

WORK ORGANIZATION PREDICTORS OF DEPRESSION IN WOMEN

Request for Office of Management and Budget Review and Approval for Federally
Sponsored Data Collection

Reinstatement with Change of a Previously Approved Package
0920-0630

July 2008

Project Officer: Naomi G. Swanson
National Institute for Occupational Safety and Health
Division of Applied Research and Technology
4676 Columbia Parkway, Mailstop C-24
Cincinnati, OH 45226-1998
(513) 533-8165
nswanson@cdc.gov

Table of Contents

Justification

- A1. Circumstances Making the Collection of Information Necessary
- A2. Purpose and Use of Information Collection
- A3. Use of Improved Information Technology and Burden Reduction
- A4. Efforts to Identify Duplication and Use of Similar Information
- A5. Impact on Small Business or Other Small Entities
- A6. Consequences of Collection of the Information Less Frequently
- A7. Special Circumstances Relating to the Guidelines of 5 CFR 1320.5
- A8. Comments in Response to the Federal Register Notice/Consultation
- A9. Explanation of Any Payment or Gift to Respondents
- A10. Assurance of Confidentiality Provided to Respondents
- A11. Justification for Sensitive Questions
- A12. Estimates of Annualized Burden Hours and Costs
- A13. Estimates of Other Total Annual Cost Burden to Respondents
- A14. Annualized Cost to the Government
- A15. Explanation for Program Changes or Adjustments
- A16. Plans for Tabulation and Publications and Project Time Schedule
- A17. Reason(s) Display of OMB Expiration Date is Inappropriate
- A18. Exceptions to Certification for Paperwork Reduction Act Submissions

A. Collections of Information Employing Statistical Methods

- B1. Respondent Universe and Sampling Methods
- B2. Procedures for the Collection of Information
- B3. Tests of Procedures or Methods to be Undertaken
- B4. Individuals Consulted on Statistical Aspects

Appendices

- Appendix A. Copy of Legislation on Data Collection
- Appendix B. Federal Register Notice
- Appendix B1. Comment and Response to 60 Day Notice
- Appendix C. Participant Questionnaires
- Appendix C1. Survey Interview Transcript
- Appendix D. IRB Approvals
- Appendix E. Consent Form
- Appendix F. 18 -Month Follow-up Letters to Participants
- Appendix G. Non-Response Letter
- Appendix H. 308(d) Assurance of Confidentiality
- Appendix I. Contractor Agreement on Privacy Act Provisions and Section 308(d)

SUPPORTING STATEMENT

A. Justification

This package is a reinstatement for an additional 18-month OMB approval in order to complete data collection for the “Work Organization Predictors of Depression in Women” project. The following are changes from the original submission:

- 1) Sections A.12, A.14, and A.15 have been modified to reflect the actual number of participants recruited into the study. This number is less than originally estimated. The annual response burden has decreased substantially, as has the annualized cost to the government.
- 2) Section A.16 has been modified to reflect the project schedule for the remainder of the study.
- 3) Because the number of participants recruited into the study is less than originally called for, we have redone the power calculations in Section B.1 to show that there is sufficient power for the study analyses.

1. Circumstances Making the Collection of Information Necessary

The Occupational Safety and Health Act of 1970 (Public Law 91-256), under Sections 20 and 22 (Appendix A), mandates the National Institute for Occupational Safety and Health (NIOSH) to conduct research relating to occupational safety and health, including “studies of psychological factors involved,” and “research into the motivational and behavioral factors relating to the field of occupational safety and health.” The current study applies to CDC’s strategic goal addressing healthy workplaces with its intent to promote and protect the health and safety of people who work by conducting research that has the potential to prevent workplace-related illness and personal health risks.

The present study utilizes this mandate to examine the relationship between workplace stressors and depression in women workers (i.e., job demands, work-family conflict). Depression in women is a significant occupational health problem, with some researchers even labeling it “a working women’s health issue” (Conti and Burton, 1994). Women suffer from major depressive disorder (MDD), minor depression (i.e., adjustment disorder with depressed mood) and depressive symptoms at much higher rates than men. In most cases, the gender ratio is approximately 2:1, and the lifetime risk for minor depression may be as high as 72% for women (Beck and Koenig, 1996; Maier et al., 1999).

