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Reactions to Minor-Older and Minor-Peer Sex as a Function of Personal and Situational Variables in a Finnish Nationally Representative Student Sample

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Abstract
Felson et al. (2019) used a large-scale nationally representative Finnish sample of sixth and ninth graders to estimate the population prevalence of negative subjective reactions to sexual experiences between minors under age 18 and persons at least 5 years older and between minors and peer-aged partners for comparison. They then accounted for these reactions in multivariate analysis based on contextual factors. The present study argued that focusing exclusively on negative reactions short-changed a fuller scientific understanding. It analyzed the full range of reactions in the same sample, focusing on positive reactions. For reactions in retrospect, boys frequently reacted positively to minor-older sex (68%, $n = 280$ cases), on par with positive reactions to boy-peer sex (67%, $n = 1510$). Girls reacted positively to minor-older sex less often (36%, $n = 1047$) and to girl-peer sex half the time (48%, $n = 1931$). In both minor-older and minor-peer sex, rates of positive reactions were higher for boys vs. girls, adolescents vs. children, when partners were friends vs. strangers or relatives, with intercourse vs. lesser forms of sexual intimacy, with more frequent sex, and when not coerced. Boys reacted positively more often with female than male partners. In minor-older sex, partner age difference mattered for girls but not boys, and the minor's initiating the sex (14% for girls, 46% for boys) produced equally high rates of positive reactions. Most of these factors remained significant in multivariate analysis. The frequency of positive reactions, their responsiveness to context, the similarity in reaction patterns with minor-peer sex, and the generalizability of the sample were argued to contradict the trauma view often applied to minor-older sex, holding it to be intrinsically aversive irrespective of context.

Keywords Minor-older sex · Minor-peer sex · Child sexual abuse · Consensual sex · Sexual coercion · Finland

Introduction

How do minors subjectively react to sexual experiences with significantly older persons, labeled child sexual abuse (CSA) in public discourse and throughout the psychological literature? That is, how do they feel about these experiences at the time or later on a negative-to-positive affective dimension? Popularly, as nearly universally portrayed in the mainstream media, most such experiences are thought to be traumatic, composed of emotional responses such as fear, shock, and horror. In the professional literature, they are likewise typically portrayed as intensely negative ordeals, which, in turn, this literature has often claimed, mediate severe long-term maladjustment (Clancy, 2009; Rind et al., 1998). In one meta-analysis, for example, Lindert et al. (2014) characterized CSA as "toxic stress," irrespective of the minor's age, gender, or maturity or the context of the event. They held that, being such an ordeal, it activates the minor's stress response system, inducing maladaptive physiological changes putting the minor at lifelong risk for adverse health outcomes. In another meta-analysis, Lloyd and Operario (2012) held that CSA produces feelings of anxiety, hostility, and suicidality, compromising perceptions, decision-making, and behavior, thereby significantly elevating the risk of long-term adverse mental and physical outcomes.

It is important to note that, in both these examples, negative subjective reactions were assumed to be characteristic and constant, but were not documented to be such. Nor did the primary studies employed measure subjective reactions. Moreover, subjective reactions have infrequently been assessed in the wider literature, which has focused instead on estimating prevalence rates and examining long-term adjustment correlates (Felson et al.,

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2019). Given the centrality of subjective reactions to assumptions about and explanations of long-term adjustment problems, this neglect of measurement represents a serious shortcoming in the field.

The present study helped to address this shortcoming by examining subjective reactions in a large-scale nationally representative sample. It employed the same sample used by Felson et al. (2019), whose study is detailed below. In that study, the authors focused on negative reactions, while ignoring positive ones. Here, it is argued that considering the full range of subjective reactions, from negative to positive, is essential for a fuller understanding of CSA at the population level. The present study considered this full range.

Empirical Background

Felson et al. (2019) made use of the Finnish victimization surveys of sixth and ninth graders (generally aged 12 and 15, respectively) conducted in 1988, 2008, and 2013. Combined, these nationally representative samples contained more than thirty thousand participants, with a total of $n = 474$ instances of CSA for boys and $n = 1621$ for girls, numbers unusually large for research on reactions to CSA. They listed the advancements in their study over previous ones in this area: unlike their study, earlier ones employed mostly small-scale convenience samples, with results that were therefore unreliable and unrepresentative; their study used reaction data assessed near the time of the event, unlike most of the other studies, reducing possible biases from memory loss or shifts.

Their study's definition of CSA included any type of sexual experience a minor under age 18 had with a person at least 5 years older, whether coerced or willing. This definition comports more closely with public and legal understanding of CSA than other definitions often used in research, which often restrict CSA to unwanted sex with older persons and expand it to include coerced peer sex, but which then typically generalize results to all sociolegal age-gap CSA (Rind et al., 1998). The Felson et al. study employed the rarely used approach in CSA research of comparing reactions to CSA with reactions in the same sample to age-equal sex, thereby providing a better basis for interpreting the CSA results (Rind & Welter, 2014).

Unlike mainstream CSA research (e.g., Lindert et al., 2014, see above), the authors in this study did not assume that CSA was a negatively experienced event irrespective of context. Instead, reactions were treated as an empirical question and context played a central role in attempting to account for them. Moreover, in contrast to most other CSA research, which has assumed equivalence in reactions by boys and girls (Rind et al., 1998), Felson et al. provided a detailed review backing why boys would be expected to react differently to CSA—as well as to sex with same-aged peers—given that both theory and evidence indicate that males and females in general, and boys and girls in particular (starting prior to puberty), differ in both their sexuality and proneness to deviance.[1] For example, males (including boys, especially in adolescence) are less discriminate and have a stronger sex drive, greater desire for sexual variety, and greater willingness to engage in casual sex. Boys fantasize about sex at younger ages and with greater frequency, and their fantasies are more intense, sexually explicit, and positive, while those of girls are more likely to occur in the context of romantic relationships, real or imagined. In terms of deviance, gender differences also emerge in childhood and persist through adolescence, in which boys are more willing to behave in antisocial or deviant ways and are less bothered when they do so. Based on these considerations, Felson et al. expected the boys in their study to react far more non-negatively than girls to both CSA and peer sex.

Their predictions were strongly supported. For reactions in retrospect to CSA, for example, boys reacted negatively far less often than girls did (11% vs. 35% of incidents, respectively), a large difference in terms of odds ratio effect size (OR = 4.39, girls vs. boys). This sex difference appeared also in boys' versus girls' rates of negative reactions to peer sex (3% vs. 11% of incidents, respectively), with similar large magnitude in effect size (OR = 4.82). Contrary to characterizations commonly conveyed popularly or in the professional literature, often based on anecdotes or clinical-forensic cases, these incidents infrequently involved overt coercion (12%), incest (6%), or children younger than 12 (11%). Logistic regression analysis indicated that negative reactions were reliably associated with particular contextual factors, similarly in both CSA and minor-peer sex. For boys, these factors were being coerced and having a male partner. For girls, they were being coerced, younger age at the event, having partners who were relatives or strangers, and having non-penetrative sex. For CSA, greater partner age difference also increased the rate of negative reactions.

A weakness of their study was their failure to provide any results for positive reactions. If positive reactions had been rare, this neglect may have been appropriate. However, it had already been established in an earlier analysis of the 2013 sample that positive reactions were modal and frequent for boys (71%) and not uncommon for girls (26%) (Lahtinen et al., 2018). These non-trivial rates suggest that Felson et al.'s neglecting positive reactions in their analysis

[1] For support for gender differences in general in sexuality, they cited: Baumeister et al. (2001), Baumeister and Tice (2001), Buss (2000), and Laumann et al. (1994). For support for gender differences between boys and girls, they cited the review by Okami and Shackelford (2001) and the works by Ellis and Symons (1990) and Knoth et al. (1988). For support for gender differences in early development in deviant behavior, they cited Staff et al. (2015).

shortchanged a fuller understanding of reactions to CSA at the population level.

Felson et al. did note at the outset of their study that examining reactions to CSA is controversial in the field, because when these reactions are non-negative, "Scholars may be concerned that this kind of evidence increases tolerance for illegal and immoral behaviors and stigmatizes innocent young victims" (p. 1869). Similarly, Hines and Finkelhor (2007), who studied voluntary sexual relations between adolescents and adults, noted that others in the field find it objectionable to even consider such relations, with arguments such as discussing these relations "only abets sex offenders, who delude themselves" by referring to this information (p. 301). This censoring attitude is unscientific and has been a problem in the CSA field since the early 1980s, wherein many CSA researchers have seen their primary role situated in social control rather than social science (Rind et al., 2001). Arguably, this attitude has significantly biased understanding of reactions to CSA at the population level by discouraging open inquiry and punishing it when done (Hubbard & Verstraete, 2013). It may be that, under these censorious pressures, Felson et al. (2019), though willing to consider non-negative reactions, were unwilling to go as far as to explicitly consider positive reactions, which have been even more controversial in this field (Rind et al., 2001).

Aside from analyzing positive reactions to produce a more complete profile of reactions to CSA at the population level, analyzing them offers to directly examine certain core assumptions about CSA that formed by the early 1980s (Clancy, 2009). Clancy documented how child advocates, clinicians, and other professionals at that time constructed all forms of CSA as intrinsically traumatic, not based on any significant body of empirical research evidence, but for political ends (to advance public awareness of their issue) and theoretical ends (to explain their associated claim that CSA leads to extreme maladjustment). In this sense, empirically examining reactions is valuable to test whether CSA is actually typically traumatic (e.g., negatively experienced) at the population level. Findings of non-negative reactions are probative but arguably not sufficiently strong against trauma claims, because they can be more easily dismissed as confused responses not recognizing the negativity in the event. Positive reactions, on the other hand, are arguably stronger counterevidence to claims of intrinsic trauma, because they are more unambiguous in indicating the experience was actually not negative. The further value in documenting population rates of positive reactions, then, is in credibly assessing claims that CSA typically leads to severe maladjustment through mediation by negative reactions.

Other Key Empirical Research on Subjective Reactions

In the brief review to follow, a few key empirical studies on subjective reactions to CSA are discussed for further background. Though not representative of the general population, these studies were large-scale, based on broad segments of the population, and as such valuable for considering the nature of reactions to CSA.

First is a study by Rind and Welter (2014), upon which Felson et al. (2019) partly fashioned their approach, in that this study was the first to examine subjective reactions to minor-adult sex in combination with examining reactions to age-class-equal sex in the same sample for comparative purposes. The study, using the Kinsey general (i.e., non-prison) sample, examined reactions to first postpubertal vaginal intercourse, which could have occurred as a minor with a peer, a minor with an adult, or an adult with another adult. In the minor-adult group, reaction data were available for $n = 834$ cases. Participants were asked how much they enjoyed the experience, with "much" (the top scale value) being used to indicate a positive reaction. They were also asked if they experienced any emotionally negative response such as fear, disgust, or shock—if they endorsed any, they were considered to have had an emotionally negative reaction. Males reacted positively more often than females in all three age-class groups, with large effect sizes in the first two: minor-peer, 60% vs. 12% (OR = 10.91); minor-adult, 41% vs. 13% (OR = 4.69); and adult-adult, 41% vs. 18% (OR = 3.16). Rates of emotionally negative reactions were low across age-class groups and did not differ by gender. The male-versus-female rates were: minor-peer, 13% versus 20%; minor-adult, 22% vs. 17%; and adult-adult, 13% versus 17%. When minors were divided into those aged 15–17 and those 14 and younger, it was found that boys 14 and under having intercourse with women had nominally the highest rate of positive reactions (63%)—their rate of emotionally negative reactions was 15%. In short, though popular and most professional opinion would have expected minors with adults to react substantially more poorly to this experience than adults with other adults, for example, they reacted similarly.

