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## Unwanted sex among young adults in the US: The role of physical disability and cognitive performance

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### Abstract

This study examined associations between unwanted sexual experiences and both physical disability and cognitive performance in a nationally representative sample of young adults. We used data from 11,878 participants (ages 26–32) in Waves I, III, and IV of the National Longitudinal Study of Adolescent Health (Add Health). Logistic regressions determined associations between physical disability and level of cognitive performance (using a modified Peabody Picture Vocabulary Test) and the odds of experiencing physically forced and non-physically coerced sex. Approximately 24% of females and 4% of males reported unwanted sexual experiences. Compared to respondents without disabilities, females with a physical disability had greater odds of experiencing forced sex (OR=1.49; 95% CI: 1.06, 2.08), while males with a physical disability had greater odds of coerced sex (OR: 1.90; 95% CI: 1.02, 3.52). Compared to those with average cognitive performance scores, females with scores above 110 had slightly higher odds of coerced sex (OR=1.20; 95% CI: 1.03–1.41). Further research on pathways underlying these associations is needed to inform prevention efforts.

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Individuals with physical and cognitive disabilities are at least as likely to experience interpersonal violence and abuse as individuals without disabilities, and in some cases may be particularly vulnerable (Curry, Hassouneh-Phillips, & Johnston-Silverberg, 2001; Horner-Johnson & Drum, 2006; Sobsey & Doe, 1991). Those with mobility limitations, for example, may be less able to defend themselves against violent or abusive encounters. Individuals with physical disabilities are also more likely to rely on others for assistance with daily activities and personal care, and may therefore experience unique disability-related abuses such as withholding of medication or assistive equipment (Nosek, Foley, Hughes, & Howland, 2001; Powers, Curry, Oswald, & Maley, 2002). To the extent that they are less likely to recognize and report coercive or abusive situations, individuals with cognitive disabilities may also be particularly vulnerable to maltreatment and exploitation (Curry et al., 2001).

While all women are vulnerable to sexual violence, a growing body of research suggests that women with disabilities may be at particularly high risk (Horner-Johnson & Drum, 2006; Plichta & Falik, 2001). For example, Brownlie et al. (2007) reported that the odds of experiencing sexual assault were approximately four times greater among women diagnosed with childhood communicative language impairments compared to those without language

impairments. Associations of similar magnitude have been reported for women with physical disabilities (Brownridge, 2006; Cohen, Forte, Du Mont, Hyman, & Romans, 2005; Hathaway et al., 2000), and women who have severe physical impairments generally appear to be the most vulnerable (Casteel, Martin, Smith, Gurka, & Kupper, 2008). Still, the relationship between disability and vulnerability to unwanted sexual contact is not fully consistent across studies; other research has found comparable risks of sexual assault among individuals with and without disabilities (McCabe, Cummins, & Reid, 1994; Young, Nosek, Howland, Chanpong, & Rintala, 1997).

These inconsistencies may be due in part to methodological limitations that characterize much of the existing research on the association between disability and sexual victimization. Definitions of both unwanted sexual experiences and disability, for example, vary substantially across studies. Most existing studies have employed convenience samples of women with disabilities, often recruited from specialty clinics serving populations with physical disabilities (McFarlane et al., 2001; Nosek, Hughes, Taylor, & Taylor, 2006; Powers et al., 2002; Young et al., 1997) or family practice clinics (Coker, Smith, & Fadden, 2005), or have failed to include comparison samples of women without disabilities (Milberger et al., 2003; Powers et al., 2002), thus making it difficult to assess the extent to which physical or cognitive disability is associated with an elevated risk of sexual victimization at the population level.

Studies using population-based sampling procedures have generally focused solely on childhood sexual abuse as the primary outcome (Sullivan & Knutson, 2000) or have included only certain types of disability (e.g., physical disability and mental health conditions) (Casteel et al., 2008). For example, using the educational and social service records of all students in public and Archdiocese schools in Omaha, Nebraska, Sullivan and Knutson (2000) found that children and adolescents with health impairments (defined as visual impairment, orthopedic disability, and health-related disabilities [e.g., asthma, juvenile rheumatoid arthritis]) were twice as likely to have been sexually abused compared to those without health impairments. Whether or not this association extends to perpetration that occurs outside of familial/care-giving relationships (e.g., in the context of dating relationships), and to nationally representative samples, is unclear.

