subjective reactions to minor–adult first coitus would be expected to be mostly negative.

Many professionals adopted this perspective throughout the 1980s and 1990s (Rind et al., 1998, 2001), but its premise of extraordinary trauma and harm was based on advocacy and politics, not any degree of adequate empirical research (Clancy, 2009; Jenkins, 1998). With time, many researchers moderated by paying more attention to issues such as sampling, generalizability, and causality, and they talked more in terms of “risk” rather than certain harm. This approach and thinking constituted the mainstream perspective. Though more scientific than the first perspective, it often shared the view that all events labeled CSA are inherently abusive and harmful (e.g., as formally pronounced by the American Psychological Association, Rind et al., 2001). Notably, however, various researchers within this perspective have argued that outcomes vary, including benefits in some cases, although harm still predominates (e.g., Cleverley & Boyle, 2010; McMillen et al., 1995).<sup>1</sup> From this perspective, compared to the first, minor–adult first coitus would be expected to be more mixed in its subjective-reaction profile. But given the assumption of inherent problematicity, reactions would be expected to be significantly biased negatively.

By contrast, in the relevant-empirical perspective, scientific understanding of experiences labeled CSA is not categorically premised on axioms of abuse and harm. Instead, each type is held to be best understood based on empirical evidence and other information most relevant to it. Incest involving prepubescent daughters, for example, is different from voluntary adolescent–adult sex, and the latter, according to this perspective, needs to be studied separately based on its own evidence, with an open mind as to its nature and

effects (Hines & Finkelhor, 2007). Expectations of subjective reactions to minor–adult first coitus from this perspective differ markedly from the first two, as discussed next.

### Empirical and Theoretical Background

Empirical research in the CSA field has focused mainly on prevalence rates and adjustment correlates, with attention to subjective reactions relatively uncommon (Felson et al., 2019), partly because such reactions have been widely been assumed to be negative, reflecting response to an assumed ordeal (Rind, 2022).<sup>2</sup> Even less empirical research has been done on reactions to minor–adult first coitus. Nevertheless, several informative studies have been done, as summarized next.

### Empirical Findings

Rind and Welter (2014) used the Kinsey sample to examine subjective reactions to first coitus occurring after the onset of puberty. Interviewees were asked whether they enjoyed their first coitus or had emotionally negative reactions. Adolescent boys involved with women enjoyed it “much” as often as men did with women (41% each), and they reacted emotionally negatively only somewhat more often (22% vs. 13%). Adolescent girls involved with men did not differ compared to women involved with men in either enjoying the coitus “much” (13% vs. 18%) or reacting emotionally negatively (17% each). The finding that adolescents involved with adults reacted similarly to adults involved with other adults would not have been expected under the CSA paradigm or the mainstream perspective.

The Kinsey sample was large and diverse but old (mostly before WWII) and not nationally representative. Felson et al. (2019), on the other hand, employed a contemporary nationally representative sample. Participants were Finnish students in the sixth and ninth grades in three time periods: 1988, 2008, and 2013. Examined were subjective reactions to sexual experiences between minors and persons at least 5 years older, as well as between minors and peers for comparison. The minor–older sexual incidents infrequently involved overt coercion (12%), incest (6%), or minors younger than 12 (11%). Most partners were adults (95%), such that these incidents were mainly adolescent–adult in age structure.

<sup>1</sup> These studies finding benefits concerned unwanted sex, and the benefits included self-perceived effects such as feeling stronger or wiser, or being more protective of others. Benefits were positive spins on negative events, not positive views of the events. These reports are consistent with the mainstream perspective view that all events labeled CSA are inherently abusive and likely to be harmful, even if some good may come out of them.

<sup>2</sup> Note that the benefits reported in the Cleverley and Boyle (2010) and McMillen et al. (1995) studies discussed above concerned “self-reported effects” (i.e., how the respondent thinks the experience affected him or her later on in terms of being less or more adapted), rather than “subjective reactions,” which concerns whether a respondent felt or feels negatively, neutrally, or positively about the experience itself at the time it occurred or in retrospect.

Regarding all forms of sex (e.g., touching, intercourse), boys uncommonly reacted negatively in retrospect, whether sexually involved with peers (3%) or adults (11%). Girls also uncommonly reacted negatively in retrospect to peer sex (11%) but did so more often when involved with adults (35%). In logistic regressions, performed to investigate moderators of negative reactions, Felson et al. found, for example, that negative reactions occurred less often for intercourse than less intimate sex.<sup>3</sup>

Felson et al. (2019) did not report or analyze rates of positive reactions and provided no information on reactions to sexual intercourse, but Rind (2022) did in a reanalysis. For all types of sex, boys reacted mostly positively and similarly with adult and peer partners. Rates of positive versus negative reactions in retrospect were: boy–adult (69% vs. 13%); boy–peer (67% vs. 3%). Girls reacted positively less often, though more positively and less negatively when involved with peers (48% vs. 12%) than adults (37% vs. 39%).<sup>4</sup> Regarding first sexual intercourse, both boys and girls reacted predominantly positively and infrequently negatively, whether their partner was an adult or peer. For boys, rates of positive versus negative reactions were similar for boy–adult (76% vs. 10%) and boy–peer (75% vs. 2%) intercourse. The same applied to girls: girl–adult (63% vs. 21%) and girl–peer (57% vs. 10%). In logistic regressions, taking into account various personal and situational factors, sexual intercourse, compared to less intimate sex, was associated with higher rates of positive reactions in the girl–peer, girl–adult, and boy–peer groups. As in the Kinsey data discussed previously, the foregoing results would not have been expected under the CSA paradigm or mainstream perspective.

The diversity of the Kinsey sample and national representativeness of the Finnish sample, along with the large number of cases in each involving mostly adolescent–adult first sexual intercourse (Kinsey,  $n = 834$ ; Finnish,  $n = 442$ ), suggest that the findings from these samples provide an important relevant-empirical base for attempting to understand adolescents' subjective reactions to first intercourse with older partners in the general population.

### The Positive Potential in Adolescent Sex

The high rates of positive reactions by adolescents to first sexual intercourse with both peer and adult partners run

counter to dominant views assuming abuse, pathology, or simply inappropriateness. Boydell et al. (2021) and Harden et al. (2008) criticized the psychology field for focusing on the negatives in relation to adolescent sexuality, holding that such views misrepresent the empirical data and bias scientific understanding of adolescents' potential for positive response. Hines and Finkelhor (2007) argued that mixing adolescents with children in attempting to understand age-discrepant sex has biased understanding the experiences of the adolescents, who have far greater agency, as broadly shown in research in other domains of behavior.

Hines and Finkelhor (2007) reviewed studies including voluntary sexual relations between adolescents and adults, finding a significant potential for positive response. Boydell et al. (2021) reviewed the literature, examining adolescents' positive reactions to first sex in relation to gender, age, circumstances, and consent. On average, boys experienced more pleasure than girls, age at experience was not critical to pleasure, but feeling ready for the sex, having it with a close partner, and being willing were. Perceived willingness was not tied to chronological age, but to factors such as knowing one's sexual interests and desires, as well as the social, cultural, and political context in which the adolescent was situated. Harden et al. (2008) showed, using a U.S. nationally representative sample, that early sexual debut, once genetics were factored in, was associated with better later social adjustment—contrary to other research employing less relevant control variables.

A key takeaway from these studies is, for *scientific* analysis concerning the actual or potential profile of adolescents' sexual experiences, what matters is relevant-empirical data with attention to validity (external, internal). Moral inference, which has dominated psychological thinking here, is not adequate.

### Evolutionary Considerations

Adolescent boys' high potential for subjectively reacting positively to coitus with older females, as suggested in the data, likely has a basis in primate heritage. Anderson and Bielert (1990) reviewed nonhuman primate immature male sexual behavior, finding that immature males across the primate order frequently and preferentially attempt coitus with adult females. In these attempts, they typically evidence initiative and enthusiasm. Primatologists observing this behavior and positive interest have attributed them to the immature males' need to practice copulation early on to gain competence for later reproductive success, which crucially depends on this early learning (e.g., Dixson, 2012; Gunst et al., 2013; Hashimoto, 1997; Kano, 1980; Kollar et al., 1968). In nonhuman primates, males, but not females, deprived socially and sexually early on tend to become sexually incompetent as adults. Gunst et al. examined this “needing-to-learn” hypothesis, as

<sup>3</sup> “Intercourse” is used here instead of coitus, because some of the events were same-sex. Significant differences occurred in the girl–peer, girl–adult, and boy–peer groups. The difference was similar in the boy–adult group but not significantly.

<sup>4</sup> Whereas Felson et al. (2019) focused on incidents (i.e., more than one per individual was possible), Rind (2022) restricted analysis to first sex (i.e., cases rather than incidents), a more common approach in this area of research. Their reported proportions could thus differ slightly.

they called it, in a troop of Japanese macaques. Consistent with other behaviors requiring incremental development during males' immaturity to attain adult competence, the same pattern occurred in the immature males' mounting behavior. From late juvenescence onwards, these males incrementally increased mounts, directed preferentially toward adult females. This special targeting, it was argued, most efficiently builds skills maximizing later reproductive success. Consistent with this evidence (enthusiasm, age pattern), the highest rate of enjoying first coitus "much" in the Kinsey sample (i.e., 63%) came from boys just entering adolescence ( $\leq$  age 14,  $n = 116$ ), who had their coitus with women. Likewise, in the Finnish sample, boys aged 12–14 ( $n = 113$ ) having intercourse with adults (mostly coitus) had nominally the highest rate of positive reactions among all subgroups (75%). Taken together, this evidence suggests that adolescent boys' tendency to subjectively react positively to coitus with women constitutes a conserved evolutionary trait.

