

**National Institute for Occupational Safety and Health (NIOSH)
Measuring Well-Being for *Total Worker Health*[®]**

Supporting Statement – Section A

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Program Official/Project Officer

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Table of Contents

Justification

1. Circumstances Making the Collection of Information Necessary
2. Purpose and Use of Information Collection
3. Use of Improved Information Technology and Burden Reduction
4. Efforts to Identify Duplication and Use of Similar Information
5. Impact on Small Businesses or Other Small Entities
6. Consequences of Collecting the Information Less Frequently
7. Special Circumstances Relating to the Guidelines of 5 CFR 1320.5
8. Comments in Response to the Federal Register Notice and Efforts to Consult Outside the Agency
9. Explanation of Any Payment or Gift to Respondents
10. Protection of the Privacy and Confidentiality of Information Provided by Respondents
11. Institutional Review Board (IRB) and Justification for Sensitive Questions
12. Estimates of Annualized Burden Hours and Costs
13. Estimates of Other Total Annual Cost Burden to Respondents or Records Keepers
14. Annualized Cost to the Government
15. Explanation for Program Changes or Adjustments
16. Plans for Tabulation and Publication and Project Time Schedule
17. Reason(s) Display of OMB Expiration Date is Inappropriate
18. Exceptions to Certification of Paperwork Reduction Act Submissions

List of Attachments

1. Att. A Authorizing Legislation
2. Att. B 60-Day FRN
3. Att. C Consent Form
4. Att. D Survey
5. Att. E Recruitment and Reminder Emails
6. Att. F IRB Determination
7. Att. G References
8. Att. H Comments from 60-day FRN
9. Att. I Instrument Domains and Subdomains Table
10. Att. J Worker Well-being Survey Items and Associated References

SUPPORTING STATEMENT A
Submission for “Measuring Well-Being for *Total Worker Health*”

- **Goal of the study:** There is currently no comprehensive measure of worker well-being in the U.S. despite well-being becoming a higher priority in some employment settings. The goal of this study is to gather data and conduct psychometric testing of a draft worker well-being survey instrument, and to refine the instrument accordingly, to enable estimates of worker well-being at the national and worker population (e.g., industry, industry sector, occupation, organizational) levels in the United States.
- **Intended use of the resulting data:** The project’s objective is to field a survey for the purposes of instrument testing, validation, and finalization. The ultimate end goal of the instrument is the routine measurement of worker well-being of a sample of workers in the U.S., at national or other population-level scales. This instrument will be useful to employers to assess and advance the well-being of the workforce.
- **Methods to be used to collect:** The survey will be administered to an online panel of employed workers convened by GfK, a survey vendor.
- **The subpopulation to be studied:** A random sample of participants from the GfK online panel will be drawn from all panel participants who are English speaking, employed, and at least 18 years old.
- **How data will be analyzed:** Psychometric analyses, including exploratory and confirmatory factor analyses, will be conducted to understand and finalize the factor structure of the instrument and to assess the overall validity of the instrument.

A. Justification

1.1 Overview of Request

This is a request for a new information collection. The Centers for Disease Control and Prevention (CDC) is requesting a 1-year approval to collect information using a worker well-being survey. This survey does not collect personally identifiable data.

CDC's National Institute for Occupational Safety and Health (NIOSH) has contracted with the RAND Corporation to develop an instrument to measure worker well-being. In response to partner and stakeholder requests and interests, NIOSH'S *Total Worker Health* Program started an initiative to define and measure the concept of worker well-being.¹ Conceptualizing and measuring *worker well-being* is a developing field of research, and presently there is no consistent definition or consensus around measurement. Thus far, worker well-being has been measured in somewhat limited and discrete ways through concepts as varied as job satisfaction, employee engagement, positive emotions, good physical or mental health, and quality of social relationships, to name a few.^{2,3} But no single instrument currently exists that is inclusive of these and other relevant indicators, thereby capturing the full multidimensional nature of worker well-being. The lack of such an instrument creates challenges for any program or initiative that aims to understand and advance the well-being of workers or workplaces. In the last three years, NIOSH and RAND have worked to conceptualize and operationalize worker well-being. Because there is currently no instrument for assessing worker well-being, developing a well-being measurement tool would be meeting NIOSH's mission of developing an innovative approach to improving well-being and occupational safety and health. The goals of the present project are to collect data to enable psychometric testing of a worker well-being instrument and to refine the instrument as dictated by test findings. The resultant instrument will allow a standardized approach to measuring worker well-being.