Depression has significant performance (Berndt et al., 1998; Martin et al., 1996) and work disability consequences. Broadhead et al. (1990) found that workers with MDD were more than four times as likely to claim disability days and were three times as likely to miss time from work as workers without MDD. Surprisingly, some forms of minor depression were associated with even more (51%) disability days than MDD. Conti and Burton (1994) found that the average length of a disability period due to MDD was one to

12 weeks longer than for other types of mental health or non-mental health diagnoses and reported that in 1991, the costs of treatment for depression for a major U.S. bank were nearly as high as the costs of treatment for heart disease. More recent data indicate that workers who reported being depressed had medical expenditures over a three-year period that were 70% higher than those for workers who did not report being depressed (Goetzel et al., 1998). Women bear the brunt of these costs. In a study of insurance company employees in Canada, Dewa et al. (2002) found that women had three times the rates of depression-related short-term disability claims, and that the length of disability for depression was approximately one month longer than for other types of mental disorders (30.4 days).

Work-related Risk Factors for Depression in Women: Most studies examining the causes for the higher rates of depression in women have focused on behavioral (e.g., the greater use of maladaptive coping strategies by women, Nolan-Hoeksema et al., 1999), social (e.g., social roles; Maier et al., 1999), and biological (e.g., hormonal; Parry, 1995) factors. Very few studies, however have attempted to determine, prospectively, what workplace factors may be related to high rates of depression among working women.

Work for women and men differ in a number of ways which may be related to higher rates of depression in women. For example, total hours of work per day may differ substantially for men and women as women typically have primary responsibility for child and elder care, and for household chores (Galinsky et al., 1993). These responsibilities can also result in high levels of work-family conflict for women. Women are also exposed to certain non-traditional stressors at work (e.g., harassment and discrimination) to a much greater degree than men simply because of their gender. In addition, exposure to traditional workplace stressors (e.g., control, job demands, role clarity), may also be different for women and men, even in the "same" jobs, as women often have less autonomy and control and higher demands (Pugliese, 1995). All of these factors may pose a greater risk for depression in women, as detailed below.

Discrimination based on gender: Women fare poorly, compared with men, in terms of salary and advancement opportunities at work. Although the salary differential between men and women has declined over the years, in 1999, U.S. women still earned only 77 cents for every dollar men earned (Women's Bureau, 2000). Women are less likely to be promoted than men unless they are managers and administrators (Cobb-Clark and Dunlop, 1999). However, even as managers and administrators, women are less likely to attain the same managerial levels as men (Tharenou, 1999). Training, promotions and positions targeted for advancement are often not assigned to women, and women are often excluded from informal networks which facilitate advancement within an organization (Lyness and Thompson, 2000; Stroh et al., 1996). Studies have shown that perceptions of lack of career opportunities or advancement are associated with employee turnover, absenteeism, and stress (Stroh et al., 1996; Turnage and Spielberger, 1991). The effects on depression are, as yet, unknown. However, a relationship with these discriminatory practices is possible, given the linkage between failure to meet occupational aspirations and increased risk of depression (Carr, 1997).

Sexual Harassment: Sexual harassment refers to unwanted sexual attention, sexual coercion or gender harassment in the workplace (Gelfand et al., 1995). Gender harassment, a type of sexual harassment, refers to conduct that conveys insulting, hostile and degrading attitudes about a gender, such as offensive slurs, jokes or remarks (Piotrkowski, 1998). Sexual harassment is directed primarily at women in the workplace, and may be one of the most frequently encountered health hazards for women. Most research on sexual harassment indicates that 50% or more of women across multiple samples have experienced unwanted and offensive sex-related behaviors at some point during their careers (Fitzgerald, 1993; Magley et al., 1999). Sexual harassment has proven to be a particularly noxious workplace stressor for women, with a wide variety of negative physical, psychological and job related outcomes, including depression (Fitzgerald, 1993; Goldenhar et al., 1998; Goldenhar et al., 2001; Gutek and Koss, 1993). Even witnessing other women being sexually harassed is stressful, and has been related to negative job and psychological outcomes for men as well as women (Glomb et al., 1997; Morrow et al., 1994). Sexual harassment has the same negative consequences for women whether they label their experiences as sexual harassment or not (Magley et al., 1999), and has been found to contribute to physical and psychiatric symptoms above and beyond the variance accounted for by more traditional job stressors (Landrine et al., 1995). Indeed, Klonoff et al. (2000) argue that sexual harassment can account for a large portion of the gender difference in depressive symptoms seen in the workplace -- citing one of their studies in which sexual harassment accounted for nearly half (46%) of the variance in depressive symptoms in women, and showing data indicating that women with very low levels of sexual harassment did not differ from men in terms of depression and physical symptoms.

