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Working Paper

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IZA Discussion Papers, No. 619

Provided in Cooperation with:
IZA – Institute of Labor Economics

Suggested Citation: Antecol, Heather; Cobb-Clark, Deborah A. (2002) : The Changing Nature of Employment-Related Sexual Harassment: Evidence from the U.S. Federal Government (1978-1994), IZA Discussion Papers, No. 619, Institute for the Study of Labor (IZA), Bonn

This Version is available at:
https://hdl.handle.net/10419/21149

DISCUSSION PAPER SERIES

IZA DP No. 619

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October 2002

Forschungsinstitut
zur Zukunft der Arbeit
Institute for the Study
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Evidence from the U.S. Federal Government (1978-1994)

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Discussion Paper No. 619
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IZA Discussion Paper No. 619
October 2002

ABSTRACT

The Changing Nature of Employment-Related Sexual Harassment: Evidence from the U.S. Federal Government (1978-1994)*

This paper examines the changing nature of views towards and reports of sexual harassment using unique data drawn from the U.S. Merit Systems Protection Board (USMSPB) of the U.S. Federal Government over the period from 1978-1994. Our results indicate that while federal government employees reported only slightly more incidents of employment-related unwanted sexual behavior in 1994 than in 1978, the willingness to define unwanted sexual behavior as sexual harassment increased dramatically over this period. The increased willingness of federal government employees to label certain behaviors as sexual harassment does not appear to be driven by changes in the demographic, human capital and job characteristics of federal government employees, rather the changes appear to be due to structural changes in views (conditional on characteristics) of what constitutes sexual harassment. At the same time, more of the change in the incidence of unwanted sexual behavior on the job itself seems to be explained by changes in human capital and job characteristics. Finally, we find that the qualitative nature of harassment in public-sector employment has changed despite the fact that the incidence of unwanted sexual behavior was relatively constant between 1978 and 1994.

JEL Classification: J16, J28

Keywords: sexual harassment, public-sector employment

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* None of the views expressed in this paper represent the official views of the U.S. Government. All errors remain our own.

I. Introduction

Sexual harassment is a fact of life for a considerable proportion of the world's working women with many studies suggesting that employment-related sexual harassment may affect as many as one in two women at some point in their work lives (Schneider, et al., 1997; Fitzgerald and Omerod, 1993). The International Labour Organization (ILO), for example, recently reviewed the international literature and concluded "sexual harassment is a pervasive problem affecting substantial numbers of women in every industrialized country where information is available" (ILO, 1992). Employment-related sexual harassment is increasingly being recognized as an important economic issue in large part because of the substantial costs it imposes on workers and their employers.[1]

In spite of its apparent pervasiveness, sexual harassment is not easy to define or measure. Many authors have suggested that the term "sexual harassment" is simply a new name for an old problem (ILO, 1992; Fitzgerald and Shullman, 1993)[2] and despite the growing research there is still no commonly accepted definition of sexual harassment (Roscoe, et al., 1994; Foulis and McCabe, 1997). Much of the existing evidence on the incidence of sexual harassment is based on small, non-representative samples of women making it difficult to make direct comparisons across studies (Fitzgerald and Shullman, 1993). While some patterns in the factors associated with sexual harassment are beginning to emerge[3], we know almost nothing about how these patterns have changed

[1] See Schneider, et al., (1997), Fitzgerald, et al., (1997) and Marin and Gundagno (1999) for reviews of the literature regarding the consequences of sexual harassment.

[2] Fitzgerald and Shullman (1993) describe sexual harassment as "a social problem with a long past and a short history".

[3] Specifically, the research indicates that victims of sexual harassment are more likely to be female, unmarried, to have attended college, and to work exclusively with and be supervised by members of the

over time as public awareness of sexual harassment has grown. The dearth of widely accepted stylized facts – along with a lack of agreement about how to define and measure sexual harassment – makes it difficult to address the problem and find solutions.[4]

This paper fills a void in the literature by using data drawn from the U.S. Merit Systems Protection Board (USMSPB) of the U.S. Federal Government over the period from 1978 – 1994 to examine the changing nature of sexual harassment. These data are uniquely suited to the analysis at hand. First, they provide us with a comparable, consistently defined data source spanning a fifteen-year period on men's and women's experiences of and views towards unwanted sexual behavior in the work place.[5] Second, while much of the existing employment-related, sexual harassment literature is based on relatively small samples of workers in selected occupations (e.g., lawyers or academics), specific age groups (e.g., university students) or in single firms, the USMSPB data set is large and encompasses public-sector workers employed in a range of occupations across all agencies of the federal government. Finally, with more than three million civilian employees, the U.S. Federal Government is the largest internal labor market in the United States (Doeringer, et al., 1996; U.S. Bureau of the Census, 1995) making job conditions in the federal government interesting in their own right.

We focus on two dimensions of sexual harassment: first, the incidence of various unwanted sexual behaviors (specifically, crude and offensive behavior and unwanted sexual attention) and second, individuals' views about what behaviors in fact constitute sexual harassment. Understanding workers' perceptions of sexual behavior at work is

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opposite sex (see Schneider, et al., 1997; Laband and Lentz, 1998; USMSPB, 1995; Antecol and Cobb-Clark, 2001).

[4] See also Roscoe, et al., (1994) on this point.

especially important given a legal environment which relies on a reasonable victim standard – increasingly a reasonable woman standard – to make determinations in sexual harassment cases (Prior, et al., 1997; Fitzgerald and Shullman, 1993)[6] and recent evidence that the negative consequences of unwanted sexual behavior at work are higher for women who believe themselves to be sexually harassed (Antecol and Cobb-Clark, 2002). We are particularly interested in the way in which the factors associated with the experiencing and labeling of sexual harassment may have changed over time as public awareness of employment-related sexual harassment as an important economic and social issue has grown. More specifically, have changes in employees' demographic characteristics, human capital endowments, and labor market position contributed to an expansion in the incidence and definition of sexual harassment? Alternatively, are any time trends the result of a change in the propensity – conditional on ones characteristics – to experience unwanted sexual behaviors and label them as sexual harassment? Finally, how have circumstances surrounding sexual harassment incidents changed?

Our results indicate that while federal government employees reported only slightly more incidents of employment-related unwanted sexual behavior in 1994 than in 1978, the willingness to define unwanted sexual behavior as sexual harassment increased dramatically over this period. Very little of the expanding definition of sexual harassment can be explained by changes in the demographic, human capital and job characteristics of federal government employees. There is, however, strong evidence of structural change in the determinants of the probability that federal government workers will label certain

[5] We are aware of no other source of consistent data on sexual harassment spanning a similar time period. While cross-sectional analyses of the USMSPB data exist (USMSPB, 1981, 1988, 1995), these data have not been used to analyze the source of changes in sexual harassment over time.

unwanted sexual behaviors as sexual harassment. In contrast, more of the time-trend in the incidence of unwanted sexual behavior is explained by changes in worker characteristics. Finally, the qualitative nature of harassment in public-sector employment has changed. Sexual harassment in the early 1990s was more likely than in previous periods to occur only once, involve crude or offensive behavior rather than unwanted sexual attention, and originate with co-workers rather than supervisors. At the same time, the duration of harassment was somewhat longer and more women reported a loss of productivity as a result of the harassment.

In the next section, we review the literature on the incidence, determinants, and consequences of employment-related sexual harassment. In Section III, we provide details of the USMSPB data used in this analysis. In the following section, the decomposition results are outlined. In Section V, we pay particular attention to pinpointing the source of changes in the incidence and definition of sexual harassment. Changes in the qualitative nature of sexual harassment are considered in Section VI. Finally, conclusions and suggestions for future research are presented in Section VII.

II. Employment-Related Sexual Harassment

To date, the study of employment-related sexual harassment has been mainly the purview of psychologists and sociologists.[7] Economists have generally had relatively little to say about the matter.[8] Much of the research is based on surveys of selected

[6] In particular, Equal Employment Opportunity Commission (EEOC) guidelines issued in 1980 emphasized that sexual harassment is *unwelcome* sexual behavior (emphasis added) (Prior, et al., 1997).
[7] There is also an extensive literature (not reviewed here) on sexual harassment in educational settings (see, Fitzgerald and Shullman, 1993; Roscoe, et al., 1994; and Beauvais, 1986 for reviews.)
[8] The exception is a small economics literature (reviewed below) that assesses the impact of sexual harassment on job satisfaction and intentions to quit and Basu (2002) who models the circumstances under

workers, or in some cases, university students. Differences in survey design, methodology, the manner in which sexual harassment is measured, and the small, non-representative nature of many of the estimation samples in the literature make synthesis of the results difficult. Nonetheless, there are several broad conclusions that can be drawn from the existing literature. First, reports of sexual harassment are common across a number of employment situations in a number of countries. In particular, the U.S. evidence points to a high incidence of sexual harassment for women employed in: the military (71 percent), a large private-sector organization (68 percent), a mid-western university (63 percent), private legal practice (66 percent), corporate or public legal practice (46 percent), and the U.S. Federal Government (44 percent) (Antecol and Cobb-Clark, 2002; Schneider, et al., 1997; Laband and Lentz, 1998; USMSPB, 1995). Employment-related, sexual harassment is not strictly a U.S. phenomenon, however, with the international research documenting a high incidence of sexual harassment in countries such as Canada, France, Japan, the Netherlands, Sweden, Spain, Norway, and the United Kingdom, (Johnson, 1994; ILO, 1992).