This data collection is authorized under Section 20 (Attachment 1) of the Occupational Safety and Health Act (Public Law 91-596). Developing a standardized approach for measuring worker well-being directly addresses NIOSH's mission as mandated by the Occupational Safety and Health Act to "assure safe and healthful working conditions for working men and women" and "to preserve our human resources," and it is a priority goal of the *National Total Worker Health Agenda (2016-2026)*,⁴ which was developed with stakeholder input and public comment. Studies

¹ National Institute for Occupational Safety and Health (NIOSH). (2016). The National Institute for Occupational Safety and Health. Available at: <http://www.cdc.gov/niosh/>. Accessed March 18, 2016.

² Saad, L. (2014). The "40-hour" workweek is actually longer – by seven hours. *Gallup Economy*. Available at: <http://www.gallup.com/poll/175286/hour-workweek-actually-longer-seven-hours.aspx>. Accessed March 18, 2016.

³ The Conference Board. (2015). Job satisfaction: 2015 edition: A lot more jobs – a little more satisfaction. Report Number: TCB-1588-Job-Satisfaction-Report-2015.

⁴National Institute for Occupational Safety and Health (NIOSH). (2016). National occupational research agenda (NORA)/national Total Worker Health® agenda (2016–2026): A national agenda to advance Total Worker Health® research, practice, policy, and capacity, April 2016. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication 2016–114 Available at: <https://www.cdc.gov/niosh/docs/2016-114/default.html>.

suggest linkages between workplace injury and issues related to worker well-being.^{5,6,7,8,9,10} Further, the association of well-being and occupational injury and illness has been recognized by the American College of Occupational and Environmental Medicine and the American Industrial Hygiene Association,^{11,12} and worker well-being has been identified as an emerging issue by the Occupational Safety and Health Administration and the Institute of Medicine.^{13,14} Worker well-being has also become an international occupational health priority,^{15,16} with activities occurring in the European Union,^{17,18} Australia,¹⁹ Japan,²⁰ and in international conferences with attendees from countries across the globe.²¹

NIOSH and U.S. Government investment in the development of a well-being measurement instrument will help ensure that organizations have wide and open access to a tool of this nature.

⁵ Kubo, J., Goldstein, B. A., Cantley, L. F., Tessier-Sherman, B., Galusha, D., Slade, M. D., ... & Cullen, M. R. (2014). Contribution of health status and prevalent chronic disease to individual risk for workplace injury in the manufacturing environment. *Occupational & Environmental Medicine*, 71(3), 159-166. doi: <http://dx.doi.org/10.1136/oemed-2013-101653>

⁶ Asfaw, A., Pana-Cryan, R., & Rosa, R. (2012). Paid sick leave and nonfatal occupational injuries. *American Journal of Public Health*, 102(9), e59-e64. doi: 10.2105/AJPH.2011.300482

⁷ Schulte, P. A., Pandalai, S., Wulsin, V., & Chun, H. (2012). Interaction of occupational and personal risk factors in workforce health and safety. *American Journal of Public Health*, 102(3), 434-448. doi: 10.2105/AJPH.2011.300249

⁸ Marcum, J. L., Chin, B., Anderson, N. J., & Bonauto, D. K. (2017). Self-reported work-related injury or illness—Washington, 2011–2014. *MMWR. Morbidity and Mortality Weekly Report*, 66(11), 302. doi: 10.15585/mmwr.mm6611a6

⁹ Schwatka, N. V., Atherly, A., Dally, M. J., Fang, H., vS Brockbank, C., Tenney, L., ... & McMillen, J. (2017). Health risk factors as predictors of workers' compensation claim occurrence and cost. *Occupational & Environmental Medicine*, 74(1), 14-23. doi: <http://dx.doi.org/10.1136/oemed-2015-103334>

¹⁰ Li, A. K., & Nowrouzi-Kia, B. (2017). Impact of diabetes mellitus on occupational health outcomes in Canada. *The International Journal of Occupational and Environmental Medicine*, 8(2 April), 992-996. doi: 10.15171/ijoem.2017.992

¹¹ Hymel, P. A., Loeppke, R. R., Baase, C. M., Burton, W. N., Hartenbaum, N. P., Hudson, T. W., ... & Konicki, D. L. (2011). Workplace health protection and promotion: A new pathway for a healthier—and safer—workforce. *Journal of occupational and environmental medicine*, 53(6), 695-702. doi: 10.1097/JOM.0b013e31822005d0

¹² Bullock, W. H. (n.d.). Guideline for implementing an integrated health, safety, and wellness program for small business. Falls Church, VA: American Industrial Hygiene Association.