Adolescent girl–older male coitus requires separate analysis. Pubertal marriage was basic to human societies in most places and times until the rise of modern complex societies, typically involving girls 12–15 married to men 19–21 (Frayser, 1985; Whiting et al., 2009). Pubertal marriage was functional in simple and midlevel societies as a means of maximizing reproductive success under conditions of pressing environmental constraint. Modern complex societies' rejection of the practice, Whiting et al. emphasized, represents different solutions to unique historical needs, not any evidence for pathology.

Early on, human male psychology evolved, becoming responsive to reproductive value in potential mates (i.e., probable future reproductive output), diverging from other primates, in addition to already being responsive to fertility (i.e., current reproductive potential), shared with other primates (Muller et al., 2006; Sugiyama, 2016; Symons, 1979). This adaptation enabled the pubertal marriage arrangements later formalized across societies. Reproductive value peaks at menarche in early adolescence and declines steadily thereafter. Mature male preference for youthful female traits reflects the biological significance of reproductive value. Such preference evolved in relation to human males' reproductive opportunities becoming limited by long-term pair bonding and female menopause, not characteristic in other primates. Pair bonding initially with an adolescent with high reproductive value compensated for constricted reproductive opportunities to maximize reproductive success. Preference for initial long-term pair bonding with peak-fertile women, modal in modern complex societies, reflects calibration to cultural conditions (Rind, 2017).

It would be expected that human female psychology coevolved to coordinate with the evolved importance of reproductive value. Females' characteristic striving to look youthful (like an adolescent) supports this (Rind & Yuill, 2012), as does

adolescent girls' responsiveness (e.g., reacting positively) to coitus with older males, provided they feel close (Higginson, 1999; Rind, 2022). If early adolescent coitus with older males were intrinsically problematic or pathological, negative reactions reflecting this significant insult to well-being should predominate. Instead, such reactions are in clear minority in key studies, as reviewed previously (Kinsey, 17%; Finnish, 21%). Negative reactions are context-dependent, not inherent.

### Sex Differences

The foregoing evolutionary considerations, along with the empirical results reviewed previously, suggest a generally greater predisposition on the part of boys to react positively to sex in general and coitus in particular. Other research has shown that, compared to girls, boys fantasize about sex at younger ages and with greater frequency. Their fantasies are more intense, sexually explicit, and positive. Girls' fantasies are more likely to occur in the context of actual or imaged romantic relationships (Ellis & Symons, 1990; Felson et al., 2019; Knoth et al., 1988; Okami & Shackelford, 2001). Gebhard et al. (1965), based on the Kinsey interviews numbering in the thousands, observed that boys aged 12–15 have libidos well activated, with responses to sex matching or frequently surpassing those of adults, and far exceeding those of girls of that age. These differences are consistent with more general sex differences between males and females regarding sex, where males are less discriminate, have a stronger drive, and have a greater willingness to engage casually (Baumeister et al., 2001; Buss, 2000; Frankenbach et al., in press; Laumann et al., 1994; Schmitt, 2005). For example, in a recent meta-analysis, Frankenbach et al. found that, of 612 effect sizes relating to male–female differences in sex drive, 97% were in the male direction, with a medium-large effect size overall. Schmitt analyzed male–female differences in 48 nations regarding positive views on casual sex. Males were significantly more positive in all nations, with a large mean effect size. In short, from the foregoing, boys would be expected to react more positively to first coitus than girls in most analyses, including the one here.

### Possible Limitations of the Finnish Sample

In Schmitt's (2005) comparison of 48 nations, Finland was the most favorable toward casual sex, significantly more so than the U.S. and Germany. Kontula (2015) argued that Finland's more liberal orientation toward sexuality is related to its highly progressed levels of education, social welfare, and gender equality, top-ranked among Western nations in a variety of studies, as well as its growing emphasis over the last half century on individuals' rights to sexual self-determination,



including for young people. Minors growing up in such a cultural environment therefore may react more favorably to first coitus, whether with peers or older persons, than in other nations. Examining other national samples is therefore needed.

## Current Study

The German nationally representative sample served to test the generalizability of the Finnish sample regarding reactions to first coitus. Consistent with the empirical and theoretical review just presented, positive reactions formed the main focus. Based on Finland's greater pro-sex orientation compared to other Western nations, extending to youth, it was expected that minors' subjective reactions to first coitus with peers or adults in Finland would be more favorable than in Germany.

Following the relevant-empirical perspective (broad-based data, evolutionary considerations), it was also expected that, in the German sample, subjective reactions to first coitus, whether minor–peer or minor–adult, would be mostly non-negative, and that boys would exhibit significantly higher rates of positive and lower rates of negative reactions than girls. These expectations stand in contrast to the CSA paradigm, from which negative reactions would be expected in most cases involving minors with adults (with little or no sex differences), as well as to the mainstream perspective, from which a more mixed pattern of reactions would be expected, but tilted toward the negative.

Because the perspectives based on abuse and harm have dominated the field since the early 1980s, research since has generally assumed subjective reactions are essentially negative, obviating the need for measurement; it has also tended to be satisfied with results from unrepresentative samples (e.g., clinical, forensic, convenience) for support. Assumptions and a predominance of biased samples can create imbalance in reports (Rind et al., 1998, 2001). The Finnish sample, representative with subjective reactions measured, was a step toward rebalancing. Many more national samples measuring reactions, however, are needed to reach balance, hence the present investigation.

## Method

### Sample

#### German Sample

The German sample employed here is described in detail by Hessling and Bode (2015), who analyzed results from a survey conducted in 2014 (April to August) throughout Germany, sponsored by the Federal Center for Health Education (i.e., Bundeszentrale für gesundheitliche Aufklärung, or BZgA). The survey was a repeat of earlier ones since 1980

designed to track trends in German youths' attitudes and behavior over time related to sexuality and contraception. Previous versions inquired about first coitus (e.g., age at time, reactions), but the 2014 version was the first to also ask about partner age, so only this version could be used for present purposes.

The sample consisted of 14- to 17-year-old adolescent boys and girls, as in previous versions of the survey. The 2014 survey added young adults aged 18–25 for the first time. The final sample consisted of 6,065 participants ( $n = 3,568$  adolescents;  $n = 2,497$  young adults), of whom 3,105 were male (mean age  $M = 19.81$ ,  $SD = 3.50$ ) and 2,960 female (mean age  $M = 19.80$ ,  $SD = 3.48$ ). For both sexes, ages ranged from 14 to 25, with about equal numbers of participants at each age level.

Target respondents (i.e., in the 14- to 25-years-old range) were chosen using the quota method, appropriate for target groups representing small and mobile sections of the population.<sup>5</sup> Quota characteristics used were sex, age, education, and nationality. Interviews took place in the home environment of the adolescents or young adults, mostly without the presence of a third party. For minors, parents were present at the minors' home during the interview (Scharmanski & Hessling, 2022).<sup>6</sup> The interviews, combining oral and written inquiries, were conducted using the Computer Assisted Personal Interviewing methodology. Face-to-face interviewing was used for the standard questionnaire, whereas for more intimate questions the participants responded using a laptop (i.e., the self-completed part). Participants' guardians, as well as the participants themselves (i.e., both the adolescents and young adults) were fully informed in advance about the nature and purpose of the survey. Interviews were voluntary and only took place after both parental and participant consent. Interviewers, supervised by field institute staff members with years of experience in this area of research, received intensive training to ensure interviews were conducted in age-appropriate, culturally sensitive, and empathetic fashion (Scharmanski & Hessling, 2022). For anonymity, personal data were deleted immediately after completion of the field phase.

The interviews were conducted across Germany, distributed according to the grid of networks of the master sample of the association of German market-research institutes. The

<sup>5</sup> In the quota method, a specific sample size is specified for each subgroup to be surveyed, and then potential respondents are solicited until the quotas are filled. Here, actual and target numbers matched with high accuracy.

<sup>6</sup> Hessling and Bode (2015) provided some incorrect information on the administration of the surveys in 2014. Scharmanski and Hessling (2022) provided the correct methodology, as reported here, which they noted has been the same across all iterations of the survey dating back to the 1980s.

statistical bases for the set quotas came from publications by the German Federal Office of Statistics. To ensure adequate representation of different subgroups, oversampling in some was done. Therefore, data preparation for analysis involved weighting to yield a proportionate sample. Once performed, the data became representative of all persons aged 14–25 in Germany. All analyses conducted by Hessling and Bode (2015) of the 2014 data were based on these weightings, a practice likewise followed in the present study.

### Finnish Sample

To assess whether and to what degree the Finnish results on reactions to first coitus generalized, comparisons between the Finnish and German results were conducted. Hence, it is appropriate here to briefly review some details of the Finnish sample—for a fuller description, see Felson et al. (2019). Sample data were collected in 1988, 2008, and 2013. But because sexual attitudes and practices became more restricted moving from the 1970s and 1980s into the 2000s, in Finland as well as other parts of the West (Kontula, 2015), the present study limited the Finnish data to 2008 and 2013 so as to better match the German data of the same time period. These surveys were funded by the Finnish government. The samples in 2008 ( $n = 13,459$ ) and 2013 ( $n = 11,364$ ) were nationally representative of sixth and ninth graders and were obtained through stratified cluster sampling based on county, type of municipality, and school size. Students answered the surveys in a classroom on computers by accessing a website.