In addition, the research indicates that women experience more sexual harassment than do men (see for example, Fitzgerald and Ormerod, 1993; Antecol and Cobb-Clark, 2001), although many men also experience employment-related sexual harassment, and there is some evidence that this harassment directed towards men is growing (USMSPB, 1995, 1988, 1981). It is also important to note that while many men and women say that they have experienced unwanted sexual behavior they often do not label their experiences as sexual harassment per se (see, Antecol and Cobb-Clark, 2001; Marin and Guadagno,

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which it is Pareto improving to ban sexual harassment even though workers would find the pay attractive enough to submit to it.

1999; Magley, et al., 1999). Finally, sexual harassment very often goes unreported. Less than five percent of individuals experiencing sexual harassment ever report their experiences to anyone in authority, and even fewer still file formal complaints with employers, institutions, or legal authorities (see Marin and Guadagno, 1999 and Fitzgerald and Shullman, 1993).

Employment-related sexual harassment is particularly troubling in light of the mounting evidence that it has negative consequences – including increased job turnover, higher absenteeism, reduced job satisfaction, lower productivity, and adverse health outcomes – for workers. A small economics literature explicitly examines the effect of sexual harassment on the job satisfaction and intended turnover of female employees.[9] Laband and Lentz (1998) find that female lawyers in the United States are more likely to be dissatisfied with their job and more likely to report the intention to leave their job if they also report experiencing sexual harassment. In more recent work, Antecol and Cobb-Clark (2002) analyze a sample of women on active-duty in the U.S. military and find that, while failing to control for unobserved personality traits causes estimates of the negative effect of unwanted sexual behavior to be overstated, it is still associated with lower job satisfaction and women who view their experiences as sexual harassment suffer negative consequences over and above those associated with the behavior itself. Finally, sexual harassment on the job also imposes sizable costs on firms. There are estimates, for example, that between 1992 and 1994 sexual harassment cost the federal government $327 million (USMSPB, 1995), while a study of 160 major U.S. firms finds that sexual

[9] See Fitzgerald, et al. (1997) for references to the psychology literature on the effects of sexual harassment on job satisfaction.

harassment cost each firm $6.7 million per year (not including the legal costs associated with defending such actions) (ILO, 1992).

Sexual harassment cases first appeared in U.S. courts in the early 1970s where it was argued that sexual harassment constituted a form of gender-based discrimination. Since that time, public awareness of the issue has grown in large part due to certain well-publicized legal cases (Prior, et al., 1997). The U.S. Federal Government makes an especially interesting case for studying the effects of these changes. In particular, there has been a large expansion in female employment within the federal government from 33 percent in 1978 to 44 percent in 1994 (U.S. Bureau of the Census, 1980; USOPM, 1999). Lewis (1996) reports that much of this expansion has occurred within traditionally male-dominated occupations – in particular professional and administrative occupations – so that the gender integration of occupations occurred much more rapidly in the federal government than in the general economy.[10] For example, in 1977, the average male federal government employee worked in an occupation that was approximately 78 percent male, whereas by 1993 this had fallen to 68 percent. The implications of these employment trends for sexual harassment are likely to be complicated. On the one hand, women have made rapid progress up the federal government's occupational ladder leaving many of them in high-level, supervisory positions and increasing their ability to influence institutional culture.[11] At the same time, men and women are increasingly working together which may increase the incidence of unwanted sexual behavior on the job.

[10] This gender-integration of occupations helped to narrow the gender-wage gap in the federal government more than in the private sector (Lewis, 1996).

[11] Research indicates that a supervisor's gender and the gender composition of the workforce are important determinants of the probability of being sexually harassed (USMSPB, 1995; Fitzgerald, et al., 1999b).

III. U.S. Merit System Protection Board Data

This paper uses data drawn from the U.S. Merit Systems Protection Board (USMSPB) of the U.S. Federal Government for 1978, 1987, and 1994. In each of these years, a non-proportional, stratified sample of civilian employees were randomly drawn from the Central Personnel Data File (CPDF) operated by the U.S. Office of Personnel Management (OPM).[12] The data were stratified on basis of gender, agency, salary, and (in 1978 only) minority status. From an initial sample of 23,964 individuals in 1978, usable questionnaires were returned from 20,083 individuals for an overall response rate of 84 percent (USMSPB 1981). While in 1987 and 1994 the overall response rates were lower, from an initial sample of approximately 13,000 (13,200) individuals in 1987 (1994), usable questionnaires were returned from 8,523 (8,081) individuals for an overall response rate of 66 (61) percent (USMSPB 1988, 1995). We focus here on a final sample of 16,408, 7,487, and 5,875 civilian employees in 1978, 1987, and 1994, respectively, with non-missing values for all of the variables of interest.

USMSPB respondents were asked about their experiences of unwanted sexual attention at work. In particular, respondents were asked whether they had experienced one or more of seven unwanted sexual behaviors in the previous 24 months: 1) sexual gestures, 2) sexual remarks, 3) sexual materials, 4) pressure for sexual favors, 5) deliberate touching, 6) pressure for dates, and 7) sexual assault. Allowed responses include "never", "once", "once a month or less", "two to four times a month", and "once a week or more". Given that our interest is in sexual harassment, we confine our

[12] Some agencies – for example the Central Intelligence Agency – are not required to report personnel information to the OPM. Therefore, civilian employees from these agencies are not included in the sample frame. For a list of excluded agencies see USMSPB 1981, 1988, and 1995.

attention to all but the last category.[13] First, we constructed an indicator variable for each type of unwanted sexual behavior that is equal to one if the respondent reported experiencing the behavior at least once, and zero otherwise. Secondly, we aggregated the responses to the six remaining items into three broad types of sexually harassing behavior: crude or offensive behavior (sexual gestures, sexual remarks, and sexual materials), unwanted sexual attention (pressure for sexual favors, deliberate touching, and pressure for dates), and any of the above. It is important to note that these definitions of sexual harassment do not necessarily fit with legal definitions.[14]

USMSPB respondents were also asked whether they would consider six separate unwanted sexual behaviors (specifically, sexual gestures, sexual remarks, sexual materials, pressure for sexual favors, deliberate touching, and pressure for dates) initiated by a supervisor to be sexual harassment. Identical questions were then asked about those same six behaviors initiated by a co-worker. Allowable responses include "definitely not", "probably not", "don't know", "probably yes", and "definitely yes". We constructed an indicator variable (Y_{it}) for each of these twelve outcomes that equals one if respondent *i* reported in year *t* that he or she "probably" or "definitely" would consider that specific behavior to be sexual harassment and zero otherwise.

The reported incidence of unwanted sexual behavior and views about what constitutes sexual harassment are shown – by gender and year – in Table 1. Not surprisingly, women are more likely to consider various unwanted sexual behaviors to be

[13] Sexual assault includes rape and attempted rape. As such, this category would not usually be considered sexual harassment *per se*.

[14] For a discussion of the theoretical issues involved in deciding who has been sexually harassed see USMSPB (1995) and Fitzgerald, et al., (1999a).

sexual harassment than are men, regardless of the year.[15] For example, 91 (88) percent of women in 1994 would have considered unwanted sexual gestures initiated by a supervisor (co-worker) to be sexual harassment whereas only 77 (70) percent of men in 1994 would have considered the same behavior to be sexual harassment. Further, the proportion of individuals who would view unwanted sexual behavior to be sexual harassment increased dramatically over time for both men and women. For example, 91 (85) percent of women in 1994 would have considered unwanted pressure for dates to be sexual harassment if initiated by a supervisor (co-worker) whereas only 78 (65) percent of women in 1978 would have considered the same behavior to be sexual harassment.