Hours of Work: There is ample evidence that working long hours (more than 48 hours/week) is associated with decreased physical and mental health (Sparks et al., 1997). When hours spent at the workplace are combined with hours worked at home on domestic duties and dependent care, the "workday" for women is often longer than that for men. In fact, the number of hours spent in household chores and dependent care can add nearly the equivalent of another full shift onto the workday. Most working women (including married women and mothers) work at least 40 hours per week (Women's Bureau, 2000). Most women also retain primary responsibility for childcare and eldercare (Bond et al., 1997; Women's Bureau, 1998), as well as for cooking, cleaning and shopping (Galinsky et al., 1993). Married women without children report spending nearly 2 1/2 hours per workday on household chores (Galinsky et al., 1993), while those with children report spending nearly 6 1/2 hours per workday on a combination of household chores and childcare (Bond et al., 1997). Those women providing eldercare spend an average of 11 hours/week on direct and indirect care (Bond et al., 1997).

Work-Family Conflict: Married women, particularly mothers, are participating in the labor force in record numbers, primarily due to expanding employment opportunities (Cohen and Bianchi, 1999). Women, because of their primary responsibility for the household, may be particularly vulnerable to the strains of juggling work and home obligations. In a recent review of the work/family conflict literature, all but one of the studies examining the link between work/family conflict and depression found that

increased work-family conflict is related to increased levels of depression as well as to poorer health, decreased job satisfaction, turnover, and, sometimes, reduced performance (Allen, et al., 2000). Both work role quality and demands at home probably contribute to these adverse outcomes. For example, a recent study found that 16% of the variance in depression in working mothers was explained by an interaction of work (job role ambiguity, lack of autonomy) and family stressors (family conflict and lack of task sharing at home) (Schwarzberg and Dytell, 1996).

Traditional Work Organization Stressors. There is some evidence that certain job conditions are risk factors for depressive symptoms or psychological distress in both men and women. These include high levels of job demands combined with low levels of control/autonomy/decision authority (DeJonge et al., 2000; Moyle, 1998; Niedhammer et al., 1998) or high workload combined with role ambiguity (Heinisch and Jex, 1997). However, control, social support and job complexity may be greater risk factors for women. A number of studies have found that women are much more likely to be in jobs with less control (often combined with higher job demands) and less complexity than men (Pugliese, 1995; Roxburgh, 1996; Vermeulen and Mustard, 2000). Complexity and control are significantly associated with self-confidence and self-esteem in women (Adelman, 1987; Pugliese, 1995), which in turn are related to psychological distress (Pugliese, 1995). In women, social support may moderate the relationship between working conditions and mental health to a greater degree than it may for men. For example, Vermeulen and Mustard (2000) found that a lack of social support was associated with higher levels of psychological distress across all job strain (i.e., demands/control) categories for women. High levels of workplace social support, however, eliminated psychological distress across all job strain categories for women, (but not for men).

Potential Moderating Factors: Policies and practices against sexual harassment and discrimination will be examined as they can be quite effective in reducing their occurrence. Dekker and Barling (1998) found that perceptions that a company will not tolerate sexual harassment served to significantly inhibit such behavior. Policies that ensure equal employment opportunities for women in companies also serve to significantly reduce sexual harassment (Riger, 1991). More importantly, there is some indication that improving working conditions for women (e.g., reducing sexual harassment and discrimination, providing more workplace flexibility for dealing with home or dependent care responsibilities) has positive ripple effects throughout an organization. Workplaces that do not tolerate sexual harassment and discrimination, and which offer the ability to better balance work and personal obligations, are strongly preferred by both women and men (Stokes et al., 1995). Additionally, organizations with family-responsive human resources policies appear to engender higher levels of commitment and attachment among their employees regardless of the extent to which the employees actually use the programs (Grover and Crooker, 1995; Scandura and Lankau, 1997), and such policies may reduce stress in employees (Thomas and Ganster, 1995). The prevalence of programs that allow employees to better balance their work and personal lives is increasing, but still fairly low for some types of programs. A 2002 survey of 945 U.S. employers indicated that 59% offered flextime, 28% offered job