### Measures

The German and Finnish surveys covered many topics. Below, just the items relevant to the present study are described.

#### Participant and Partner Characteristics and Age-Class Groups

The German survey inquired about the participant's age at time of the survey and sex. The survey later asked how old the participant was when he/she had first coitus and how old his/her partner was. From these ages, three age-class groups for first coitus were constructed, following Rind and Welter (2014): (1) *minor–peer*, where participants were under 18 with a partner within 4 years of age; (2) *minor–adult*, where participants were under 18 with a partner at least 5 years older; and (3) *adult–adult*, where participants were at least 18 with an adult partner or a minor partner not less than 4 years younger.

In the Finnish survey, the same information was collected from participants and two age-class groups were constructed: (1) *minor–peer* and (2) *minor–adult*. In the Finnish sample,

there was no adult–adult group, because all participants in the sample were minors.

### Reactions at the Time

Participants in the German sample were instructed to “Please think back now on how it was when you had [heterosexual] sexual intercourse for the first time.”<sup>7</sup> They were then asked, “How did you experience your first sexual intercourse,”<sup>8</sup> with response options: it was nothing special; it was a good experience; I had a guilty conscience; it was unpleasant.<sup>9</sup> Participants were instructed that they could choose more than one response. For present purposes, a conservative measure of reactions was constructed. If the participant endorsed “guilty conscience” or “unpleasant,” a *negative* reaction was coded, even if non-negative items were also endorsed. If the participant endorsed “nothing special” but not a negative response, then a *neutral* reaction was coded, even if “good experience” was also endorsed. Finally, if “good experience” was endorsed, but none of the other responses was, then a *positive* reaction was coded. This coding method ensured that positive reactions, the focus of the present study, were clearly positive and not mixed or ambiguous. In practice, the vast majority of participants chose a single response (91%), with 8% choosing two.

Participants in the Finnish sample were asked how they reacted at the time and how they reacted in retrospect (i.e., present evaluation) to their sexual experience. The latter formed the focus of analysis in the Felson et al. (2019) and Rind (2022) studies. But because the German study assessed reactions at the time of the event, here only the Finnish reactions at the time were considered. Rind (2022) described this measure in the Finnish survey. In brief, regarding sexual experiences with adults, participants were asked to endorse one or more emotional adjectives from a list of 6 (i.e., disgust, fear, shock, surprise, interest, and pleasure) that described their feelings at the time of the event. Categorizing reactions as negative, neutral, or positive was done conservatively, employing the same method described above for the German data. That is, responses were coded as negative if any

<sup>7</sup> Because the reaction question was central to the present study, for clarity its original German is provided here. First, the original German for the introduction instruction to participants was: *Bitte erinnern Sie sich jetzt noch einmal daran, wie es war, als Sie zum ersten Mal Geschlechtsverkehr mit einem Jungen oder Mann* [if female participant]/*mit einem Mädchen/einer Frau* [if male participant] *hatten*. Note that “*wie es war*” (how it was) indicates reactions at the time.

<sup>8</sup> The original German for the reaction question was: *Wie haben Sie Ihren ersten Geschlechtsverkehr erlebt? Mehrere Angaben sind möglich!*

<sup>9</sup> The original German for the response options was: *es war für mich eigentlich nichts Besonderes; es war für mich etwas Schönes; ich hatte ein schlechtes Gewissen dabei; es war für mich etwas Unangenehmes.*

negative emotion was endorsed, even if non-negative emotions were also endorsed. Responses were coded as neutral if “surprise” was endorsed but no negative emotion was, even if any positive emotion was endorsed. Finally, responses were coded as positive if a positive emotion was endorsed but no neutral or negative emotions were.<sup>10</sup> Regarding sexual experiences with peer-aged partners, participants were directly asked whether they felt the experience at the time was positive, negative, insignificant, or if they did not know. The latter two were combined for a neutral (or mixed) category.

In short, in the present analysis of the Finnish data, only reactions at the time to first coitus from the 2008 and 2013 surveys were considered. The results will thus be somewhat different from those presented in Rind (2022), because in that study, the first intercourse data analyzed focused on reactions in retrospect, included both heterosexual and homosexual events, and made use of all three time periods, including 1988.

### Desire for First Coitus

German participants were asked, “How did you come to have sexual intercourse for the first time,” with response options: it was primarily my desire; it was primarily my partner who wanted it; we both had the desire for it; it just happened in the situation; I was curious. From these items, a dichotomous variable entitled *wanted affirmatively* was constructed, with “yes” coded if the participant endorsed “I wanted it,” “both wanted it,” or “I was curious.” Otherwise, a “no” was coded, representing the more passive responses (i.e., “partner wanted it” or “it just happened”). In this way, the construct indicated affirmative wantedness, yes or no.

### Expectation for First Coitus

German participants were asked: “Which of the following statements best characterizes your situation for your first sexual intercourse,” with response options: I wasn’t expecting it to happen at all; I sensed it would happen soon, but it was a surprise when it happened on that day; it was clear to me that it would happen on that day. From these items, a dichotomous variable was constructed entitled *expected*, with “yes” representing “I sensed it would happen” or “it

was clear it would happen,” and “no” representing “wasn’t expecting it at all.”

### Timing of First Coitus

German participants were asked, “If you think back to your first time now, was the timing...,” with response options: much too early; somewhat too early; just at the right time; rather late. A dichotomous variable was constructed labeled *timing*, with “too early” representing the first two items (much or somewhat too early) and “not too early” representing the last two (right time or rather late).

### Familiarity with Partner

German participants were asked, “How well did you know the partner with whom you had sexual intercourse for the first time,” with response options: the partner was not known to me at all beforehand; the partner was briefly known to me; I knew the partner well; I was close friends with my partner; I was engaged to my partner; I was married to my partner. A variable entitled *familiarity* was constructed with four levels: “stranger” for not at all known beforehand; “brief” for when briefly known; “well known” if the participant knew the partner well but not more; and “close to” if the participant was close friends with, engaged to, or married to the partner. In practice, the “close to” level was synonymous with being close friends in the vast majority of cases (99% in minor–peer and minor–adult; 94% in adult–adult) rather than engaged or married.

Finnish participants were also asked a series of questions about context. However, these variables were not analyzed in the present study. For their analysis, see Felson et al. (2019) and Rind (2022).

### Procedure

In terms of the German survey, permission was obtained from the BZgA to use their data, and they then electronically forwarded the data accompanied by a codebook. From the codebook, variables were sought corresponding to, or similar to, the ones used by Felson et al. (2019) and Rind (2022). For the Finnish survey, see Rind (2022) for details on the acquisition of the sample data and their preparation for analysis.

### Statistical Analyses

Most analyses employed chi-square tests, in which *p*-values were based on exact tests (2-sided), which were computed using SPSS. This approach yields accurate estimates even when expected frequencies in one or more cells are low (<5) (Metha & Patel, 2011). When post hoc pairwise contrasts were performed on proportions in multi-group analyses,

<sup>10</sup> Rind (2022) showed that this coding was justified as follows. First, in correlation analyses, the negative emotions were highly correlated, so were combined to a single variable. Then an ANOVA was performed, with negative, surprise, interest, and pleasure forming levels of the independent variable, and reactions in retrospect (1 = very negative; 5 = very positive) serving as the dependent variable. The ANOVA was significant, with negative ( $M=2.04$ ) corresponding to *negative*, surprise ( $M=3.28$ ) to *neutral*, and interest ( $M=4.14$ ) and pleasure ( $M=4.38$ ) equally to *positive* on the 5-point scale.

Bonferroni-adjusted  $z$ -tests were employed. In assessing differences in proportions between two conditions (e.g., males vs. females), an odds ratio (OR) effect size was computed. Small, medium, and large effect sizes corresponded to ORs = 1.44, 2.47, and 4.26, respectively, according to Salgado's (2018) conversions from Cohen's  $d$ , another effect size measure. In cases where an odds ratio could not be computed (i.e., where there was 0 frequency in one or more cells), a Pearson correlation  $r$  was computed as the effect size, where, following Cohen's (1988) conversion from the effect size measure  $d$ , small, medium, and large effect sizes corresponded to  $r$ s = .10, .24, and .37. For all tests,  $p$ -values  $\leq .05$  were considered to be statistically significant (referred to in the text simply as "significant").

### Bivariate Analyses

Reactions (negative, neutral, and positive) to first coitus in the German sample were initially analyzed in relation to participant sex (female, male), performed separately by participant-partner age class (minor–peer; minor–adult; adult–adult).

Subsequent analyses focused just on reactions by minors in relation to various potential moderating variables (i.e., personal, situational), following Felson et al. (2019) and Rind (2022). These analyses were performed separately for the minor–peer and minor–adult groups. Within each of these groups, analyses were performed separately for girls and boys, examining for each sex the relationship between the levels of a given potential moderator and type of reaction. Next, sex differences involving these moderating variables were analyzed, separately for the minor–peer and minor–adult groups.