Table 1

Women are also more likely than men to report experiencing unwanted sexual behavior in all years. In 1987, 41 percent of women reported experiencing any unwanted sexual behavior compared with 15 percent of men. Interestingly, the change over time in reported sexual harassment experiences is substantially smaller than the change over time in views about what constitutes sexual harassment. For example, the incidence of unwanted sexual gestures increased by 1.3 (1.2) percentage points for women (men) between 1978 and 1994, while the proportion of employees who would have considered unwanted sexual gestures from supervisors to be sexual harassment increased by 19.4 (18.2) percentage points for women (men) between 1978 and 1994. Of further interest, women reported 2.6 percentage points less unwanted sexual attention in 1994 than in 1978. Finally, unwanted sexual remarks was the most frequently reported form of

[15] This is consistent with previous evidence that women interpret a wide range of behaviors as "harassing" (Fitzgerald and Shullman, 1993), though the gender difference is generally smaller for more severe behaviors (Prior, et al., 1997).

unwanted sexual behavior, while unwanted pressure for sexual favors was least common.[16]

IV. Changes in Views about and Incidence of Unwanted Sexual Behavior

Between 1978- 1994 men and women employed in the U.S. Federal Government were increasingly likely to view unwanted sexual behavior on the job as sexual harassment (see Table 1). At the same time, men's reports of all forms of unwanted sexual behavior grew, while women were increasingly likely to report being subjected to crude and offensive behavior. In this section, we shed further light on these trends by analyzing the way in which those factors associated with the experiencing and labeling of sexual harassment may have changed over this period. Specifically, did changes in individuals' human capital characteristics and labor market position over time contribute to an expansion in the incidence and definition of sexual harassment or is the trend the result of a change in the propensity (conditional on characteristics) to experience unwanted sexual behaviors and label them as sexual harassment?

In addressing this question, we analyze twelve indicator variables (Y_{it}) that capture respondents' views about whether unwanted sexual behaviors (specifically, sexual gestures, sexual remarks, sexual materials, pressure for sexual favors, deliberate touching, and pressure for dates) initiated by supervisors and co-workers are in fact a form of sexual harassment (See Section III). Two additional indicator variables (Y_{it}) have been created to examine the incidence of unwanted sexual behaviors amongst federal government employees. The first captures "any unwanted behavior" and equals

[16] The USMSPB surveys also include detailed information on demographic (age, and marital status), human capital (education), and job (occupation, pay grade, and the gender of one's supervisor)

one if respondent *i* reported in period *t* that he or she had experienced any of the six forms of unwanted sexual behavior in the previous 24 months. The second, measures "unwanted sexual attention" and equals one if the respondent reported either pressure for sexual favors, deliberate touching, or pressure for dates and zero otherwise. These measures account to some degree for differences in the severity of sexual harassment.[17]

The probability of viewing behavior *j* to be sexual harassment or experiencing unwanted sexual behavior is given by

$$\Pr(Y_{it}^{j} = 1) = \Pr(X_i\beta + \varepsilon_{it} > 0) = \Phi(X_i\beta) \tag{1}$$

where *j* indexes our 14 outcomes of interest and Φ is the standard normal cumulative density function.

Equation (1) was estimated separately by gender and year using a probit model.[18] The resulting coefficients were then used to estimate a number of counterfactual probabilities and to decompose changes in these probabilities over time. Specifically, the change between years *t-1* and *t* in the expected probability of viewing a specific behavior as sexual harassment or in experiencing unwanted sexual behavior ($\hat{Y}^j$) can be approximated by[19]:

$$\begin{aligned} \hat{Y}_t^j - \hat{Y}_{t-1}^j &\cong \Phi(\bar{X}_t\hat{\beta}_t) - \Phi(\bar{X}_{t-1}\hat{\beta}_{t-1}) \\ &\cong \left[\Phi(\bar{X}_t\hat{\beta}_t) - \Phi(\bar{X}_t\hat{\beta}_{t-1})\right] + \left[\Phi(\bar{X}_t\hat{\beta}_{t-1}) - \Phi(\bar{X}_{t-1}\hat{\beta}_{t-1})\right] \end{aligned} \tag{2}$$

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characteristics. See Appendix Table 1 for descriptive statistics by gender and year.

[17] Magley, et al. (1999) note that because incidents of sexual harassment are not independent random events, the severity of sexual harassment may also serve as a proxy for the frequency of sexual harassment.

[18] All estimation was conducted in STATA 7.0. Independent variables in the model include age, education, marital status, occupation, pay grade and the gender of one's supervisor.

[19] This is an approximation due to the nonlinear nature of the standard normal cumulative distribution. In the linear case, this would of course be exactly equal. Linear probability results are similar and are available from the authors upon request.

where $\Phi(\bar{X}_t\hat{\beta}_{t-1})$ is an estimate of the (counterfactual) probability that would result if workers had period *t* characteristics but responded like individuals in period *t-1*. The first right-hand-side term in equation (2) captures the component of the change over time that is due to changes in the coefficients (evaluated at *t* characteristics) and the second term captures the component that is due to changes in characteristics (weighted by *t-1* coefficients). The ratio of the second right-hand-side term to the total change multiplied by 100 provides a measure of the proportion of the change in views about or experiences of unwanted sexual behavior that can be explained by changes in the demographic, human capital and job characteristics of federal government employees. Results of the decomposition in equation (2) – and the alternative decomposition that weights the change in characteristics by period *t* coefficients – are given in Tables 2 and 3.[20]

The results in Table 2 indicate that very little of the change over time in the probability of viewing unwanted sexual behavior as sexual harassment can be explained by changes in the distribution of workers' human capital and job characteristics. Most of the increase resulted from changes in the propensity of men and women (conditional on their characteristics) to view the behavior as sexual harassment. In 1978, for example, 71.5 percent of women responded that they would view unwanted, sexual gestures by a supervisor as sexual harassment, but by 1987 this had increased to 81.3 percent (see Table 1). When 1987 coefficients are used as weights, only 10.4 percent of this overall change in women's views is explained by changes in their human capital and job characteristics. When 1978 coefficients are used as weights, none of the change is explained by changing characteristics.

[20] Actual probabilities are presented in Table 1 and are not reproduced in Tables 2 and 3 due to space constraints.

Table 2 here

Regardless of the decomposition used, changes in the distribution of human capital and job characteristics between 1978 and 1987 account for at most ten percent of the total change in men's and women's views towards what constitutes sexual harassment. In many cases, the explained component of the change is virtually zero or even slightly negative indicating that changes in worker characteristics contributed to small decreases in the probability of viewing a specific behavior as sexual harassment. Between 1987 and 1994 changes in the distribution of characteristics, appear to explain somewhat more of the increasing propensity to apply the sexual harassment label. For example, changing characteristics explain as much as 17.8 percent (see Table 2) of the 9.6 percentage point increase (see Table 1) in the probability that female workers would view unwanted, sexual gestures from a supervisor as sexual harassment. In general, changes in characteristics also explained more of the change in men's views between 1987 and 1994 than they did over the previous period, though the explained component is in most cases smaller for men than women. More of the change in men's views remains unexplained by changes in the distribution of characteristics across time.

At first glance, changes in the characteristics of workers appear to explain more of the change in the incidence of unwanted sexual behavior on the job (see Table 3). However, the underlying change in the incidence of unwanted sexual behavior itself is often quite small – particularly between 1978 and 1987 – making the decomposition results somewhat sensitive to the choice of weight and not as informative. The exception is the relatively large increase in the propensity of men (4.8 percentage points) and women (4.2 percentage points) to report any unwanted behavior between 1987 and 1994

(see Table 1). In this case, the time-trend appears to be largely unexplained by changes in the human capital and job characteristics of workers.[21]

Table 3 here

Overall, the relatively large increase in the willingness of federal government employees to label certain behaviors as sexual harassment does not seem to be driven by changes in employment patterns which led to a changing distribution of human capital and job characteristics for these workers. Rather the changes are due to a changed view (conditional on characteristics) of what constitutes sexual harassment. This does not appear to be the case for the incidence of unwanted sexual behavior on the job itself where more of the change over time seems to be explained by changes in human capital and job characteristics, although the time-trend in the incidence of these reports is often very small (see Table 1) making the decomposition analysis somewhat sensitive to model specification.

V. Understanding the Source of Changes in Views Towards and Incidence of Sexual Harassment

The above analysis has been useful in shedding light on the broad trends in federal government employees' views about sexual harassment, but it leaves open many questions regarding the specific nature of these changes. In particular, have federal government workers in general altered their views or have changes been concentrated

[21] As a further check on these results, we also conducted a series of structural change tests in order to assess whether the determinants of federal government employees' views towards and reports of unwanted sexual behavior at work had changed over time. Not surprisingly, we find strong evidence of structural change in the determinants of the likelihood that federal government workers label certain unwanted sexual behaviors initiated by supervisors and co-workers as sexual harassment and limited evidence of structural change in the likelihood of experiencing either any unwanted sexual behavior or unwanted sexual attention. These results are available from the authors upon request.

amongst certain employee groups? How have the factors influencing reported unwanted sexual behavior changed over time?

