Mind the parent-adolescent gap: A comparison of parents' and adolescents' assessments of their relationship and discussions about sex

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Abstract

Purpose: To compare parent and child reports on their relationship and communication about sex; quantify agreement; and find characteristics associated with higher agreement.

Methods: Data is baseline data from an evaluation of Talking Parents, Healthy Teens, a multi-session worksite-based parenting program. Participants are 569 parents of 6–10th grades who responded to an advertisement posted in their workplace, and their 6-10th grade children (n=683): 683 parent-child dyads. Self-administered survey data were collected in Southern California from 2002-2004. We compare parent and child responses to 68 items about their relationships and communication about sex, and computed polychoric correlation (PCC), an agreement measure that corrects for possible parent-child differences in response thresholds, across dyads and across items. Factors associated with higher agreement were found through bivariate comparison of PCC; linear regression on intra-dyad PCC; and linear regression on raw bias.

Results: After adjusting for possible parent-child differences in response thresholds, PCC for items were low, with median 0.34 (inter-quartile range (IQR) (0.22, 0.41)). Agreement was higher for sexual discussion topics (median 0.41 (IQR (0.37, 0.46))) than other items (Wilcoxon $p < 0.001$); in general, agreement was higher for factual than emotionally negative or hypothetical items. PCC for dyads was very high, with median 0.87 (IQR (0.84, 0.91)), but left-skewed (skewness = -3.1). Factors associated with greater parent-child agreement include younger child age, better parenting skills, parent married or living as married, and

parent recollection of good communication with their own parents. Agreement was not associated with socioeconomic factors.

Conclusions: Survey-response discordance appears not to be solely attributable to response bias. Items about concrete events yield better agreement than hypothetical items. Response discordance may be partially attributable to different parent and child perceptions of their relationship because less discordance is evidence among parents with good parenting skills or who recall good communication with their own parents.

Introduction

Many states' sex education policies are formulated to make parents their adolescents' primary sex educators: 32 states do not include contraception in sex education (1), and since 1996 the federal government has given states \$50 million per year for sex education that may not teach contraceptive effectiveness (2). Policies to exclude contraception were formulated with the premise that the decision of whether and how to teach contraception should be left to families, whereas teaching contraceptives in schools encourages adolescents to have sex (3). These curriculum choices seem to impact adolescents: fewer adolescents reported learning about contraception in school in 2002 than 1995 (4). Parents seem not to have filled in the gaps in school sex education: fewer adolescents report having discussed sexually transmitted infections and contraception with their parents in 2002 than in 1995 (5). This study quantifies the effectiveness of parent-initiated sex education by measuring agreement between parent and adolescent reports, identifies barriers to parents' teaching their adolescents about contraception, and identifies ways that clinicians may bridge that gap.

Parent-adolescent communication, in general and about sex, may influence adolescents' sexual decisions. Adolescents who have close relationships and more open communication with their parents are more likely to delay sexual activity or have safer sex (6–12), learn more about sex from their parents (13), and have attitudes about sex similar to those of their parents (14). Adolescents say that they prefer to learn about sex from their parents (15), and adolescents who learn about sex and sexual values from parents are less likely to be sexually active (10, 16–19). Adolescents who correctly perceive that their mothers disapprove of premarital sex are more likely to abstain or delay sexual involvement (9, 19, 20), but some adolescents underestimate their parents' disapproval of premarital sex (9, 19, 21). Sexually active, older adolescents who communicate with their parents about sex are more likely to have safer sex (18, 22–24) and communicate

with sexual partners (23, 25, 26).

Parents can be successful sex educators (6, 9, 11, 27, 28), but some parents may over-report their communication about sex. Parents report more discussion about sex than do adolescents (16, 18, 19, 21, 29, 30). Parents' and adolescents' reports about their conversations such as the topics covered are poorly correlated (13, 19, 21), which is important because only parent-initiated sex education that is also reported by adolescents is associated with delayed sex; if the parent reports the sex education but the adolescent does not, it is not associated with delay (21). This lack of agreement may indicate lack of effective communication, that parents' intended messages were not received by adolescents, as suggested by qualitative research findings that parents may report that they discussed a certain topic with their adolescent even where very few words were actually exchanged about the topic (31). Parents also underestimate older adolescents' sexual activity (19, 32–34).