Virtually no research has examined associations between physical disability and unwanted sex among men, although there is some evidence to suggest that male victims of sexual assault often have physical or cognitive disabilities (Stermac, Del Bove, & Addison, 2004). In one recent exception, Smith (2008) found that the odds of experiencing unwanted sex were significantly higher among females with disabilities compared to males with disabilities. However, this study did not explicitly test whether men with physical disabilities were more vulnerable to unwanted sex compared to men without disabilities. Finally, although experiences of physically forced and non-physically coerced sex appear to have slightly different correlates (Lyndon, White, & Kadlec, 2007; Testa & Derman, 1999), we are aware of no study that distinguishes between these two outcomes when examining the association between disability and unwanted sexual experiences.

The purpose of this study was to determine the association between unwanted sex and both physical disability and cognitive performance, which we use as a proxy for cognitive disability, in a nationally representative sample. We extend prior research by examining whether these associations differ by biological sex and by distinguishing between physically forced and non-physically coerced unwanted sexual experiences.

## Method

### Participants

Data were drawn from the National Longitudinal Study of Adolescent Health (Add Health), a nationally representative survey of youth in the United States in grades 7–12 during the 1994–1995 school year. To date, four waves of interviews have been completed with the original Add Health sample, providing detailed information on social, psychological, physical, and economic wellbeing, as well as contextual data on family, peer groups, romantic relationships, and school and neighborhood settings, to examine how adolescent experiences and environments are associated with key indicators of health and achievement in adulthood. Add Health utilized a complex, school-based sampling design with unequal probability of selection and stratified methods, described in detail elsewhere (Harris et al., 2008). Respondents included in the present analysis participated in Wave I (1995–1995), Wave III (2001–2002), and Wave IV (2008) in-home interviews (n=13,034) and had valid Wave IV sample weights (n=12,288). Respondents were excluded from analyses if they were missing data for measures of physical disability (n=195), cognitive performance (n=36), unwanted sex (n=43), or sociodemographic characteristics (n=119); applying these exclusion criteria yielded a final sample size of 11,878. All Add Health study procedures were approved by the Institutional Review Board for the Protection of Human Subjects at the University of North Carolina at Chapel Hill.

### Measures

**Physical disability**—We first constructed measures of physical disability status separately for Wave I and Wave III using information on respondents' functional limitations and activity restrictions. Separate measures were necessary because survey items assessing physical disability are not consistent across waves. By assessing disability status at both waves, we were also able to capture disabilities that existed prior to the Wave I interview as well as those that emerged between the Wave I and Wave III interviews. The procedures for creating the measure of physical disability at each wave of data collection are described below, followed by a description of how we combined cross-wave information.

At Wave I, we identified respondents with a physical disability based on information from both adolescent and parent interviews using a previously developed physical disability index (PDI) (Cheng & Udry, 2002). The PDI has a range of 0–3 with higher scores indicating more severe disability. Respondents were assigned points based on component variables assessing difficulties using limbs due to a permanent physical condition, equipment use, personal care assistance, blindness and deafness. Additional information on construction of the PDI is available elsewhere (Cheng & Udry, 2002). We created a dichotomous indicator of disability status at Wave I that categorized respondents as having a physical disability if they scored a 2 or higher on the PDI (1=has a physical disability; 0=does not have a physical disability).

We constructed a similar physical disability measure using items available at Wave III. Respondents were assigned 1 point if they reported being limited “a little” in bathing and dressing or 2 points if they were limited “a lot” in these activities; 1 point if they were blind in one eye or 2 points if they were blind in both eyes; 1 point if they reported their hearing without a hearing aid was “poor,” or 2 points if they reported their hearing was “very poor” or they reported being deaf; and 1 point each if they were limited “a lot” in performing moderate activities or in climbing several flights of stairs. The sum of all component variables yielded a Wave III physical disability measure with a range of 0–5, with higher scores indicating greater severity. As with the Wave I measure, we created a dichotomous indicator of physically disability at Wave III. Because Wave III component variables

assessed more severe limitations and restrictions than the Wave I variables (e.g., being limited “a lot” in moderate activities), we classified respondents with scores of 1-5 on the Wave III measure as having a physical disability.