Determinants of Views Towards Unwanted Pressure for Sexual Favors and Dates

We begin by pooling our data across years and estimated the following model of the determinants of views towards sexual harassment:

$$\begin{aligned} \Pr(Y_{it}^{j} = 1) &= \Pr(X_i\beta + X_i D_{87}\gamma_{87} + X_i D_{94}\gamma_{94} + \varepsilon_{it} > 0) \\ &= \Phi(X_i\beta + X_i D_{87}\gamma_{87} + X_i D_{94}\gamma_{94}) \end{aligned} \tag{3}$$

where D_{87} and D_{94} are dummy variables that equal one for 1987 and 1994 observations, respectively. Estimation results (probit marginal effects and standard errors) for attitudes towards unwanted pressure for sexual favors and dates are presented in Tables 4 and 5, while results for attitudes towards unwanted sexual remarks can be found in Appendix Table 2.[22] Marginal effects for the base year (1978) are presented in the first column in each panel, while results in the second (γ_{87}) and third (γ_{94}) columns reflect changes between the reference and base years.[23]

In general, there was no relationship between a female employee's age and the probability that she would view unwanted pressure from a colleague or a supervisor for dates or sexual favors as sexual harassment in 1978. A clear age pattern in 1978 does emerge for men, however, where older men (aged 55 plus) were significantly more likely than younger men (aged less than 35) to respond that pressure for sexual favors and

[22] Given space constraints, we have chosen to focus our attention on these forms of unwanted, sexual behavior. All other results are available upon request from the authors.

[23] Results presented in Tables 4 and 5 do not include controls for U.S. government agency. We also estimated a version of equation (3) including agency dummy variables and found the results to be very similar. Results controlling for agency effects are available from the authors upon request.

unwanted pressure for dates were forms of sexual harassment. Over time, the evidence suggests that older women (men) employed in the federal government have become relatively more likely (less likely) to label unwanted pressure for sexual favors and dates as a form of sexual harassment, although these patterns are more evident in women's views of unwanted pressure for dates and in men's views of unwanted pressure for sexual favors.

Tables 4 and 5 Here

Married women are more likely to report incidents of unwanted gender–related behavior on the job (Antecol and Cobb-Clark, 2001; USMSPB, 1995, 1988, 1981) and married individuals – both men and women – employed in the U.S. Federal Government are in general more likely to label unwanted pressure for dates and sexual favors as sexual harassment. This suggests that married individuals are more sensitive to incidents of unwanted sexual behavior in the workplace. Interestingly, this relationship has been remarkably stable across the 16-year time period considered in this study.

Along with demographic characteristics (such as age and marital status), a worker's education level is related to views about sexual harassment – particularly for women. In 1978 women with more than a B.A. were more likely to consider pressure from a supervisor for dates and sexual favors to be sexual harassment than were women without any college education, while men with more than a B.A. (relative to men without college education) were less likely to view a co-worker's pressure for dates as a form of sexual harassment. This "education-gap" in women's views about unwanted sexual behavior continued to widen over time. The exception is that the education gap in women's views towards pressure for sexual favors declined between 1987 and 1994.

Interestingly, a similar result holds for men's views about a co-worker's unwanted pressure for dates. In 1987, educated men are significantly less likely than less educated men to see this as a form of sexual harassment.[24]

Finally, the year effects in Tables 4 and 5 reflect changes (relative to the base year 1978) in the probability that the reference individual – i.e., a single individual less than 35 with a high school degree, employed as an administrator/manager in pay grade 5 – 12 with a female supervisor – considers unwanted sexual behavior on the job to be sexual harassment. In general, the results indicate a growing trend in the tendency of workers to label such behavior as sexual harassment. The exception is in women's views towards unwanted pressure for dates.

Incidents of Unwanted Sexual Behavior

In order to assess how the factors influencing reported unwanted sexual behavior have changed over time we also estimate equation (3) for our two indicator variables – "any unwanted behavior" and "unwanted sexual attention" – which measure the incidence in the previous 24 months of unwanted sexual behaviors amongst federal government employees. Estimation results (probit marginal effects and standard errors) are presented in Table 6.[25]

In 1978, older workers were less likely to report experiencing any unwanted sexual behavior or unwanted sexual attention than younger workers, although the magnitude is larger for women. Over time, the evidence suggests that the relative gap in

[24] There is also some evidence that views about which behaviors constitute sexual harassment depend to a degree on the nature of a worker's job (occupation, job type, and gender of one's supervisor) even after controlling for demographic and human capital characteristics (see Tables 4 and 5).

older workers' reports of unwanted sexual behavior grew so that by 1994 workers over the age of 55 were much less likely than younger workers to experience unwanted behavior on the job, particularly for women. Consistent with previous evidence (Antecol and Cobb-Clark, 2001; USMSPB, 1995, 1988, 1981) married men and women were between 5.0 and 8.5 percentage points less likely in 1978 to report experiencing some form of unwanted sexual behavior, and this relationship was stable over the 1978 – 1994 period.

Table 6 here

In 1978, individuals employed by the U.S. Federal Government were much more likely to report experiencing any unwanted sexual behavior on the job if they have some college education, although the magnitude of the effect is substantially larger for educated women. Similarly, a positive and significant relationship between a female employee's education and her tendency to report being subjected to unwanted pressure for sexual attention is found, however, no such pattern is found for men. While the education patterns were remarkably stable between 1978 and 1994 for women, there was a significant increase between 1978 and 1994 in the relative (to men without any college education) probability that men with a B.A only reported experiencing unwanted sexual behavior generally and unwanted pressure for sexual attention specifically.[26]

[25] As in Tables 4 and 5, Table 6 results do not control for agency effects. We re-estimated the model including a set of dummy variables for government agency and found that the results – available upon request – were very similar.

[26] As with views towards unwanted sexual behavior, there is also some evidence that reports of unwanted sexual behavior are related to the nature of a worker's job (occupation, job type, and gender of one's supervisor) even after controlling for demographic and human capital characteristics (see Table 6).

Finally, the year effects in Table 6 indicate that there is no overall time trend in reports of unwanted sexual behavior. The exception is male reports of unwanted sexual attention.

These results confirm the results of the decomposition analysis reported in Section IV. In particular, changes over time in federal government employees' willingness to define certain types of unwanted behavior as sexual harassment are the result of structural changes in the way in which demographic, human capital and job characteristics are related to views about what does and does not constitute sexual harassment. The end result is that the factors related to an employee's perceptions of sexual behavior at work were very different in 1994 and in 1978. Furthermore, this structural change has affected men and women's views quite differently. The factors related to experiencing unwanted sexual behavior on the job were somewhat more stable over time, however.

VI. Changes in the Qualitative Nature of Unwanted Sexual Behavior at Work

Our analysis suggests that while federal government employees' views about sexual harassment changed rapidly between 1978 and 1994, the rate at which they reported experiencing any unwanted sexual behavior was unchanged between 1978 and 1987, and rose slightly between 1987 and 1994 (see Tables 1 and 2). These general trends raise questions regarding the qualitative nature of sexual harassment among federal government employees. Specifically, has the frequency, duration or severity of harassment changed in a way that is not reflected in the overall incidence of sexual harassment? To address this question, we use our USMSPB data to study the

circumstances surrounding reports of unwanted sexual behavior in U.S. Federal Government employment. In particular, those employees who reported experiencing one or more of the unwanted sexual behaviors in the previous two years were then asked a series of follow-up questions about the specific behaviors they experienced, the characteristics of their harasser, as well as the consequences of their experience. Individuals were also asked whether they had filed a formal complaint. Mean responses to these questions about the qualitative nature of unwanted sexual behavior are reported separately by gender and year in Table 7.[27]

Table 7 Here

The results in Table 7 point to several interesting changes in the nature of sexual harassment in public-sector employment in the United States. In particular, there has been a decline in the incidence of unwanted sexual attention and an increase in crude and offensive behavior. Relative to harassed women in 1978, for example, women who reported experiencing some form of unwanted sexual behavior in 1994 were less likely to report that they had experienced pressure for sexual favors, pressure for dates, and deliberate touching, and more likely to report that they had been subjected to unwanted sexual material and remarks. Men were also less likely to report that their experiences included pressure for sexual favors, and more likely to report being the focus of unwanted sexual remarks in 1994 than in 1978 – though the change was only significant between 1987 and 1994.

[27] Here the sample includes only those men and women who reported experiencing one or more of the behaviors comprising crude and offensive behavior or unwanted sexual attention outlined in Table 1. Item non-response implies that not all individuals in this sample responded to all questions, however, and the range of resulting sample sizes are given in the final row of Table 7.

There was no significant change over the period in the gender distribution of harassers. In more than 97 percent of cases harassed women reported that their harasser was male, while approximately 70 percent of men report being harassed by a woman. Still, there was a significant fall in the probability that a woman's harasser was either her immediate supervisor or another higher-level supervisor, and a significant increase in the probability that a woman reported being harassed by a co-worker.

Furthermore, the frequency of harassment was lower in 1994 than in 1978. For both female and male employees there was a large and significant increase in the probability – from 25.4 to 34.0 percent for women and from 31.5 to 49.4 percent for men – that the harassment occurred only once and a significant fall in the probability that the harassment occurred every day or every few days. At the same time, the duration of harassment seemed to increase – at least for women. In addition, women were significantly more likely to feel that being harassed had hurt their productivity in 1994 than in 1987. Finally, the proportion of harassed women filing formal complaints – though very low – more than doubled from 2.5 percent to 5.9 percent over the period.