This study looks at the effectiveness of parent-initiated sex education efforts by comparing parents' and adolescents' reports of relationship and the quality and extent of communication about sex, the accuracy of adolescents' assessments of their parents' approval of their having sex and using condoms, and parents' assessments of whether their adolescents are sexually active. This study is unique for including a more extensive set of 72 measures than past literature. U.S. sex education policy has been formulated out of concern that schools teaching contraception would be misinterpreted by students as implying adult approval of premarital sex (3). Qualitative research suggests that parents are concerned with misinterpretation (35), but parents' fear of misinterpretation has not been studied extensively in quantitative studies. This study is unique for focusing on parents' and adolescents' concerns about misinterpretation: parents' concerns that teaching contraception could be misinterpreted as approval to have sex and adolescents' concerns that asking questions could imply that they are currently having sex.

Methods

Data

This study uses baseline data from an evaluation of Talking Parents, Healthy Teens, a multi-session workplace-based parenting program that enrolled 569 parents employed by 13 large employers in Southern California (36–38). Eligible parents had at least one adolescent in grades 6–10, and volunteered to be randomized to the parenting program or a control arm. All age-eligible adolescent children of the participants were permit-

ted to participate; a total of 683 did so, resulting in 683 parent-adolescent dyads, which are the primary unit of analysis. Parents enrolled in the study, and 96.2% of their 6–10th grade adolescent children agreed to participate. Parents and adolescents answered pen and paper surveys separately: parents at the workplace, and adolescents via mailed-in surveys. Only the parent who was sampled in the workplace completed the surveys; similarly, the adolescent described their relationship and communication with only the one participating parent. This study uses data collected prior to the intervention from both program and control groups.

Parents completed a general survey about themselves and one survey for each of their adolescents. Each adolescent completed one survey. All respondents were assured that their answers would not be revealed to others in their family. Refusal to answer, giving more than one response, illegible responses, or “don’t know” were coded as missing. Missing data was singly imputed using SAS PROC MI, Version X. Sample characteristics are in electronic Table 1. Within each dyad, a Fisher’s exact test was performed to determine whether parent and adolescent skips are independent, and the number of dyads where the null hypothesis was rejected by the exact test was evaluated with a binomial test ($n=710$, $p=0.05$), implying that parents and adolescents within the same pair may have both skipped some of the same questions.

Variables

The analysis used 72 survey items in 5 domains: relationship and communication (20 items), monitoring (8 items), conflict (9 items), quality of communication about sex (13 items), and sexual topics discussed (22 items) (Tables 1 and 2). Items about relationship and communication and communication about sex used a 4, 5, or 7 category Likert scale. Scales were normalized to the unit interval and reversed where necessary, so that higher scores indicate more positive outcomes. Some items asked parents and adolescents to assess the other’s opinion, and other items asked respondents for their own opinion. Sexual discussion topic items asked respondents to report whether or not they discussed the topic with their parent/adolescent. Parents indicated their approval of their adolescent having premarital vaginal sex and using condoms. Adolescents age 13 and over ($n=354$) assessed their parents’ views, and their assessments were assessed for accuracy. All adolescents were asked whether they have had vaginal intercourse and oral-genital contact; 3 adolescents who report either male-on-female or female-on-male oral-genital contact are coded as having had oral sex. Parents assessed adolescents’ histories of vaginal and oral intercourse, and parents’ assessments were

compared with adolescents' reports to judge the accuracy.

Analysis

We compare the medians of ordinal items and the number of sexual topics discussed using Wilcoxon test, and compare dichotomous items using the exact McNemar test, both at the 0.05 level. The difference between two groups can be statistically significant without being practically significant, so to judge how substantial the differences are and compare questions, we compute Cohen's measure of effect size, classified as large (more than 0.8), medium (0.5–0.8), small (0.2–0.5), and insubstantial (0.0–0.2) (39). Cohen's effect size is the absolute value of the difference between means divided by the average of standard deviations, and it can be greater than 1. We discuss all questions with effect size larger than 0.5, and questions with similar themes.