To capture new disabilities that may have occurred after the Wave I interview, we then combined information from the Wave I and Wave III measures to create a cumulative disability indicator that classifies individuals as having a physical disability if they meet criteria at either wave (1=classified as physically disabled at either wave; 0=classified as non-disabled at both waves). We were unable to examine the association between unwanted sex and the severity of disability due to the relative infrequency of our independent and dependent variables.

**Cognitive performance**—Cognitive performance was assessed at Wave I and Wave III using the Add Health Picture Vocabulary Test (AHPVT). The AHPVT is a modified version of the Peabody Picture Vocabulary Test (PPVT) (Dunn, 1981); it includes 87 items that ask the respondent to match words (read aloud by the interviewer) with pictorial representations. Scores were age-standardized to a mean of 100 and a standard deviation of 15. Consistent with prior research using the AHPVT (Cheng & Udry, 2005), we categorized respondents as scoring below 70, between 70 and 90, between 91 and 110, and above 110. Lacking other measures, we use AHPVT scores as a proxy for cognitive disability. The PPVT is moderately correlated with other measures of intelligence, such as the Stanford-Binet Intelligence Scale (median correlation across studies=0.62) and the Wechsler Intelligence Scale for Children (WISC) (median correlation across studies=0.64) (Dunn, 1981). Our cut points parallel those used in intelligence classifications.

It is possible that extremely low AHPVT scores reflect factors other than cognitive impairment, such as intoxication at the time of the interview or respondent fatigue. We attempted to minimize this possibility by selecting the higher of the two AHPVT scores for each individual. In addition, because the AHPVT is a measure of English listening vocabulary its validity among respondents with poor English skills may be questionable. We addressed this limitation by controlling for recent immigrant status (1=immigrated within the last 5 years; 0=nonimmigrant or immigrated more than five years ago) and language of survey administration (1=non-English; 0=English) in multivariate models.

**Unwanted sex**—At Wave IV, two dichotomous survey items assessed whether respondents had ever experienced unwanted sex. Coerced sex was assessed by asking: “Have you ever been forced, in a non-physical way, to have any type of sexual activity against your will? For example, through verbal pressure, threats of harm or by being given alcohol or drugs?” Forced sex was assessed by asking: “Have you ever been physically forced to have any type of sexual activity against your will?” For both questions, respondents were instructed not to include experiences with parents or adult caregivers; thus, our measure of sexual victimization reflects only those experiences that occur outside of parent or caregiver relationships, and excludes instances of childhood or adolescent sexual abuse.

**Covariates**—We selected covariates for inclusion in multivariate models that were relevant to both disability status and the likelihood of experiencing forced or coerced sex. *Age* was measured in years and calculated at the time of the Wave IV interview. We created dummy variables for *race/ethnicity* categories (Non-Hispanic White, Non-Hispanic Black, Hispanic [any race], Non-Hispanic other race); *family structure* during adolescence (two biological parents, other two parent family [e.g., stepfamily], single mother, single father, and other family structure); and *highest parental education* (less than high school; high school graduate or GED; some college, vocational, or other post-secondary education;

college graduate or higher), based on respondents' Wave I report of the highest education level achieved by the resident parent(s). In order to adjust for the increased likelihood of subsequent sexual victimization among individuals with a history of sexual abuse by parents or other adult caregivers (Barnes, Noll, Putnam, & Trickett, 2009), we also included a measure of *sexual abuse* prior to age 18 based on the following question: "How often did a parent or other adult caregiver touch you in a sexual way, force you to touch him or her in a sexual way, or force you to have sexual relations?" We dichotomized responses (1=one or more times; 0=never). With the exception of sexual abuse, which was assessed retrospectively at Wave IV, all covariates were measured at Wave I.

## Analysis plan

We examined the relationship between physical disability status, cognitive performance, and each type of unwanted sex using multivariate logistic regression models. All models controlled for sociodemographic characteristics, sexual abuse, recent immigrant status, and interview language. Because risk factors for experiencing unwanted sex may influence males and females differently, analyses were stratified by biological sex. We conducted all analyses in Stata version 9.2 (Stata Corp., College Station, TX) and used survey commands to adjust for Add Health's complex survey design and applied sampling weights to obtain national population estimates.