These results provide evidence that although the incidence of unwanted sexual behavior was relatively constant between 1978 and 1994, there have been important changes in the qualitative nature of harassment in public-sector employment that may reflect the growing awareness of sexual harassment as an important employment issue.

VII. Conclusions

How has the nature of employment-related sexual harassment changed as public awareness of sexual harassment as an important economic and social issue has grown?

This paper takes an important first step in addressing this question by using data spanning a fifteen-year period to assess federal employees' views towards and experiences of unwanted sexual behavior in the work place. While much of the existing employment-related, sexual harassment literature is based on relatively small and select samples of workers, this paper is unique in analyzing a large number of public-sector workers employed in a range of occupations across all agencies of the federal government.

The willingness of federal employees to define employment-related, unwanted sexual behavior to be sexual harassment increased dramatically between 1978 and 1994. This was a period in which large numbers of women entered federal service – many in traditionally male-dominated occupations – leading to a gender integration of occupations and a narrowing of the gender-wage gap that was more rapid in federal employment than in the labor market generally (Lewis, 1996). In spite of this important trend, the increased willingness of federal government employees to label certain behaviors as sexual harassment is not the result of changes in the characteristics of federal government employees themselves. Rather it is driven by structural changes in views (conditional on characteristics) of what constitutes sexual harassment. Furthermore, this structural change has affected men and women's views quite differently. These gender differences will have important implications for U.S. employers as the legal system increasingly relies on what a reasonable woman (rather than a reasonable person) would find unwelcome when making determinations in sexual harassment cases (Prior, et al., 1997; Fitzgerald and Shullman, 1993).

In the face of a rapidly expanding definition of what it means to be sexually harassed, it is surprising then that the reported incidence of unwanted sexual behavior on

the job changed very little between 1978 and 1994. Women's reports of unwanted sexual behavior on the job increased by 4.4 percentage points, while 5.6 percentage points more men reported experiencing unwanted sexual behavior in 1994 than in 1978. Unlike changes in workers' definitions of what constitutes sexual harassment, the change in the incidence of unwanted sexual behavior on the job itself is more easily explained by changes in characteristics though the decomposition results are somewhat sensitive to the choice of weight.

Finally, we find that the qualitative nature of harassment in public-sector employment has changed between 1978 and 1994. Sexual harassment in the early 1990s was more likely to involve crude or offensive behavior and originate with co-workers, and less likely to involve, unwanted sexual attention and immediate or higher level supervisors. There was also an increased tendency for harassment to occur only once. These results would seem to suggest that on average reported sexual harassment was perhaps less severe in 1994 than in 1978. At the same time, the duration of harassment was somewhat longer and more women reported suffering a loss of productivity as a result of their harassment experience suggesting that women have become more sensitive to the productivity losses associated with employment-related sexual harassment. Given these trends, it is unclear whether sexual harassment has become more or less costly over time.

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Table 1. Reports of Attitudes Towards and Reports of Sexual Harassment by Gender and Year

	Proportion Reporting					
	Women			Men		
	1978	1987	1994	1978	1987	1994
Panel A: Attitudes Towards Sexual Harassment						
Considered Sexual Harassment if Supervisor did the Following:						
Unwanted Sexual Gestures	0.715	0.813	0.909	0.591	0.679	0.773
Unwanted Sexual Remarks	0.615	0.714	0.829	0.528	0.575	0.726
Unwanted Sexual Materials	0.934	0.897	0.946	0.872	0.763	0.882
Unwanted Pressure for Sexual Favors	0.916	0.987	0.991	0.843	0.959	0.971
Unwanted Deliberate Touching	0.905	0.949	0.981	0.831	0.889	0.933
Unwanted Pressure for Dates	0.775	0.862	0.913	0.756	0.813	0.857
Considered Sexual Harassment if Co-Worker did the Following:						
Unwanted Sexual Gestures	0.635	0.761	0.882	0.466	0.591	0.703
Unwanted Sexual Remarks	0.531	0.634	0.761	0.414	0.463	0.636
Unwanted Sexual Materials	0.875	0.840	0.915	0.758	0.671	0.816
Unwanted Pressure for Sexual Favors	0.811	0.976	0.980	0.648	0.903	0.928
Unwanted Deliberate Touching	0.839	0.920	0.962	0.690	0.823	0.892
Unwanted Pressure for Dates	0.649	0.758	0.849	0.585	0.663	0.751
Panel B: Reported Sexual Harassment						
Any Behavior	0.410	0.412	0.454	0.137	0.145	0.193
Crude/Offensive Behavior	0.374	0.385	0.422	0.125	0.132	0.170
Unwanted Sexual Gestures	0.275	0.275	0.288	0.075	0.083	0.087
Unwanted Sexual Remarks	0.323	0.339	0.375	0.096	0.111	0.137
Unwanted Sexual Materials	0.080	0.117	0.102	0.028	0.042	0.038
Unwanted Sexual Attention	0.304	0.294	0.278	0.078	0.091	0.096
Unwanted Pressure for Sexual Favors	0.090	0.084	0.071	0.022	0.028	0.023
Unwanted Deliberate Touching	0.257	0.255	0.236	0.062	0.073	0.082
Unwanted Pressure for Dates	0.142	0.142	0.124	0.027	0.039	0.031
Number of Observations	8692	3926	3198	7716	3561	2677

Sampling weights used.

Table 2. Predicted Probabilities of Various Attitudes Towards Sexual Harassment by Gender

		1978-1987					1987-1994			
		Women		Men			Women		Men	
		Supervisor	Co-Worker	Supervisor	Co-Worker		Supervisor	Co-Worker	Supervisor	Co-Worker
Unwanted	x87b78	0.715	0.634	0.592	0.468	x94b87	0.830	0.773	0.682	0.583
Sexual	x78b87	0.803	0.750	0.675	0.589	x87b94	0.895	0.870	0.768	0.697
Gestures	explained 78	-0.023	-1.134	1.860	0.939	explained 87	17.769	10.473	2.942	7.038
	explained 87	10.430	8.559	4.275	1.491	explained 94	14.613	9.819	5.340	4.746
Unwanted	x87b78	0.609	0.525	0.532	0.417	x94b87	0.729	0.645	0.591	0.469
Sexual	x78b87	0.707	0.624	0.572	0.459	x87b94	0.818	0.756	0.722	0.631
Remarks	explained 78	-5.138	-5.378	8.559	5.990	explained 87	13.043	9.220	10.583	3.062
	explained 87	6.944	9.295	8.206	9.060	explained 94	9.931	4.026	3.013	2.866
Unwanted	x87b78	0.934	0.875	0.869	0.752	x94b87	0.908	0.849	0.771	0.667
Sexual	x78b87	0.894	0.838	0.765	0.673	x87b94	0.936	0.895	0.877	0.817
Materials	explained 78	-0.863	-0.377	2.772	6.736	explained 87	22.522	12.392	6.506	-3.170
	explained 87	-8.586	-6.892	1.792	2.370	explained 94	20.490	26.193	3.587	-1.359
Unwanted	x87b78	0.916	0.809	0.841	0.646	x94b87	0.992	0.980	0.955	0.889
Pressure for	x78b87	0.985	0.974	0.961	0.905	x87b94	0.990	0.980	0.973	0.929
Sexual Favors	explained 78	0.286	-1.229	-1.387	-0.754	explained 87	129.847	98.982	28.434	54.260
	explained 87	2.906	1.142	-1.992	-0.966	explained 94	13.343	16.218	13.275	5.015
Unwanted	x87b78	0.904	0.836	0.830	0.688	x94b87	0.956	0.924	0.893	0.823
Deliberate	x78b87	0.945	0.917	0.891	0.825	x87b94	0.977	0.952	0.929	0.895
Touching	explained 78	-2.413	-3.715	-1.924	-1.309	exp87	21.487	8.781	10.346	0.816
	explained 87	9.315	3.409	-3.088	-1.388	exp94	12.559	23.358	8.990	3.453
Unwanted	x87b78	0.776	0.649	0.758	0.586	x94b87	0.878	0.760	0.816	0.639
Pressure for	x78b87	0.854	0.753	0.813	0.666	x87b94	0.890	0.833	0.855	0.748
Dates	explained 78	1.019	0.475	3.917	1.104	explained 87	31.618	2.217	6.985	27.388
	explained 87	9.130	4.866	-0.612	-2.977	explained 94	45.187	17.668	4.547	3.825

Sampling weights used. Separate probits estimated for each year. Probits include controls for age, education, marital status, occupation, pay grade and gender of one's supervisor.

Table 3. Predicted Probabilities of Various Measures of Reported Sexual Harassment by Gender

		1978-1987			1987-1994	
		Women	**Men**		**Women**	**Men**
Any Behavior	x87b78	0.408	0.139	x94b87	0.396	0.149
	x78b87	0.411	0.141	x87b94	0.450	0.187
	explained 78	-90.666	28.455	explained 87	-36.023	9.088
	explained 87	60.450	40.308	explained 94	9.505	13.571
Unwanted Sexual Attention	x87b78	0.303	0.080	x94b87	0.272	0.100
	x78b87	0.298	0.087	x87b94	0.292	0.096
	explained 78	11.162	14.702	explained 87	137.094	185.013
	explained 87	41.045	24.702	explained 94	86.483	-4.665

Sampling weights used. Separate probits estimated for each year. Probits include controls for age, education, marital status, occupation, pay grade and gender of one's supervisor.