sharing, 33-43% offered child and elder care resource and referral services, 61% offered other personal services (e.g., ATMs, banking services, dry cleaning), and 79% offered educational reimbursement (Hewitt Associates, 2002). The prevalence of policies against discrimination and harassment is unknown, but likely to be quite high, particularly among larger firms.

2. Purpose and Use of Information Collection

The study survey will allow a comprehensive assessment of workplace stressors that may be linked with depression in women. To date, studies (as cited above in A.1) which have examined the relationship between workplace factors and depression in women have focused on only a few of the potential risk factors (e.g., hours of work, discrimination). Consequently, the amount of variance in depression in working women accounted for by these studies, although statistically significant, is often small. Most of these studies have also been cross-sectional in nature, not allowing researchers to better understand the antecedents and causal pathways between risk factors and depression. Nor have these studies examined the potential moderating effects of preventive factors in the workplace (i.e., workplace policies, practices and programs) on levels of depression. Studies of workplace policies, practices and programs have generally focused on outcomes such as productivity, commitment and turnover rather than on worker health. (An exception is Thomas and Ganster [1995] who found family supportive policies to be linked with reduced levels of stress and depression.) Consequently, although such policies, programs and practices show potential for reducing workplace hazards associated with depression in women, and thus positively influencing the health of women workers, there have been no comprehensive, longitudinal studies examining this relationship. The lack of comprehensive, longitudinal data, such as those collected in this study, makes it extremely difficult to advise employers about workplace job characteristics that need to be targeted for intervention in order to prevent or reduce the healthcare and productivity costs associated with worker depression.

The data collected in the present study will allow the determination of what job characteristics are associated with the development, worsening, or prevention/alleviation of depressive symptoms. Additionally, these data will allow a determination of whether workplace policies, procedures and practices modify the relationship between job characteristics and depressive symptoms, and which policies, procedures and practices are most protective. NIOSH will use these data to make recommendations to employers on how to identify and reduce or eliminate problematic job characteristics, and about workplace policies, procedures, and practices that are effective in reducing the risk for depression.

An extension of the OMB approval is requested to complete data collection. The baseline data were received in February 2007, and there is one additional wave of data to collect. This additional wave of data is essential to answer the key study questions about antecedents and causal pathways between workplace characteristics and depression. The project time period has been extended, and sufficient funding has been received, to complete this additional wave of data collection.

3. Use of Improved Information Technology and Burden Reduction

The survey is being administered via Computer Assisted Telephone Interview (CATI), and Telephone Computer-Assisted Self Interviewing (T-ACASI) systems, thus allowing all responses to be collected electronically. With T-ACASI, respondents listen to a recording of the questions and respond with the number pad of their telephones, thus allowing sensitive questions to be answered in complete privacy. In order to reduce the burden on the respondents, the survey was pilot-tested twice (n=9/pilot test) to identify problematic questions, duplicative questions, and timing information. With survey modifications and reductions made between the first and second pilot tests, the time to administer the survey was reduced from 61 minutes to 51 minutes. Additional modifications/reductions to the survey that were made after the second pilot test reduced the administration time to 45 minutes (as confirmed by an informal timing evaluation performed by several contractor staff among themselves). The current survey contains the minimal number of questions required to adequately assess the range of variables in the study without compromising the integrity of the survey or study aims.

4. Efforts to Identify Duplication and Use of Similar Information

An extensive review of the literature, and an examination of grants administered by NIH and CDC, have revealed no research that is duplicative of the current proposal. While the research literature contains studies that have examined workplace stressors and their relationship to depressive symptoms, no studies have examined the constellation of factors that the current proposal will examine, none have collected information on the range of “control” factors (e.g., health, behavioral variables) that the current proposal will collect, and few have examined reasons for work-related gender differences in depression. Thus, prior studies have not been able to adequately address the questions of what work organization factors are related to depression in women, and which factors may contribute to the gender differential in depression between men and women, because of the limited range of work organization variables measured, and because they have not adequately controlled for the major non-work variables known to be related to depression.