Parent-adolescent agreement is measured by polychoric correlation (PCC), which evaluates whether parents and adolescents answer questions about the same underlying construct, assuming that discrete responses are based on an underlying normally-distributed continuous variable (40–45). PCC corrects for the attenuation in correlations due to discretization of response options, and is an agreement measure independent of prevalence, in contrast to the conventionally used kappa, and can be interpreted like the usual correlation, in which 0 is chance agreement and 1 is perfect agreement. PCC is estimated using the two-step estimator in the R polycor package (46). PCC is summarized in quintiles: very low agreement (0.0–0.2), low (0.2–0.4), moderate (0.4–0.6), high (0.6–0.8), and very high (0.8–1.0) because in this data, the 95% confidence interval widths for PCC are about 0.2. Very low PCC corresponds to near-chance agreement, and is consistent with parents and adolescents giving responses completely independently of the other. We focus on items with low agreement and high median differences, as this implies large parent-adolescent differences, both as groups and pairs. We assess adolescents' perception of their parents' views, by computing the proportion of adolescents who perceive that the parent disapproves or strongly disapproves, conditional on their parent's actual response to each of 4 actions: sex now, in high school, and over age 18, and using condoms if they do have sex. The predictiveness of the adolescent's response is assessed with a two-way analysis of variance of the parent view by the hypothetical action and the adolescent's assessment. We assess parent assessment of adolescent sexual activity with similar computation of conditional probabilities and analysis of variance. Factors associated with correct assessment of adolescents' sexual activity were not investigated because of

the low power, due to low rates of sexual activity in this population (12 of 42 successful assessments of vaginal sex, 13 of 66 of oral sex).

Results

Relationship

Parents and adolescents rated general aspects of their relationship highly and their responses corresponded closely for items such as feeling close, overall relationship, whether the parent is warm and loving, and overall communication (Table 1). Parents underestimated how cared for adolescents feel and how satisfied adolescents are with their communication. Adolescents gave more negative assessments in other relationship domains, such as whether the parent tried to understand the adolescent, which was the largest difference between parents and adolescents (medium Cohen effect size 0.66) and had low agreement (PCC 0.21). Adolescents also rated more negatively specific aspects of communication, such as whether they talked together the past week, whether they get a chance to speak, and whether the parent praises the adolescent. Adolescents reported that their parents know fewer of their telephone callers than the parents did, and in general they perceived less monitoring than the parents reported giving, concurring with adolescents' being less likely than their parent to report that their parents might read their diary or listen to phone calls. Adolescents also perceived more conflict with their parents, and parents' and adolescents' ratings about conflict have low agreement even where the absolute difference has insignificant effect size.

Communication about sex

Adolescents are more likely than their parents to report that they already know everything that they need to know about sex, and this question had the largest effect size of all questions (Table 2). Adolescents gave more negative reports whether their parent tries to understand their questions about sex, similar to the general relationship question about whether the parent tries to understand the adolescent in general: both questions had medium to large effect sizes (0.66 and 0.67) and low agreement (PCC=0.21 for both). For same-sex crushes and homosexuality, substantially more parents reported that they taught about homosexuality than adolescents recalled (81% vs. 54%, effect size 0.59), and parents were more likely to report that their adolescent would tell them about a same sex crush than adolescents reported, which had medium effect size and low agreement (effect size 0.53, and PCC=0.12).

Parents and adolescents differed in two areas of potential misunderstanding: parents were more likely to report that teaching their adolescent about condoms may be misunderstood as permission to have sex which also had low agreement (effect size 0.55, PCC=0.05), and adolescents were more likely to report that if they asked about sex, their parent would assume that they were having sex, which also had low agreement (effect size 0.47 and PCC=0.12).