After several multivariate analyses (see below), an additional bivariate analysis was conducted. Reaction patterns in the German and Finnish samples were compared. Comparisons were performed separately for boys involved with girl partners and then women partners, and next for girls involved with boy partners and then men partners. These comparisons examined whether Finnish participants reacted more positively than German participants.

### Multivariate Analyses

Following most of the bivariate analyses, two sets of multivariate logistic regression analyses were conducted, following the approaches used in Felson et al. (2019) and Rind (2022). The first assessed the likelihood of reacting positively as a function of participant-partner age class (i.e., minor–peer, minor–adult, or adult–adult), participant's age at first coitus, age difference of partner, whether participant affirmatively wanted the coitus, whether participant expected the event to occur, and degree of familiarity with

the partner.<sup>11</sup> These regressions were carried out separately for male and female participants. The goal of this multivariate analysis was to estimate an "adjusted" odds ratio for each independent variable, that is, its "unique contribution" after adjusting for the effects of all the other independent variables in the model (i.e., after the other variables were held at some constant value) (Stoltzfus, 2011). Of special interest in these analyses was to determine whether and to what extent, after adjusting for other variables, minors involved with adults would evidence inferior reactions (here, less positive) to first coitus compared to the other groups (i.e., age-class equal).

For the second set of logistic regression analyses, of special interest was whether and to what extent a participant's sex (i.e., male or female), after adjusting for other independent variables (i.e., age at first coitus, partner age difference, affirmatively wanting the coitus, expecting it, and familiarity with the partner), was related to the likelihood of reacting positively. That is, the goal was to examine sex differences in reactions, adjusting for other variables. These analyses were conducted separately for minors involved with peers, minors involved with adults, and adults involved with other adults.

## Results

### Age at First Intercourse, Partner Age, and Age Difference

Overall in the German sample, two-thirds of males reported having coitus (67.2%), with mean age of first time being  $M = 16.26$  ( $SD = 1.88$ ), ranging from 10 to 24. For females, 70% reported having coitus, with mean age at first time being  $M = 16.08$  ( $SD = 1.82$ ), ranging from 8 to 25. Before they had reached their 18th birthday, 78.3% of boys and 80.6% of girls had experienced their first coitus. Before their 16th birthday, 34.1% of boys and 40.6% of girls had, and before their 14th birthday, 5.3% of boys and 4.4% of girls had.

Among minors having first coitus with peer-aged partners, nearly all did so between ages 12 and 17 (99% of both boys and girls). Among minors having first coitus with partners at least 5 years older, again nearly all did so between ages 12 and 17 (96% of boys; 99% of girls). For minors having first coitus with older partners, in the vast majority of cases the older partners were adults aged 18 or above (91% of boys' partners were adult women; 98% of girls' partners were adult men). In short, these minor–older relations are best described as "adolescent–adult."

<sup>11</sup> Timing was not included as a predictor because it was assumed to be conceptually close to, and likely confounded with, reaction responses—both were evaluative in nature, rather than strictly factual.



**Table 1** Participant and partner ages at first coitus, and age difference, separately by participant-partner age class, in German national sample

	<i>M</i> (SD) range			<i>n</i>
	Participant	Partner	Age difference	
<i>Minor–peer</i>				
Girls	15.43 (1.40) 11–17	17.02 (1.54) 12–21	1.59 (1.26) – 3 to 4	1502
Boys	15.54 (1.22) 10–17	15.61 (1.41) 10–21	0.07 (1.23) – 3 to 4	1568
<i>Minor–adult</i>				
Girls	15.39 (1.47) 8–17	22.46 (3.45) 16–40	7.07 (2.91) 5–23	175
Boys	15.47 (1.89) 10–17	21.92 (3.01) 16–34	6.45 (1.97) 5–18	61
<i>Adult–adult</i>				
Women	18.91 (1.30) 18–25	21.74 (3.76) 15–35	2.83 (3.43) – 3 to 17	390
Men	18.88 (1.31) 18–24	18.95 (3.80) 14–44	0.07 (3.53) – 4 to 24	452

Age difference is partner age minus participant age. Negative values signify that the participant was older; positive values signify younger. All statistics based on weighted analyses

**Table 2** Reactions at the time to first coitus, separately by participant-partner age class, in German national sample

	%			<i>n</i>	$\chi^2(2)$	Positive reactions.: males versus females	
	Negative	Neutral	Positive			OR (95% CI)	<i>p</i>
<i>Minor–peer</i>							
Girls	36.6 <sub>a</sub>	15.1 <sub>a</sub>	48.2 <sub>a</sub>	1499	241.12***	2.61 (2.25–3.03)	<0.001
Boys	12.9 <sub>b</sub>	16.2 <sub>a</sub>	70.9 <sub>b</sub>	1562			
<i>Minor–adult</i>							
Girls	46.6 <sub>a</sub>	21.3 <sub>a</sub>	32.2 <sub>a</sub>	174	31.00***	5.79 (3.01–11.15)	<0.001
Boys	16.7 <sub>b</sub>	10.0 <sub>a</sub>	73.3 <sub>b</sub>	60			
<i>Adult–adult</i>							
Women	36.3 <sub>a</sub>	17.8 <sub>a</sub>	45.9 <sub>a</sub>	388	172.77***	3.23 (2.42–4.32)	<0.001
Men	14.7 <sub>b</sub>	12.0 <sub>b</sub>	73.3 <sub>b</sub>	449			

Proportions and *ns* were based on weighted analyses. Within each panel, proportions for girls versus boys or women versus men for a given reaction (i.e., going downwards) with different subscripts are significantly different in post hoc analysis. Odds ratio (OR) effect size contrasts positive vs. non-positive reactions for boys versus girls or men versus women. Confidence intervals (CI) and *p*-values for ORs are provided. ORs > 1 indicate that boys or men had higher rates of positive reactions than girls or women

\**p* < .05, \*\**p* < .01, \*\*\**p* < .001

Table 1 shows the mean ages at first coitus for females and males in all three participant-partner age-class groups. Briefly, minors having first coitus did so, on average, around 15.5 years of age in all minor–other groups. Girls' peer-aged partners were about 1.6 years older, on average, and boys' peer-aged partners were about the same age. In the minor–adult groups, girls' partners were 7 years older, on average, while boys' partners were about 6.5 years older. In the adult–adult groups, participants were, on average, almost 19 at first coitus. Women's partners were, on average, almost 3 years older, while men's partners were the same age.

## Subjective Reactions

Table 2 shows results for participants' subjective reactions at the time to their first coitus. For each age-class group, males reacted positively significantly more often and negatively significantly less often than females. For males, clear majorities reacted positively at similarly high rates in all age-class groups: boy–girl, 71%; boy–woman, 73%; man–woman, 73%. For females, slightly less than half reacted positively in the age-class-equal groups: girl–boy, 48%; woman–man, 46%. In the girl–man group, less than a third did (32%).

The right two columns of Table 2 provide odds ratio effect size information regarding the magnitude of the difference between male and female rates of positive reactions. The magnitude was medium for minors involved with peers (OR = 2.61) and adults involved with other adults

(OR = 3.23), but large for minors involved with adults (OR = 5.79).

Males reacted negatively at the time at similarly low rates across age-class groups: boy–girl, 13%; boy–woman, 17%; man–woman, 15%. Compared to males, females reacted negatively about 2.5 to 3 times as often. Girls with peer-aged boys and women with men reacted negatively in about 36% of cases, while girls involved with men reacted negatively in 47% of cases. The odds ratios (with 95% confidence intervals) comparing the odds of females reacting negatively to the odds of males reacting negatively, not shown in the table, were medium-large in the age-class-equal groups (OR = 3.91 [3.26–4.69], minor–peer; OR = 3.31 [2.37–4.62], adult–adult), but large in the minor–adult group (OR = 4.35 [2.07–9.14]).

Reactions in the age-class-equal groups combined (minor–peer, adult–adult) were contrasted with reactions in the minor–adult groups (not shown in the table). For males, age-class equals were no more likely to react positively than boys with women, OR = 0.91 (0.51–1.63), and boys with women were no more likely to react negatively compared to age-class equals, OR = 1.31 (0.65–2.61). For females, age-class equals were more likely to react positively than girls with men, OR = 1.93 (1.38–2.68), and conversely girls with men were more likely to react negatively than age-class-equal females, OR = 1.51 (1.10–2.06).

### Reactions in Relation to Age Difference

Correlations were computed assessing the relation between age difference and positive reactions, as well as between age difference and negative reactions. In the former, a positive correlation would indicate that positive reactions were more common the older the partners were relative to the participants. In the latter, a positive correlation would indicate that negative reactions became more common as partners got older relative to participants. All tests were two-tailed.

In the minor–peer group, boys' reactions were not related to partner age difference:  $r(1560) = -.05$  and  $-.04$  ( $ps > .05$ ) for positive and negative reactions, respectively. Girls' reactions were significantly but only slightly related to age difference:  $r(1497) = -.08$  and  $.08$  ( $ps = .001$ ) for positive and negative reactions, respectively (i.e., positive reactions decreased and negative reactions increased as girls' partners got relatively older).

In the minor–adult group, reactions were not significantly correlated with age difference: for positive and negative reactions, respectively,  $r(59) = -.13$  and  $-.03$  ( $ps > .10$ ) for boys;  $r(173) = .07$  and  $.04$  ( $ps > .10$ ) for girls.