5. Impact on Small Business or Other Small Entities

No small businesses will be involved in this study.

6. Consequences of Collection of the Information Less Frequently

Respondents will complete the survey on an annual basis. This allows us to balance the problem of allowing sufficient time for exposure to workplace variables to have an effect on health and depression with recall bias issues. If data are collected on a less frequent basis, recall bias regarding past exposures and health status will become a serious issue. There are no legal obstacles to reducing the burden.

7. Special Circumstances Relating to the Guidelines of 5 CFR 1320.5.

This request fully complies with the regulation.

8. Comments in Response to the Federal Register Notice and Efforts to Consult Outside the Agency

- A. The 60-day notice was published in the Federal Register on March 17, 2008 (Volume 73, Number 52, pp 14253-14254). The notice is contained in a PDF file labeled Appendix B. Comment and response to 60 day notice Appendix B1.
- B. This project has undergone both a blinded peer review process (in which it was sent to three scientists external to the Institute in November, 2000, who provided written reviews of the proposal), and a peer review meeting in January, 2001, with three additional external scientists, who also provided comments to the Principal Investigator. These reviewers were:

Daniel Ganster, Ph.D.
Sam M. Walton College of Business
1 University of Arkansas
Fayetteville, AR 72701-1201
Phone: 479-575-6216

Barbara Curbow, Ph.D.
Health Policy and Management
Johns Hopkins University
624 N. Broadway, Room 703
Baltimore, MD 21205
Phone: 410-614-2281

Richard Lippin, M.D.
230 Toll Drive
Southampton, PA 18966
Phone: 215-364-2990

As a result of these reviews, the study design was modified: a) to include a sample of men to allow gender comparisons, and b) to administer the work organization survey at baseline. Originally, the project staff did not intend to do the latter, based on the premise that newly hired personnel would not have been sufficiently exposed to work organization factors, or have become sufficiently familiar with company policies and practices, to answer questions about them. The reviewers felt that this information needed to be collected at baseline.

Additionally, Dr. Carolyn Mazure, (Professor of Psychiatry, and Director, Women's Behavioral Health Division, Yale University School of Medicine, P.O.

Box 208091, New Haven, CT, 06520, Phone: 203-764-6600) has been extensively consulted on an on-going basis regarding the design of the survey instrument, the study population, and the frequency of data collection. This has included two meetings at Yale University with Dr. Mazure, the first on 3/14/2002, and the second on 6/25/2002.

9. Explanation of Any Payment or Gift to Respondents

Studies of methods of increasing study participation rates show that monetary incentives greatly increase the odds of response. In a review of 292 randomized controlled trials utilizing 75 strategies for improving response rates to questionnaires, Edwards et al. (2002) indicated that monetary incentives more than doubled the odds of response. More importantly, studies examining the effects of incentives on participation of women in longitudinal studies show that monetary incentives greatly improve participation rates. Kamb et al. (1998) obtained completion rates for a four-session intervention of 55% for those receiving \$15/session vs. 37% for those not receiving a monetary incentive. Kissinger et al. (2000) found that a \$20 incentive doubled the odds of a participant returning for additional visits in an intervention study. Our experience during the pilot testing was that subjects were willing to complete the surveys for a remuneration of not less than \$25. Since most study participants have elected to complete the survey at a location other than the workplace, the remuneration is a fair exchange for the personal time spent responding to the survey. Finally, given the cost, time, and effort required in obtaining the sample, the concerns about maintaining compliance with repeated interviews, and the need to reduce attrition over the course of two years, remuneration of subjects in order to increase compliance is justified.