In a follow-up study, Rind (2019) employed the Kinsey male homosexual sample (both general and prison) to examine subjective reactions (as just defined) to first postpubertal homosexual experience. This homosexual sample consisted of males who had extensive postpubertal homosexual sex, irrespective of their sexual orientation, and included a large number of cases of minor-adult sex ($n = 350$). For the minor-peer, minor-adult, and adult-adult groups, respectively, rates of positive reactions were 83%, 67%, and 68%, while rates of emotionally negative reactions were 6%, 15%, and 14%. Notably, minors having their first postpubertal homosexual experience with an adult reacted nearly identically as adults

having their first experience with another adult—contradictory to popular and most professional beliefs. Minors aged 14 and under when having their first postpubertal experience with an adult reacted positively in 70% of cases and emotionally negatively in 18%—again, virtually the same as the adult-adult group. This study also examined reactions in relation to context. Some findings were that rate of positive reactions in the minor-adult group increased linearly the younger the boys involved were: mid-teens (61%), early teens (66%), and preteens (77%). Further, in relation to the level of intimacy of the sex, positive reactions were equally high in response to anal intercourse as to other forms of sex (e.g., touching, oral), while emotionally negative reactions decreased linearly with more intimate forms: non-contact sex or sexual touching (26%); oral sex (13%); anal penetration (0%). Familiarity (e.g., stranger, friend) was not related to reactions.

The studies on reactions in the Kinsey sample were motivated in part as a follow-up on an earlier study on reactions based on college samples (i.e., Rind et al., 1998)—the Kinsey sample improved by including large numbers of both college and non-college participants. In the Rind et al. (1998) study, reactions were combined across multiple college samples separately for males and females. Rind et al. (2000) presented a revised summary, removing an inappropriate study. Positive, neutral, and negative reactions to CSA at the time were, respectively, 50%, 26%, and 24% for boys ($n = 439$ cases) and 16%, 18%, and 66% for girls ($n = 931$ cases). The gender difference for both positive and negative reactions was large (ORs = 5.27 and 6.16, respectively). In individual studies in this review that considered reactions to CSA separately based on whether the minor was a child or adolescent, adolescents reacted more positively. For example, in the Fromuth and Burkhart (1987) study, boys aged 13 to 16 reacted positively in 70% of cases compared to 42% for boys under age 13 (OR = 3.22).

Hines and Finkelhor (2007) focused on voluntary sexual relations between adolescents (aged 13 and older) and adults. They argued that the adolescent-adult form should be considered separately from the child–adult form, because the evidence indicates that adolescents have a greater capacity (e.g., decision-making ability, agency) to engage in sex and choose partners. Using five studies with relevant data,[2] they reviewed each participant-partner gender combination in terms of reactions by the adolescents to the sex and the dynamics of the relationships. Combining results from these studies for the present article, rates of positive reactions for the different gender combinations were: girl-man, 46% ($n = 50$); boy-man, 83% ($n = 54$); boy-woman, 67% ($n = 191$); and girl-woman, 75% ($n = 4$). These results revealed a gender difference, with boys reacting more positively (OR = 2.59). These results were clearly not representative of the general population, being based on select convenience and college samples, but nevertheless their review added to the literature by emphasizing conceptual distinctions between child–adult and adolescent–adult sex, alerting that positive reactions can be expected in the latter in relation to certain dynamics. In their discussion of dynamics, they identified various benefits in the overall relationship that the adolescent could receive or perceive, depending on the participant-partner gender combination, which could help account for the positive reactions to the sexual aspects that did occur.

Relevant to the construct of agency discussed by Hines and Finkelhor (2007), Gebhard et al. (1965), using a forensic sample from the Kinsey data, contrasted sexual episodes involving children (under age 12) with adults versus adolescents (aged 12–15) with adults. Minors were classified, according to official court records, as having been passive, resistant, mixed, or encouraging in the episodes. Synthesizing their results for present purposes, adolescent girls ($n = 181$) were more encouraging than female children ($n = 108$) in sexual episodes with men (59% vs. 21%, respectively), with large effect size (OR = 5.34). Adolescent boys ($n = 91$) were also more encouraging than younger boys ($n = 44$) in their sexual episodes with men (70% vs. 52%, respectively), with medium effect size (OR = 2.16).[3] As the proportions show, male children were sizably more encouraging than female children (OR = 4.05), and male adolescents were slightly more encouraging than female adolescents (OR = 1.64).

Broadening the Perspective

The research just reviewed suggests a non-trivial capacity for adolescents in particular, especially when male, to react positively to sexual experiences, whether with age mates or older persons. This result conflicts with dominant thinking in the psychology field, which, as Harden et al. (2008) argued, has been biased to seeing pathology in adolescent sexual behavior in conformance with our culture, which views such behavior as undesirable. Harden et al. presented results from their own research, which broadens the perspective. They noted that a study by Armour and Haynie (2007) concluded that early sexual debut has "profound consequences" in increasing the risk for later delinquency. Harden et al. criticized this interpretation, and the like thinking in much adolescent

[2] The studies included in the review of reactions were: girl-man (Higginson, 1999; Okami, 1991); boy-man (Okami, 1991; Sandfort, 1984); boy-woman (Condy et al., 1987; Fromuth & Burkhart, 1987; Okami, 1991); and girl-woman (Okami, 1991).

[3] For girls, data from heterosexual offenses, aggression, and incest were combined. Aggression and incest were rare for boys and not reported as a separate category.

research, for facilely drawing extreme and causal conclusions from correlational data, conclusions they argued were poorly justified after employment of arbitrary and inadequate control variables. They then used the same data set (from a US nationally representative sample assessing adolescent health, with participants aged 11–17), but focused on same-sex twin pairs ($n = 534$), with about equal numbers of mono- and dizygotic male and female pairs, in order to take into account genetics in addition to traditional social factors. Genes are important to include, they argued, because they can act as a third variable playing a causal role in behaviors such as early sex and later delinquency, whose association may then be spurious. They analyzed age at first vaginal intercourse and found that it did predict later delinquency after controlling for related genetic and shared environmental differences between families, but oppositely from Armour and Haynie's finding—as well as findings in other non-genetic psychological studies. Within twin pairs, the twin delaying first sex had the greater likelihood of later delinquency. In other words, they concluded, earlier sex had a protective effect, when taking into account a fuller range of relevant controls. In their discussion, they reviewed research that helped make sense of this finding, including that earlier sex is related to popularity, higher self-esteem, positive self-concept, and better emotional adjustment when occurring in certain contexts (e.g., steady dating in middle school). Finally, they emphasized the importance of evaluating early sex contextually (e.g., was it voluntary, was it desired) to understand its possible effects. They suggested, against mainstream professional focus on pathology, that researchers consider positive functions of adolescent sex, given the empirical findings from better-controlled research on early sex's association with a boost to certain forms of adjustment when occurring within certain contexts.

Harden et al. broadened the perspective by taking in account genetics, which they noted is highly logical because, as per evolutionary theory, sexual behavior is most proximally related to reproductive fitness. Broader perspective was missing from Felson et al.'s (2019) review of gender differences in sexuality, which noted what they were but did not consider why. The latter can be usefully addressed by taking into account cross-cultural and cross-species (especially nonhuman primate) data, which can offer insights into possible evolutionary bases for early sexual behavior (Dixson, 2012; Ford & Beach, 1951). To follow are considerations regarding what the broader perspective might suggest about boy-older female sexual relations and then adolescent girl-older male sexual relations.

Anderson and Bielert (1990) reviewed the sexual behavior of immature males (i.e., commonly late juvenile, early adolescent) across nonhuman primate species, concluding that "sexual interaction between adult females and immature males is universal" (p. 192). In species after species, primatologists conducting the primary studies have noted the eagerness and initiative by which immature males commonly attempt coitus with adult females, which they have attributed to immature males' need to learn copulation effectively in service of later reproductive success (e.g., Dixson, 2012; Gunst et al., 2013; Hashimoto, 1997; Kano, 1980; Kollar et al., 1968). This attribution stems from general knowledge of primate social development and how sexual practice may fit into it for males. For example, immature males deprived of social and sexual experience during development later evidence sexual incompetency (which does not apply to juvenile females), pointing to an essential need for early sexual experience. Gunst et al. (2013) formally examined this "needing-to-learn hypothesis" in sexual behavior by observing a troop of Japanese macaques. As predicted from other behaviors, which increase gradually during development, leading to adult competency later on, they found the same pattern in immature males' sexual mounting behaviors. From later juvenescence onwards, these males incrementally increased mounting behavior, but mostly and preferentially directed at adult females. This special targeting was efficient, it was argued, in that it provided immature males with the kind of sexual practice most useful to maximizing later reproductive success.

In short, the nonhuman primate data suggest functionality for immature male-adult female sexual interactions across the primate order, a functionality that appears to be reflected in proximal mechanisms such as immature males taking the initiative and exhibiting eagerness, implying that the behavior is appetitive for them. Because boys are primates, too, it can be speculated that maturing boys may likewise be biologically prepared, as a conserved adaptive trait, to find sex with nubile women appetitive, prompting initiatory behavior, context permitting, and a clear eagerness. The Finnish, Kinsey, and other data reviewed previously support this speculation. For present purposes, the implication is that focusing on negative reactions while entirely neglecting positive ones, as Felson et al. (2019) did, shortchanges the attempt to reach scientifically adequate understanding of this phenomenon.

Felson et al. (2019) found that adolescent girls sexually involved with adult males 5 to 7 years older reacted no more negatively than when involved with peer-aged males. Cross-cultural and historical perspective can help make sense of this finding. Frayser (1985) summarized historical and cross-cultural patterns of marriage prior to the twentieth century and estimated that, on average, girls from ages 12 to 15 were married to men from ages 19 to 21. This practice of pubertal marriage, condemned in the modern West, nevertheless has been basic to humans, as Whiting et al. (2009) also concluded in their seminal cross-cultural review of marriage patterns. They examined maidenhood, the time from menarche to marriage, comparatively in numerous complex societies versus numerous simple to midlevel societies. While females usually married as adults in the former, in the latter they usually

married during their pubescence, commencing coitus and bearing first offspring while still teenagers. Whiting et al. explained that, though such practice conflicts with modern complex societies, in most societies throughout history, which would have been similar to the simple-to-midlevel societies in their sample, pubertal marriage was normative for adaptive reasons having to do with maximizing reproductive success under conditions of pressing environmental constraint (see Rind, 2017, for detailed evolutionary analysis).

A study by Higginson (1999) found that teenage mothers viewed their sexual relationship with their adult male partners positively when the males stayed with them and provided support, but viewed the sexual aspects negatively otherwise. This study illustrates how reactions appear to be adaptively tied in with whether critical needs and benefits are being satisfied, recapitulating the teenage girl's situation across time and culture, as described by Whiting et al. Thus, as in the case of boys with women just discussed, here it is also important to consider positive reactions and not just negative ones, as in Felson et al., in order to attempt to scientifically understand the phenomenon more fully.

Current Study

The current study, using the same data set employed by Felson et al. (2019), examined the full range of subjective reactions, from negative to positive, reported by minors having sexual interactions with both older persons and peers. Given the importance of positive reactions to understanding these behaviors, as explicated above, the current study then focused on accounting specifically for positive reactions as a function of contextual variables. These analyses supplement Felson et al.'s focus on accounting for negative reactions. To be consistent with the larger body of research on subjective reactions, the current study focused on reactions to first sexual encounters, such that all analyses were based on cases rather than incidents, unlike in the Felson et al. study.

A note on terminology is in order here. The term "child sexual abuse," as used throughout Felson et al.'s article, is problematic. In that study, the vast majority of minors involved with older persons were adolescents (89%), not children, and only a small minority of them identified their interactions as abuse (16%; see Lahtinen et al., 2018). In scientific discourse, "abuse" implies harm, something to be established rather than taken as axiomatic, and its presumptive use can therefore be biasing (Rind et al., 1998). Hence, caution is exercised going forward in use of terms, where, for example, CSA is often replaced with "minor-older sex," a more accurate and neutral descriptor. Findings from the analyses can then be interpreted more appropriately, as in being informative about all types of sex involving minors with older minors or adults. In contrast, interpreting the present results as applying to "CSA" is more problematic, given that, operationally in research, CSA has often been restricted to unwanted sex with older persons and peers. The minor is referred to as "participant" rather than "victim," and the older person is referred to as "partner" rather than "perpetrator," given that the latter terms imply some type of injury, which again is an empirical question, not a presumption.

Regarding the contextual variables (personal and situational) employed in the analyses, some key differences obtained with respect to the Felson et al. study. One was that, in terms of the relatedness between the participant and partner, the category "friend" was added, given that the current study focused on positive reactions, and previous research has shown the relevance of this category in assessing positive response (e.g., Lindberg et al., 2019; Sandfort, 1984). Another difference was adopting the age categories from Rind and Welter (2014) and subsequent analyses of the Kinsey data on minor-adult sex (e.g., Rind, 2019), as these categories were shown in those studies to be relevant to positive reactions.