Parents reported having discussed more sexual topics than their adolescents. Four topics were reported by a majority of both adolescents and parents: pregnancy, consequences of pregnancy, homosexuality, and choosing friends. Another 4 topics were reported by 40–50% of adolescents and a majority of parents: menstruation, male and female sexual development, and that the adolescent should not have sex. Adolescents were less likely than parents to report having discussed all 8 of these more frequently discussed topics, as well as 5 less frequently discussed topics. More adolescents than parents reported having discussed not pressuring for sex, saying no to sex, negotiating condom use, and STI symptoms. For many topics, parents and adolescents did not differ much in whether they reported having discussed the topics, but these topics were discussed rarely. Less than 10% of parents report having taught their adolescents how to use a condom or how to negotiate condom use, and only 11% of parents report having taught their adolescents how to choose birth control.

Adolescents' perceptions of parents' attitudes about premarital sex and condom use

Nearly all adolescents report that their parent disapproves of sex both now and in high school. Even the adolescents of parents who approve of sex now and in high school almost universally report that their parents disapprove. Most adolescents whose parents disapprove of premarital sex after age 18 correctly perceive their parents' disapproval (Figure 1). Nearly all adolescents report that their parent approves of condom use, and this perception matches their parents' report.

Parents' perceptions of adolescents' sexual activity

Parent belief of whether their adolescent has had oral or vaginal sex is predictive of the adolescent's actual sexual experience (Figure 2, ANOVA $p < 10^{-16}$ for parent, $p = 0.03$ for act), but most parents of sexually active adolescents did not know about their adolescents' sexual activity.

Most parents' beliefs about their adolescents' sexual activity are correct. Parents who report that their adolescents are definitely not sexually active are correct 95% of the time, and parents who report their

adolescents are probably not sexually active are correct 83% and 67% of the time, respectively for oral and vaginal sex. Parents who report that their adolescents are probably or definitely sexually active are correct respectively 68% and 60% of the time. Most parents (87%) report that their adolescent has definitely not had oral sex, and 6% of their adolescents have had oral sex. Most parents (87%) report that their adolescent has definitely not had vaginal sex, and 3.9% of their adolescents have had vaginal sex. Most sexually active adolescents' parents report that their adolescents are not sexually active: 80.3% of the 66 adolescents who report having had oral sex and 71.4% of the 42 adolescents who report having had vaginal sex have parents who report that their adolescent has probably not or definitely not engaged in these respective behaviors.

Discussion

For most parent-adolescent dyads in this sample, the parent-initiated sex education comprises only basic “birds and the bees” topics, such as pregnancy and puberty. Even for these basic topics, fewer adolescents than parents report having had these conversations, which parallels aspects of adolescents' reports of their overall relationship with their parents: adolescents report spending less time talking with their parents or being praised than their parents do. The qualitative research suggests that the gap between parent and adolescent reports may be attributable to parents saying that a conversation occurred when few words were actually exchanged (31).

Few parents teach adolescents how to use and negotiate condoms. Previous studies found higher estimates of discussions of the generic topic of “condoms” (16, 30) but did not specify the content, such as use or negotiation. Previous studies' estimates are not likely to be comparable because the topic of condoms is broader than the specific topics of condom use and condom negotiation.

Differences in parents' and adolescents' reports may identify barriers to parent-adolescent discussions about sex. Clinicians may be able to bridge two gaps between parents' and adolescents' mutual fear of misunderstanding. First, parents report concern that if they teach their adolescents about birth control, their adolescents would interpret that as permission to have sex. Second, adolescents report concern that if they asked their parents questions about sex, their parents would misinterpret their questions as implying that the adolescents are having sex.

Parents' concerns that teaching condom use would be misinterpreted by their adolescents as approval of sex does not seem to be reflected by adolescents' reports. Nearly all adolescents report that their parents

disapprove of sex both now and in high school, and some adolescents actually over-estimate their parents' disapproval of sex, which differs from past studies in more sexually active populations that find that adolescents underestimate their parents' disapproval (9, 19, 21). The data cannot reveal whether adolescents would misperceive if their parents taught them about condoms, but the near-universal agreement of adolescents that their parents disapprove of their having sex, even among adolescents of parents who approve, implies that this perception is unlikely to change easily. Few parents in this sample disapprove of their adolescents eventually having premarital sex, so parents' low rates of teaching about condoms and concerns about teaching condom use as implying endorsement of their adolescents having sex now is unexpected. Less than 10% of both adolescents and parents reported that the parents had taught their adolescents how to use condoms and negotiate condom use, a similar quantity reported in a sample of church-going Southern Baptists who disapprove of premarital sex (47); other studies find that conservative parents are even less likely to teach condom use (48).