¹³ Occupational Safety and Health Administration (OSHA). (2016). Sustainability in the workplace: A new approach for advancing worker safety and health. Available at: https://www.osha.gov/sustainability/docs/OSHA_sustainability_paper.pdf. Accessed February 21, 2018.

¹⁴ Institute of Medicine of the National Academies. (2005). Integrating employee health: A model program for NASA. Washington, D.C.: The National Academies Press.

¹⁵ World Health Organization. 2010. Healthy workplaces: a model for action. Available at: http://www.who.int/occupational_health/publications/healthy_workplaces_model.pdf. Accessed February 21, 2018.

¹⁶ International Labour Organization. (2014). Improving health in the workplace: ILO's framework for action. Available at: http://www.ilo.org/safework/info/publications/WCMS_329350/lang-en/index.htm. Accessed February 21, 2018.

¹⁷ European Agency for Safety and Health at Work (EASHW). (2013). Well-being at work: Creating a positive work environment. A report prepared for the European Agency for Safety and Health at Work, EU-OSHA, by the Topic Centre Occupational Safety and Health.

¹⁸ Organization for Economic Co-operation and Development (OECD). (2016). Measuring well-being and progress: Well-being research. Available at: <http://www.oecd.org/statistics/measuring-well-being-and-progress.htm>. Accessed March 18, 2016.

¹⁹ Safe work Australia. Australian Work Health and Safety Strategy 2012–2022. Available at: <https://www.safeworkaustralia.gov.au/system/files/documents/1702/australian-whs-strategy-2012-2022.pdf>. Accessed February 21, 2018.

Additionally, development of such an instrument is likely to be beyond the capacity of small businesses. Small businesses play such an important role in the nation's economy; 35% of the U.S. workforce is employed in firms with less than 100 employees, and 89% of U.S. businesses have fewer than 20 employees.²²

Ultimately, the instrument will enable organizations to assess the level of well-being in their workforces and the effectiveness of policies and interventions to improve workforce well-being and, in turn, the safety and health of their workplaces. In this regard, the present effort will contribute to CDC's Strategic Priority #2: Better prevent the leading causes of illness, injury, disability, and death. Given the costs of work-related injury and illness to the US economy (estimated at \$250 billion),²³ as well as the relationship of worker well-being to organizational performance and productivity,^{24,25,26,27} advancing understanding about worker well-being has important implications for business outcomes and US economic competitiveness.

1.2 Circumstances Making the Information Collection Necessary

In 2011 NIOSH launched the *Total Worker Health* program to expand the reach of the occupational safety and health profession to include the overall well-being of the workforce (in contrast to a narrow focus on injury and illness alone).²⁸ Absent metrics to enable researchers, practitioners, and policy-makers to characterize the status of well-being in the workforce, the development of a tool for this purpose became a primary goal of NIOSH to address the needs of the employee safety and health community. This goal has been strongly endorsed by stakeholders who intend to use the instrument to assess the well-being of the workforce of their own organization, their stakeholder organizations, and to evaluate interventions addressing

²⁰ Watanabe, K, Kawakami, N. (2017). The workplace PERMA-profiler: Validation of the new measure for well-being at work in the Japanese culture. International Commission of Occupational Health, Work, Organisation and Psychosocial Factors Symposium.

²¹ International Conference on Wellbeing at Work (n.d.). Fourth international conference. Available at: <http://www.wellbeingatwork.nl>. Accessed February 21, 2018.

²² National Institute for Occupational Safety and Health (NIOSH). (2016). Small business. Available at: <https://www.cdc.gov/niosh/topics/smbus/default.html>. Accessed February 21, 2018.

²³ Leigh, J. (2011). Economic burden of occupational injury and illness in the United States. *The Milbank Quarterly*, 89(4), 728-772. doi: 10.1111/j.1468-0009.2011.00648.x

²⁴ World Economic Forum. (2010). The wellness imperative: Creating more effective organizations. Available at <https://www.right.com/wps/wcm/connect/a2bd7426-4b2a-4af9-81ac-5211e83c72bb/the-wellness-imperative-creating-more-effective-organizations-world-economic-forum-in-partnership-with-right-management.pdf?MOD=AJPERES>. Accessed February 22, 2018.