10. Assurance of Confidentiality Provided to Respondents

The CDC Privacy Act Officer reviewed this application for the first wave of data collected and determined that the Privacy Act was applicable. The study will collect both sensitive data and personal identifiers (name, phone number, etc.) which will be maintained in Privacy Act system of records #09-20-0147, Occupational Health and Epidemiological Studies. Because some of the information requested in the survey is highly sensitive (e.g., alcohol and illegal substance use, prior trauma, mental health), an assurance of confidentiality was applied for. The CDC Privacy Act Coordinator reviewed the project protocol and determined that it was appropriate to obtain the 308(d) Assurance of Confidentiality. The 308(d) approval was obtained May 24, 2004 (Appendix H). NIOSH IRB approval is renewed on an annual basis. The current NIOSH IRB approval is contained in Appendix D.

Participation in the study is completely voluntary. A contractor, RTI International, is collecting the data as described below. Data are being gathered using personal identifiers. NIOSH generated 5-digit identification numbers which were assigned to study participants during the study orientation/informed consent process. All subject data gathered during the study is being labeled solely with participant identification numbers. A key, cross-referencing identification numbers and participant names and contact

information, has been developed. To maintain participant confidentiality, access to the key is limited to NIOSH study staff and to RTI personnel responsible for contacting study participants. The key is maintained in a secure location at all times (i.e., locked file cabinet, password-protected electronic file), and will be immediately destroyed upon completion of data collection. Additionally, all electronic data files or hardcopy containing subject identifier numbers are kept in secure locations (i.e., locked file cabinet, password-protected electronic files), and access is restricted to NIOSH and RTI project staff. RTI staff are motivated to maintain confidentiality as their contracts inform them that they are at risk of legal liability if they breach participant confidentiality in any fashion. Confidentiality agreement with contractor is attached (Appendix I).

Finally, the project staff have made every effort to ensure respondent privacy when answering highly sensitive questions by administering those questions through T-ACASI, a self-administered telephone assisted survey method. Use of T-ACASI ensures that no contract staff will hear or see respondent answers to these sensitive questions.

11. Justification for Sensitive Questions

It will be impossible to confidently say that depressive symptoms reported in the study are related to workplace stressors without controlling for a number of non-work factors that prior research has shown are strongly related to depression. These include factors which are highly sensitive, such as illegal substance use, childhood trauma, and previous mental health status. Additionally, depression rates vary by race/ethnicity, and it is necessary to collect this information in order to control for these differences in the analyses. As detailed in the consent form, participants are informed that “The sensitive nature of some of the questions may cause distress, but you may choose not to answer any of the questions for that or any other reason.” Additionally, they are told that individual information will not be revealed in any reports of study results, that the Assurance of Confidentiality protection for the study means that personally identifiable data can be used only for the study and cannot be revealed to anyone else without the participant’s permission. Participants are also given NIOSH and RTI contacts for questions or to report any concerns about their treatment as study participants. See Section A.10 for the steps taken to safeguard all information, including sensitive information, received from the participants.

12. Estimates of Annualized Burden Hours and Costs

A. Hour Burden: Table 1 contains the estimated total hour burden for the collection of information. Each of the 314 participants will receive the survey three times. The hour burden estimates were derived as follows. The study involves 314 workers, who will be administered a 45-minute survey annually for eighteen months. The annual hour burden for the workers is 236 hours, and the total hour burden (one remaining administrations of the survey). The estimated response burden for the worker survey is based on pilot testing conducted by the project contractor, RTI, as described in Section B.4.

Table 1. Estimated Annual Response Burden

Form Name	Number of Respondents	Number of Responses per Respondent	Average Burden Response (in hours)	Total Burden (in hours)
Worker Survey	314	1	45/60	236
Total				236

B. Annualized Cost to Respondents: Bureau of Labor Statistics (BLS) 2001 National Occupational Employment and Wage Estimates were referenced to estimate hourly wage rates for the respondents. The hourly wage rate for the support occupations is a weighted mean (weighted by occupational representation).

Table 2. Estimated Annualized Cost to Respondents

Type of Respondent	Number of Respondents	Frequency of Response	Hourly Wage Rate	Total Respondent Cost
Support Occupation	314	1	\$15.00	\$4710
Total				\$4710

13. Estimates of Other Total Annual Cost Burden to Respondents or Record Keepers

The respondents will not incur any capital, maintenance, or purchase of services costs due to participating in the study.