Adolescents' concerns about being falsely perceived as having sex also do not seem to be founded. Respectively, 92% and 95% of parents of sexually inactive adolescents correctly assess that their adolescents have not had oral and vaginal sex. The data cannot reveal whether parents would misunderstand if their adolescent asked more questions, but the high specificity of parents' assessments of adolescents' sexual activity implies that adolescents' concerns are implausible. Most parents who assessed that their adolescents were sexually active were right, but most parents of sexually active adolescents were unaware of their adolescents' sexual activity. Correct assessment of adolescents' sexual activity is important because parents who assess that their adolescents may soon become sexually active can teach them about contraception and successfully influence their safe sex decisions (19, 48–50).

Few parents reported having discussed specific methods to prevent STIs and pregnancy, and adolescents agreed that these discussions were rare. One possible explanation for the rareness of discussions about STI and pregnancy prevention are parents' and adolescents' fears about mutual misinterpretation of these conversations.

Conforming to stereotype, adolescents were more likely than their parents to report that they already know everything about sex and that they already know more than their parents about sex, but this belief may be attributable to adolescents' fear of being misunderstood. Adolescents say they feel loved but not praised or understood by parents, and parents may over-estimate how much time they spend talking with

their adolescent and telling their adolescent what they appreciate. The low agreement and large differences between parent and adolescent responses to these questions may imply that parents who neglect these areas may be unaware of their adolescents' dissatisfaction, while parents who are attentive to these areas may be unaware of how well they are doing and how satisfied their adolescent is.

Homosexuality is a topic of particular misunderstanding: parents reported that they talk about homosexuality more and overestimate how likely their adolescent would be to tell them of a same-sex crush. Parents may not raise the topic of homosexuality in a direct and comprehensible way to their adolescents, or perhaps only a small fraction of the adolescents considers the topic of homosexuality to be germane to them and thus did not recall conversations with their parents on the topic.

Discussions with parents about sex may not be a solution for everyone. Not all adolescents said that they were very interested in learning about sex from their parents. The low rate of parents teaching their adolescents about condoms may imply that federal and state sex education policy cannot rely on parents to teach adolescents how to protect themselves from STIs and pregnancy.

Limitations

This study highlights areas where parents report more communication than their adolescents do, but it's not possible to know whether parents attempted to raise the subject but did so ineffectively, or whether parents did not attempt communication. This study also does not reveal which methods parents can use to raise topics so that communication is most likely to be effective. In some cases, agreement could be due to ineffective memory rather than ineffective communication, but agreement between parent and adolescent pairs is nonetheless a reasonable indicator of communication effectiveness.

This study uses a self-selected sample of parents working for large employers in Southern California who are interested in improving their communication with their adolescent, and it does not generalize to all adolescents.

Nearly all adolescents reported their parents disapprove of sex, but nonetheless a small fraction of adolescents have sex; past studies have found that perception of parent disapproval predicts delay but not abstinence (9, 19, 20).

Conclusions

Less than 10% of parents teach their adolescents how to use condoms. Even parents who do not disapprove of premarital sex may limit their discussion of contraception to avoid being misinterpreted as giving their adolescents permission to have premarital sex now. State sex education policy cannot rely on parents to teach their adolescents about condoms; schools play a vital role.

Clinicians can be an invaluable bridge between parents and adolescents to avert potential misunderstandings. Clinicians can reassure both parents and adolescents that discussing contraception is not permission for sex and adolescents' questions about sex do not imply that they are sexually active. Future parent sex education interventions can investigate ways to alleviate parents' concerns of misinterpretation.

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Table 1: Comparison of adolescents' reports and parents' assessment of adolescents' reports.