In the adult–adult group, greater age difference was related to more positive reactions for men,  $r(447) = .11$ ,  $p < .05$ ; age difference was not related to negative reactions,

$r(447) = -.04$ ,  $p > .10$ . For women, age difference was not related to positive or negative reactions:  $r(386) = -.07$  and  $.07$  ( $ps > .10$ ).

In sum, for all age-class groups, the magnitude of the relations between age difference and reactions was small, regardless of statistical significance. Significance differed in relation to sample size (and thus power).

### Minors' Reactions in Relation to Participant Age and Partner Familiarity

Table 3 (top half) shows reactions by minors, separately for minor–peer and minor–adult coitus, in relation to age at the time of first coitus, with age being divided into three levels: under 14, 14–15, and 16–17. Within both the boy–girl and boy–woman groups, no differences in rates of positive or negative reactions occurred in relation to age level. For example, boys under age 14 reacted just as favorably to first coitus as older boys, whether involved with peer-aged girls or women.

In the girl–boy group, the youngest (under 14) and oldest (16 to 17) girls reacted the same, while middle girls (14 to 15) showed a higher rate of negative and lower rate of positive reactions. In the girl–man group, no significant differences occurred. Finally, in comparing the girl–boy and girl–man groups, rates of positive reactions were halved when girls were younger than 16 and had coitus with men as opposed to peer-aged boys.

Table 3 (bottom half) shows reactions in relation to familiarity in four levels. Level of familiarity was related to reactions in all groups. In general, being more familiar (especially being close) with partners was associated with higher rates of positive reactions. For minors with peers, but not minors with adults, rates of negative reactions were higher when the partner was only briefly known compared to well known or close.

### Minors' Reactions in Relation to Wantedness, Expectations, and Timing

Table 4 (at top) shows results for reactions in relation to whether the coitus was affirmatively wanted. For girls having coitus with boys, affirmatively wanting it was associated with a doubling of positive and halving of negative reactions. For girls with men, affirmatively wanting it was also associated with a doubling of the rate of positive reactions. For boys having coitus with girls or women, by contrast, the differences in relation to wanting it affirmatively were non-significant and slight.

When participants were expecting the coitus to occur (Table 4, middle), rates of positive reactions were higher in all groups. When participants felt that it was not too early (Table 4, bottom), positive reactions increased and negative reactions decreased significantly in all groups except boys

**Table 3** Reactions to minor–peer and minor–adult first coitus in relation to personal characteristics, separately by participant sex, in German national sample

	Minor–peer					Minor–adult				
	Reaction (%)			<i>n</i>	$\chi^2$	Reaction (%)			<i>n</i>	$\chi^2$
	Neg	Neut	Pos			Neg	Neut	Pos		
<i>Participant age</i>										
<i>Girls</i>										
< 14	34.3 <sub>ab</sub>	15.7 <sub>a</sub>	50.0 <sub>ab</sub>	70	9.09	50.0 <sub>a</sub>	25.0 <sub>a</sub>	25.0 <sub>a</sub>	20	6.51
14–15	40.3 <sub>b</sub>	15.4 <sub>a</sub>	44.3 <sub>b</sub>	693		48.3 <sub>a</sub>	29.3 <sub>a</sub>	22.4 <sub>a</sub>	58	
16–17	33.3 <sub>a</sub>	14.9 <sub>a</sub>	51.8 <sub>a</sub>	736		44.9 <sub>a</sub>	16.3 <sub>a</sub>	38.8 <sub>a</sub>	98	
<i>Boys</i>										
< 14	5.4 <sub>a</sub>	32.3 <sub>a</sub>	62.4 <sub>a</sub>	93	21.14***	0.0 <sub>a</sub>	27.3 <sub>a</sub>	72.7 <sub>a</sub>	11	6.89
14–15	13.3 <sub>a</sub>	15.2 <sub>b</sub>	71.6 <sub>a</sub>	587		16.7 <sub>a</sub>	8.3 <sub>a</sub>	75.0 <sub>a</sub>	12	
16–17	13.5 <sub>a</sub>	15.2 <sub>b</sub>	71.3 <sub>a</sub>	882		24.3 <sub>a</sub>	5.4 <sub>a</sub>	70.3 <sub>a</sub>	37	
<i>Familiarity</i>										
<i>Girls</i>										
Stranger	35.3 <sub>ab</sub>	52.9 <sub>a</sub>	11.8 <sub>ab</sub>	17	83.18***	41.7 <sub>a</sub>	50.0 <sub>a</sub>	8.3 <sub>ab</sub>	12	23.73***
Brief	57.0 <sub>b</sub>	23.3 <sub>ab</sub>	19.8 <sub>b</sub>	86		44.8 <sub>a</sub>	31.0 <sub>a</sub>	24.1 <sub>ab</sub>	29	
Well known	36.4 <sub>a</sub>	21.4 <sub>b</sub>	42.3 <sub>a</sub>	440		52.2 <sub>a</sub>	30.4 <sub>a</sub>	17.4 <sub>b</sub>	46	
Close	34.9 <sub>a</sub>	10.8 <sub>c</sub>	54.3 <sub>c</sub>	954		44.3 <sub>a</sub>	10.2 <sub>b</sub>	45.5 <sub>a</sub>	88	
<i>Boys</i>										
Stranger	14.6 <sub>ab</sub>	29.2 <sub>a</sub>	56.3 <sub>ab</sub>	48	57.31***	30.0 <sub>a</sub>	20.0 <sub>a</sub>	50.0 <sub>a</sub>	20	13.03*
Brief	21.4 <sub>b</sub>	25.4 <sub>a</sub>	53.2 <sub>b</sub>	173		21.1 <sub>a</sub>	10.5 <sub>a</sub>	68.4 <sub>ab</sub>	19	
Well known	11.1 <sub>a</sub>	20.4 <sub>a</sub>	68.5 <sub>a</sub>	495		0.0 <sub>a</sub>	0.0 <sub>a</sub>	100.0 <sub>b</sub>	16	
Close	12.1 <sub>a</sub>	11.2 <sub>b</sub>	76.7 <sub>c</sub>	846		0.0 <sub>a</sub>	0.0 <sub>a</sub>	100.0 <sub>ab</sub>	4	

Proportions and *ns* were based on weighted analyses. For participant age analyses, *df*=4; for familiarity analyses, *df*=6. Within each analysis, proportions for a given reaction (i.e., going down a column) without a common subscript are significantly different in post hoc analysis

\**p* < .05, \*\**p* < .01, \*\*\**p* < .001

with women, where differences trended similarly but were not significant (due to lower power).

### Sex Differences in Positive Reactions in Relation to Personal and Situational Variables

Table 5 shows results for analyses of sex differences in rates of positive reactions for all levels of each of the personal and situational variables just reviewed. In almost all cases, boys' rates of positive reactions were significantly higher than girls' rates. This finding applied equally to the minor–peer and minor–adult groups. In terms of the magnitude of difference, however, in most cases it was substantially larger in the minor–adult group. In the latter, some examples of very large effect sizes included: being under age 14 (*OR* = 8.00), being aged 14–15 (*OR* = 10.38), not having affirmatively wanted the coitus (*OR* = 11.06), not having expected it to happen (*OR* = 7.68), and feeling that it happened too early (*OR* = 8.11). In the case of when the partner was a stranger, the magnitude of the effect size was quite large in both the minor–peer (*OR* = 9.64) and minor–adult (*OR* = 11.00) groups.

### Logistic Regressions

#### Age Class as a Predictor

Table 6 shows results for the logistic regressions examining the likelihood of positive reactions in terms of various personal and situational variables (most of those considered previously), along with age class added as a predictor of special interest. This analysis was done separately by participant sex. Each model was highly significant. Age class, after adjusting for other variables in the models, was not related to the likelihood of positive reactions in either model. For example, compared to being in the minor–adult groups, being in the corresponding adult–adult groups was associated with virtually zero change in the likelihood of positive reactions (*AORs* = .92 and .98, respectively, in the male and female analyses).

Age at first coitus, adjusting for other variables, was not significant for males but was for females, with older ages being modestly related to a greater likelihood of a positive reaction. Partner age difference was significant only for males, in which a greater age difference with their female

**Table 4** Reactions at the time to minor–peer and minor–adult first coitus in relation to situational factors, separately by participant gender, in German national sample