## Results

### Characteristics of participants

Table 1 presents characteristics of the study population. Overall, approximately 4% of males and 21% of females reported a coerced sexual encounter, while 2% of males and 14% of females reported a forced sexual encounter. Six percent of respondents were classified as having a physical disability at either Wave I or Wave III. Just under half of all respondents (49%) scored between 91 and 110 on the AHPVT, while approximately 13% scored below 91. The majority of respondents were non-Hispanic White (67%), lived with both biological parents at the time of the Wave I interview (57%), and had at least one parent with post-secondary education (54%).

### Associations among disability, cognitive performance and unwanted sex

Approximately 19% of respondents classified as having a physical disability reported experiencing unwanted sex (either forced and/or coerced) at least once, compared to 14% of respondents without a physical disability (results not shown). Thirteen percent of respondents with AHPVT scores less than 70 experienced unwanted sex compared to 11% of those with scores between 70 and 90, 14% of those with scores between 91 and 110, and 15% of those with scores greater than 110.

Associations between physical disability, cognitive performance and unwanted sex varied substantially by biological sex and by type of unwanted sex. Women classified as having a physical disability had greater odds of reporting forced sexual experiences compared to those without a physical disability (Table 2; OR=1.49; 95% CI: 1.06, 2.08). In contrast, women with and without physical disabilities had similar odds of reporting coerced sexual experiences (Table 2). With respect to cognitive performance, women with below-average AHPVT scores had similar odds of experiencing both coerced and forced sexual experiences compared to those with average scores (Table 2). However, women with scores above 110 on the AHPVT had greater odds of reporting coerced (but not forced) sexual experiences compared to those with average cognitive performances scores (OR=1.20; 95% CI: 1.03, 1.41). We observed a similar association between cognitive performance and coerced sex among females using a continuous measure of the AHPVT as well a categorical measure

ranging from two or more standard deviations below the mean to two or more standard deviations above the mean. In additional post hoc analyses to further explore this unexpected finding, we examined whether body mass index (BMI) or college attendance moderated the association between AHPVT category and sexual coercion among women, based on prior research suggesting that both BMI and college attendance are associated with sexual experiences and sexual victimization in particular (Akers et al., 2009; Fisher, Cullen, & Turner, 2000). Global tests of both interactions were nonsignificant (BMI:  $p=0.52$ ; college attendance:  $p=0.34$ ). We also examined these interactions using a continuous measure of cognitive performance and obtained the same results.

We observed a different pattern of association among unwanted sex, physical disability and cognitive performance among men. Compared to men without physical disabilities, men with physical disabilities had almost twice the odds of having experienced coerced sex compared to those without disabilities (Table 3; OR=1.90; 95% CI: 1.02, 3.52), but were no more likely to have experienced forced sex. There were no significant associations between cognitive performance and either forced or coerced sex among men. Among both men and women, socioeconomically disadvantaged respondents were generally more likely to report unwanted sexual experiences, and childhood sexual abuse was consistently the strongest predictor of both forced and coerced sex.

## Discussion

A substantial number of young adults with disabilities in this nationally representative sample reported having been the victim of coerced and/or forced sexual experiences. Consistent with prior research conducted on population-based samples (Casteel et al., 2008; Sullivan & Knutson, 2000), disability was associated with a greater risk of sexual victimization. However, we found that patterns of vulnerability to unwanted sexual experiences vary by both biological sex and by type of unwanted sex. Our results corroborate existing research which suggests that sexual coercion and forced sex represent qualitatively different experiences, and may be associated with different constellations of victim characteristics (Testa & Derman, 1999). In addition, while our findings support a wide body of literature indicating that women are at considerably greater risk of experiencing both forced and coerced sex compared to men (Elliott, Mok, & Briere, 2004) and that women with physical disabilities are particularly vulnerable (Plichta & Falik, 2001), we found that men with physical disabilities are at risk of unwanted sexual experiences as well. Compared to those without physical disabilities, men with physical disabilities in our sample were almost twice as likely to report having experienced sexual coercion compared to those without physical disabilities.