Table 4. Determinants of Attitudes Towards Sexual Harassment by Gender excluding Agency Fixed Effects (Probit Marginal Effects and Standard Errors)

	Women						Men					
	Sexual Favors						Sexual Favors					
	Supervisor			Co-Worker			Supervisor			Co-Worker		
	1978	1987	1994	1978	1987	1994	1978	1987	1994	1978	1987	1994
Age												
35 - 54	**-0.009**	-0.001	**0.016**	-0.009	-0.016	0.021	0.003	-0.057	-0.009	0.004	-0.045	-0.089
	(0.004)	(0.013)	(0.007)	(0.006)	(0.023)	(0.019)	(0.008)	(0.032)	(0.032)	(0.014)	(0.040)	(0.053)
55+	-0.007	-0.035	-0.023	0.009	-0.064	-0.133	**0.025**	-0.086	-0.135	**0.045**	-0.091	**-0.232**
	(0.006)	(0.030)	(0.029)	(0.008)	(0.049)	(0.069)	(0.010)	(0.051)	(0.071)	(0.018)	(0.064)	(0.078)
Married	**0.011**	-0.002	0.008	**0.027**	-0.014	0.001	0.010	0.030	0.026	**0.047**	0.016	0.031
	(0.003)	(0.012)	(0.008)	(0.006)	(0.021)	(0.020)	(0.009)	(0.023)	(0.018)	(0.016)	(0.037)	(0.032)
Education												
Some College	0.001	0.015	**-0.097**	-0.006	**0.033**	**-0.122**	0.000	0.028	0.036	0.007	0.017	0.038
	(0.004)	(0.009)	(0.049)	(0.007)	(0.017)	(0.061)	(0.010)	(0.021)	(0.020)	(0.016)	(0.045)	(0.042)
B.A.	0.008	**0.024**	-0.050	0.007	-0.007	-0.044	-0.001	0.006	0.018	-0.006	-0.034	0.036
	(0.005)	(0.005)	(0.045)	(0.009)	(0.044)	(0.045)	(0.012)	(0.026)	(0.037)	(0.020)	(0.046)	(0.051)
> B.A.	**0.010**	**0.024**	-0.133	0.012	**0.051**	-0.111	0.009	-0.011	-0.019	-0.029	-0.003	0.053
	(0.004)	(0.004)	(0.073)	(0.008)	(0.013)	(0.067)	(0.012)	(0.031)	(0.044)	(0.020)	(0.044)	(0.044)
Occupation												
Professional/	0.007	-0.060	0.013	0.013	**-0.099**	-0.048	-0.018	-0.062	-0.054	0.004	**-0.120**	-0.063
Technical	(0.004)	(0.049)	(0.008)	(0.008)	(0.044)	(0.038)	(0.011)	(0.032)	(0.042)	(0.017)	(0.040)	(0.048)
Clerical	0.006	-0.017	0.008	**0.029**	-0.059	-0.086	0.024	-0.167	**-0.219**	0.028	**-0.264**	-0.089
	(0.005)	(0.028)	(0.012)	(0.009)	(0.042)	(0.056)	(0.015)	(0.095)	(0.089)	(0.027)	(0.099)	(0.070)
Other	-0.004	-0.011	-0.003	-0.000	-0.078	-0.050	-0.016	-0.101	-0.107	0.018	-0.077	-0.049
	(0.007)	(0.029)	(0.019)	(0.011)	(0.052)	(0.052)	(0.014)	(0.054)	(0.069)	(0.020)	(0.058)	(0.062)
Pay Category												
1- 4	0.000	-0.054	-0.006	0.009	-0.054	0.022	**-0.039**	**0.069**	0.025	-0.037	**0.143**	0.102
	(0.004)	(0.029)	(0.020)	(0.007)	(0.035)	(0.023)	(0.015)	(0.014)	(0.040)	(0.021)	(0.032)	(0.058)
13+	-0.001	0.008	0.007	-0.007	-0.006	-0.058	0.008	-0.025	-0.008	-0.000	-0.014	-0.014
	(0.006)	(0.014)	(0.013)	(0.011)	(0.029)	(0.044)	(0.012)	(0.032)	(0.029)	(0.019)	(0.037)	(0.040)
Male Supervisor	0.000	-0.000	-0.018	0.010	-0.008	-0.043	**0.050**	-0.004	-0.016	**0.078**	-0.011	-0.042
	(0.003)	(0.011)	(0.021)	(0.006)	(0.020)	(0.032)	(0.013)	(0.030)	(0.029)	(0.019)	(0.040)	(0.043)
Year		**0.099**	**0.023**		**0.261**	**0.064**		**0.184**	**0.080**		**0.363**	**0.194**
		(0.039)	(0.003)		(0.061)	(0.005)		(0.046)	(0.006)		(0.059)	(0.011)
Observations	15816						13954					

Sampling weights used. Omitted categories include less than 35 years of age; high school or less; administration/management and pay category 5-12.
Bold (shaded) coefficients significant at the 5 (10) percent level.

Table 5. Determinants of Attitudes Towards Sexual Harassment by Gender excluding Agency Fixed Effects
(Probit Marginal Effects and Standard Errors)

	Women						**Men**					
	Unwanted Pressure for Dates						**Unwanted Pressure for Dates**					
	Supervisor			**Co-Worker**			**Supervisor**			**Co-Worker**		
	1978	**1987**	**1994**	**1978**	**1987**	**1994**	**1978**	**1987**	**1994**	**1978**	**1987**	**1994**
Age												
35 - 54	0.006	**0.050**	**0.050**	0.008	0.043	**0.065**	**0.038**	-0.038	0.028	0.022	-0.039	0.019
	(0.012)	(0.026)	(0.024)	(0.016)	(0.033)	(0.032)	(0.015)	(0.037)	(0.034)	(0.018)	(0.041)	(0.042)
55+	-0.012	0.053	-0.017	0.015	0.019	-0.018	0.030	-0.036	0.007	**0.072**	**-0.148**	-0.066
	(0.018)	(0.033)	(0.047)	(0.022)	(0.049)	(0.057)	(0.020)	(0.052)	(0.050)	(0.024)	(0.059)	(0.060)
Married	**0.070**	-0.004	-0.051	**0.109**	-0.041	**-0.074**	**0.040**	-0.011	-0.036	**0.081**	-0.027	-0.041
	(0.012)	(0.026)	(0.031)	(0.014)	(0.032)	(0.034)	(0.016)	(0.034)	(0.036)	(0.020)	(0.039)	(0.040)
Education												
Some College	-0.003	**0.059**	-0.019	-0.009	0.039	-0.036	-0.017	0.012	0.012	-0.013	**-0.114**	0.022
	(0.013)	(0.025)	(0.035)	(0.017)	(0.035)	(0.042)	(0.017)	(0.040)	(0.046)	(0.021)	(0.050)	(0.054)
B.A.	-0.010	**0.087**	**0.093**	-0.038	-0.011	**0.082**	-0.006	-0.013	-0.029	-0.031	**-0.129**	0.017
	(0.020)	(0.029)	(0.024)	(0.026)	(0.052)	(0.041)	(0.021)	(0.046)	(0.057)	(0.026)	(0.053)	(0.059)
> B.A.	0.030	0.054	**0.081**	-0.001	0.084	0.041	-0.010	0.004	-0.025	**-0.089**	-0.096	0.036
	(0.016)	(0.037)	(0.029)	(0.023)	(0.044)	(0.049)	(0.021)	(0.043)	(0.055)	(0.026)	(0.052)	(0.057)
Occupation												
Professional/	**0.034**	-0.047	-0.084	**0.055**	-0.074	**-0.104**	-0.024	0.007	0.005	0.017	-0.026	-0.072
Technical	(0.015)	(0.044)	(0.047)	(0.020)	(0.049)	(0.048)	(0.019)	(0.036)	(0.037)	(0.022)	(0.042)	(0.045)
Clerical	0.018	-0.039	0.011	0.031	-0.048	0.019	**0.056**	-0.051	-0.076	**0.114**	**-0.179**	-0.086
	(0.018)	(0.044)	(0.036)	(0.022)	(0.052)	(0.042)	(0.028)	(0.082)	(0.067)	(0.035)	(0.090)	(0.069)
Other	0.030	-0.045	-0.071	0.006	-0.035	-0.019	0.004	-0.036	-0.016	**0.089**	-0.118	-0.056
	(0.020)	(0.057)	(0.063)	(0.028)	(0.064)	(0.065)	(0.022)	(0.057)	(0.054)	(0.026)	(0.063)	(0.062)
Pay Category												
1- 4	-0.008	-0.005	-0.032	0.009	-0.013	-0.022	**-0.054**	**0.090**	0.072	-0.031	0.037	0.111
	(0.015)	(0.036)	(0.053)	(0.019)	(0.044)	(0.062)	(0.023)	(0.042)	(0.062)	(0.026)	(0.071)	(0.081)
13+	-0.026	0.065	0.009	**-0.095**	0.014	0.019	-0.017	0.013	0.046	-0.007	-0.026	0.023
	(0.022)	(0.037)	(0.037)	(0.028)	(0.050)	(0.045)	(0.021)	(0.034)	(0.031)	(0.025)	(0.042)	(0.041)
Male Supervisor	-0.000	0.046	0.043	-0.002	0.027	**0.064**	0.003	-0.079	0.020	0.033	-0.073	0.019
	(0.012)	(0.025)	(0.023)	(0.015)	(0.032)	(0.029)	(0.019)	(0.042)	(0.035)	(0.023)	(0.045)	(0.042)
Year		0.018	**0.091**		0.115	**0.160**		**0.154**	0.081		**0.328**	**0.183**
		(0.051)	(0.032)		(0.063)	(0.039)		(0.067)	(0.055)		(0.071)	(0.060)
Observations	15816						13954					