	Minor–peer					Minor–adult				
	Reaction (%)			<i>n</i>	$\chi^2(2)$	Reaction (%)			<i>n</i>	$\chi^2(2)$
	Neg	Neut	Pos			Neg	Neut	Pos		
<i>Wanted affirmatively</i>										
Girls										
No	50.1 <sub>a</sub>	20.6 <sub>a</sub>	29.3 <sub>a</sub>	553	128.84***	52.0 <sub>a</sub>	26.7 <sub>a</sub>	21.3 <sub>a</sub>	75	7.86*
Yes	28.3 <sub>b</sub>	12.0 <sub>b</sub>	59.7 <sub>b</sub>	938		41.2 <sub>a</sub>	17.5 <sub>a</sub>	41.2 <sub>b</sub>	97	
Boys										
No	14.1 <sub>a</sub>	19.4 <sub>a</sub>	66.6 <sub>a</sub>	589	9.67**	25.0 <sub>a</sub>	0.0 <sub>a</sub>	75.0 <sub>a</sub>	24	5.07
Yes	12.3 <sub>a</sub>	14.1 <sub>b</sub>	73.6 <sub>b</sub>	969		14.3 <sub>a</sub>	17.1 <sub>b</sub>	68.6 <sub>a</sub>	35	
<i>Expected</i>										
Girls										
No	51.1 <sub>a</sub>	25.0 <sub>a</sub>	23.9 <sub>a</sub>	272	80.89***	54.9 <sub>a</sub>	31.4 <sub>a</sub>	13.7 <sub>a</sub>	51	11.63**
Yes	33.4 <sub>b</sub>	13.0 <sub>b</sub>	53.6 <sub>b</sub>	1224		43.2 <sub>a</sub>	17.6 <sub>b</sub>	39.2 <sub>b</sub>	125	
Boys										
No	15.4 <sub>a</sub>	25.8 <sub>a</sub>	58.8 <sub>a</sub>	318	32.57***	30.0 <sub>a</sub>	15.0 <sub>a</sub>	55.0 <sub>a</sub>	20	4.65
Yes	12.3 <sub>a</sub>	13.8 <sub>b</sub>	74.0 <sub>b</sub>	1240		10.0 <sub>a</sub>	10.0 <sub>a</sub>	80.0 <sub>b</sub>	40	
<i>Timing</i>										
Girls										
Too early	58.3 <sub>a</sub>	16.3 <sub>a</sub>	25.4 <sub>a</sub>	551	207.05***	65.4 <sub>a</sub>	22.2 <sub>a</sub>	12.3 <sub>a</sub>	81	30.20***
Not too early	23.9 <sub>b</sub>	14.6 <sub>a</sub>	61.5 <sub>b</sub>	948		30.1 <sub>b</sub>	20.4 <sub>a</sub>	49.5 <sub>b</sub>	93	
Boys										
Too early	28.2 <sub>a</sub>	23.8 <sub>a</sub>	48.0 <sub>a</sub>	227	97.29***	33.3 <sub>a</sub>	13.3 <sub>a</sub>	53.3 <sub>a</sub>	15	3.80
Not too early	9.6 <sub>b</sub>	14.6 <sub>b</sub>	75.8 <sub>b</sub>	1285		13.0 <sub>a</sub>	8.7 <sub>a</sub>	78.3 <sub>a</sub>	46	

Proportions and *ns* were based on weighted analyses. Within each analysis, proportions for a given reaction (i.e., going down a column) without a common subscript are significantly different in post hoc analysis

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

partner was associated with a slight increase in the odds of reacting positively.

Affirmatively wanting the coitus was significantly related to an increased likelihood of positive reactions just for females, with medium effect size. Expecting the coitus to happen was significantly associated with an increased likelihood of positive reactions for both sexes, with a small effect size for males and small-medium one for females. Familiarity, for partners at all levels compared to being a close partner, was significant for both sexes. When partners were close, compared to being strangers, the odds of positive reactions were multiplied by a factor of almost 3 for males (AOR = 2.70—i.e., = 1.00/0.37 in Table 6) and more than 7 for females (AOR = 7.14).

### Participant Sex as a Predictor

Table 7 shows the results for logistic regressions using participant sex as a predictor, along with the personal and

situational variables used previously, done separately for each age class. Being male as opposed to female significantly increased the odds of reacting positively in all three models after adjusting for other variables. The magnitude was large in the adult–adult group (AOR = 4.55) and huge in the minor–adult group (AOR = 29.05).

Other noteworthy findings include having expected the coitus to occur and having a close partner, both significant in all three models. In the minor–adult and adult–adult groups, expecting it to occur was of medium magnitude. In the age-class-equal groups, partners close versus well known were associated with a small increase in odds of positive reaction, while partners close versus lesser known (brief, stranger) were associated with an increase of medium magnitude. In the minor–adult group, these corresponding increases were of larger magnitude, particularly in the close versus stranger contrast (AOR = 33.33—i.e., 1.00/0.03). Participant age at first coitus was not related to likelihood of positive reaction in all three models. Age difference was related to



**Table 5** Contrasting boys' versus girls' rates of positive reactions to first coitus in relation to personal and situational factors, separately by participant-partner age class, in German national sample

	Minor–peer		Minor–adult	
	OR (95% CI)	<i>p</i>	OR (95% CI)	<i>p</i>
<i>Participant age</i>				
< 14	1.66 (0.88–3.11)	0.114	8.00 (1.51–42.43)	0.010
14–15	3.16 (2.50–3.99)	< 0.001	10.38 (2.45–44.04)	< 0.001
16–17	2.32 (1.89–2.84)	< 0.001	3.73 (1.65–8.42)	0.001
<i>Familiarity</i>				
Stranger	9.64 (1.98–46.88)	0.002	11.00 (1.19–101.93)	0.016
Brief	4.61 (2.51–8.47)	< 0.001	6.81 (1.88–24.68)	0.002
Well known	2.97 (2.27–3.88)	< 0.001	n/c <sup>a</sup>	< 0.001
Close	2.77 (2.26–3.40)	< 0.001	n/c <sup>b</sup>	0.033
<i>Age difference</i>				
5–9	–	–	6.34 (3.21–12.53)	< 0.001
10+	–	–	1.67 (0.09–30.05)	0.727
<i>Wanted affirmatively</i>				
No	4.80 (3.74–6.17)	< 0.001	11.06 (3.77–32.45)	< 0.001
Yes	1.88 (1.55–2.28)	< 0.001	3.11 (1.37–7.06)	0.006
<i>Expected</i>				
No	4.55 (3.18–6.50)	< 0.001	7.68 (2.34–25.20)	< 0.001
Yes	2.47 (2.08–2.92)	< 0.001	6.20 (2.64–14.57)	< 0.001
<i>Timing</i>				
Too early	2.71 (1.96–3.75)	< 0.001	8.11 (2.42–27.24)	< 0.001
Not too early	1.96 (1.63–2.35)	< 0.001	3.68 (1.64–8.27)	0.001

Analyses were weighted. ORs > 1 indicate higher rates of positive reactions for boys than girls. n/c = not calculable (because of 0 frequency in one or more cells)

<sup>a</sup> as alternative, effect size  $r = 0.74$

<sup>b</sup> as alternative, effect size  $r = 0.22$

increased likelihood of positive reaction in the minor–adult and adult–adult models—bigger age differences increased the odds of a positive reaction. Affirmative wantingness was associated with a small increase in these odds across age groups, but significant just in the minor–peer and adult–adult models.

**Table 6** Logistic regression assessing likelihood of positive reaction to first coitus in German national sample, performed separately by participant sex

	AOR (95% CI)	
	Males	Females
<i>Age class</i>		
Minor–adult	Reference	Reference
Minor–peer	0.91 (0.46–1.81)	1.49 (0.96–2.31)
Adult–adult	0.92 (0.44–1.94)	0.98 (0.58–1.65)
<i>Participant age</i>		
At first intercourse	1.05 (0.97–1.13)	<b>1.12</b> (1.04–1.21)
Partner age difference	<b>1.08</b> (1.02–1.14)	0.99 (0.94–1.04)
<i>Affirmatively wanted</i>		
No	Reference	Reference
Yes	1.15 (0.93–1.43)	<b>2.45</b> (1.99–3.01)
<i>Expected it</i>		
No	Reference	Reference
Yes	<b>1.67</b> (1.31–2.13)	<b>2.05</b> (1.54–2.74)
<i>Familiarity</i>		
Stranger	<b>0.37</b> (0.23–0.61)	<b>0.14</b> (0.04–0.54)
Brief	<b>0.42</b> (0.31–0.57)	<b>0.26</b> (0.17–0.41)
Well known	<b>0.69</b> (0.55–0.87)	<b>0.70</b> (0.57–0.86)
Close	Reference	Reference
<i>Statistics</i>		
<i>N</i>	1238	1910
$\chi^2(9)$	91.20***	282.32***
Nagelkerke $R^2$	0.06	0.17

Analyses were unweighted

AOR adjusted odds ratio, CI confidence interval, "reference" reference category against which other categories in a given variable were compared. Participant age and age difference were scale variables

Significant AORs ( $p < .05$ ) are bold-faced

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

## Comparing German and Finnish Reactions

Table 8 shows analyses comparing reactions in the German and Finnish samples, performed to evaluate whether the Finnish results (i.e., predominantly positive in reactions to first coitus regardless of participant-partner age class) applied to other nations. In the analyses, the Finns did react significantly more positively and less negatively in three of four comparisons. In the fourth (boys having coitus with women), results were not significant (but because of lower power—the boy–girl pattern of reactions for the Finns versus Germans was quite similar, but significant owing to a much larger number of cases). The consistent difference between the Finns and Germans in rates of positive reactions is reflected in the narrow range of the odds ratios across all four comparisons, from 1.97 to 2.17 (second column from the right).

