DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

National Institutes of Health
National Cancer Institute
Bethesda, Maryland 20892

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To: Office of Management and Budget (OMB)

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Subject: Generic Sub-study, **Validating scale to assess cancer-related risk perceptions** under "A Generic Submission for Theory Development and Validation (NCI)," (OMB No. 0925-0645, Expiry Date 12/31/2014)

Background/ Need and Use for Information

The National Cancer Institute's (NCI) Behavioral Research Program (BRP) is within the Division of Cancer Control and Population Sciences (DCCPS). The goal of BRP is to increase the breadth, depth, and quality of behavioral research in cancer prevention and control. BRP conducts varying programs of formative research to develop and validate cancer-related behavioral theories. This project will serve to validate a measure that would assess an important determinant of cancer-related behavior: risk perceptions. This NCI office is requesting that OMB review this sub-study, which describes a voluntary, low-burden, non-controversial, formative behavioral research project related to theory development and validation. Data collection for this project is authorized under 42 USC *§* 285 and 285a-1 (Section 410 and 412 of the Public Health Service Act).

This formative survey research refines and validates questionnaires necessary to test a theory regarding the nature of risk perceptions. This new theoretical framework disentangles deliberative, affective, and intuitive components of these constructs.

- Deliberative components refer to those that are derived more "cognitively" (e.g., whether people think their risk of cancer is high or low or the numeric probability a threat will occur).
- Affective components refer to those that are derived more "emotionally" (e.g., emotional response to a threat such as whether people are worried about cancer).
- Intuitive components refer to those that reflect an overall "gut-level" belief about their risk (e.g., a gut-level feeling about how vulnerable people feel to cancer).

This perspective extends traditional risk perception models that often divide risk perceptions into only deliberative and affective components, and builds on previous empirical and theoretical work that deconstructs risk perception. These distinctions have implications for the ways in which investigators conceptualize and measure risk perception, as well as how it can be targeted in cancer prevention and control interventions.[1] The study also examines whether these types of risk perceptions are unique to cancer – that is, whether cancer risk perceptions have a conceptual structure that is similar to risk perceptions for other common diseases (cardiovascular disease and diabetes). Risk perceptions are disease-specific, and cancer is differentiated from other diseases because it is more feared by the general public and more prominent in media coverage and advocacy campaigns. Thus, it is possible that there is something unique about the factor structure of cancer risk perceptions. Comparisons to other diseases are useful because it will allow us to understand whether successful interventions targeting risk perceptions for other diseases hold promise for being adapted to cancer prevention and control interventions.

These questionnaires (**Attachments 6B, 6C and 6D**) are designed to assess three aspects of risk perception (deliberative, affective and intuitive risk perception) across three health conditions. Outcomes that might be associated with these types of risk perception (including avoidance of risk information and intentions to engage in preventive behaviors) are also assessed. It is anticipated that these three types of risk perception will load separately in exploratory factor analyses, supporting three distinct factors that represent types of risk perception described above. Further, it is anticipated that intuitive risk perceptions will be correlated with both cognitive and affective risk perceptions. Finally, it is anticipated that intuitive risk perceptions will be most correlated with avoidance of risk information and intentions to engage in preventive behavior (compared to affective and deliberative risk perceptions).

Participants, Methodology, and Research Instrument

An internet sample (N = 1500), will be drawn from Amazon mTurk (https://requester.mturk.com/). mTurk is an internet service that allows researchers to gather survey data (mTurk also supports other purposes related to "crowd-sourcing"). Data collection through mTurk is generally high quality, and the data collection process is quick, likely because participants are motivated to participate because they find the tasks and surveys to be interesting (see selected readings, **Attachment 6A**). No recruitment materials are required; the survey will be listed on the mTurk website by title (Cancer Risk Perceptions Questionnaire). No PII will be collected. Participants will complete either a survey about cancer risk perceptions (Questionnaire 1: **Attachment 6B**), a survey about diabetes risk perceptions (Questionnaire 2: **Attachment 6C**), or a survey about heart disease risk perceptions (Questionnaire 3: **Attachment 6D**).

Analyses will involve exploratory statistical procedures to validate the factor structure of the questionnaire (exploratory factor analysis) and correlations among the factors and outcomes. Findings will be disseminated to relevant audiences –health psychologists/ public health researchers who examine risk perceptions.

1 For selected readings on emotion and risk perceptions, see **Attachment 6A**.

Other Considerations

No personally identifiable information will be collected. Participants will receive $1 incentive for this study. This project has been deemed exempt from human subjects approval by the NIH Office of Human Subjects Research (**Attachment 6E**).

Burden

A total of 1,500 participants will complete the study, which has an anticipated length of no more than 25 minutes; thus, the total burden is estimated to be 625 hours. This effort will account for less than 10% of the total burden hours granted in the full generic OMB clearance package. To date, a total of 1,234 burden hours have been used of the 6,000 hours that were requested. Estimated cost to the Federal Government is $1,500 for staff (estimated based on 3 FTE hours per week for 10 weeks) and $1,500 for participant incentives, for a total of $3,000.

Estimates of Burden Hours

Form Name	Types of Respondents	Number of Respondents	Number of Responses Per Respondent	Average Burden (in Hours)	Total Hour Burden
Questionnaire 1 (Attachment 5B)	General Public	500	1	25/60	208
Questionnaire 2 (Attachment 5C)	General Public	500	1	25/60	208
Questionnaire 3 (Attachment 5D)	General Public	500	1	25/60	208
Total		1,500			625

List of Attachments

6A: Selected Readings
6B: Questionnaire 1 Screen Shots
6C: Questionnaire 2 Screen Shots
6D: Questionnaire 3 Screen Shots
6E: OHSR Exemption