Based on the foregoing literature review, it was expected that, for both minor-older and minor-peer sex, boys would react positively more often than girls and adolescents would react positively more often than children. Furthermore, it was expected that rates of positive reactions would be higher when the partner was a friend rather than a stranger or relative, the sex was more intimate, it occurred multiple times rather than just once, and coercion was absent. For male participants, whether involved in minor-peer or minor-older sex, it was expected that female partners would elicit higher rates of positive reactions than male partners. For minor-older sex, it was expected that rates of positive reactions would increase with less age difference, especially for female participants, and when participants initiated the sex.

Method

Sample

Felson et al. (2019) described the sample employed in the present study in some detail. Here, key points are provided. Three samples were merged from Finnish victimization surveys conducted in 1988, 2008, and 2013 and were used in the present analyses. The surveys were funded by the Finnish government. Each sample was nationally representative of Finnish students in the sixth and ninth grades, obtained through stratified cluster sampling based on county, type of municipality, and school size. The response rates in 1988, 2008, and 2013 were, respectively, 96%, 88%, and 75%, yielding 32,145 participants in the pooled sample, with sample sizes in the three time periods being, respectively, 7322, 13,459, and 11,364. Participants in the first survey answered questions via paper and pencil in a room alone,

while participants in the second two surveys answered in classrooms on computers by accessing a website.

For present purposes, participants were included if they answered affirmatively to a question asking whether they had a sexual experience with someone at least 5 years older. If they did, they were defined as having had "minor-older" sex, where the older person could have been an older minor or an adult. In a separate question (see below), some of these participants indicated that their partner was less than 5 years older. Felson et al. excluded cases from analysis when the partner was less than 4 years older, but retained them if the difference was 4 years, arguing that rounding could have affected their reports. The present study followed their approach.[4] Considering all cases, included and excluded, 19% did not provide partner age. These participants were retained for analysis (as in Felson et al., 2019), justified here by finding a statistically significant relationship between reactions in retrospect (negative, neutral, positive; see below) to the sexual experience and partner age difference (less than 5 years, 5 or more years, missing), χ^2 (4) = 132.95, $p < 0.001$, in which post hoc analysis showed that reactions were more negative and less positive for participants not reporting partner age (i.e., missing) than for those who did. This result suggested that partners with unreported ages were generally much older. Additionally, retaining them constituted a conservative approach, in that it favored a more negative reaction profile. Based on these criteria, included participants for the three time periods numbered, respectively, *n*s = 794, 575, and 281, which constituted 10.8, 4.3, and 2.5% of the samples from these time periods (collectively, 5.1%).[5] In the first two surveys, participants were asked to answer questions about the first three older persons, if they had multiple partners, whereas in the last survey, they were just asked about the first partner. For present purposes, only responses regarding the first partner were analyzed.

Regarding the minor-peer analyses, ninth grade students in 2008 and 2013 were requested to answer questions about their first peer sexual experience for each of three types of sexual interaction: intercourse (i.e., vaginal, anal, or oral), non-penetrative sexual touching, and non-contact sex (e.g., exposing genitals). For present purposes, participants were categorized based on their highest level of sexual intimacy, with intercourse being the highest and non-contact sex the lowest, and analyses were performed only on their sexual interaction of highest intimacy. For the two time periods combined, a total of 3,574 participants reported peer sex involving intercourse (45.1%), sexual touching (46.0%), or non-contact sex (8.9%) as the highest form of intimacy.

Measures

Minor-Older Sex

Participant Age, Partner Age, Partner Gender Regarding their first experience, participants were asked how old they were at the time, as well as their partner's age and gender. In the present analysis, age difference was computed as partner age minus participant age.

Reaction at the Time Participants were asked, "Which of the following best described your feelings when it happened," followed by six adjectives: disgust, fear, shock, surprise,[6] interest, and pleasure. In the 1988 and 2008 surveys, participants could select more than one adjective; in the 2013 survey, they could select only one.

Reaction in Retrospect Participants were also asked, "If the incidents described above are over, which of the following would you say best describes your experience of the incident now," followed with response options: very positive, fairly positive, insignificant, fairly negative, and very negative. For participants with an ongoing relationship, most answered this question anyway (Felson et al., 2019). For present purposes, the first two values were categorized as "positive," the third as "neutral," and the last two as "negative."

Type of Sexual Experience Participants were asked what happened sexually, with 10 response options. For present purposes, these were recoded into a new variable labeled intimacy (following Felson et al., 2019), with 3 categories: non-contact, touching, and intercourse. Non-contact sex included, as the most intimate form, interactions such as requests made for sexual events or either party showing genitals. Touching included physical sexual contact and imitation intercourse, but not actual intercourse. Intercourse included vaginal or anal penetration.

Partner's Relationship with Participant Participants were asked how the partner was related to them, with between 17 and 21 response options, depending on the survey year. From these responses, Felson et al. (2019) constructed three categories of partner's relatedness to participant: stranger

[4] This resulted in excluding 9.7% of cases for having a reported age difference less than 4 years.

[5] Proportions indicating sex with someone 5 or more years older, regardless of actual age difference when ages were reported, were 11.9%, 4.7%, and 2.9% in 1988, 2008, and 2013, respectively.

[6] In the actual questionnaire, one response option was amazement, bewilderment, or confusion, translated here as "surprise," given the conventional usage in previous CSA research (see Rind et al., 1998).

(i.e., unknown to the participant beforehand), relative (i.e., any family member, near or distant), and other (e.g., teachers, coaches, acquaintances, friends). Here, the first two categories were retained, while the last was split into two categories: "friend" (i.e., boyfriend/girlfriend, ex-boyfriend/girlfriend, or just a friend) and "other" (i.e., the same as Felson et al.'s "other," minus friends). Given the focus of the present study on positive reactions, creating a separate category for friends was indicated, given this category's association with positive reactions in previous research.

Frequency Participants were asked how many times they had sexual interaction with the partner, with response options: once, 2–10 times, more than 10 times.

Initiation Participants were asked, "Who initiated the sexual activity," they or their partner.

Coercion They were also asked whether their partner used coercion: "Did the other person coerce, threaten or blackmail you to get you involved," (no or yes).

Abuse They were asked, "Did you see the situation as sexual abuse," with response options: yes, maybe, no, and can't say. For present purposes, an abuse variable consisting of 3 levels was constructed: no, maybe/can't say, and yes.

Minor-Peer Sex

For the variables to be described next, only responses from the most intimate form were analyzed. Variables with the same measures for minor-older and minor-peer sex included participant age, partner age, partner gender, and coercion. Participants were not asked who initiated their minor-peer sex. The variables with somewhat different measures are described next.

Reactions at the Time Participants were asked, "How did you perceive the incident at the time it happened," with response options: positive, insignificant, negative, and don't know/didn't think about it. For present purposes, the second and fourth options were labeled neutral, yielding 3 categories: negative, neutral, and positive.

Reactions in Retrospect They were next asked, "How do you perceive the incident now," with the same response options as in the previous question. Again, their responses were recoded as negative, neutral, or positive.

Partner's Relationship with Participant Participants were asked how the partner was related to them, with 10 response options. As in the minor-older case, here partners were classified as a stranger, friend, relative, or other.

Frequency For sexual experience, participants were asked, "How many times have you experienced this [type of sex]," with response options: once, 2–3, 4–6, 7–10, more than 10. Unlike for minor-older sex, this question referred to frequency in general, with any partner. Nevertheless, it was of interest here to determine whether this variable for minor-peer sex acted similarly to that for minor-older sex. To create a parallel to frequency in minor-older sex, here the middle 3 options were combined, producing 3 categories of frequency: once, 2–10, and more than 10.

Procedure

The codebooks and data for the Finnish child victimization surveys were downloaded from the internet, where they are freely available for use by researchers.[7] Using the codebooks and following Felson et al. (2019), variables were sought relating both to minor-older and minor-peer sexual experiences. Once the variables were selected, data concerning them from the three time periods were merged 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 pair-wise contrasts were performed on proportions in multi-group analyses, Bonferroni-adjusted *z*-tests were employed. In assessing the magnitude of difference in proportions between two conditions (e.g., gender comparisons), odds ratios (OR) were computed as the measure of effect size, in which small, medium, and large values were considered to correspond to 1.44, 2.47, and 4.26, respectively, following Rind (2021) and Salgado (2018). Correlational tests were two-tailed. For all tests, p-values ≤ 0.05 were considered to be statistically significant (referred to in the text simply as "significant").

Minor-older and minor-peer analyses were conducted separately, and analyses using moderating variables were conducted separately for boys and girls, following Felson et al.'s (2019) approach. First, reactions at the time were analyzed for minor-older and minor-peer sex. Second, reactions in retrospect were analyzed. Because of their more direct comparability in terms of how they were measured, reactions in retrospect were focused on in order to compare minor-older and minor-peer reactions in relation to various moderating variables in a series of univariate analyses. Third, in a series of multivariate analyses, logistic regressions were

[7] Retrieved June 3, 2019 at: https://services.fsd.uta.fi/catalogue/FSD2943?study_language=en&lang=en

Table 1 Emotional reactions at the time to first minor-older sexual experience, by participant gender

	Reactions (%)						
	Disgust	Fear	Shock	Surprise	Interest	Pleasure	*n*
Girls	33.5_a	22.8_a	20.6_a	22.9_a	28.3_a	25.8_a	1122
Boys	8.8_b	5.6_b	5.2_b	10.1_b	34.3_b	63.7_b	306
$\chi^2(1)$	72.34***	46.33***	39.65***	24.37***	4.11*	154.69***	
OR	5.21	5.03	4.70	2.64	0.76	0.20	

Proportion of minor-older cases mentioning each emotion, shown by gender. In 1988 and 2008, participants could mention more than one emotion. *Surprise* stands for "amazement, bewilderment, confusion." Different subscripts going down a column (e.g., for disgust) indicate significantly different proportions. Odds ratio (OR) > 1 if girls chose the adjective more often

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

conducted to assess these moderators' independent contribution in accounting for reactions, with positive reactions the target category. The first set of logistic regressions examined positive reactions at the time in minor-older sex as a function of eight personal and situational variables. The second set then examined positive reactions in retrospect for both minor-older sex (eight predictors) and minor-peer sex (six predictors). This approach followed Felson et al.'s in their analysis of negative reactions.

Results

Key Descriptives

Minor-Older Sex

Of the included cases ($n = 1649$), where the age difference reached or exceeded 4 years or was missing, most participants were girls (76.5%) and most older partners male (81.0%). At the time of the minor-older sex, most participants were in the adolescent range, aged 12–14 (49.0%) or 15–16 (39.1%). Relatively few were children under age 12 (11.9%). Most partners were adults aged 18–29 (75.3%) or older (19.4%). Few partners were minors under age 18 (5.3%). The most common age difference was 5–9 years (68.0%),[8] followed equally by 10–19 years (16.0%) and 20 or more years (16.0%). The most frequent highest form of intimate sex was sexual touching (49.9%), followed by sexual intercourse (35.7%). Non-contact sex as the highest form was relatively infrequent (14.4%). Minor-older sex involving relatives was infrequent (7.0%). Most cases involved friends (38.9%), strangers (26.2%), or others (27.5%). Most experiences occurred once (46.9%) or 2–10 times (41.2%), with more than 10 times being relatively infrequent (11.9%). In terms of affirmative willingness, 20.4% of participants initiated the sexual encounters, and in terms of affirmative unwillingness, 13.1% reported being coerced. Finally, most participants did not perceive that they had been abused (54.7%), whereas comparatively few unambiguously did (13.8%).

Considering several key variables separately by gender, mean participant and partner ages for girls were $M = 13.50$ (SD = 2.10) and $M = 25.12$ (SD = 10.10), respectively. For boys, these mean ages were $M = 13.32$ (SD = 2.90) and $M = 24.91$ (SD = 13.53), respectively. Median participant and partner ages, respectively, were 14 and 21 for girls and 14 and 20 for boys. Boys and girls differed substantially in the type of sexual experience they had. For boys, the most intimate form of sex was intercourse (58.5%)—for girls, this proportion was half (29.5%). For girls, the most intimate form of sex was sexual touching (54.2%)—for boys, this proportion was slightly more than half as much (33.9%).