**Table 7** Logistic regression assessing likelihood of positive reaction to first coitus in German national sample, performed separately by participant-partner age class

	AOR (95% CI)		
	Minor–peer	Minor–adult	Adult–adult
<i>Participant sex</i>			
Female	reference	reference	reference
Male	<b>2.82</b> (2.34–3.41)	<b>29.05</b> (9.86–85.62)	<b>4.55</b> (3.18–6.50)
<i>Participant age</i>			
at first intercourse	1.06 (0.99–1.14)	1.19 (0.96–1.48)	1.07 (0.95–1.20)
partner age difference	0.95 (0.89–1.02)	<b>1.15</b> (1.01–1.31)	<b>1.05</b> (1.00–1.10)
<i>Affirmatively wanted</i>			
No	Reference	Reference	Reference
Yes	<b>1.79</b> (1.52–2.12)	1.67 (0.82–3.39)	<b>1.55</b> (1.10–2.17)
<i>Expected it</i>			
No	Reference	Reference	Reference
Yes	<b>1.68</b> (1.36–2.07)	<b>2.59</b> (1.09–6.17)	<b>2.26</b> (1.50–3.40)
<i>Familiarity</i>			
Stranger	<b>0.48</b> (0.28–0.83)	<b>0.03</b> (0.01–0.15)	0.50 (0.19–1.28)
Brief	<b>0.41</b> (0.31–0.55)	<b>0.25</b> (0.09–0.69)	<b>0.32</b> (0.19–0.53)
Well known	<b>0.73</b> (0.61–0.87)	<b>0.34</b> (0.15–0.77)	<b>0.67</b> (0.46–0.95)
Close	Reference	Reference	Reference
<i>Statistics</i>			
<i>N</i>	2504	194	450
$\chi^2(8)$	369.02***	72.66***	141.36***
Nagelkerke $R^2$	.15	.36	.21

Analyses were unweighted

AOR adjusted odds ratio, CI confidence interval, "reference" reference category against which other categories in a given variable were compared. Participant age and age difference were scale variables

Significant AORs ( $p < .05$ ) are bold-faced

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

The odds ratios for negative reactions (not shown in the table) were large for minor–peer coitus, with the Germans more likely to react negatively (OR = 15.10 [6.62–34.44] for boys with girls, and OR = 8.09 [6.04–10.85] for girls with boys). The odds ratio for negative reactions was small and non-significant for boy–woman coitus, with German boys no more likely to react negatively than Finnish boys, OR = 1.25 (0.31–5.10). The odds ratio was small-medium and significant for girl–man coitus, with German girls more likely to react negatively than Finnish girls, OR = 2.07 (1.24–3.46).

In practical terms, for boys the likelihood of reacting negatively was small in all groups (maximum of 14%), whether the boy was German or Finn, or involved with a peer-aged or adult partner. Girls' likelihood of reacting negatively became relatively sizable when the girls were German, whether with a peer-aged or adult partner (37% and 45%, respectively).

## Discussion

The predictions in the present study were supported. First, among those who had their first coitus while minors, which mostly occurred during adolescence in both samples, Finnish participants generally reacted subjectively more favorably than German participants. For instance, the Finns had twice the odds of reacting positively. These results suggest cultural influence on subjective reactions, consistent with the Finns' comparatively more liberal orientation toward sexuality, extending to adolescents (Kontula, 2015; Schmitt, 2005). More generally, the results were consistent with Boydell et al.'s (2021) review, in which adolescents' positive response to first sex was found to depend in part on the social, cultural, and political context in which the adolescent was situated.

Second, German participants subjectively reacted predominately non-negatively to their first coitus, including minors having coitus with adults. The pattern of reactions for males was remarkably similar in all three participant-partner age-class groups (boy–girl, boy–woman,

**Table 8** Finnish versus German reactions at the time to first coitus, separately by participant-partner age class, in Finnish and German national samples

% <div>NegativeNeutralPositive</div>				<i>n</i>	$\chi^2(2)$	Positive reactions: Finns versus Germans <div>OR (95% CI)<i>p</i></div>	
<i>Boys</i>							
Girl partner							
Finnish	0.9 <sub>a</sub>	14.9 <sub>a</sub>	84.2 <sub>a</sub>	638	73.73***	2.11 (1.64–2.71)	<0.001
German	12.5 <sub>b</sub>	15.9 <sub>a</sub>	71.6 <sub>b</sub>	1021			
Woman partner							
Finnish	11.4 <sub>a</sub>	5.7 <sub>a</sub>	82.9 <sub>a</sub>	35	2.39	2.13 (0.69–6.58)	0.186
German	13.9 <sub>a</sub>	16.7 <sub>a</sub>	69.4 <sub>a</sub>	36			
<i>Girls</i>							
Boy partner							
Finnish	6.7 <sub>a</sub>	25.0 <sub>a</sub>	68.3 <sub>a</sub>	819	256.50***	2.17 (1.81–2.59)	<0.001
German	36.8 <sub>b</sub>	13.4 <sub>b</sub>	49.8 <sub>b</sub>	1502			
Man partner							
Finnish	28.1 <sub>a</sub>	19.3 <sub>a</sub>	52.6 <sub>a</sub>	114	9.18**	1.97 (1.21–3.22)	0.006
German	44.7 <sub>b</sub>	19.3 <sub>a</sub>	36.0 <sub>b</sub>	161			

Proportions and *ns* were based on unweighted analyses. Within each panel, proportions for Finnish versus German participants for a given reaction (i.e., going downwards) with different subscripts are significantly different in post hoc analysis. Odds ratio (OR) effect size contrasts positive vs. non-positive reactions for Finnish versus German participants. Confidence intervals (CI) and *p*-values for ORs are provided. ORs > 1 indicate that Finns had higher rates of positive reactions than Germans

\**p* < .05, \*\**p* < .01, \*\*\**p* < .001

man–woman), with rates of positive reactions ranging from 71 to 73% and negative reactions from 13 to 17%. Boys having first coitus with women, in other words, did not react as would have been expected from either the CSA paradigm or the mainstream perspective. That is, they did not react negatively in most or the majority of cases, with positive reactions being uncommon. Nor were their reactions anomalous compared to age-class-equal coitus, which should have obtained if boys' age-gap coitus were inherently traumatic or otherwise troublesome for the boys. Instead, the boy–woman pattern of reactions was in line with the relevant-empirical perspective. Empirically, for example, it matched the pattern in the Finnish sample in form (mostly positive, uncommonly negative reactions). Evolutionarily, it fit the pattern seen across the primate order for immature males vis-à-vis coitus with adult females (e.g., interest, enthusiasm), a concordance arguably reflecting shared ancestry (e.g., a conserved evolutionary trait). Boys' favorable reaction to coitus with women, despite the cultural negatives surrounding this behavior, suggests that the predisposition to react favorably is robust in adolescent boys.

Girls having first coitus with men did show a less favorable reaction pattern than girls or women involved with age-class-equal partners. Positive reaction rates for girls with men versus the combined age-class-equal groups were 32% versus 48%, respectively, while negative reaction rates were 47% versus 37%, respectively. Age-class-equal participants

had nearly twice the odds of reacting positively, while girls with men had one-and-a-half times the odds of reacting negatively. Though statistically significant in both cases, these differences were small in magnitude—and became even smaller and non-significant in multivariate analysis (see below). These results do not comport with either the CSA paradigm or the mainstream perspective. Results were more consistent with the relevant-empirical perspective, especially when allowances are taken into account for cultural differences. Empirically, girls with men reacted less favorably in the German than Finnish samples. But girls having coitus with boys also reacted less favorably with similar drops in rates of positive reactions and increases in rates of negative reactions. The minor–peer differences likely reflected German–Finnish cultural differences (cf. Kontula, 2015; Schmitt, 2005), suggesting that the similar minor–adult differences did as well. The drop in favorable reactions is consistent with Felson et al.'s (2019) observation that girls, much more than boys, are sensitive to cultural norms regarding sexual (and other) behavior, and hence more likely to be biased toward less favorable reactions in a disapproving cultural-social environment (cf. Boydell et al., 2021). When cultures are more sexually relaxed or approving of adolescent–adult coitus in certain contexts, then girls' reactions can be expected to become more favorable (cf. Whiting et al., 2009), in line with the evolutionary considerations discussed previously.

Third, as predicted, males reacted more favorably than females to first coitus across all levels. Differences were of medium magnitude in the age-class-equal comparisons and large in the minor–adult comparison. When adjusting for other factors, these differences became even larger (see below). Sex differences in reactions to minor–adult sex are not predicted or expected under the CSA paradigm, in which boys and girls are expected to react negatively in most cases (Rind et al., 1998). When differences do occur empirically, researchers holding to the CSA paradigm have attributed boys’ more positive reactions to cognitive distortions rather than to genuine responses (Rind et al., 2001). In the relevant-empirical perspective, in contrast to the pathology perspectives, adolescent–adult coitus is seen to have evolutionary roots based in function rather than pathology, and the evolutionary particulars, discussed previously, suggest that boys would especially tend to react favorably to the coitus *per se*, whereas girls’ favorable reactions would be more contingent on and sensitive to context.

### Contextual Analyses

Bivariate analyses added to the foregoing results by showing that subjective reactions by minors to first coitus were context-dependent, generally in similar fashion whether minors were involved with peers or adults. Given certain circumstances or personal characteristics, such coitus tended to be significantly more positive than in other contexts. For example, close partners were associated with higher rates of positive reactions than less close partners. The same applied when minors were expecting the coitus to happen or feeling that the timing was not too early. Affirmatively wanting the coitus made a big difference for girls (rates of positive reactions were double, both in minor–peer and minor–adult coitus) but made little or no difference for boys.