²⁵ Fabius, R., Thayer, R. D., Konicki, D. L., Yarborough, C. M., Peterson, K. W., Isaac, F., ... & Dreger, M. (2013). The link between workforce health and safety and the health of the bottom line: Tracking market performance of companies that nurture a "culture of health." *Journal of Occupational and Environmental Medicine*, 55(9), 993-1000. doi: 10.1097/JOM.0b013e3182a6bb75

²⁶ Grossmeier, J., Fabius, R., Flynn, J. P., Noeldner, S. P., Fabius, D., Goetzel, R. Z., & Anderson, D. R. (2016). Linking workplace health promotion best practices and organizational financial performance: Tracking market performance of companies with highest scores on the HERO scorecard. *Journal of Occupational and Environmental Medicine*, 58(1), 16-23. doi: 10.1097/JOM.0000000000000631

²⁷ Harter, J. K., Schmidt, F. L., & Keyes, C. L. (2002). Well-being in the workplace and its relationship to business outcomes: A review of the Gallup studies. In C. L. Keyes & J. Haidt (Eds.), *Flourishing: The Positive Person and the Good Life* (pp. 205-224). Washington, D.C.: American Psychological Association.

²⁸ Schill, A. L., & Chosewood, L. C. (2013). The NIOSH Total Worker Health™ Program: An overview. *Journal of Occupational and Environmental Medicine*, 55, S8-11. doi: 10.1097/JOM.0000000000000037.

worker safety and health. Organizations that wish to use the instrument include employers, employee health organizations (e.g., Medgate, one of the nation's largest environmental health and safety software companies; SAIF Corporation, Oregon's state-chartered workers compensation corporation) and research programs (e.g., the University of Colorado's Center for Health, Work & Environment; Harvard T.H. Chan School of Public Health). Further, policy organizations such as the Integrated Benefits Institute, which had a representative on the expert panel which helped to develop the framework for our instrument (discussed later) and the National Academies of Science (which has requested information from NIOSH about this project for its Action Collaborative on Business Engagement in Building Healthy Communities and its Action Collaborative on Clinician Well-Being and Resilience) have recognized the importance of this NIOSH effort to understand and measure worker well-being. All of these and other NIOSH stakeholders have identified the immediate and practical utility of the instrument for gathering foundational information essential for improving the well-being of workers.

Currently, there are no measures of well-being that are suitable for the workforce. By validating the survey, on a relatively large and varied U.S. sample, the instrument will be applicable for future measurement of worker well-being in the U.S. at the national as well as at various worker subpopulation levels. These later studies could establish well-being benchmarks that would be helpful for industries and organizations seeking to measure well-being of their workforces.

Development of the worker well-being survey instrument

The present study is guided by a worker well-being framework that was developed over the course of 2014-2016, through a comprehensive literature review and input from an international panel of well-being and occupational health experts. NIOSH and partners have used this process (literature review, expert panel) in the past to develop the Quality of Worklife Questionnaire.

The literature review targeted English-language review, meta-analyses, conceptual/theoretical, and methods-focused papers; there was no limitation placed on the timeframe of the papers reviewed. The review identified available constructs for well-being and helped inform our definition of worker well-being. The review also included an in-depth assessment of existing measurement instruments related to well-being, the majority of which were validated instruments. Altogether we reviewed about 150 reports from the well-being literature and extracted 150 constructs that had been studied as well-being indicators. Through a categorization and grouping process, five domains emerged that comprise the worker well-being framework:

- *Workplace physical environment and safety climate* includes factors that relate to physical and safety features of the work environment that comprise overall working conditions.
- *Organizational policies and culture* relates to organizational policies and character as determined through the values, attitudes, and behaviors promoted by an organization.
- *Health status* involves aspects of individuals' lives relating to their physical and mental health and welfare.
- *Work evaluation and experience* refers to individuals' experiences and evaluations of their working lives that comprise psychological well-being at work.
- *Home, community, and society* encompasses the external context or aspects of individuals' lives that are situated outside of work but may still influence worker well-being.

We identified numerous potential subdomains and subdomain constructs within each framework domain. For example, mental health may be a subdomain of the domain *health status*, with anxiety, depression, or experience of stress being subdomain constructs comprising mental health. To prioritize the subdomains and constructs, we collaborated with expert with experience in organizational psychology, research methods and psychological measurement, workforce health and productivity improvement, well-being and performance, and worker safety and health. We ended up with a set of 20 subdomains and 58 subdomain constructs that comprise the overall worker well-being framework (Attachment I). Following subdomain prioritization exercises, we extracted relevant items from published instruments identified in our review to and developed a draft survey instrument to operationalize constructs at the subdomain level. The survey was reviewed by the expert panel, who helped prioritize subdomain constructs to minimize burden to survey respondents. The experts also confirmed our choices for selecting measurement tools to match the worker well-being framework. The 83 questions in the instrument is mapped to the various worker well-being subdomain constructs, subdomains, and domains. The instrument as a whole underwent cognitive testing with a convenience sample of nine employed individuals who provided feedback on issues such as overall survey length, organization, individual questions that required editing or explanation for clarity, and problems related to survey response scales and directions. Results of the cognitive testing were used to further refine the instrument.