Minor-Peer Sex

Focusing on just the most intimate experience that occurred, the following results were obtained. Of the $n = 3574$ cases, 55.6% were girls and 44.4% boys. Age at most intimate experience was mostly in the adolescent range: ages 12–14 (56.7%) and 15–17 (39.1%). Most partners for girls were male (96.1%), whereas most partners for boys were female (96.4%). Partners were mostly friends (88.7%), infrequently strangers (6.1%) or others (4.2%), and rarely relatives (1.0%). The most frequent forms of highest intimate sex were touching (46.0%) and intercourse (45.1%), had by girls and boys in equal proportions. In terms of frequency of most intimate sex had, 24.2% had it once, 54.7% had it 2–10 times, and 21.1% had it more than 10 times. Feeling coerced in the sex was rare (1.9%), with proportions not differing significantly between the sexes.

[8] Following Felson et al., "5" is used here and subsequently for the lower limit, even though a measured age difference of 4 was included, which, as noted in the text above, Felson et al. included because of rounding considerations.

Emotional Reactions

For minor-older sexual experiences, Table 1 shows proportions of 6 different emotional reactions that occurred at the time, separately by gender. Girls mentioned reacting with the negative emotions of disgust, fear, and shock significantly more often than boys, with large effect sizes (ORs = 4.70–5.21). The reverse obtained for pleasure, where boys mentioned experiencing it significantly more often than girls, with an equivalently large effect size (OR = 5.06).[9]

For the purpose of comparing minor-older and minor-peer reactions at the time, it was investigated whether the emotional adjectives could validly be converted to a negative-to-positive scale. Participants in 1988 and 2008 could have selected more than one adjective, and a minority did so.[10] Disgust, fear, and shock were all sizably correlated with each other, rs(1427) = 0.29–0.37, $p < 0.001$, while they were uncorrelated or only weakly correlated with surprise, rs(1427) = −0.02 to 0.07, with only shock reaching significance, $p < 0.01$. Further, they were significantly negatively correlated with interest, rs(1427) = −0.23 to −0.36, $p < 0.001$, and pleasure, rs(1427) = −0.29 to −0.42, $p < 0.001$. The correlational pattern suggested a hierarchical ordering, with disgust, fear, and shock being negative, surprise being mixed or neutral, and interest and pleasure being positive.

To validate this hierarchy, an analysis of variance (ANOVA) was performed. First, a new variable was constructed, using responses from all three time periods. If a participant indicated any of disgust, fear, or shock, his or her reaction at the time was coded as negative. If no negative emotion was chosen and if the participant indicated surprise, the reaction was coded as "surprise." If no negative emotion or surprise was chosen and if the participant indicated interest, the reaction was coded as "interest." Finally, if only pleasure was mentioned, then the reaction was coded as "pleasure." In this manner, priority in coding was given to more negative, or less positive, reactions as a conservative approach. Next, a between-subjects ANOVA was performed, with this 4-level reaction-at-the-time variable acting as the independent variable and reactions in retrospect (using the original 5-point scale, with 1 = very negative and 5 = very positive) serving as the dependent variable. Results were significant, $F(3, 1316) = 396.52$, $p < 0.001$. Mean reactions in retrospect for negative, surprise, interest, and pleasure were, respectively: Ms = 2.04, 3.28, 4.14, and 4.38—values that correspond, respectively, to the categories negative, neutral, positive, and positive on the 5-point measure. A post hoc test showed that "negative" had a significantly lower mean than "surprise," which in turn had a significantly lower mean than "interest" and "pleasure," with the last two not significantly different. In short, it was verified that participants choosing disgust, fear, or shock could be coded as negative, those choosing surprise could be coded as neutral or mixed, and those choosing either interest or pleasure could be coded as positive. Thus, a 3-level reaction-at-the-time variable was constructed, with values negative, neutral/mixed, and positive.

Reactions at the Time and in Retrospect

Table 2, in the upper panel, shows reactions at the time for minor-peer sex followed by minor-older sex, separately for girls and boys. In the lower panel, reactions in retrospect are shown. In each analysis, girls' reactions were compared with those of boys. In every case, girls reacted significantly more negatively and less positively than boys. As shown in the last column in the table, the ratio of the odds of boys versus girls reacting positively was roughly of medium size for minor-peer sex (ORs = 2.17 and 2.18), but of large size for minor-older sex (ORs = 6.30 and 3.80), for reactions at the time and in retrospect, respectively.

Boys reacted with high rates of positive reactions, equally so for minor-peer and minor-older sex (77 vs. 78% at the time and 67 vs. 69% in retrospect, respectively). Boys involved with older persons had a somewhat higher rate of negative reactions than boys with peers, but still at low levels (≤ 14%). Girls involved with older persons stood out as frequently reacting negatively, 51% at the time and 39% in retrospect, rates that were 6 and 3 times greater, respectively, than girls involved with peers. Girls involved with older persons reacted positively slightly more than a third of the time (35–36%), which was just over half as often as girls involved with peers for reactions at the time (61%). In short, boys' pattern of reactions was similar, whether with peer or older partners, whereas girls' pattern of reactions sizably differed depending on partner age-class.

Comparing Reactions in Minor-Older Minor Sex and Minor-Adult Sex

It was of interest to assess whether minors involved with older minors reacted more favorably (i.e., less negatively, more positively) than minors involved with adults. For reactions at the time, boys having an adult partner reacted more favorably than boys having an older minor partner, $\chi^2(2) = 6.69$, $p < 0.05$. In post hoc analysis, boys with adults reacted

[9] In Table 1, the reported value was OR = 0.20, the odds of girls reacting positively divided by the odds of boys reacting positively. The reverse (the odds of boys to girls reacting positively) equals 1 divided by the reported value (here, 1 divided by 0.20, yielding 5.06). In the text, this reverse-reporting is often used going forward for ease of presentation.

[10] Considering all $n = 1429$ participants across the three time periods indicating an emotional response, 68.2% chose one adjective only, while 18.5% chose two, and 10.6% choose three.

Table 2 Reactions at the time and in retrospect to first most intimate minor-peer sex and first minor-older sex, by participant gender

	%			*n*	$\chi^2(2)$	OR
	Negative	Neutral	Positive			
Reactions at time						
Minor-peer						
Girls	8.1_a	30.8_a	61.1_a	1930	128.03***	2.17
Boys	1.8_b	20.9_b	77.3_b	1514		
Minor-older						
Girls	50.6_a	14.1_a	35.3_a	1122	176.65***	6.30
Boys	14.4_b	8.2_b	77.5_b	306		
Reactions in retrospect						
Minor-peer						
Girls	12.2_a	39.3_a	48.5_a	1931	172.77***	2.18
Boys	2.5_b	30.3_b	67.2_b	1510		
Minor-older						
Girls	38.6_a	24.9_a	36.5_a	1047	100.47***	3.80
Boys	12.9_b	18.6_b	68.6_b	280		

"Neutral" means mixed for reactions at the time for minor-older, otherwise "insignificant." Within each panel, proportions for girls vs. boys for a given reaction (i.e., going downwards) with different subscripts are significantly different in post hoc tests. Odds ratios (OR) contrast the odds of positive reactions for boys versus girls. ORs > 1 indicate boys had higher rates of positive reactions than girls

***$p < .001$

negatively at the time (9.8%) significantly less often than boys with older minors (28.6%). They also reacted positively at the time more often than boys with older minors (83.0% vs. 66.7%), although this difference was not significant. For reactions in retrospect for boys, no association occurred between older partner age group (minor under 18 vs. adult 18 and over) and reactions, $\chi^2(2) = 0.00$.

For girls for reactions at the time, no association occurred between older partner age group and reactions, $\chi^2(2) = 3.39$, $p > 0.10$. On the other hand, for reactions in retrospect, a marginally significant association did occur, $\chi^2(2) = 5.51$, $p = 0.06$, in which girls involved with adults reacted negatively significantly *less* often (34.0%) than girls involved with older minors (52.8%) in post hoc analysis. They also reacted positively more often (42.4% vs. 27.8%, respectively), although this difference did not reach significance.

In short, for both boys and girls, sexual involvement with older-aged minors compared to adults was not associated with any kind of more favorable reaction. In half the analyses, relations with adults were significantly more favorable.

Reactions in Retrospect in Relation to Personal Characteristics

Table 3 shows reactions in retrospect as a function of personal characteristics, separately by partner age-class and participant gender. Significance results are shown in Table 3, while effect sizes are shown in Table 5.

Participant Age

A clear trend emerged for girls in terms of their ages at the time of the sex, regardless of partner age-class. Girls in younger age groups, going from 15–17 to 12–14 to under 12, progressively reacted more negatively and less positively. For boys, on the other hand, those in the adolescent range (12–14 and 15–17) reacted nearly the same, with only younger boys (under 12) showing more negative and less positive reactions.

Age Difference

Age difference, analyzed for minor-older sex only, likewise showed a clear trend for girls. Moving from a 5–9 year difference to one of 10–19 years and then 20 or more years substantially and consistently decreased rates of positive reactions and increased rates of negative reactions. With a 5–9-year age difference, for example, a slight majority of girls reacted positively (52%), but only a small minority did with a 20 or more year difference (14%).

For boys, a similar but less pronounced trend obtained. Unlike girls, however, regardless of age difference category, rates of positive reactions far outpaced rates of negative reactions. For example, boys with partners 10–19 years older reacted positively in 64% of cases versus negatively in only 14%. Boys with partners older by 20 or more years reacted

Table 3 Reactions in retrospect to minor-peer and minor-older first sex as a function of participant-partner characteristics, separately by participant gender

	Minor-peer					Minor-older				
	Reaction (%)			*n*	χ^2	Reaction (%)			*n*	χ^2
	Neg	Neut	Pos			Neg	Neut	Pos		
Participant age										
Girls										
< 12	35.9_a	39.1_{ab}	25.0_a	64	71.38***	72.6_a	15.3_a	12.1_a	124	97.75***
12–14	13.4_b	42.2_b	44.4_b	1128		37.7_b	28.2_b	34.0_b	485	
15–17	8.1_c	34.2_a	57.7_c	714		26.1_c	24.2_{ab}	49.7_c	368	
Boys										
< 12	9.6_a	35.6_a	54.8_a	73	27.86***	34.4_a	21.9_a	43.8_a	32	19.82***
12–14	2.6_b	32.3_a	65.1_a	793		11.5_b	13.3_a	75.2_b	113	
15–17	1.3_b	28.5_a	72.2_b	615		8.0_b	21.2_a	70.8_b	113	
Partner age difference										
Girls										
5–9	–	–	–	–		23.1_a	24.9_a	52.0_a	542	118.12***
10–19	–	–	–	–		46.3_b	24.8_a	28.9_b	149	
20+	–	–	–	–		68.9_c	16.7_a	14.4_c	132	
Boys										
5–9	–	–	–	–		6.4_a	15.0_a	78.6_a	173	20.48***
10–19	–	–	–	–		13.6_{ab}	22.7_a	63.6_{ab}	22	
20+	–	–	–	–		29.4_b	23.5_a	47.1_b	34	
Partner gender										
Girls										
Male	12.0_a	38.8_a	49.2_a	1837	4.78	38.5_a	25.0_a	36.5_a	1018	4.48
Female	17.8_a	45.2_a	37.0_a	73		46.2_a	0.0_b	53.8_a	13	
Boys										
Male	13.7_a	56.9_a	29.4_a	51	55.48***	51.3_a	17.9_a	30.8_a	39	63.27***
Female	1.8_b	29.0_b	69.1_b	1429		6.1_b	18.3_a	75.5_b	229	
Relationship										
Girls										
Stranger	29.7_{ab}	61.7_a	8.6_a	128	153.34***	52.3_a	31.4_a	16.3_a	283	280.58***
Friend	9.8_c	37.4_b	52.8_b	1685		14.8_b	17.9_b	67.3_b	364	
Relative	64.3_b	21.4_b	14.3_{ac}	14		80.0_c	11.3_b	8.8_a	80	
Other	24.7_{ac}	36.4_b	39.0_{bc}	77		43.7_a	31.1_a	25.3_c	293	
Boys										
Stranger	1.4_{ab}	55.4_a	43.2_{ab}	74	73.71***	19.8_a	23.5_a	56.8_a	81	19.62**
Friend	1.9_b	28.3_b	69.8_c	1319		4.3_b	17.0_a	78.7_b	94	
Relative	16.7_c	61.1_{ac}	22.2_b	18		33.3_a	20.0_a	46.7_a	15	
Other	11.5_{ac}	27.9_{bc}	60.7_{ac}	61		12.7_{ab}	13.9_a	73.4_{ab}	79	

df = 4 for participant age and partner age difference; *df* = 2 for partner gender; and *df* = 6 for relationship. Within each chi-square analysis, proportions going down a column without a common subscript are significantly different in post-hoc tests

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

positively nearly half the time (47%), more than three times as often as girls with partners that much older.