Among both men and women, individuals with low (<70) AHPVT scores had similar odds of experiencing both forced and coerced sex compared to those with average scores. These results are consistent with McCabe et al. (1994), who found no differences in the proportions of adults with and without intellectual disabilities who reported unwanted sexual contact. However, other research has documented greater vulnerability to abuse and assault among individuals with intellectual or cognitive disabilities (Beail & Warden, 1995; Brownlie et al., 2007; Martin et al., 2006). Inconsistencies across studies are likely due, at least in part, to differences in sampling procedures, particularly since the majority of previous research relies on non-representative samples recruited from clinics or agencies serving individuals with disabilities. Differences in findings may also be the result of variability in the measurement of unwanted sexual experiences and of cognitive disability. In the present analysis, we used low scores on the AHPVT – a measure of English vocabulary – as a proxy for cognitive disability. It is possible that respondents with very low scores on the AHPVT had difficulty understanding survey questions on forced and coerced

sex, or did not label past coercive or forced experiences as such. This possibility is consistent with research suggesting that adults and adolescents with intellectual disabilities have difficulties recognizing and responding to abusive or coercive situations (Khemka, Hickson, Casella, Accetturi, & Rooney, 2009; Murphy & O'Callaghan, 2004).

Our finding that women with AHPVT scores above 110 were more likely than those with average scores to report having experienced sexual coercion was unexpected; to date, we are aware of no other research that reports a similar association. To the extent that women with high AHPVT scores are more aware of and attuned to the concept of sexual coercion, they may be more likely to identify and report coercive experiences. College attendance is one setting which may increase both exposure to and awareness of sexual victimization, given alarming numbers of sexual assaults on college campuses (Fisher et al., 2000; Koss, Gidycz, & Wisniewski, 1987; McCauley, Ruggiero, Resnick, Conoscenti, & Kilpatrick, 2009) that have spurred wide-spread implementation of sexual assault prevention programs (Breitenbecher, 2000). Thus, our finding of increased odds of experiencing coerced sex among women in the highest AHPVT category may reflect the possibility that women with relatively higher cognitive ability are exposed to social settings characterized by both greater exposure and sensitization to sexual coercion. However, the fact that the interaction between college attendance and AHPVT category was nonsignificant in post hoc analyses does not support this hypothesis. The relationship between high levels of cognitive performance and sexual coercion warrants further study and replication in other samples.

### Strengths and Limitations

Our analyses have several limitations. First, our disability measures may underestimate associations between disability and unwanted sexual contact. For example, we cannot distinguish disability type (e.g., sensory disability versus mobility impairment), which may affect vulnerability to sexual victimization. We also lack information on the context and severity of unwanted sexual experiences (e.g., the relationship of the perpetrator to the respondent, whether the assault included penetrative sexual acts, etc.), and therefore could not explore whether associations between physical and cognitive impairments and unwanted sexual experiences varied by the severity of those experiences. Finally, due to data limitations, we cannot be certain that physical disability onset preceded unwanted sexual contact in all cases. However, strengths of our analyses address three key limitations in this literature. Unlike earlier work with convenience and selected samples, present analyses are based on a large, nationally representative sample that allows for comparison of a) persons with and without disabilities, and b) males and females. Further, to our knowledge, this is the first study to distinguish between physically forced and non-physically coerced sexual experiences in examining associations between unwanted sex and disability.

### Conclusions

This research adds to a growing body of evidence highlighting the unmet sexual health needs and vulnerabilities of persons with disabilities (The World Health Organization, 2009). In particular, our findings suggest that both women and men with physical disabilities are at increased risk of experiencing sexual violence and coercion, and that men and women with poor cognitive performance are at least as likely to experience unwanted sexual contact as those with average cognitive ability. Certain areas warrant additional attention. Our finding of increased odds of sexual coercion among women with the highest levels of cognitive performance was unexpected, and requires additional study. Future studies should also examine differences between individuals with and without disabilities with respect to perpetrators, resistance strategies, and experiences with reporting unwanted sexual experiences in order to better understand why those with disabilities are particularly at risk. Further research on the pathways that underlie the association between disability and

unwanted sexual experiences will help to inform prevention efforts targeted towards individuals with physical and cognitive disabilities. Finally, health care providers and those working with individuals with disabilities should be encouraged to screen patients for sexual violence or coercion, and to consider the unique barriers, experiences, and social contexts that may make this population especially vulnerable.