Need for instrument validation testing

While the majority of items used in the worker well-being survey instrument are pulled from existing and validated instruments (see Attachment J for the sources of the items in the survey), in order to integrate all the items into one instrument, many of the questions underwent modest changes with regard their response categories and reference period so that the overall instrument would be more consistent across survey questions. Occasionally, the items themselves were revised to better reflect the range of workers and their work situations (telecommuters, short-term workers, etc.). In addition to changes in the wording, some of the original scales considered were not included wholesale into the instrument. Because of these necessary modifications, we need to conduct basic psychometric testing on the entire instrument. A description of testing is provided in the following section of this supporting statement. We anticipate that any researcher interested in using this new instrument would want to know how it was developed, its psychometric properties, and to be assured the instrument is psychometrically sound.

Thus, we designed a survey instrument that will be validated through the present project (see Section 2, Purpose and Use of Information). The instrument will then be made freely available to the public and to any interested party such as researchers, industries, and other government agencies to field and gather data on well-being. The present effort will also enable interested parties to administer the survey on a national or worker sub-population level. The development of survey instruments that are placed in the public domain and intended as a public good for the advancement of the field of occupational safety and health is a model that NIOSH has used successfully in the past. For example, the Quality of Work Life Questionnaire was publicly released following completion; it was subsequently adopted by the National Opinion Research

Center and administered as a module of the General Social Survey, a biannual, nationally representative, personal interview survey.²⁹

2. Purpose and Use of Information

In developing a validated survey instrument to measure worker well-being in the United States, we have one overarching testing goal: to gather necessary data in order to conduct psychometric testing. Standard psychometric approaches including exploratory and confirmatory factor analysis, item-total correlations, item response rates, and internal consistency measures (e.g., Cronbach's alpha) will be employed, together with inferential analyses involving ANOVA, T-tests, and correlational analyses. Findings from these analyses in combination with expert judgment will be used to finalize the worker well-being survey instrument.

We will begin with analyses (e.g. Hypothesis 1) to uncover the factor structure of the survey instrument to confirm or otherwise point to ways to refine the worker well-being framework and instrument. Exploratory and confirmatory factor analyses will help us to understand if the subdomain factors comprising each domain are in fact unique, or otherwise overlap in some way, and to establish the total number of subdomain factors in each domain. For example, in the workplace physical environment and safety climate domain, we will evaluate four hypothesized subdomain factors, including safety behavior and policies, safety perceptions and attitudes, workplace physical design, discrimination and harassment. We expect the instrument to be multidimensional, but, conversely a null result could demonstrate that the instrument has fewer factors than expected or is simply unidimensional.

Following from the factor analyses, we will gather statistical evidence to determine the optimal number of items necessary for characterizing subdomain factors (e.g. H2) within each domain while still retaining the original meaning of the subdomains and domains as conceptualized in our aforementioned worker well-being framework. To accomplish this we will examine the internal consistency of subdomain factors and consider removing items that do not contribute significantly to the overall Cronbach's alpha for factors. Based upon the refined content for subdomain factors, we will construct algorithms for computing scale scores for each of the subdomains and domains for practical application of the instrument.

In support of our testing goals, we will test the following hypotheses:

H1: The instrument is multidimensional and many of the domains are represented by multiple, unique subdomain factors.

H2: The factors can be represented by a subset of items that allows us to maximize instrument economy without compromising precision.

To gather further criterion-related (predictive) evidence of the instrument's validity, we will test additional hypotheses (e.g. H3a-c) to examine the strength of associations among instrument measures that reflect known relationships in worker populations. Criterion validity demonstrates

²⁹ NIOSH. (2010). Quality of worklife questionnaire. Available at: <http://www.cdc.gov/niosh/topics/stress/qwlquest.html>. Accessed October 18, 2017.

the extent to which a measure relates to some external criterion.³⁰ For example, scores on written state driver tests are validated by their association with actual driving records. A sample of worker well-being validity hypotheses, based on existing research cited in the following paragraph, to be tested include the following:

H3a: Temporary/contract workers are likely to have fewer benefits than permanent workers.

H3b: The prevalence of injuries in blue collar jobs (e.g., construction, factories) will be higher than workers in white collar jobs.