Sampling weights used. Omitted categories include less than 35 years of age; high school or less; administration/management and pay category 5-12.
Bold (shaded) coefficients significant at the 5 (10) percent level.

Table 6: Determinants of Reports of Sexual Harassment by Gender excluding Agency Fixed Effects
(Probit Marginal Effects and Standard Errors)

	Women						Men					
	Any Behavior			Unwanted Sexual Attention			Any Behavior			Unwanted Sexual Attention		
	1978	1987	1994	1978	1987	1994	1978	1987	1994	1978	1987	1994
Age												
35 - 54	**-0.147**	-0.012	0.056	**-0.117**	-0.027	0.013	-0.014	-0.007	0.046	-0.014	0.008	0.039
	(0.017)	(0.037)	(0.037)	(0.016)	(0.033)	(0.034)	(0.012)	(0.027)	(0.033)	(0.010)	(0.022)	(0.029)
55+	**-0.279**	-0.079	-0.098	**-0.235**	-0.012	**-0.111**	-0.027	**-0.056**	0.016	**-0.038**	-0.020	0.021
	(0.018)	(0.059)	(0.053)	(0.014)	(0.060)	(0.044)	(0.016)	(0.028)	(0.039)	(0.010)	(0.023)	(0.037)
Married	**-0.085**	0.007	-0.042	**-0.085**	-0.017	-0.020	**-0.069**	-0.020	-0.026	**-0.050**	-0.019	-0.016
	(0.016)	(0.034)	(0.030)	(0.015)	(0.031)	(0.028)	(0.015)	(0.025)	(0.021)	(0.012)	(0.019)	(0.016)
Education												
Some College	**0.091**	0.024	-0.021	**0.070**	-0.010	-0.056	**0.057**	-0.019	0.060	**0.027**	-0.031	0.073
	(0.019)	(0.040)	(0.040)	(0.018)	(0.037)	(0.034)	(0.016)	(0.031)	(0.044)	(0.012)	(0.019)	(0.046)
B.A.	**0.088**	-0.033	0.020	**0.074**	-0.072	-0.023	0.019	-0.012	**0.134**	-0.008	-0.015	0.100
	(0.029)	(0.056)	(0.052)	(0.028)	(0.048)	(0.046)	(0.018)	(0.034)	(0.058)	(0.013)	(0.025)	(0.056)
> B.A.	**0.144**	0.002	-0.055	**0.093**	-0.014	-0.056	**0.072**	-0.038	0.035	0.020	-0.015	0.049
	(0.028)	(0.059)	(0.052)	(0.027)	(0.053)	(0.046)	(0.020)	(0.030)	(0.044)	(0.015)	(0.024)	(0.044)
Occupation												
Professional/	-0.011	0.043	0.004	0.007	-0.003	-0.038	-0.019	-0.010	0.014	-0.019	-0.004	0.049
Technical	(0.024)	(0.053)	(0.044)	(0.022)	(0.049)	(0.038)	(0.015)	(0.026)	(0.028)	(0.012)	(0.020)	(0.030)
Clerical	-0.025	-0.001	0.043	-0.002	-0.083	0.017	-0.031	0.029	0.036	-0.018	0.067	0.025
	(0.026)	(0.057)	(0.046)	(0.024)	(0.050)	(0.043)	(0.020)	(0.060)	(0.046)	(0.015)	(0.059)	(0.037)
Other	0.009	0.060	0.102	0.025	-0.003	0.068	-0.021	0.034	0.021	-0.020	0.038	0.059
	(0.032)	(0.071)	(0.070)	(0.030)	(0.063)	(0.067)	(0.017)	(0.043)	(0.039)	(0.012)	(0.036)	(0.043)
Pay Category												
1- 4	0.010	-0.025	-0.000	0.006	0.007	0.068	0.000	0.044	0.153	-0.008	0.020	0.088
	(0.022)	(0.048)	(0.060)	(0.020)	(0.045)	(0.061)	(0.016)	(0.051)	(0.083)	(0.011)	(0.037)	(0.078)
13+	**-0.062**	0.039	**0.154**	-0.047	-0.005	0.083	**-0.036**	0.037	0.014	**-0.027**	0.033	0.022
	(0.027)	(0.057)	(0.049)	(0.024)	(0.052)	(0.050)	(0.015)	(0.032)	(0.029)	(0.012)	(0.029)	(0.027)
Male Supervisor	**0.059**	0.016	-0.023	**0.044**	0.011	-0.023	**-0.067**	0.006	0.018	**-0.059**	-0.000	-0.005
	(0.017)	(0.036)	(0.033)	(0.015)	(0.033)	(0.030)	(0.016)	(0.028)	(0.028)	(0.014)	(0.021)	(0.018)
Year		-0.019	0.040		0.061	0.029		0.030	-0.046		0.022	**-0.052**
		(0.069)	(0.063)		(0.064)	(0.059)		(0.052)	(0.037)		(0.038)	(0.015)
Observations	15816						13954					

Sampling weights used. Omitted categories include less than 35 years of age; high school or less; administration/management and pay category 5-12.
Bold (shaded) coefficients significant at the 5 (10) percent level.

Table 7. Circumstances Surrounding Reported Sexual Harassment[1]

	Women			Men		
	1978	1987	1994	1978	1987	1994
Behavior(s) in the Situation[2]						
Actual/Attempted Rape or Sexual Assault	0.018	0.019	0.016	0.014	0.022	0.008
Unwanted Pressure for Sexual Favors	0.155	0.138	0.079 [b,c]	0.119	0.180	0.079 [b]
Unwanted Deliberate Touching	0.571	0.569	0.488 [b,c]	0.443	0.454	0.408
Unwanted Sexual Gestures	0.493	0.462	0.497	0.416	0.378	0.400
Unwanted Sexual Materials	0.120	0.151	0.161 [c]	0.131	0.161	0.143
Unwanted Pressure for Dates	0.245	0.200	0.193 [c]	0.145	0.197	0.153
Unwanted Sexual Remarks	0.634	0.631	0.691 [c]	0.581	0.508	0.622 [b]
Who Caused the Situation[2]						
Immediate Supervisor	0.181	0.122 [a]	0.121 [c]	0.073	0.116	0.053
Other Higher Level Supervisor(s)	0.210	0.197	0.171 [c]	0.074	0.099	0.092
Co-Worker(s)	0.336	0.411 [a]	0.458 [c]	0.423	0.475	0.497
Subordinates	0.033	0.021	0.035	0.162	0.107	0.105
Other Employees	0.389	0.378	0.389	0.401	0.389	0.355
Other/unknown	0.057	0.094 [a]	0.065	0.043	0.098	0.062
Gender of Harasser						
Male Harasser	0.972		0.984	0.278		0.301
Female Harasser	0.028		0.016	0.722		0.699
Frequency of Harassment						
Once	0.254	0.327 [a]	0.340 [c]	0.315	0.347	0.494 [b,c]
Once a month or less	0.277	0.205 [a]	0.245	0.353	0.213 [a]	0.266 [c]
2 -4 times per month	0.209	0.263 [a]	0.269 [c]	0.137	0.226 [a]	0.154
Every few days	0.216	0.154 [a]	0.132 [c]	0.154	0.183	0.066 [b,c]
Every day	0.043	0.051	0.014 [b,c]	0.041	0.031	0.019
Duration of Harassment						
Less than one week	0.311	0.370 [a]	0.331	0.395	0.378	0.456
Several weeks	0.184	0.113 [a]	0.107 [c]	0.182	0.095 [a]	0.084 [c]
1 - 6 months	0.228	0.239	0.230	0.202	0.225	0.215
More than 6 months	0.277	0.278	0.332 [c]	0.222	0.302	0.245
Harassment Had an Adverse Effect on[2]						
Feelings about work	0.353	0.313		0.179	0.265	
Emotional of physical condition	0.324	0.319		0.194	0.231	
Ability to work with others on the job	0.143	0.132		0.145	0.194	
Quality of work	0.087	0.076		0.081	0.101	
Quantity of work	0.097	0.099		0.091	0.106	
Time and attendance at work	0.106	0.120		0.076	0.128	
Harassment Hurt Productivity		0.198	0.263 [b]		0.172	0.192
Filed a Formal Complaint	0.025	0.048	0.059 [c]	0.010	0.055	0.034
Observations	2283-2739	1321-1253	1307-1281	773-640	342-322	389-375

Sampling weights used.