Partner Gender

Partner gender was not related to reactions for girls, but was for boys. When their partner was female, boys reacted nearly the same, regardless of partner age-class: peer-aged girl (2% negative, 69% positive); older female (6% negative, 76%

Table 4 Reactions in retrospect to minor-peer and minor-older first sex as a function of situational factors, separately by participant gender

	Minor-Peer					Minor-Older				
	Reaction (%)			*n*	χ^2	Reaction (%)			*n*	
	Neg	Neut	Pos			Neg	Neut	Pos		χ^2
Intimacy										
Girls										
Non-contact	26.3_a	59.8_a	13.9_a	194	124.47****	50.3_a	41.6_a	8.1_a	181	145.91****
Touching	10.9_b	40.8_b	48.3_b	888		42.6_a	24.2_b	33.2_b	561	
Intercourse	10.2_b	33.1_c	56.7_c	849		21.3_b	16.1_c	62.6_c	286	
Boys										
Non-contact	6.5_a	57.0_a	36.4_a	107	67.68****	22.2_a	55.6_a	22.2_a	18	23.89****
Touching	1.9_b	33.1_b	65.0_b	728		13.8_a	17.2_b	69.0_b	87	
Intercourse	2.4_{ab}	23.1_c	74.5_c	675		9.6_a	14.7_b	75.6_b	156	
Frequency										
Girls										
Once	18.2_a	46.1_a	35.6_a	466	108.87****	44.8_a	32.2_a	23.1_a	373	70.39****
2–10	11.6_b	41.8_a	46.6_b	1069		30.6_b	20.4_b	49.0_b	304	
11 +	6.0_c	24.1_b	69.9_c	382		25.7_b	12.2_b	62.2_b	74	
Boys										
Once	4.6_a	41.4_a	54.0_a	350	54.58****	16.3_a	24.5_a	59.2_a	98	9.31*
2–10	1.7_b	29.5_b	68.8_b	801		9.1_a	13.1_a	77.8_b	99	
11 +	2.1_{ab}	18.5_c	79.4_c	330		9.4_a	12.5_a	78.1_{ab}	32	
Participant was coerced										
Girls										
No	11.0_a	39.4_a	49.7_a	1870	131.20****	32.2_a	26.5_a	41.4_a	873	106.06****
Yes	70.0_b	27.5_a	2.5_b	40		77.5_b	13.8_b	8.7_b	138	
Boys										
No	2.1_a	29.9_a	68.0_a	1467	53.58****	10.0_a	18.7_a	71.4_a	241	17.97****
Yes	25.0_b	55.0_b	20.0_b	20		37.9_b	13.8_a	48.3_b	29	
Participant initiated it										
Girls										
No	–	–	–	–		42.9_a	25.8_a	31.3_a	872	108.76****
Yes	–	–	–	–		7.3_b	13.7_b	79.0_b	124	
Boys										
No	–	–	–	–		18.9_a	24.5_a	56.6_a	143	19.52****
Yes	–	–	–	–		5.8_b	12.5_b	81.7_b	120	
Survey year										
Girls										
1988	–	–	–	–		31.0_a	21.6_a	47.3_a	522	53.36****
2008, 2013	–	–	–	–		46.1_b	28.2_b	25.7_b	525	
Boys										
1988	–	–	–	–		11.4_a	16.0_a	72.6_a	175	3.49
2008, 2013	–	–	–	–		15.2_a	22.9_a	61.9_a	105	

df = 4 for intimacy and frequency; *df* = 2 for coercion, initiation, and survey year. Within each chi-square analysis, proportions going down a column without a common subscript are significantly different in post-hoc tests. For minor-peer sex, "frequency" assessed how often participant experienced the given sex overall, rather than with just the first partner

*$p < .10$, **$p < .05$, ***$p < .01$, ****$p < .001$

Table 5 Odds ratio effect sizes contrasting rates of positive vs. non-positive reactions in retrospect between key levels of moderator variables for minor-peer and minor-older sex, separately by participant gender

	OR	
	Minor-peer	Minor-older
Participant age: ≥ 12 vs. < 12		
Girls	2.95	5.19
Boys	1.77	3.09
Age difference: 5–9 vs. 10 +		
Girls	–	3.83
Boys	–	3.19
Partner gender: female versus male		
Girls	0.61	2.03
Boys	5.36	6.95
Relationship: friend versus not		
Girls	4.58	8.45
Boys	2.54	2.09
Intimacy: intercourse versus not		
Girls	1.79	4.60
Boys	1.84	2.10
Frequency: > once versus once		
Girls	2.02	3.56
Boys	2.18	2.43
Coercion: no versus yes		
Girls	38.50	7.40
Boys	8.51	2.67
Participant initiated: yes versus no		
Girls	–	8.27
Boys	–	3.41

OR > 1 if first category in variable descriptor is associated with a higher rate of positive reactions than the second category

positive). When their partner was male, boys reacted positively at the same rate, whether with a peer-aged boy (29%) or an older male (31%). Negative reactions, however, were far more common with older males (51%) than with peer-aged boy partners (14%).

Relationship

For girls, a majority of sexual experiences with friends were reacted to positively: over half the cases with peers (53%) and two-thirds with older partners (67%). By contrast, sexual experiences were infrequently reacted to positively with strangers (9% when partners were peers; 16% when partners were older) or relatives (14% peer; 9% older). Positive reactions to experiences with "others" were intermediate. Negative reactions were least in encounters with friends (10% peer; 15% older), and highest in encounters with relatives (64% peer; 80% older). Negative reactions in encounters with strangers were intermediate—over half the time with older partners (52%).

For boys, the highest rates of positive reactions were with friends (70% peer; 79% older) and the lowest rates were with relatives (22% peer; 47% older). Rates of positive reactions to encounters with strangers were intermediate (43% peer; 57% older), and markedly higher than corresponding rates for girls (see above). Rates of negative reactions were lowest with friends (2% peer; 4% older) and highest for relatives (17% peer; 33% older). Negative reaction rates in encounters with strangers were quite low with peers (1%) but higher with older partners (20%). Notably, these rates were fractional compared to girls' rates of negative reactions to strangers (see above).

Reactions in Retrospect in Relation to Situational Factors

Table 4 shows rates of reactions in retrospect to minor-peer and minor-older sex as a function of situational factors, separately by gender. Significance results are shown in Table 4, while effect sizes are shown in Table 5.

Intimacy

For girls, rates of positive reactions increased from non-contact sex to sexual touching to sexual intercourse in both minor-peer and minor-older sex, with similar rates at each level of intimacy. For intercourse, most girls reacted positively, whether with peers (57%) or older partners (63%). On the other hand, for non-contact sex, few reacted positively, whether with peers (14%) or older partners (8%). Rates of negative reactions generally decreased with more intimate sex. Going from non-contact sex to intercourse, negative reaction rates dropped from 26 to 10% in girl-peer sex and from 50 to 21% in girl-older partner sex.

For boys, a similar pattern obtained for positive reactions. Rates increased significantly from non-contact sex to intercourse in both boy-peer sex (from 36 to 74%) and boy-older partner sex (from 22 to 76%). For negative reactions, differences between levels of intimacy were not significant.

Frequency

The patterns of reactions were similar for minor-peer and minor-older sex, regardless of participant gender. For girls, rates of positive reactions were significantly higher for 11 or more times compared to one time in both girl-peer sex (70% vs. 36%) and girl-older sex (62% vs. 23%), with 2–10 times falling in between. Rates of negative reactions were significantly lower for 11 or more times compared to once in both girl-peer sex (6% vs. 18%) and girl-older sex (26%

vs. 45%), with 2–10 times falling in between. For boys, rates of positive reactions similarly trended higher with greater frequency of episodes. In boy-peer sex, rates increased from 54 to 79% for once versus 11 or more times; in boy-older sex, the rate jumped from 59 to 78% for once versus more than once. Rates of negative reactions did not differ in either boy-peer or boy-older sex.

Coercion

Being coerced was consistently associated with more negative and less positive reactions for both minor-peer and minor-older sex, both for girls and boys. For girls, rates of positive reactions when not being coerced were similar for girl-peer (50%) and girl-older sex (41%). Positive rates dropped substantially when being coerced, with similar values for girl-peer (3%) and girl-older (9%) sex. Negative reactions were the reverse. When coerced, reactions were similarly highly negative in both girl-peer (70%) and girl-older sex (78%). When not coerced, rates of negative reactions were dissimilar, however: girl-peer sex (11%); girl-older sex (32%).

Non-coerced boys reacted predominately positively, whether with peers (68%) or older partners (71%). Coerced boys reacted positively much less often with peers (20%); with older partners they also reacted less positively, but still did react positively nearly half the time (48%). Non-coerced boys infrequently reacted negatively with peers (2%) or older partners (10%), while coerced boys reacted negatively much more often (25% with peers; 38% with older partners).

Initiation

Who initiated the sex was only asked for minor-older sex. Boys initiated these encounters in nearly half the cases (46%), a rate that was more than three times as high as the rate for girls (14%). When participants were the initiators, the reaction patterns of boys and girls were nearly the same: boys (positive 82%, negative 6%); girls (positive 79%, negative 7%). When they were not the initiators, boys' and girls' patterns of reactions diverged sizably: boys (57% positive; 19% negative); girls (31% positive, 43% negative).

Survey Year

Minor-older sexual experiences occurring in the 1980s in Finland could be expected to be reacted to differently than those occurring after the year 2000 because of increasingly negative and well-publicized social attitudes toward the behavior. Hence, for minor-older sex, where reactions were assessed in 1988 and then afterwards, two survey-year periods were created: 1988 as one and 2008 combined with 2013 as the other. Girls with older partners reacted more negatively (46% vs. 31%) and less positively (26% vs. 47%) in the 2008–2013 surveys than in the 1988 survey. For boys, no significant differences occurred.

Effect Sizes for Personal and Situational Variables

Table 5 shows effect sizes in terms of odds ratios for the previous analyses. For variables with more than two levels (e.g., intimacy), a target level (e.g., intercourse) was contrasted with the combined remaining levels (e.g., non-contact, touching). In the variable descriptors, the target level is listed first, followed by its contrast. Target levels were chosen based on the expectation they would be associated with higher rates of positive reactions than the other levels. Odds ratios were computed separately for minor-peer and minor-older sex and for girls and boys.

In all cases except one, odds ratios were greater than one, indicating that the target levels were usually associated with higher rates of positive reactions. In girl-peer sex, moderators that stood out (i.e., large effect sizes) were not being coerced versus being coerced (OR = 38.50) and the partner being a friend versus not (OR = 4.58). In boy-peer sex, outstanding moderators were not being coerced (OR = 8.51) and the partner being female versus male (OR = 5.36). In girl-older sex, five variables stood out: friend versus not (OR = 8.40), the girl initiated it versus did not (OR = 8.27), she was not coerced versus was (OR = 7.40), she was 12 or older versus younger (OR = 5.19), and she had intercourse versus a lesser form of intimacy (OR = 4.40). Finally, in boy-older sex, one variable had a large effect size: female versus male partner (OR = 6.95).

For the 6 moderators common to both minor-peer and minor-older sex, boys were quite similar on 4 of them in odds ratios. Only for coercion did boys with peers sizably differ from boys with older partners—the former had an odds ratio 3 times greater than that of the latter. Girls, by contrast, differed sizably on all moderators, with odds ratios for 5 moderators generally being doubled in the girl-older group. On the 6th (coercion), girls with peers had a much larger odds ratio. In short, the age-class of the partner tended to matter little for boys but a great deal for girls.