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**Table 1**  
Experiences of unwanted sex, physical disability status, and sociodemographic characteristics in the study sample

	Females (n=6,450)		Males (n=5,428)		Full Sample (n=11,878)	
	n	(%)	n	(%)	n	(%)
Unwanted sex						
Coerced sex	1,238	(20.9)	197	(3.6)	1,435	(12.4)
Forced sex	838	(14.1)	90	(1.8)	928	(8.0)
Cognitive performance						
≤ 69	33	(0.5)	20	(0.4)	53	(0.4)
70 – 90	984	(13.4)	654	(11.6)	1,638	(12.5)
91 – 110	3,152	(48.9)	2,639	(49.3)	5,791	(49.1)
≥ 111	2,281	(37.2)	2,115	(38.8)	4,396	(38.1)
Physical disability	416	(5.8)	304	(5.7)	720	(5.8)
Race						
Non-Hispanic White	3,468	(67.4)	2,975	(66.9)	6,443	(67.1)
Non-Hispanic Black	1,478	(15.5)	1,016	(14.4)	2,494	(15.0)
Hispanic (any race)	938	(10.8)	872	(11.6)	1,810	(11.2)
Non-Hispanic other	566	(6.3)	565	(7.2)	1,131	(6.8)
Family structure						
Two bio parents	3,456	(57.0)	3,055	(57.5)	6,511	(57.2)
Single mom	1,374	(19.7)	1,015	(18.2)	2,389	(19.0)
Other two parent	1,112	(16.2)	957	(16.2)	2,069	(16.2)
Other family structure	359	(4.9)	224	(4.9)	583	(4.9)
Single dad	149	(2.2)	177	(3.3)	326	(2.8)
Parent education						
Less than HS	804	(11.7)	568	(10.8)	1,372	(11.3)
HS diploma or GED	1,790	(29.7)	1,519	(29.9)	3,309	(29.8)
Some college	1,339	(21.2)	1,063	(19.3)	2,402	(20.2)
College grad	2,206	(32.7)	2,013	(34.3)	4,219	(33.5)
Missing	311	(4.7)	265	(5.7)	576	(5.2)
Age at Wave IV						

	Females (n=6,450)		Males (n=5,428)		Full Sample (n=11,878)	
	n	(%)	n	(%)	n	(%)
24 – 27	2,157	(39.2)	1,582	(36.2)	3,739	(37.7)
28 – 29	2,379	(33.7)	2,010	(32.6)	4,389	(33.1)
30 – 34	1,914	(27.1)	1,836	(31.3)	3,750	(29.1)
Childhood sexual abuse	455	(7.1)	131	(2.4)	586	(4.8)
Recent immigrant	114	(1.2)	106	(1.4)	220	(1.3)
Non-English interview	112	(1.3)	134	(1.7)	246	(1.5)

Note: Percentages are weighted to yield national probability estimates for youth in grades 7-12 in the 1994-1995 school year.

**Table 2**

Adjusted odds ratios (and 95% confidence intervals) from logistic regressions examining the association between physical disability, cognitive performance, and unwanted sex, among females (n=6,450)