1. Refers to the one uninvited sexual experience that is either the most recent or that had the greatest effect on the individual.

2. As mulitple responses were allowed, the columns do not sum to one.

a, b, and c. Refers to significant differences between the means in 1978 vs. 1987, 1987 vs. 1994, and 1978 vs. 1994, respectively, at the 5 percent level.

Appendix Table 1. Demographic and Job Characteristics by Gender and Year

	Women						Men					
	1978		1987		1994		1978		1987		1994	
	Mean	St. Err.	Mean	St. Err.	Mean	St. Err.	Mean	St. Err.	Mean	St. Err.	Mean	St. Err.
Age												
16-34	0.424	(0.005)	0.375	(0.008)	0.247	(0.008)	0.289	(0.005)	0.217	(0.007)	0.175	(0.007)
35-54	0.441	(0.005)	0.504	(0.008)	0.656	(0.008)	0.557	(0.006)	0.630	(0.008)	0.681	(0.009)
55+	0.135	(0.004)	0.121	(0.005)	0.097	(0.005)	0.155	(0.004)	0.152	(0.006)	0.144	(0.007)
Marital Status												
Married	0.555	(0.005)	0.565	(0.008)	0.561	(0.009)	0.810	(0.004)	0.774	(0.007)	0.762	(0.008)
Education												
High School or less	0.417	(0.005)	0.356	(0.008)	0.296	(0.008)	0.307	(0.005)	0.291	(0.008)	0.196	(0.008)
Some College	0.375	(0.005)	0.448	(0.008)	0.373	(0.009)	0.277	(0.005)	0.304	(0.008)	0.271	(0.009)
BA	0.106	(0.003)	0.104	(0.005)	0.188	(0.007)	0.179	(0.004)	0.208	(0.007)	0.232	(0.008)
Greater than BA	0.102	(0.003)	0.092	(0.005)	0.142	(0.006)	0.236	(0.005)	0.198	(0.007)	0.300	(0.009)
Job Type												
Clerical	0.469	(0.005)	0.480	(0.008)	0.472	(0.009)	0.050	(0.002)	0.053	(0.004)	0.162	(0.007)
Professional/Technical	0.298	(0.005)	0.314	(0.007)	0.228	(0.007)	0.528	(0.006)	0.518	(0.008)	0.369	(0.009)
Administration/Management	0.115	(0.003)	0.127	(0.005)	0.229	(0.007)	0.182	(0.004)	0.186	(0.007)	0.248	(0.008)
Other	0.119	(0.003)	0.079	(0.004)	0.071	(0.005)	0.240	(0.005)	0.243	(0.007)	0.221	(0.008)
Pay Grade												
1-4	0.296	(0.005)	0.228	(0.007)	0.080	(0.005)	0.066	(0.003)	0.061	(0.004)	0.030	(0.003)
5-12	0.676	(0.005)	0.737	(0.007)	0.835	(0.007)	0.748	(0.005)	0.768	(0.007)	0.701	(0.009)
13+	0.028	(0.002)	0.036	(0.003)	0.085	(0.005)	0.186	(0.004)	0.171	(0.006)	0.270	(0.009)
Gender of Supervisor												
Male	0.624	(0.005)	0.640	(0.008)	0.630	(0.009)	0.895	(0.003)	0.876	(0.006)	0.851	(0.007)
Observations	8692		3926		3198		7716		3561		2677	

Sampling Weights Used.

Appendix Table 2. Determinants of Attitudes Towards Sexual Harassment by Gender excluding Agency Fixed Effects (Probit Marginal Effects and Standard Errors)

	Women						Men					
	Unwanted Sexual Remarks						Unwanted Sexual Remarks					
	Supervisor			Co-Worker			Supervisor			Co-Worker		
	1978	1987	1994	1978	1987	1994	1978	1987	1994	1978	1987	1994
Age												
35 - 54	0.006	0.060	**0.079**	0.019	0.035	0.056	**0.041**	0.018	0.041	0.027	0.037	0.033
	(0.016)	(0.034)	(0.033)	(0.017)	(0.036)	(0.037)	(0.019)	(0.042)	(0.043)	(0.019)	(0.042)	(0.043)
55+	**0.056**	0.048	-0.042	**0.080**	0.060	-0.062	**0.091**	-0.026	-0.069	**0.103**	-0.014	-0.063
	(0.022)	(0.050)	(0.058)	(0.023)	(0.053)	(0.059)	(0.025)	(0.058)	(0.059)	(0.027)	(0.057)	(0.055)
Married	**0.037**	-0.024	0.009	**0.038**	0.001	0.011	-0.005	0.004	-0.001	-0.000	0.018	0.004
	(0.015)	(0.033)	(0.031)	(0.016)	(0.033)	(0.032)	(0.020)	(0.041)	(0.040)	(0.020)	(0.041)	(0.039)
Education												
Some College	-0.016	**0.126**	0.063	-0.028	**0.134**	0.061	-0.001	0.001	0.043	-0.001	-0.033	0.050
	(0.017)	(0.033)	(0.037)	(0.019)	(0.036)	(0.040)	(0.021)	(0.049)	(0.053)	(0.021)	(0.047)	(0.053)
B.A.	0.008	0.053	0.086	-0.008	0.038	0.070	-0.000	0.021	-0.018	-0.028	-0.017	0.015
	(0.026)	(0.051)	(0.045)	(0.028)	(0.055)	(0.051)	(0.026)	(0.051)	(0.061)	(0.026)	(0.051)	(0.059)
> B.A.	0.038	**0.153**	**0.105**	0.021	**0.117**	0.081	-0.043	**0.101**	0.061	**-0.063**	0.035	0.104
	(0.024)	(0.042)	(0.044)	(0.027)	(0.053)	(0.051)	(0.026)	(0.050)	(0.058)	(0.025)	(0.052)	(0.059)
Occupation												
Professional/	0.036	**-0.110**	-0.041	0.035	**-0.110**	-0.058	-0.013	-0.033	**-0.090**	-0.012	-0.034	**-0.084**
Technical	(0.021)	(0.051)	(0.046)	(0.023)	(0.051)	(0.045)	(0.023)	(0.042)	(0.044)	(0.023)	(0.041)	(0.040)
Clerical	0.026	-0.089	0.056	0.033	-0.077	0.026	0.070	-0.011	**-0.160**	0.057	-0.009	-0.102
	(0.023)	(0.053)	(0.041)	(0.025)	(0.055)	(0.045)	(0.039)	(0.087)	(0.066)	(0.041)	(0.084)	(0.060)
Other	0.014	-0.084	**0.123**	0.002	-0.076	0.097	**0.065**	-0.034	-0.081	**0.083**	-0.047	-0.086
	(0.029)	(0.068)	(0.052)	(0.031)	(0.069)	(0.065)	(0.027)	(0.059)	(0.061)	(0.028)	(0.057)	(0.054)
Pay Category												
1- 4	**0.040**	-0.013	-0.017	**0.055**	-0.061	0.001	-0.020	-0.003	**0.213**	-0.024	-0.004	**0.176**
	(0.019)	(0.045)	(0.065)	(0.021)	(0.048)	(0.067)	(0.027)	(0.071)	(0.082)	(0.027)	(0.069)	(0.089)
13+	-0.049	0.019	-0.016	**-0.061**	0.024	-0.029	-0.010	-0.049	0.018	-0.023	-0.040	-0.016
	(0.028)	(0.053)	(0.050)	(0.029)	(0.055)	(0.050)	(0.026)	(0.043)	(0.045)	(0.026)	(0.042)	(0.044)
Male Supervisor	-0.018	-0.005	**0.080**	-0.014	0.027	**0.076**	**0.069**	-0.052	**-0.093**	**0.070**	-0.063	-0.046
	(0.015)	(0.034)	(0.029)	(0.016)	(0.035)	(0.032)	(0.023)	(0.047)	(0.044)	(0.023)	(0.047)	(0.042)
Year		0.091	0.063		0.080	**0.120**		0.087	**0.266**		0.110	**0.263**
		(0.064)	(0.057)		(0.067)	(0.058)		(0.081)	(0.057)		(0.080)	(0.073)
Observations	15816						13954					

Sampling weights used. Omitted categories include less than 35 years of age; high school or less; administration/management and pay category 5-12.
Bold (shaded) coefficients significant at the 5 (10) percent level.

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