H3c: Workers who score high on the depression scale are more likely to report low levels of job satisfaction than workers who score low on the depression scale

Hypothesis such as these will help validate the instrument during testing. Literature suggests, for example, that temporary/ contract workers may have fewer benefits when compared to permanent employees.³¹ Further, some studies suggest temporary workers are less satisfied with their jobs when compared to permanent workers³², and Human Resource departments may discuss different types of benefits for temporary vs. permanent works.³³ As for blue-collar vs. white-collar jobs, data typically suggests that jobs like construction, manufacturing, or natural resources and mining (all typically blue-collar jobs) sustain the majority of injuries when comparing across industries.³⁴ Because these assumptions, which inform our hypotheses, suggest these phenomena hold true over time, testing these hypotheses will help confirm the validity of our framework and the instrument.

The instrument will be fielded with ~1000 individuals. Based on power calculations, further decreases to this sample size will impede our ability to perform basic instrument psychometric testing (see SSB for more information on sample size and power calculations). Without this work, we will not be able to develop an instrument that accurately measures worker well-being. NIOSH is seeking a one-year approval from OMB to collect the data.

Data will be collected once for this project and will be conducted by GfK as described in Supporting Statement B. GfK houses an online panel called KnowledgePanel®, which allows the project to use an existing sample for the testing of this instrument. GfK is a survey vendor, and will deliver data to NIOSH's contractor RAND Corporation. KnowledgePanel is the largest national, probability-based panel that provides the highest level of accuracy and sample representativeness available in online research for measurement of public opinion, attitudes, and

³⁰ Babbie, E. (2013). *The practice of social research* (13th ed.). Belmont, CA: Wadsworth CENGAGE Learning.

³¹ U.S. Government Accountability Office (GAO). (2015). *Contingent workforce: Size, characteristics, earnings, and benefits*. Available at: <https://www.gao.gov/assets/670/669899.pdf>

³² Wilkin, C. L. (2013). I can't get no job satisfaction: Meta-analysis comparing permanent and contingent workers. *Journal of organizational behavior*, 34(1), 47-64. doi: 10.1002/job.1790

³³ Koene, B., & van Riemsdijk, M. (2005). Managing temporary workers: Work identity, diversity and operational HR choices. *Human resource management journal*, 15(1), 76-92. doi: 10.1111/j.1748-8583.2005.tb00141.x

³⁴ U.S. Department of Labor. (2015). *Employer-reported workplace injuries and illnesses – 2015*. Available at: https://www.bls.gov/news.release/archives/osh_10272016.pdf. Accessed February 21, 2018.

behaviors.³⁵ The panel was first developed in 1999 by Knowledge Networks, a GfK company, with panel members who are randomly selected increasing the variability in their panel when compared to some other-volunteer opt-in panels.

3. Use of Improved Information Technology and Burden Reduction

The worker well-being instrument will be administered through computer-assisted data collection programs to reduce response burden on respondents. The surveys will be hosted and programmed by GfK. The data collection platforms are used to help manage the data collection process including questionnaire layout (including skip patterns), sample management, fieldwork monitoring, and final dataset production. The systems allow a user to begin the survey, save responses, and go back later to complete the remaining items. GfK also maintains an email address and toll-free hotline, which provides technical assistance for respondents. Respondents can participate in the survey via the Internet and smart phones. In instances when the Internet is not available, GfK can support administration by paper; in addition, GfK also has capability for phone surveys. Therefore, provisions are made to address some of the common barriers to Internet survey including lack of access to Internet service, a computer, or email address. More on this is discussed in Supporting Statement B.

We are not currently working with GfK and do not have illustrative screen shots of the worker well-being survey. However, GfK is an established vendor and has fielded countless studies of similar size and scope. As a result, the vendor provides easy to use interfaces for respondents. Upon OMB request, we can submit screen shots prior to study launch.

4. Efforts to Identify Duplication and Use of Similar Information

The most analogous instruments include the Quality of Worklife Questionnaire, the Copenhagen Psychosocial Questionnaire, the Leiden Quality of Work Questionnaire, and the Minnesota Satisfaction Questionnaire.^{36,37,38,39} These instruments provided items across a number of different domains but were not developed specifically to measure worker well-being and none on their own covered the five domains included in the worker well-being survey instrument. Overall, there is no standardized instrument that currently exists for measuring the concept of worker well-being.

³⁵ Knowledge Networks. (n.d.). KnowledgePanel design summary. Available at: <http://www.knowledgenetworks.com/knpanel/docs/KnowledgePanel%28R%29-Design-Summary-Description.pdf>. Accessed October 18, 2017.