	Coerced sex		Forced sex	
	aOR	95% CI	aOR	95% CI
Cognitive performance				
≤ 69	0.30	(0.04–2.15)	1.76	(0.55–5.62)
70–90	0.72	(0.50–1.04)	0.76	(0.50–1.16)
91–110 (ref)	1.00		1.00	
≥ 111	1.20	(1.03–1.41)*	0.87	(0.69–1.08)
Physical disability	1.34	(0.98–1.83)	1.49	(1.06–2.08)*
Race				
Non-Hispanic White (ref)	1.00		1.00	
Non-Hispanic Black	0.62	(0.47–0.81)**	0.81	(0.56–1.16)
Hispanic (any race)	0.71	(0.52–0.98)*	0.79	(0.53–1.17)
Non-Hispanic other	0.85	(0.58–1.24)	1.29	(0.88–1.87)
Family structure				
Two bio parents (ref)	1.00		(1.00)	
Single mom	1.68	(1.34–2.09)**	1.57	(1.21–2.03)**
Other two parent	1.89	(1.51–2.37)**	1.62	(1.24–2.12)**
Other family structure	1.48	(0.99–2.21)	1.92	(1.23–3.01)**
Single dad	1.29	(0.70–2.40)	2.00	(1.04–3.83)*
Parent education				
Less than HS	1.06	(0.76–1.47)	1.01	(0.70–1.44)
HS diploma or GED (ref)	1.00		1.00	-
Some college	1.14	(0.89–1.45)	1.08	(0.80–1.46)
College grad	1.08	(0.85–1.36)	0.81	(0.61–1.08)
Missing	1.34	(0.88–2.05)	1.28	(0.83–1.95)
Age				
24–27	1.11	(0.91–1.36)	1.02	(0.81–1.29)
28–29 (ref)	1.00		1.00	
30–34	1.07	(0.86–1.34)	1.16	(0.90–1.50)
Childhood sexual abuse	3.02	(2.31–3.95)**	2.93	(2.25–3.83)**
Recent immigrant	0.60	(0.19–1.97)	0.32	(0.08–1.23)
Non-English interview	1.11	(0.46–2.69)	0.78	(0.24–2.60)

aOR=Adjusted odds ratio; CI=confidence interval. Variables for which no reference group is indicated were measured as a dichotomous variable where “no” is the reference category.

\* p<0.05

\*\* p<0.01;

**Table 3**

Adjusted odds ratios (and 95% confidence intervals) from logistic regressions examining the association between physical disability, cognitive performance, and unwanted sex, among males (n=5,428)

	Coerced sex		Forced sex	
	aOR	95% CI	aOR	95% CI
Cognitive performance				
≤69	n/a		n/a	
70–90	0.58	(0.27–1.26)	0.48	(0.18–1.25)
91–110 (ref)	1.00		1.00	
≥111	1.32	(0.90–1.94)	1.17	(0.62–2.22)
Physical disability	1.90	(1.02–3.52)*	1.05	(0.38–2.89)
Race				
Non-Hispanic White (ref)	1.00		1.00	
Non-Hispanic Black	1.94	(1.14–3.31)*	2.73	(0.87–8.54)
Hispanic (any race)	1.47	(0.77–2.80)	1.01	(0.42–2.44)
Non-Hispanic other	0.56	(0.27–1.20)	0.37	(0.11–1.29)
Family structure				
Two bio parents (ref)	1.00		1.00	
Single mom	1.75	(1.01–3.05)*	1.18	(0.37–3.75)
Other two parent	1.35	(0.83–2.21)	1.77	(0.79–3.99)
Other family structure	0.58	(0.17–1.94)	0.62	(0.10–3.59)
Single dad	0.84	(0.26–2.73)	0.36	(0.05–2.89)
Parent education				
Less than HS	0.65	(0.29–1.48)	0.70	(0.26–1.89)
HS diploma or GED (ref)	1.00		1.00	
Some college	0.89	(0.50–1.57)	0.60	(0.27–1.33)
College grad	0.95	(0.56–1.61)	0.37	(0.17–0.82)*
Missing	1.13	(0.46–2.78)	1.06	(0.37–3.06)
Age				
24–27	1.15	(0.71–1.85)	0.64	(0.35–1.20)
28–29 (ref)	1.00		1.00	
30–34	1.17	(0.69–1.98)	0.84	(0.41–1.71)
Childhood sexual abuse	7.28	(3.75–14.13)**	8.55	(3.76–19.42)**
Recent immigrant	1.77	(0.55–5.67)	1.51	(0.26–8.66)
Non-English interview	0.59	(0.14–2.51)	0.95	(0.13–7.08)

aOR=Adjusted odds ratio; CI=confidence interval. Variables for which no reference group is indicated were measured as a dichotomous variable where “no” is the reference category. n/a indicates that there were no males with cognitive performance scores lower than 70 that reported experiencing coerced sex.

\* p<0.05

\*\* p<0.01