Multivariate analyses yielded findings particularly relevant to this study’s predictions and comparison of the three perspectives. First, adjusting for other factors, age class was unrelated to the likelihood of reacting positively in the case of both boy and girl participants. That is, positive reactions were just as likely when a minor had coitus with an adult as when a minor or an adult had coitus with an age mate. This finding is at odds with the CSA paradigm and mainstream perspective, where minor–adult coitus is seen as highly “severe” because of issues such as assumed power imbalances, which would be expected to sharply differentiate minor–adult coitus from age-class-equal coitus in terms of reactions. But it is consistent with the relevant-empirical perspective, in which adolescents’ potential for positive reactions has been empirically shown to be non-trivial in certain contexts (Boydell et al., 2021), and in which evolutionary considerations suggest that adolescents have been biologically prepared through primate heritage (in the case of boys) or human evolutionary history

(in the case of girls) to react positively to coitus in certain contexts, including with significantly older partners. The situational factor that stood out most prominently in being associated with higher likelihoods of positive reactions, adjusting for other factors, was having coitus with a close partner. This factor appeared especially important for females, but was also important for males. The effect sizes (adjusted odds ratio) for the contrast of close versus unfamiliar partners (i.e., briefly known or strangers) were large for females but only medium for males. Notably, as well, affirmatively wanting the coitus mattered for females (medium effect size) but played no role for males, adjusting for other factors. This pattern of differences is consistent with the notion that males tend to be more positively responsive to coitus *per se*, whereas females tend to be more in need of the “right” conditions to be positively responsive.

A second set of multivariate analyses consistently showed sizable sex differences favoring males in likelihoods of reacting positively, adjusting for other factors. Adjusted odds ratios for these sex differences were medium in magnitude for minors involved with peers, large for adults involved with other adults, and huge for minors involved with adults. In these analyses, once again the closeness of the partner was a key correlate of reacting positively, with medium effect sizes for close versus unfamiliar partners (i.e., briefly known or strangers) in the case of minors involved with peers and adults involved with other adults, and large in the case of minors involved with adults. Greater age difference was positively, rather than negatively, associated with increased odds of reacting positively in the minor–adult group, as well as the adult–adult group.

In short, the pathology (abuse-trauma-harm) perspectives were contradicted by the findings that, adjusting for other factors, rates of positive reactions were the same regardless of participant-partner age-class pairings, varied similarly in these pairings in relation to context, and were substantially different based on participant sex. The findings, on the other hand, were consistent with the relevant-empirical perspective.

### Value in Studying Subjective Reactions

As noted previously, subjective reactions have been much understudied in CSA research, where the empirical focus has been on prevalence rates and psychological adjustment correlates (Felson et al., 2019). One reason for this lack of attention has been the underlying assumption in the CSA field that events labeled CSA, especially those involving intercourse, are inherently troublesome or traumatic for the minor, such that negative subjective reactions could be assumed (Rind, 2022). Another reason is that many researchers in the field have been reluctant to measure reactions, because when positive or even neutral, reporting such findings could be seen as



challenging the societal taboo against events labeled CSA (Hines & Finkelhor, 2007). A related reason is that measuring and reporting non-negative reactions can subject the researcher to personal attack and harm his or her career, as happened in the case of Clancy (2009), who reported that traumatic reactions were the exception rather than rule in her sample of self-perceived CSA victims.

Arguably, however, measurement and reporting of subjective reactions should be prioritized in research. The CSA field, in all its thousands of publications, has offered very little in terms of the mechanism or mechanisms for how and why events labeled CSA should be expected to result in long-term harm, other than to claim that CSA causes trauma, which then mediates long-term maladjustment (Clancy, 2009). Clancy reviewed the development of this trauma view in the late 1970s and early 1980s and documented that its entrenchment as an assumption in the CSA field proceeded not from substantial data but, first, as an attempt to justify the related claim that CSA usually leads to severe maladjustment, and second, given these assumptions of inherent trauma and likely maladjustment, to raise social and political awareness to change society and promote their emerging profession. These efforts at alarm-making, however, quickly led to moral panic throughout the 1980s and 1990s in the forms of satanic-ritual abuse in daycare and recovered memories in therapy (Jenkins, 1998), alleged happenings that were later scientifically discredited (Otgaar et al., 2019), but which nevertheless instated moral panic as an ongoing problem (Lancaster, 2011).

In combination, the Kinsey, Finnish, and now German samples suggest that, for adolescents at least, trauma is not a blanket mediator of long-term maladjustment, because it most often did not characterize adolescents' coital experiences at the time with adults. Because many CSA researchers have viewed sexual intercourse as the most "severe" form of CSA (i.e., greatest ordeal, most trauma), equally for adolescents as for children, it would follow from this thinking that less intimate forms of CSA should be associated with even less frequent trauma. If this is true, however, trauma as a blanket mediator is weakened even further. In fact, however, empirical findings in the Kinsey, Finnish, and German samples consistently indicate that sexual intercourse is significantly *less* associated with negative reactions and *more* associated with positive reactions than less intimate forms of sex, which is problematic for the pathology perspectives.

When the sexual event itself is traumatically experienced at the time, then it is reasonable to assume it may mediate long-term harm. But if it is not experienced this way, and especially if it is experienced positively, then other mechanisms for long-term negative psychological correlates, if present, should be considered. To illustrate, in Hines and Finkelhor's (2007) empirical review of adolescents' voluntary sexual relations with adults based on

a series of convenience samples, they reported that boys often saw their relations with women as initiatory rather than exploitive and often reacted positively. They argued, however, that such relations could still lead to long-term harm, citing a clinical case study involving a middle-aged man who had had a sexual relationship with a woman when he was a teen. The patient thought the relationship was "great and flattering" at the time, in which the woman, twice his age, taught him "things that were beyond belief." Later, in its aftermath, he claimed that the relationship "haunted me like a cancer," blaming it for creating problems in subsequent relationships with women (taken from Mathews et al., 1990, p. 291).

The problem with using this dramatic testimony to suggest a causal link between the relationship and subsequent maladjustment, with implications for the general case, is that important alternative explanations exist, not considered by Hines and Finkelhor or the reporting therapist. First, in non-clinical empirical research, correlations between reactions at the time and reactions in retrospect are generally positive and sizable, indicating that the patient's case was exceptional (e.g., Rind, 2022). Second, evolutionary evidence (e.g., taking into account nonhuman primates) suggests that such relations are part of nature, not against it (even though against our cultural norms), such that the relationship per se is unlikely to be the ultimate cause of harm. Third, patients in therapy are seeking answers for their problems ("effort after meaning"), and are vulnerable to suggestion (nocebic, iatrogenic) when causes are ambiguous, in which fashionable explanations can easily step in and seem credible, even if incorrect. Fourth, history (other experiences occurring between the event and the present) is an important confound, as are factors such as genetics and social environment when young, either of which could lead to counternormative sex with a woman as an adolescent and to relationship problems with women as an adult (see Rind & Yuill, 2012, for a detailed discussion of these alternative explanations).

When trauma occurs at the time of the event, and remains over time, then causal explanations have merit. When the event is subjectively positively experienced, trauma at the time is ruled out, and then skepticism should be held regarding causal attributions unless and until a plausible mechanism is provided that can explain why such a sexual relationship per se can be a primary cause of harm. Part of the problem is that, when a sexual behavior is viewed as immoral due to a culture's particular history, the tendency is strong to see it as pathological, as shown experimentally (e.g., Gray et al., 2014) and anthropologically (e.g., Douglas, 1966). Researchers, and not just lay persons, are subject to this tendency to attribute pathology to fit dominant cultural values (Whiting et al., 2009).

## Limitations and Concluding Remarks

Discrepancies between the Finnish and German samples, especially in the case of female participants, show that even nationally representative samples are not sufficient to describe in any sort of definitive fashion how persons react to first coitus. What is needed in future research is a series of studies using representative samples from a broad selection of societies and cultures. Additionally, cultural ideologies and social structure need to be taken into account, as these profoundly affect sexual practices, attitudes toward them, and actors' reactions to them across the globe (Ford & Beach, 1951; Whiting et al., 2009).

Another limitation has to do with what the findings of the present study mean for society. Adolescent–adult sex is highly immoral in present-day Western complex societies. This fact did not originally stem, however, from a distinguished body of science informing these societies of the supposed intrinsic hazards of this type of sex, rather it was arguably the other way around—morals constructed to fit society's needs led many researchers to assume primary hazards. Complex societies have created taboos around this behavior in service of their specialized needs, which have not obtained in most other times and places. Adolescent girls, for example, adjust better to complex modern societies when they put off sexual commitments and pregnancies in favor of education, career, and only then, as adults, long-term sexual relationships achieving reproduction (Whiting et al., 2009). This arrangement is unique to modern times and complex societies, and so it cannot be assumed to be synonymous with human nature. Valid social science attempts to understand human nature as it is, taking complexities into account. The findings in this study with respect to adolescent–adult coitus are therefore useful to this end. But they have nothing to say about what morals our society should have.

Finally, studies such as this one serve to address the huge imbalance in the literature concerning CSA, where once the pathology perspectives consolidated decades ago, they guided the research efforts that came afterward in one direction, which created initially the extreme view that any event labeled CSA caused pervasive, intense harm, equally for girls and boys, as well as children and adolescents (Rind et al., 1998). The many studies that emerged used anomalous samples, often with females participants only, and yet made population inferences, including to how males respond. Nationally representative samples represent a significant corrective, and more of them are needed to move toward balance.

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## Declarations

**Conflict of interest** The author declares that he has no conflict of interest.

**Ethical approval** This article does not contain any studies with human participants or animals performed by the author.

**Informed consent** The research is secondary research on the German *Youth Sexuality* 2015 survey, so informed consent here was not at issue.

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