Abuse Perceptions

Participants in 2008 and 2013 having minor-older sex were asked whether they felt they had been abused, coded in this study as no, maybe, or yes. Boys and girls did not differ in their response patterns, $\chi^2(2) = 4.57$, $p > 0.05$. Small majorities in both genders perceived no abuse (52% for boys, 56% for girls), while small minorities in each perceived unambiguous abuse (11% for boys, 15% for girls).

Table 6 Logistic regressions for minor-older sexual experiences assessing positive reactions at the time as a function of personal and situational variables, separately by gender

	OR (95% CI)	
	Girls	Boys
Age at time		
< 12	0.75 (0.29–1.97)	1.45 (0.20–10.76)
12–14	reference	reference
15–17	1.21 (0.80–1.83)	1.00 (0.35–2.82)
Age difference		
5–9	**11.09** (4.09–30.06)	0.50 (0.07–3.72)
10–19	**6.85** (2.36–19.86)	0.18 (0.02–1.41)
20 +	Reference	Reference
Partner gender		
Female vs. male	5.25 (0.79–35.14)	5.01 (0.67–37.19)
Relatedness		
Stranger	**0.35** (0.19–0.66)	0.37 (0.10–1.43)
Friend	Reference	Reference
Relative	0.48 (0.14–1.65)	**0.15** (0.02–0.95)
Other	0.63 (0.39–1.02)	0.79 (0.18–3.43)
Intimacy		
Non-contact	**0.15** (0.04–0.56)	**0.02** (0.00–0.25)
Touching	0.72 (0.47–1.10)	0.41 (0.15–1.10)
Intercourse	Reference	Reference
Coerced		
No versus yes	**16.18** (4.53–57.81)	**5.04** (1.08–23.44)
Initiated		
Yes versus no	**2.91** (1.64–5.15)	2.68 (0.91–7.90)
Frequency		
> 1 versus once	**2.49** (1.61–3.87)	**3.63** (1.26–10.42)
Statistics		
N	637	201
χ^2 (14)	254.71***	74.69***
Nagelkerke R^2	0.45	0.50

OR = odds ratio; 95% CI = 95% confidence interval. In 3- or 4-level variables, each category is compared to the reference category. In 2-level variables, the first listed category is compared to the second. All models control for survey year; significant ORs are bold-faced

***$p < .001$

For girls, abuse perceptions were related to reactions in retrospect, $\chi^2(4) = 12.21$, $p < 0.05$. In post hoc analysis, girls perceiving no abuse reacted positively (43%) significantly more often than girls perceiving abuse (26%). For boys, abuse perceptions were not related to reactions in retrospect, $\chi^2(4) = 1.13$, $p > 0.10$.

Reactions in Multivariate Analysis: Logistic Regressions

Felson et al. (2019) conducted logistic regressions to assess the likelihood of negative reactions as a function of a variety of personal and situational variables, thereby determining the independent contribution of each. Their basic approach was to analyze negative reactions at the time just for minor-older sex (where this measure was derived from emotional adjectives) and then to analyze reactions in retrospect for minor-older and minor-peer sex (where reactions were similarly measured in both cases). The present study followed this basic approach, except that the focus was on explaining positive rather than negative reactions. Some changes were made in use of predictors, as explained below.

Minor-Older Sex: Reactions at the Time

In addition to the predictors Felson et al. employed to examine reactions at the time to minor-older sex (i.e., participant age, partner age difference, partner gender, partner relatedness to the participant, coercion, and level of intimacy), one additional predictor was employed here: who initiated the episode, a variable expected to affect rates of positive reactions.[11] Table 6 shows results for two logistic regressions, one for each participant gender. Odds ratios (bold-faced if significant) and 95% confidence intervals are shown.

For girls, not being coerced was most strongly significantly associated with increasing the odds of a positive reaction at the time (OR = 16.18). A 5–9-year age difference with the partner (compared to 20 or more years) came next (OR = 11.09), followed by a 10–19-year age difference (OR = 6.85) and having had intercourse versus non-contact sex (OR = 6.51). Predictors with medium-sized significant odds ratios included having initiated the event (OR = 2.91), having been involved with a friend versus a stranger (OR = 2.84), and having engaged in sex with the partner more than once (OR = 2.49).

For boys, three predictors had large-sized significant relationships with reacting positively. First was having had intercourse versus non-contact sex (OR = 46.45), followed by having the sex with a friend compared to a relative (OR = 6.78), and then not having felt coerced (OR = 5.04). Several had medium-sized relationships: having had sex with the partner more than once (OR = 3.63) and having initiated the sex (OR = 2.68, $p = 0.07$).

Minor-Peer and Minor-Older Sex: Reactions in Retrospect

Table 7 shows the results for logistic regressions assessing positive reactions in retrospect in relation to personal and situational variables for both minor-peer and minor-older sex.

[11] The frequency variable was dichotomized because the 3-level version led to extreme standard errors due to multicollinearity problems.

Table 7 Logistic regressions assessing positive reactions in retrospect as a function of personal and situational variables in minor-peer and minor-older sex, separately by gender

	OR (95% CI)			
	Minor-peer		Minor-older	
	Girls	Boys	Girls	Boys
Age at time				
< 12	0.76 (0.38–1.53)	1.05 (0.59–1.88)	0.73 (0.28–1.92)	**0.12** (0.01–0.96)
12–14	reference	reference	reference	reference
15–17	**2.01** (1.63–2.49)	**1.62** (1.25–2.09)	**1.62** (1.08–2.46)	**0.41** (0.17–0.96)
Age difference				
5–9	–	–	**2.17** (1.09–4.36)	3.23 (0.63–16.48)
10–19	–	–	1.13 (0.51–2.51)	4.49 (0.61–33.27)
20 +	–	–	reference	reference
Partner gender				
Female versus male	0.68 (0.40–1.16)	**3.53** (1.75–7.14)	**14.66** (1.62–132.27)	**11.77** (1.61–86.10)
Relatedness				
Stranger	**0.15** (0.07–0.29)	**0.40** (0.23–0.67)	**0.42** (0.23–0.75)	0.41 (0.14–1.16)
Friend	reference	reference	reference	reference
Relative	0.21 (0.04–1.07)	0.25 (0.06–1.04)	**0.12** (0.03–0.48)	0.47 (0.09–2.55)
Other	0.72 (0.43–1.21)	0.76 (0.42–1.41)	**0.35** (0.22–0.56)	1.94 (0.59–6.37)
Intimacy				
Non-contact	**0.25** (0.15–0.40)	**0.33** (0.21–0.54)	0.47 (0.19–1.16)	0.13 (0.01–1.42)
Touching	0.84 (0.69–1.04)	**0.62** (0.48–0.80)	**0.63** (0.41–0.96)	1.14 (0.47–2.76)
Intercourse	reference	reference	reference	reference
Coerced				
No vs. yes	**27.21** (3.65–202.65)	**9.99** (2.45–40.73)	**4.50** (1.90–10.66)	0.49 (0.09–2.65)
Initiated it				
Yes vs. no	–	–	**3.42** (1.88–6.23)	**2.44** (1.01–5.90)
Frequency				
Once	**0.24** (0.17–0.33)	**0.30** (0.20–0.43)	**0.37** (0.17–0.76)	**0.04** (0.01–0.51)
2–10 times	**0.38** (0.29–0.50)	**0.53** (0.38–0.75)	0.67 (0.33–1.34)	0.10 (0.01–1.16)
11 + times	reference	reference	reference	reference
Statistics				
N	1865	1414	611	188
χ^2	333.40***	162.71***	221.61***	62.57***
Nagelkerke R^2	0.22	0.15	0.41	0.41

For minor-peer analyses, $df = 12$; for minor-older, $df = 15$. OR = odds ratio; 95% CI = 95% confidence interval. In 3- or 4-level variables, each category is compared to the reference category. In 2-level variables, the first listed category is compared to the second. All models control for survey year; significant ORs are bold-faced

***$p < .001$

The regressions for minor-older sex included the same 8 predictors as the regressions discussed above concerning reactions at the time. The regressions for minor-peer sex included the same predictors, except for age difference and initiation.[12]

For girl-peer sex, not being coerced was associated with the largest significant odds ratio (OR = 27.21) in terms of increasing the odds of a positive reaction in retrospect. This was followed by having sex with a friend as opposed to stranger (OR = 6.88), having sex with a friend versus a relative (OR = 4.78, $p = 0.06$), having the sex 11 or more times versus once (OR = 4.18), and having intercourse versus non-contact sex (OR = 4.04).

For boy-peer sex, as in girl-peer sex, not being coerced showed the largest significant effect (OR = 9.99). This was followed by having sex with a friend instead of a relative (OR = 3.99, $p = 0.056$). Effects in the medium range included having a female rather than male partner (OR = 3.53), having the sex 11 or more times compared to once (OR = 3.37), having intercourse versus non-contact sex (OR = 3.00), and having a partner who was a friend instead of stranger (OR = 2.52).

For girl-older sex, having a female rather than male partner had the largest significant effect (OR = 14.66), followed by the partner being a friend rather than a relative (OR = 8.27), and then not having been coerced (OR = 4.50). Medium-sized significant effects included having initiated the sex (OR = 3.42), the partner being a friend rather than someone from the "other" category (OR = 2.87), the partner being a friend versus a stranger (OR = 2.39), and having the sex 11 or more times compared to once (OR = 2.74).

For boy-older sex, having the sex 11 or more times compared to once had the largest significant effect (OR = 22.25); having the sex 2–10 times versus once also had a large effect (OR = 9.90, $p = 0.06$). Other large-sized effects included having a female partner (OR = 11.77), being aged 12–14 versus under 12 (OR = 8.66), and having intercourse versus non-contact sex (OR = 7.55, $p = 0.09$). Medium-sized effects included being aged 12–14 versus 15–17 (OR = 2.46), initiating the sex (OR = 2.44), and having a partner who was a friend versus a stranger (OR = 2.45, $p = 0.09$).

As just noted, boys aged 12–14 reacted significantly more positively in retrospect compared to both younger boys (< 12) and older boys (15–17) involved with older partners. This pattern stands out as distinct compared to the other three participant-partner age-class groups. In all others, ages 12 to 14 did not differ from under 12 on the one hand, and had positive reactions significantly *less* often compared to ages 15 to 17 on the other, with the following odds ratios: girl-peer, OR = 0.50; boy-peer, OR = 0.62; girl-older, OR = 0.62.

Discussion

Contra the Trauma View

In terms of reactions at the time to their first minor-older sexual experience, 64% of boys reported pleasure and, overall, 78% reacted positively. Emotionally negative reactions were uncommon (from 5 to 9% for disgust, fear, and shock) and overall, only 14% of boys reacted negatively. This reaction profile was similar to that for boys sexually involved with peer-aged partners (2% negative, 77% positive). In terms of reactions in retrospect to boy-older sex, the rate of positive reactions dropped somewhat to 69%, but so did the rate for boy-peer sex (67%). For each, negative reactions remained low (13% and 2%, respectively). These results were based on a nationally representative sample with an unusually large number of cases for this kind of research (*n*s = 306 and 1514, respectively, for boy-older and boy-peer sex for reactions at the time). These sampling strengths, on top of the similarity of boys' reactions irrespective of partner age-class, add weight to the following suggestion. For boys in the general population—as opposed to clinical or forensic cases, or selected anecdotes—sexual events with significantly older persons are mostly *not* experienced as a unique ordeal, characterized by such conditions or responses as "toxic stress" or "anxiety, hostility, and suicidality" (Lindert et al., 2014; Lloyd & Operario, 2012), as CSA researchers have commonly asserted over the last four decades (Clancy, 2009; Rind et al., 1998). The data here on positive reactions, neglected by Felson et al. (2019) in their analysis of the Finnish sample, suggest the contrary: these sexual events are more often perceived as appetitive than aversive by boys in the general population.

The foregoing is not to deny or minimize negative or traumatic response in specific cases for boys under certain conditions, which are also clearly represented in the data and the analyses, but it is to suggest that the trauma view instated four decades ago by child advocates, certain clinicians, and other professionals to advance their position on CSA and justify related claims and explanations of subsequent severe pervasive maladjustment (Clancy, 2009) is scientifically untenable in the face of the present large-scale generalizable empirical study. Its untenability lies in its sweeping nature, applied to most or all forms of minor-older sex irrespective of context, an application that quickly became dominant in the early 1980s owing to its resonance with cultural changes at that time, rather than from any sort of systematic empiricism (Angelides, 2019; Clancy, 2009; Jenkins, 1998).