Relationship	Means		p-value	Cohen effect size	PCC
	Adolescent (n=683)	Parent (n=569)			
Relationship					
Parent tries to understand adolescent	0.71	0.85	0.0000	0.66	0.21
Talk together past week	0.38	0.51	0.0000	0.45	0.21
Parent would never listen on phone	0.79	0.65	0.0000	0.44	0.27
Parent often praises adolescent	0.72	0.83	0.0000	0.44	0.24
Parent tells when likes something	0.79	0.89	0.0000	0.44	ns
Parent gives adolescent chance to speak	0.69	0.80	0.0000	0.43	ns
Adolescent satisfied with communication	0.74	0.63	0.0000	0.39	0.28
Parent knows likes	0.77	0.85	0.0000	0.35	ns
Parent cares about adolescent	0.93	0.90	0.0000	0.22	0.50
Parent helps with choices	0.71	0.77	0.02	0.22	ns
Parent aware of feelings	0.69	0.74	0.02	0.21	ns
Ate together past week	0.64	0.70	0.0000	0.20	0.46
Had fun together past week	0.37	0.41	0.004	ns	0.21
Parent respects privacy	0.73	0.73	0.01	ns	0.24
Parent would never read diary	0.74	0.68	0.0000	ns	0.26
Overall communication	0.74	0.75	0.14	ns	0.30
Can talk about problems	0.63	0.67	0.06	ns	0.30
Parent warm and loving	0.83	0.81	0.04	ns	0.37
Overall relationship	0.79	0.82	0.0000	ns	0.42
Feel close to parent	0.76	0.78	0.17	ns	0.42
Monitoring					
Parent knows telephone callers	0.65	0.78	0.0000	0.52	0.40
Parent knows parties attending	0.79	0.91	0.0000	0.47	0.36
Parent knows TV watched	0.68	0.78	0.0000	0.46	0.22
Parent knows if finished homework	0.68	0.77	0.0000	0.33	0.30
Parent knows friends	0.76	0.82	0.0000	0.26	0.39
Parent monitors free time	0.81	0.85	0.0000	0.23	0.38
Parent would find out if did something bad	0.78	0.82	0.04	ns	ns
Parent would find out if went someplace bad	0.77	0.81	0.06	ns	ns
Adult home after school	0.66	0.69	0.003	ns	0.80
Conflict					
Argue until too tired to continue	0.28	0.12	0.0000	0.57	0.24
Parent disagrees w everything	0.62	0.47	0.0000	0.54	ns
Parent does all talking	0.76	0.63	0.0000	0.51	ns
Argue about little things	0.47	0.30	0.0000	0.47	0.31
Parent stays mad	0.36	0.23	0.0000	0.45	ns
Parent gives silent treatment	0.33	0.25	0.0000	0.26	0.23
Parent insults adolescent	0.37	0.34	0.02	ns	ns
Parent raises voice	0.70	0.68	0.02	ns	0.36
Argued past week	0.28	0.26	0.10	ns	0.45

All items are on an ordinal scale normalized to a scale from 0 to 1, with 0 more negative or low rating, and 1 positive or high. p-value is from Wilcoxon rank sum test. Items are sorted within category in order of effect size. Cohen's effect size is absolute value of difference divided by average standard deviation: large effect size is above 0.8, medium effect size 0.5–0.8, small 0.2–0.5, and insignificant below 0.2 and listed as “ns” if not significant. PCC is polychoric correlation and is summarized in quintiles: chance agreement (0.0-0.2), low (0.2-0.4), moderate (0.4-0.6), high (0.6-0.8), and very high (0.8-1.0). Moderate and above PCC is bolded. Chance agreement is listed as ns for not significant.