³⁶ NIOSH. (2010). Quality of worklife questionnaire. Available at: <http://www.cdc.gov/niosh/topics/stress/qwlquest.html>. Accessed October 18, 2017.

³⁷ National Research Centre for the Working Environment (NRCWE). (2005). Copenhagen psychosocial questionnaire – COPSOQ II. Available at: <http://www.arbejdsmiljoforskning.dk/en/publikationer/spoergeskemaer/psykisk-arbejdsmiljoe>. Accessed October 18, 2017.

³⁸ van der Doef, M., & Maes, S. (1999). The Leiden Quality of Work Questionnaire: Its construction, factor structure, and psychometric qualities. *Psychological reports*, 85(3), 954-962. doi: 10.2466/pr0.1999.85.3.954

³⁹ Minnesota Satisfaction Questionnaire. (1977). Manual for the Minnesota Satisfaction Questionnaire. Available at: <http://vpr.psych.umn.edu/instruments/msq-minnesota-satisfaction-questionnaire>. Accessed October 18, 2017.

5. Impact on Small Businesses or Small Entities

No small businesses will be involved in this data collection.

6. Consequences of Collecting the Information Less Frequently

This request is for a one-time data collection.

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

There are no special circumstances associated with this information collection request. This request fully complies with the regulation 5 CFR 1320.5 and will be voluntary.

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

In accordance with the Paperwork Reduction Act of 1995 (Pub. L. 104-13) and Office of Management and Budget (OMB) regulations at 5 CFR Part 1320 (60 FR 44978, August 29, 1995), CDC published a notice in the Federal Register announcing the agency's intention to request an OMB review of this information collection activity. The 60-day Federal Register notice was published on November 14, 2016, Volume 81, Number 219 (Attachment B). Three comments were received.

During the notice and comment period, the government received no requests for a copy of the instruments. The government also received three public comments, which are attached with responses in Attachment H. We did not respond to any of the comments. One comment was a supportive letter and did not require a response. The other two comments did not refer directly to the project or the survey instrument itself and were more general in nature. Therefore, we considered these comments out of scope, and we did not provide a response.

During the planning year, the study team convened an expert panel to develop and critique the instrument. A full draft instrument was also pretested with nine respondents to obtain their input on the clarity, flow, and ease of completing the questionnaire. The instrument and instructional protocols were revised to reflect this feedback.

9. Explanation of Any Payment or Gift to Respondents

The survey vendor, GfK, offers an incentive program for KnowledgePanel members. Respondents to the GfK's surveys receive points for each survey they complete. Points can be redeemed for cash, merchandise, gift cards, or game entries. Additionally, panel members may also be entered into special sweepstakes with both cash rewards and other prizes.

For a 15-20-minute survey, respondents are typically credited with 5,000 to 10,000 points, which roughly equates to \$5 to \$10 depending on the type of award selected by respondents when redeeming. Further, steps are taken to ensure that panel members are not overburdened with many survey requests. The primary sampling rule is to assign only one survey per week to panel

members. This level of survey frequency helps keep panelists engaged. On average, most GfK panelists participate in about two surveys a month.

GfK has completed projects with multiple federal agencies, including CDC. A list of previous projects, organizations, funding agencies, and OMB numbers are available on GfK's website.⁴⁰

10. Protection of the Privacy and Confidentiality of Information Provided by Respondents

NIOSH's Information Systems Security Officer reviewed this submission and determined that the Privacy Act does not apply. The study staff will not receive the identifiers and will only receive data with the assigned study ID.

After the survey has been fielded, Knowledge Networks will send RAND the data that has been stripped of any information that would identify the respondent, per their standard protocols. Personally identifying information is never revealed to GfK's clients (i.e. the RAND Corporation) or other external parties without explicit respondent approval and a client-signed nondisclosure agreement. RAND will not have access to any identifying information, thus respondent privacy will be maintained.

The KnowledgePanel recruitment and empanelment process is designed to comply with CAN-SPAM⁴¹ and Council of American Survey Research Organizations guidelines. Additional information about KnowledgePanel can be accessed online.⁴² Further, these policies conform to respondent treatment protocols outlined by the federal Office of Management and Budget, following guidelines from the Belmont Report. Survey responses are secure; personally identifying information is never revealed to clients or other external parties without explicit respondent approval and a client-signed nondisclosure agreement. When surveys are assigned to KnowledgePanel panel members, they are notified in their password-protected email account that a survey is available for completion. Surveys are self-administered and accessible any time of day for a designated period. Respondents can complete a password-protected survey only once. Members may withdraw from the panel at any time, and continued provision of the web-enabled device (e.g., laptop or netbook) and Internet service is not contingent on completion of any particular survey. All KnowledgePanel panelists are given a link to access the privacy terms electronically at all times via the Panel Member website and also are able to review it at any time on the Members Page and in links contained in survey invitations. The Privacy and Terms of Use Policy is posted at <http://www.knpanel.com/participate/privacy2.html>.