[12] Frequency, though measured somewhat differently for minor-peer and minor-older sex, was included because multiple encounters, measured either way, were expected to affect reactions, and because the effects of repeated episodes have been a central theme in the literature.

In the case of girls, the minor-older and minor-peer reaction profiles were different, especially in reactions at the time. Girls sexually involved with older persons experienced disgust, fear, and/or shock much more often than boys, although still in a minority of cases (from 21 to 34%), and overall reacted negatively at the time in half the cases (51%). Nevertheless, a quarter of them experienced pleasure (26%) and, overall, 35% reacted positively. Girls sexually involved with peers, on the other hand, often reacted positively at the time (61%) and rarely reacted negatively (8%). These differences between girl-older and girl-peer sex reduced but still remained for reactions in retrospect—for example, the girl-older negative-reaction rate fell to 39% while the girl-peer positive-reaction rate fell to 48%. The data show, therefore, that girls sexually involved with older persons stood out among the four participant-partner age-class groups as most prone to react negatively and least likely to react positively. Nevertheless, half did not react negatively at the time, while over a third reacted positively, which is inconsistent with the trauma view of unique ordeal. These results carry weight, because, aside from being nationally representative, they were based on huge numbers of cases for research on reactions (*ns* = 1,122 and 1,930, respectively, for girl-older and girl-peer sex for reactions at the time).

Contra Gender Equivalence in Reactions

First, a central tenet of the trauma view has been that minor-older sexual experiences are an ordeal *equally* for girls and boys (Rind et al., 1998). Second, when empirical research does find substantial rates of positive reactions for boys, contradicting the ordeal view and differentiating boys markedly from girls, such findings have routinely been dismissed in the CSA field, for example, as artifacts of "cognitive distortions" based on a pathological culture or "indoctrination by their abuser" (Rind et al., 2001).

On the first point, results from the present study suggest that it is empirically untenable to hold that boys and girls in the general population react similarly, on average, to minor-older sex. The sex differences in reactions were significant and large, with boys much more likely to react positively than girls and much less likely to react negatively. The odds of boys reacting positively at the time to minor-older sex were more than six times girls' odds, a finding replicating results in the two other large-scale studies on reactions reviewed earlier, in which the odds ratios were similarly large: 4.69 in the Kinsey sample (Rind & Welter, 2014) and 5.27 in the college samples (Rind et al., 2000).

On the second point, when confronted with studies finding frequent occurrence of positive reactions by boys to minor-older sex (e.g., Sandfort, 1984), CSA researchers have routinely rejected such findings as either invalid, claiming they were artifacts of processes such as cognitive distortions (e.g., Ondersma et al., 2001), or irrelevant because they were based on selected cases claimed to be anomalous, with no implication for the general population (e.g., Kendall-Tackett et al., 1993). The present findings, based on more than 300 cases with reaction data from a generalizable sample with the vast majority of boys reacting positively, empirically challenge such thinking, which was never empirically grounded to begin with. Adding to this rebuttal are the findings on frequent occurrence of positive reactions in the other large-scale studies reviewed earlier (i.e., from the Kinsey and college samples).

The validity of the present results is further suggested by their comportment with what is scientifically known about gender differences in sexuality and norm non-compliance, beginning before puberty and extending through adolescence and beyond, as reviewed by Felson et al. (2019) and summarized previously. Felson et al. predicted that boys would react more favorably to minor-older and minor-peer sex than girls because they, especially in adolescence but beginning prior to puberty, are generally more interested in sex for its own sake and less bothered by violating social norms than girls. Particularly to the point are sex differences in sexual fantasizing, which boys do at earlier ages with greater frequency, intensity, sexual explicitness, and positive feelings. This behavior is emergent, not taught, indicating a biological basis rooted in evolution (Baumeister et al., 2001; Dixson, 2012; Ellis & Symons, 1990). Broad trends in immature males' eagerness for sex across the primate order (Anderson & Bielert, 1990; Gunst et al., 2013) add to this evolutionary argument. In short, the evidence indicates that boys, especially at puberty and beyond, are particularly biologically prepared to react favorably to sexual behavior in certain contexts, which can include significantly older partners. The Finnish data confirm this, while substantially contradicting the practice in CSA research to use girls as the standard and deduce what must also be for boys.

Earlier it was noted that, across the primate order, it is common for immature males in late juvenescence through early adolescence to eagerly attempt coitus with adult females, which a number of primatologists have attempted to explain with the "needing-to-learn" hypothesis, in which preferential targeting of adult females for coital practice is an efficient means to honing reproductive skills that will eventually adaptively serve them in a sexually competitive social environment in terms of enhancing reproductive success. Caution is needed in extrapolating from nonhuman primates to humans, but nevertheless conservation of traits can be expected to obtain here even if new layers of behavioral predispositions (e.g., heightened responsiveness to cultural norms relative to biological inclinations) were overlaid during human evolution (Dixson, 2012; Sommer & Vasey, 2006). From a norm point of view, it could be argued

that in our society boys do not need to learn about coitus from significantly older females, because our culture provides other avenues for boys to learn what is needed. This social argument may be valid in terms of specifying how sex *should* operate in a modern complex society, but it does not negate the biological argument (i.e., conservation of traits). The evidence indicates that maturing boys are often prone to *desire* such relations, regardless of the norms, which potentiates their willingness to engage in such relations, opportunity and context permitting. In the present sample, in addition to reacting predominantly positively to their first minor-older sex, 46% of boys were the initiators, providing evidence for this underlying desire. Notably, in various other cultures, boy-woman sex was associated with learning, where it was the practice to introduce pubescent boys to coitus with an experienced older woman, which prepared them to be sexually competent afterwards with peer-aged girls (Diamond, 1990; Suggs, 1966). In short, normative sexual patterns in complex societies cannot be taken as final arbiters of human sexual nature (Ford & Beach, 1951; Greenberg, 1988; Whiting et al., 2009), and the broader perspective offered here, as opposed to our cultural sexual norms and beliefs, makes better sense of the results obtained in the present study.

Personal and Situational Factors: Univariate Analyses

In CSA research, following the trauma view, it has been commonplace to either ignore context or to cite variables thought to aggravate the degree of negatively or harm. Characteristics cited have included younger age of the minor, greater frequency of the sex, and degree of intimacy (a.k.a. "severity"), among others. The univariate analyses conducted here were useful in assessing these cited, but often inadequately researched, characteristics. Some were aggravating in terms of being associated with higher rates of negative reactions (e.g., younger age of minor), but others operated oppositely (e.g., lesser, not greater, intimacy was "aggravating," as were fewer rather than more sexual episodes). On the other hand, mainstream CSA research has entirely ignored considering what characteristics may enhance positive reactions. Such analyses were conducted here, and the following discussion focuses on them.

Personal Characteristics

Age of participants moderated rates of positive reactions, with a linear increase occurring from under 12 to 12–14 to 15–17 for girls in both minor-peer and minor-older sex, with the trend stronger in the latter case. Boys under 12 reacted positively less often than adolescent boys, especially in the minor-older group (where 44% of boys under 12 nevertheless did react positively). Boys aged 12–14 in the minor-older group had nominally the highest rate of positive reactions among all groups (75%), replicating the reaction pattern involving first postpubertal vaginal coitus in the Kinsey sample (Rind & Welter, 2014).

In the minor-older analyses, partner age difference strongly moderated positive reactions for girls, with over half (52%) reacting positively when partners were 5–9 years older, but only 14% when they were 20 or more years older. A similar trend occurred for boys, but with higher positive rates at each partner age-difference level. Partner gender was significantly associated with rates of positive reactions just for boys, where boys were more than twice as likely to react positively with female partners, similarly in minor-peer and minor-older sex. Finally, partner's relationship with the participant strongly moderated rates of positive reactions for girls, similarly in both girl-peer and girl-older sex. Adding the "friend" category to Felson et al.'s (2019) other three relationship categories had a sizable impact. Rates of positive reactions when involved with friends were 53% (girl-peer) and 67% (girl-older), rates that far exceeded other relationship levels, particularly strangers and relatives. For boys, moderation was clear but less pronounced. Sex with partners seen as friends had the highest rates of positive reactions (70%, minor-peer; 79%, minor-older), while sex with relatives had the lowest (22%, minor-peer; 47%, minor-older).

Felson et al. (2019) noted that girls sexually involved with partners 5–7 years older reacted no more negatively than girls involved with peer-aged partners. Similarly, in the present analysis, rates of positive reactions were the same for girls with partners 5–9 years older (52%) and girls with peers (48%). As just noted, when their older partners were friends, girls reacted positively in two-thirds of cases. This age difference of 5–9 years in girl-older sex, along with the older partner being a friend, conforms to the pubertal marriage arrangements that were normative throughout most of human history before modern complex societies (Frayser, 1985; Whiting et al., 2009). The suggestion, therefore, is that postpubertal girls having sexual friendships with young men is not intrinsically traumatic, as per the CSA, moral, and legal perspectives. That these relationships conflict with modern society is a cultural issue, which has no bearing on assessing their nature scientifically (Whiting et al., 2009).

In short, personal factors moderated rates of positive reactions in similar fashion within each gender for minor-peer and minor-older sex. Certain characteristics promoted predominately positive reactions in minor-peer sex, and likewise in minor-older sex. The implication is that, in the general population, minor-older sex does not categorically stand out as the unique sexual phenomenon (i.e., ordeal) it has widely been held to be.

Situational Characteristics

Rates of positive reactions were strongly moderated by level of intimacy in both girl-peer and girl-older sex, where reactions were rarely positive in non-contact sex (14%, girl-peer; 8% girl-older) but positive in most cases with intercourse (57%, girl-peer; 63%, girl-older). Finkelhor (1979) noted that it was a well-ingrained prejudice to view intercourse as producing more problematic reactions than other forms of sex based on his college sample, and Rind et al. (1998) concurred based on their meta-analysis of many college samples. Nevertheless, CSA researchers have generally persistently held to this view, considering intercourse to be the "severest" form of CSA with worst reactions and outcomes (Rind et al., 2001). For example, Hyde and DeLamater (2017), in their best-selling human sexuality college textbook, provided a selective review of CSA research (mostly restricted to unwanted and coerced episodes between girls and peers or adults) and then concluded that CSA (implied to apply to the population of events sociolegally defined as CSA, including both the unwanted and willing minor-older sex studied here) is usually damaging, especially when intercourse is involved. The findings in the present generalizable sample with a more appropriate definition of CSA dispute Hyde and DeLamater's conclusion, given that intercourse appeared as the least negative and *most* positive form of sex in terms of subjective reactions. This finding undercuts the implicit assumption in Hyde and DeLamater's conclusion that intercourse in minor-older sex is tantamount to aggravated trauma. Additionally, in a recent analysis of an Irish nationally representative sample, the psychological adjustment of girls (mostly adolescent) having first intercourse with adults was no different from that of females having first intercourse with age-class-equal partners, with small to zero effect size differences (Rind, 2021).

Rates of positive reactions were also moderated in boy-peer and boy-older sex in similar fashion, except with higher rates of positive reactions at each level of sexual intimacy compared to girls. Discussion in this field should move beyond discussing intercourse as the "severest" form of CSA to studying why it is reacted to as positively as it is. Reasons may include that achieving intercourse in minor-older sex normally depends on greater comfort in the interaction (e.g., as in being friends), as is the case in age-equal sex. This is an empirical question for future research.

Another bias in the field has been assuming that greater frequency of sex in minor-older relations produces greater problems, under the assumption that cumulative aversive experiences, which minor-older sex is held to be, are more negative and harmful. In the present analysis, however, greater frequency was associated with higher rates of positive reactions for boys and girls in minor-peer and minor-older sex. Reactions were mostly positive in all four participant–partner age groups when the frequency exceeded 10 times (ranging from 62 to 79%). As with intercourse, greater frequency, especially when exceeding 10 times, may indicate a higher level of comfort, which might facilitate positive reactions or be the result of them. Boys homosexually involved with older males illustrates the frequency effect. Overall, they reacted positively in 31% of cases. A quarter of these cases had a frequency exceeding 10 times (28%), and when this high frequency obtained, most reacted positively at the time (78%). Few did, however, with 10 or fewer occurrences (13%). In studies reviewed earlier where all participants had extensive homosexual experience, most boys sexually involved with older males likewise reacted positively (e.g., Rind, 2019; Sandfort, 1984).