Table 2: Parent-adolescent communication about sex

	Means				
	Adolescent (n=683)	Parent (n=569)	p-value	Cohen effect size	PCC
Communication about sex					
Adolescent doesn't already know everything about sex	0.58	0.89	0.0000	1.13	ns
Parent tries to understand adolescent's questions	0.53	0.73	0.0000	0.67	0.21
Teaching condom use is not permission to have sex	0.73	0.56	0.0000	0.55	ns
Adolescent would tell parent about a same-sex crush	0.50	0.68	0.0000	0.53	ns
If adolescent asked questions about sex, parent wouldn't assume adolescent was having sex	0.71	0.84	0.0000	0.47	ns
Talk openly and freely about sex	0.35	0.49	0.0000	0.44	0.41
Adolescent doesn't know more than parent	0.76	0.86	0.0000	0.39	0.29
Adolescent wants to learn from parent	0.49	0.62	0.0000	0.36	0.25
Adolescent comfortable asking questions	0.42	0.53	0.0000	0.32	0.30
Overall rating of sex communication	0.53	0.60	0.0000	0.27	0.36
Parent not too embarrassed talking about sex	0.69	0.70	0.74	ns	0.25
Adolescent not too embarrassed talking about sex	0.45	0.48	0.27	ns	0.29
Parent seems comfortable talking about sex	0.55	0.58	0.16	ns	0.38
Sex discussion topics					
Homosexuality	0.54	0.81	0.0000	0.59	0.43
Male sexual development	0.44	0.62	0.0000	0.37	0.47
Female sexual development	0.49	0.67	0.0000	0.37	0.58
Choosing friends	0.73	0.87	0.0000	0.34	0.34
Menstruation	0.49	0.63	0.0000	0.30	0.70
Asking someone on date	0.14	0.24	0.0000	0.26	0.35
How sex feels	0.08	0.15	0.0000	0.22	0.48
Consequences of pregnancy	0.53	0.63	0.0000	0.21	0.46
How know whether in love	0.27	0.27	0.84	ns	0.26
Why people like sex	0.23	0.22	0.72	ns	0.35
Deciding whether to have sex	0.37	0.40	0.18	ns	0.36
Not pressuring for sex	0.26	0.22	0.04	ns	0.36
How to use a condom	0.09	0.08	0.41	ns	0.37
Saying no to sex	0.32	0.27	0.04	ns	0.37
Birth control and pregnancy	0.23	0.28	0.01	ns	0.39
Pregnancy and babies	0.63	0.72	0.0001	ns	0.39
Choosing birth control	0.09	0.11	0.11	ns	0.40
Condoms prevent STIs	0.27	0.31	0.13	ns	0.41
STI symptoms	0.20	0.15	0.002	ns	0.41
Should not have sex	0.44	0.53	0.0001	ns	0.43
STI prevention	0.32	0.37	0.03	ns	0.45
Negotiating condom use	0.13	0.09	0.007	ns	0.50

Communication items are on an ordinal scale normalized to a scale from 0 to 1, with 0 being more negative or low rating, and 1 being positive or high. Discussion topics are dichotomous, and the mean represents the percent endorsing. For communication items, p-value is from Wilcoxon rank-sum test; for topics, p-value is from the McNemar test. Cohen's effect size is absolute value of difference divided by average standard deviation: large effect size greater than 0.8, medium effect size 0.5–0.8, small 0.2–0.5, and insignificant below 0.2 and listed as “ns” if not significant. PCC is polychoric correlation and is summarized in quintiles: chance agreement (0.0-0.2), low (0.2-0.4), moderate (0.4-0.6), high (0.6-0.8), and very high (0.8-1.0). Moderate and above PCC is bolded. Chance agreement is listed as ns for not significant. Items are sorted within category by effect size.

Figure 1: Proportion of adolescents saying that parent disapproves of sex now, sex in high school, sex when age 18 or older, and disapproves of condom use (n=354). For linear regression of parent view by child prediction and time period, $R^2 = 0.70$; analysis of variance $p < 10^{-16}$.

Figure 2: Proportion of adolescents engaging in oral or vaginal sex, conditional on parent's belief.

Table 3: Sample characteristics: The sample comprises parents employed by 13 large employers in Southern California (n=569) and their 6-10th grade children (n=683). Parents volunteered to participate in a randomized evaluation of a multi-session workplace-based parenting program on parent-child communication about sex. Median and middle 50% are given for continuous variables.

Characteristic	% or mean
Parent race/ethnicity	
African-American	19
Asian/Pacific Islander	14
Latino	16
White	51
Female	71
Family characteristics	
Married or living as married	72
Number of children in family	1.4
Parent age at birth (years)	
Mothers	29 (26, 33)
Fathers	32 (28, 36)
Child characteristics	
Child grade	
6th grade	33
7–8th grade	42
9–10th grade	26
Female	49
Attend public school	84