14. Annualized Cost to the Government

The extension will be for an additional eighteen months. The total cost for these years is \$231,575, for an average annual cost of \$117,041. Intramural expenses account for a total of \$17,000 (10% of a GS-14, 25% of a GS-12 and 5% of a GS-5) for an average annual cost of \$8,500. Extramural costs of \$217,083 (\$108,541 annually) will be incurred by RTI, the contractor, for survey administration, and editing and coding the data for analysis RTI project costs are broken down as follows:

14.1. RTI Project Cost Summary

<u>Labor</u>	\$154,935
<u>Other Direct Costs (ODCs)</u>	
ODCs Subject to General and Administrative Expense	
Computer expenses	300
Travel	569
Services	27,500
Shipping and postage	1,600
Telephone	<u>5,750</u>
Total	40,565
<u>Project Management</u>	<u>\$ 21,583</u>
<u>Total Estimated Cost</u>	<u>\$217,083</u>

15. Explanation for Program Changes or Adjustments

Adjustments have been made to burden and government cost estimates based on the number of actual participants recruited into the study. Company recruitment proved to be much more difficult than anticipated, and the recruitment period was extended for 18 months to allow for recruitment of sufficient participants.

16. Plans for Tabulation and Publication and Project Time Schedule

a. The projected time schedule for the project extension is as follows:

Activity	Time Schedule
2 nd follow-up survey	Immediately following OMB approval to June 2009

An OMB extension of 18 months is being requested to allow for the collection of the remaining data.

b. Analysis plan

Univariate & Bivariate Analyses: Once the dataset is cleaned and any inconsistencies corrected, univariate analyses will be conducted to assess the frequencies and distributions of all the variables. Next, bivariate correlations will be calculated to determine the level of multicollinearity between the variables. The data will be reviewed keeping in mind the assumptions which exist for all parametric multivariate analysis procedures (i.e., normally distributed data, linear and additive relationships, the absence of multicollinearity, and the absence of measurement error).

As most of the variables/constructs of interest are actually measured using scales derived from multiple, rather than single item measures, factor analyses will be conducted to confirm the unidimensionality of the scales. If the scales prove to be multidimensional rather than unidimensional, additional constructs will be created to reflect this. Once the final scales are ascertained, their reliability (i.e., internal consistency) will be evaluated by calculating a Cronbach's alpha score (Cronbach, 1951) and a KR20 for dichotomous items (Nunnally, 1978). The final preliminary appraisal, prior to conducting multivariate analyses, will be to examine the bivariate relationships between the constructs to assess their degree of multicollinearity.

Company-level Descriptive and Comparative Analyses: Descriptive analyses of levels of depression, as well as specific organizational policies and programs obtained from each company, will be conducted. Next, using ANOVA and ANCOVA (controlling for time 1 and time 2 levels of depression) company level comparisons will be performed to determine whether levels of depression vary as a function of organizational policies, practices and programs.

Multivariate Analysis: Initially, multiple linear regression will be used to examine the relationships between work organization stressors and depression. Analyses will be performed to determine the effects of non-traditional stressors (and, separately, traditional stressors) measured at Time 2 on depression at Time 2, controlling for (baseline) levels of depression at Time 1. Variables corresponding to organizational policies, practices and programs (as described above in the section on company-level analyses) will be introduced into the analyses, and the effects of the interactions between stressors and organizational policies on depression will be examined to determine whether organizational policies, practices and programs moderate the relationship between work organization stressors and depression. These analyses will be repeated with the Time 3 stressor and Time 3 depression data, again controlling for Time 1 levels of depression.

The final analytic activity will be an exploratory activity to determine the relationships between the constructs over the three waves of data using Structural Equation Modeling (SEM). SEM analysis simultaneously incorporates solutions to one or more ordinary least squares multiple linear regression equations and allows the researcher to examine the stated processes underlying the observed relationships and for the estimation of the relative importance of alternative paths (Asher, 1983). This is in contrast to linear multiple regression which estimates coefficients for single models, one at a time, and gives only the direct effects of the individual constructs on the outcome variable (controlling for other variables in the model).

17. Reason(s) Display of OMB Expiration Date is Inappropriate

There is no reason that the OMB expiration date cannot be displayed on study materials.

18. Exceptions to Certification for Paperwork Reduction Act Submissions

There are no exceptions to the certification.