Being coerced significantly dampened rates of positive reactions in all groups, especially for girls. In the case of minor-older sex, the minor's initiating the sex significantly increased positive reactions, resulting in high rates equally for girls (79%) and boys (82%). Survey year was expected to influence reactions, under the assumption that increasing publicity about CSA, nearly all negative, in the media and public discourse more generally, would increasingly problematize minor-older sex when it happened. The incidents before the 1988 survey occurred when this increasing publicity was near its beginnings in Finland, but the publicity was well in place by 2008. This expected increased problematization might come from filtering, wherein, for example, fewer older persons were willing to get involved, and those who did were more anomalous in ways that might aggravate the event (in fact, the incidence of minor-older sex approximately halved from 1988 to 2008 and then approximately halved again in 2013).[13] It might also come from nocebo, wherein the minors involved would have been more likely to absorb the negative view in society, which could aggravate the events through suggestion. For girls, rates of positive reactions were approximately halved from the first period (1988) to second (2008–2013). For boys, though, the decrease was not significant.

In short, situational factors also moderated rates of positive reactions, for both minor-peer and minor-older sex and often in similar fashion. Combined with the personal factors previously reviewed, it is suggested that context plays a critical role in whether minors react positively to sex, similarly when the partners are peers or older persons, which is contradictory to the trauma view of ordeal irrespective of context.

[13] For girls, the incidence in 1988 was 16.0%, which dropped to 6.6% in 2008, and then further to 3.8% in 2013. For boys, the incidence was 5.5% in 1988, falling to 2.0% in 2008, and then to 1.1% in 2013.

Personal and Situational Factors: Multivariate Analyses

Multivariate analyses were conducted to examine the independent contribution of different characteristics to the occurrence of positive reactions. Logistic regressions showed that positive reactions at the time to minor-older sex were positively related similarly for girls and boys to personal and situational characteristics, including having intercourse, partner being a friend, not being coerced, participant initiating the sex, and having sex multiple times. These are the kind of commonsensical characteristics that would be expected to increase positive reactions in age-equal sex. That they did in minor-older sex suggests that subjective reactions to it are not unique in a pathological sense, as per CSA thinking. One sex difference did obtain: lesser partner age difference increased rates of positive reactions for girls but played no role for boys.

Logistic regressions were next performed on positive reactions in retrospect. For both minor-peer and minor-older sex for both girls and boys, the partner being a friend, having intercourse, and the sex occurring more than 10 times increased rates of positive reactions. Except for the boy-older group, lack of coercion and the minors being aged 15–17 increased positive rates. Except for the girl-peer group, having a female partner increased positive rates. These commonalities suggest the following. For minor-peer sex, certain conditions independently increase the likelihood that it will be positively experienced—most researchers would agree. But, following the data and analyses here, the same applies to minor-older sex, a point neglected in the mainstream CSA literature, a neglect that biases understanding of this form of sex. Finally, as in reactions at the time, positive reactions in retrospect were significantly related to partner age difference for girls but not boys.

One finding needing attention is that boy-older sex stood out from the other three groups in that boys aged 12–14 had a higher rate of positive reactions than both younger and older boys. A similar result occurred in analyses of the Kinsey sample discussed earlier, where postpubertal boys aged 14 and below reacted positively significantly more often in boy-adult sex than boys aged 15–17 did, both in first postpubertal vaginal intercourse and in first postpubertal homosexual experience. Kinsey et al. (1948) and Gebhard et al. (1965), based on the extensive Kinsey data, pointed to the sizable potential of early pubertal boys to be highly responsive to erotic activity, a potential much stronger than in girls at the same developmental level and one equaling if not exceeding that in adult men. The nonhuman primate data reviewed earlier add support, in that peripubertal immature males commonly display a special eagerness for sexual experimentation (often directed at adult females). Relationships (emotional, romantic) likely complicate subjective reactions to sex, which may be more characteristic of older postpubertal boys in minor-older sex and both younger and older postpubertal boys in minor-peer sex, accounting for pubescent boys with older persons reacting more positively in this sample.

A logistic regression model can be used to compute the probability of a given outcome (e.g., a positive reaction) based on a specific combination of characteristics (e.g., age 12–14, female partner, intercourse, etc.).[14] Here, several scenarios are provided to illustrate.[15] The first involves a minor under age 12 with a male relative older by 20 or more years, who uses coercion to achieve sexual touching, performed once in the year 2013. The chance of the minor reacting positively is 1% for both boys and girls. This scenario illustrates the incest model, which was built on the rape model (involving men with women) in the 1970s, and which soon became the standard model for understanding all minor-older sex (Jenkins, 1998; Rind, 2018). The near-zero likelihood of reacting positively is consistent with the trauma view, where negative reactions are expected in nearly all cases.

The second illustration is taken from the Sandfort (1984) study, in which Dutch boys in the early 1980s, who were mostly pubescent (i.e., 12–14), were involved multiple times (i.e., more than 10) generally in sexual touching with adult male friends often 10–19 years older, who were the initiators of the sex but used no coercion. Here, the chance of a boy's reacting positively would be 56%. When boys were the initiators, as they may have been in certain cases, the likelihood would rise to 81%.[16] This scenario is far different from the incest case above and is highly inconsistent with the trauma view. Notably, when the study came out, it was vigorously attacked and dismissed. Masters et al. (1985), for example, rejected the results as untrustworthy or fraudulent based specifically on the incest model and citing research involving incest. Kendall-Tackett et al. (1993) dismissed the

[14] Here, probability(positive reaction) = $e^{model}/(1+e^{model})$, where e = 2.71828 and "model" is the logistic regression model (i.e., the right-hand side of the equation).

[15] The model for girls was: logit(positive reaction) = 31.33 − .32(aged under 12) + .49(aged 15–17) + 2.68(female partner) − .87(partner a stranger) − .2.11(partner a relative) − 1.06(partner other) − .76(non-contact sex) − .47(touching sex) + 1.50(not coerced) + 1.23(participant initiated it) + .78(age difference 5–9) + .13(age difference 10–19) − 1.01(frequency once) − .40(frequency 2–10) − .02(survey year). The model for boys was: logit(positive reaction) = − 22.81 − 2.16(aged under 12) − .90(aged 15–17) + 2.47(female partner) − .90(partner a stranger) − .76(partner a relative) + .66(partner other) − 2.02(non-contact sex) + .13(touching sex) − .72(not coerced) + .89(participant initiated it) + 1.17(age difference 5–9) + 1.50(age difference 10–19) − 3.10(frequency once) − 2.29(frequency 2–10) − .01(survey year). Values for the characteristics were 1 (true) or 0 (false); for survey years, they were 1988, 2008, or 2013.

[16] Nearly all of the 25 boys in the Sandfort (1984) study reacted positively, a discrepancy with the current predictions probably due to other factors not measured in the Finnish sample, such as non-sexual benefits obtained in the relationship (e.g., emotional support, mentoring), which were extensive in Sandfort's sample.

results, offering instead findings from the clinical-forensic samples they reviewed (which contained many of the features of the incest model) as correctly describing the population of minor-older sexual events. Their conclusion, however, was later shown to be flawed, in that their findings were extreme outliers, deviating from results in generalizable samples (i.e., nationally representative) by three standard deviations (Rind et al., 2001).

In a third illustration, the kind of situation portrayed in the film classic *Summer of '42* was modeled: a 15-year-old boy in 1942 is strongly erotically attracted to an adult woman 5–9 years older, with whom he becomes friends, and is then initiatory in the sex that eventually ensues, which involves vaginal intercourse once in the absence of any coercion. The likelihood of subjectively reacting positively here would be 99%. If this scenario had been a 15-year-old girl with a young man instead, the likelihood would fall to 21%. But if the intercourse had been frequent (i.e., more than 10 times), the likelihood would rise to 85%. Returning to the adolescent boy-woman encounter, the film became a hit in 1971 when it was released, reflecting the resonance it accorded with large segments of the film-watching public, which could empathize with the boy. The anti-CSA movement that later came, with its all-encompassing trauma view, worked to erase this kind of sentiment (Angelides, 2019), but the Finnish data indicate that the scenario may still reflect empirical reality in the general population.

In short, the foregoing regression analyses indicate that minor-older sex is not anomalous and unique in terms of subjective reactions—it operates similarly to minor-peer sex. Further, minor-older sex is not uniformly the ordeal implied in the incest model, but rather subjective reactions to it vary by context. Under certain conditions—not uncommon in the Finnish sample—these reactions were predominately positive. These findings contradict and undercut the trauma view of extreme ordeal irrespective of circumstance, articulated throughout the CSA literature, exemplified in reviews by researchers such as Lindert et al. (2014), Lloyd and Operario (2012), and Hyde and DeLamater (2017).

Conclusions

Studying the occurrence and frequency of positive reactions to minor-older sex in the general population fills in a gap in the literature. Such study is useful in assessing the dominant view in the CSA field that such sex, by its nature, is an ordeal often highly negatively experienced, leading to long-term maladjustment. Given that subjective reactions in the present generalizable sample were frequently positive, rather than negative, what are the implications of this finding for later adjustment? First, in the present study, positive reactions were related to not being coerced and initiating the sex, which are elements of "consent," where consent is used in its simple sense of willingness rather than "informed" in a legal sense (Rind et al., 2001). Second, this type of consent, in turn, has been shown in various empirical studies to be associated with subsequent psychological adjustment equal to that of controls and better than that in non-consenting minor-older sex (e.g., Arreola et al., 2008; Daly, 2021; Rind et al., 1998; Stanley et al., 2004). The suggestion, it follows, is that when minor-older sex is not an ordeal, is willing, and is positively reacted to, then problematic later psychological adjustment should be less of a concern. For psychological research, the implication is that more attention to measuring subjective reactions is needed, accompanied by an open-mindedness about outcome, as opposed to assuming a fixed negative character.

Minor-older sex is highly immoral in our society in the current age, and the present study has no implications for this moral view. But morality can be a poor guide as to what is objectively true about a given type of sexual behavior, as Kinsey et al. (1948), Ford and Beach (1951), Greenberg (1988), and Whiting et al. (2009) all emphasized based on historical and cross-cultural perspective in their classic works. As they noted, sexual morals have varied widely across cultures in conjunction with historic events and contemporary needs rather than representing unchanging nomothetic principles. All four works emphasized the need to separate moral judgment from scientific and scholarly analysis and were careful to do so. Allowing moral judgment to guide or dominate conclusions as to fact, especially concerning sexual behavior, can lead to strong bias, as Douglas (1966) documented anthropologically and Gray et al. (2014) showed experimentally. The CSA field has been particularly prone to the problem of mixing morals with conclusions as to fact, with one result being that it has often assumed without adequate empirical basis that minor-older sex is an aggravated ordeal (Angelides, 2019; Clancy, 2009; Jenkins, 1998). An important contribution of the present study, then, was to eschew moral judgment and inference and instead examine relevant, informative data to achieve scientific inference.

From the present study, it should not be concluded that minor-older sex is innocuous or not a social problem in our society. But neither should it be maintained that, categorically by sociolegal definition, it is an ordeal by nature with inevitable dire consequences. The latter view was constructed four decades ago with key input and direction from the psychology field, and moral panic followed throughout the 1980s, 1990s, and beyond as a consequence (Angelides, 2019; Jenkins, 1998). In this regard, the present study can serve as a corrective. Finally, the Finnish sample, though representative of Finland, may not be representative of other nations, cultures, or time periods. This is an empirical matter to be settled by future research. This research should avoid restricting CSA to unwanted events and then generalizating to all sociolegal CSA, and it should confine its inferences to the population most relevant to the sample used. Preferably,

nationally representative samples should be employed, which permit the kind of inferences usually intended, but often not warranted, in the extant CSA literature.

Compliance with Ethical Standards

Conflict of interest There were no conflicts of interest to declare.

Ethical Approval This article does not contain any studies with human participants or animals performed by any of the authors.

Informed Consent The research is secondary research on the Finnish victimization survey data, so informed consent was not an issue.

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