This survey does not collect personally identifiable data. Personally identifying information is never revealed to clients or other external parties without explicit respondent approval and a client-signed nondisclosure agreement. All personally identifying information are kept in a separate office from survey-specific data records. Staff members who have access to the personally identifying information, which is limited to the panel management staff members, do

⁴⁰ Knowledge Networks. (n.d.). List of selected OMB-reviewed surveys conducted on KnowledgePanel. Available at: <http://www.knowledgenetworks.com/GANP/docs/OMB-Reviewed-Projects-List.pdf>. Accessed October 18, 2017.

⁴¹ The CAN-SPAM Act is a law that sets the rules for commercial email.

⁴² See: <http://www.knowledgenetworks.com/knpanel/docs/KnowledgePanel%28R%29-Design-Summary-Description.pdf> for a summary of the panel's history and design.

not have access to the survey response data. Further, all data transfers pass through a firewall for data protection. Some identifiable information about the respondents is on file with the survey vendor because this project will use members of their existing survey panel. However, the researchers will not obtain these identifiers and ask for any additional identifiers during the survey. Knowledge Networks collects demographic and other data from its panel members; we will leverage these data for this study to minimize respondent burden. Participants are required to complete their demographic profile only one time, when they join the panel, and complete annual updates as necessary,

11. Institutional Review Board (IRB) and justification for Sensitive Questions

The NIOSH IRB has determined that NIOSH is not engaged in human subjects research in this project (Attachment F). RAND’s IRB (FWA#00003425) determined the project is exempt under 45 CFR 46.101(b)(2).

The survey includes questions that could be considered of a sensitive nature. Questions broadly cover assessments of the workplace overall and in terms of specific programs, policies, cultures, workplace relationships (e.g., supervisors, coworkers), and salaries/benefits. Other question types considered sensitive include: existence of physical and mental health conditions, health-related behaviors (e.g., alcohol use, smoking), and experiences with different types of harassment or discrimination in the workplace. Therefore, GfK has strong privacy and data safeguarding and management procedures in place to prevent release of identifiable information. Analytical teams at RAND Corporation will only receive survey results and aggregated information about respondents from GfK and will not receive any information about individual panel members that could lead to identification.

12. Estimates of Annualized Burden Hours and Cost

Based on survey testing, this survey will take approximately 20 minutes to complete per respondent. A total of 1,025 individuals participating as GfK panel members will be surveyed in 2017.

Burden and pace estimates are based on the cognitive testing mentioned in Section A8. The annual total burden hours are estimated to be 342 hours. The annual total cost burden is estimated to be \$7944.66, based upon mean hourly wages from the “May 2015 National Occupational Employment and Wage Estimates United States,” U.S. Department of Labor, Bureau of Labor Statistics.

Table A-12: Estimated Annualized Burden Hours and Costs to Respondents

Type of Respondent	No. of Respondents	No. of Responses per Respondent	Average Burden per Response (in hours)	Total Burden Hours	Hourly Wage Rate	Total Respondent Costs
Survey of GfK Panel Members	1,025	1	20/60	342	23.23	\$7944.66

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

There will be no direct costs to respondents, other than their time to participate in the data collection.

14. Annualized Cost to the Government

The total cost to the Federal Government is \$52,815.

Staff (FTE)	Average Hours per Collection	Average Hourly Rate	Average Cost
Data collection costs	NA	NA	\$28,600
Social Science Analyst, GS 15 (Analysis and project management costs)	382	63.31	\$24,215
Estimated Total Cost of Information Collection			\$52,815

15. Explanation for Program Changes or Adjustments

This is a new information collection request.

16. Plans for Tabulation and Publication and Project Time Schedule

Publication of Results: RAND will provide a report to NIOSH on the findings of this analysis. Additionally, RAND and NIOSH will submit project results to a peer-reviewed journal. The following table overviews the publication and project schedule.

Tasks		Month 1	Month 2	Month 3	Month 4	Month 5
OMB Approval	x					
Prepare Online Survey		x				
Field Survey		x	x			
Data Analysis			x	x		
Results Completed				x	x	x

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

We are not requesting an exemption.

18. Exceptions to the Certification Statement

There are no exceptions to the certification. These activities comply with the requirements in 5 CFR 1320.9.