

Funding for Basic Psychological Science at the National Cancer Institute

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The [Basic Biobehavioral and Psychological Sciences Branch](#)

(BBPSB) is housed within the Behavioral Research Program (BRP) [\[1\]](#) which has long been known as the home for [psychological and behavioral sciences](#) within the National Cancer Institute (NCI). While BRP also supports and conducts applied research, BBPSB largely funds basic psychological science. BBPSB's mission is to elucidate the nature of psychological phenomena that are associated with or predict cancer-related behaviors and outcomes, including mechanisms and processes that underlie these psychological phenomenon and interassociations among them.



BBPSB, formerly the Basic Biobehavioral Research Branch, recently revitalized its scientific priorities through a series of strategic planning efforts. These efforts have identified key research areas in biobehavioral mechanisms and psychological processes that are associated with cancer risk and outcome through input from leaders of organizations, such as the NCI-designated Comprehensive Cancer Centers, as well as scientific experts in various academic fields, including psychological science, behavioral oncology, and neuroscience. With a recharged research agenda and fresh perspective in basic psychological science, BBPSB is inviting basic scientists who examine the nature of psychological phenomena to explore new connections and research opportunities within the Branch.

BBPSB strives to expand the research portfolio in basic psychological science,



Paige Green-McDonald

including research on fundamental mechanisms, principles and theoretical underpinnings of psychological phenomena, such as attention, cognition, emotion/affect, judgment and decision making, motivation, perception, and sensation. The BBPSB research agenda also includes methodology and measurement of basic psychological, cognitive, and affective processes; biological mechanisms of psychosocial influences on cancer biology and outcomes; biobehavioral mechanisms of comorbidities associated with cancer and cancer treatment; and basic mechanisms of the placebo effect. To illustrate the range of scientific disciplines currently funded by BBPSB and highlight the breadth of work across the cancer continuum, [featured grantee profiles are highlighted](#) online.

One example that emphasizes the unique scientific mission of BBPSB is research on the phenomenological nature of emotion. BBPSB influences the compass of behavioral research traditionally funded by NCI with the introduction of basic psychological research questions such as the following:



Mary O'Connell

Is emotion a basic process with clear biological antecedents and consequences?

Are there psychoneuroimmunological signatures associated with different affective experiences?

What is the nature of the association between emotion and stress — are these distinct biological or experiential processes?

Such research questions offer important implications for basic science research in cancer control. Both stress and emotion have distinct connections with cancer-related behaviors and outcomes. For example, physiological responses to stress have been linked to tumor progression and metastasis; the experience of emotions, such as worry, has also been linked to a variety of cancer-relevant behaviors. Basic psychological research on the biological and experiential distinctions and similarities of emotion and stress may shed light on mechanisms and psychological underpinnings that are shared between the two sets of phenomena. This research could allow for a more precise understanding of the roles of affective phenomena in tumor progression, metastasis, and cancer-related behaviors. Additionally, creating a dialogue between emotion and stress researchers, who face similar theoretical and methodological challenges, could advance both fields and further our understanding of the associations between these two phenomena and cancer-related outcomes.

Basic research that informs future efforts in cancer prevention and control is the cornerstone of the NCI mission. [2] Basic psychological science, particularly in areas that have easily identified practical relevance to important challenges in cancer prevention and control, capacitates practical applications. For example, research on perception of, and attention to, visual stimuli could provide a fundamental understanding of sensory and perceptual skills that are directly relevant to radiology and cancer detection. Research to identify neural signatures associated with cognitive decline or dysfunction could have future applications for the diagnosis and treatment of cognitive effects of cancer and cancer treatments. Research on the phenomenological nature of stress and emotion may later inform interventions to prevent cancer progression. All of these very practical advances will be possible only with scientific knowledge accrued in strategically crafted, basic psychological research.

NCI solicits research proposals for basic psychological and behavioral science through a variety of funding announcements. One such trans-NIH announcement, released as part of the [Basic Behavioral and Social Science Research Opportunity Network](#) (OppNet), solicits research projects on [cognitive, affective, and developmental perspectives of decision making](#). Examples of research questions relevant to NCI and BBPSB priorities include, but are not limited to, the following:

- What are the reciprocal relationships between cognitive and affective processes in decision making?
- What are the neurobiological underpinnings of these interactions?
- What behavioral, computational, or neurobiological models capture the interactions of cognition and emotion in decision making?
- How do emotional factors influence reward processing, perceptual judgments, preference formation, and the calculation of economic value or subjective utility?

Innovative basic psychological research can respond to NCI's signature scientific program, the [Provocative Questions Project](#). A question most recently featured in the program's request for applications, "Why don't more people alter behaviors known to increase the risk of cancer

(<http://grants.nih.gov/grants/guide/rfa-files/RFA-CA-11-011.html>)?” begs for advances in our fundamental knowledge of the psychological mechanisms, principles, and theoretical underpinnings of behavior and behavior change.

Although the submission deadlines for these funding announcements have passed, there are many other announcements open to support basic biobehavioral and psychological science research. [Program directors](#) in BBPSB look forward to receiving applications for support for basic psychological research relevant to our mission. We enthusiastically provide scientific and programmatic support to researchers from the pre-application stage through successful funding and beyond. For more information about basic biobehavioral and psychological science research training [\[3\]](#) and collaboration opportunities at NCI, visit <http://cancercontrol.cancer.gov/brp/bbpsb/index.html> and contact BBPSB Chief [Paige Green-McDonald](#); BBPSB Program Directors [Wendy Nelson](#) and [Rebecca Ferrer](#); or BRP Associate Director [William Klein](#).

BBPSB is also [actively recruiting](#) psychological scientists with expertise in perception, sensation, or attention to join the Branch research staff. Dynamic and experienced scientists are sought to develop funding initiatives, cultivate a diverse portfolio of grant-supported research, engage in collaborative research, publish in scientific outlets, and develop and manage scientific programming activities, such as symposia, workshops, and career training opportunities.

Footnotes

[1] The BRP is dedicated to research on behavioral and psychosocial antecedents that predict or influence health outcomes in the context of cancer control. The fundamental goal of BRP, established within the NCI Division of Cancer Control and Population Sciences in 1997, is to increase the breadth, depth, and quality of behavioral research in cancer prevention and control. [Return to Text](#)

[2] NCI, one of the National Institutes of Health (NIH), coordinates the National Cancer Program, which conducts and supports research, training, health information dissemination, and other programs with respect to the cause, diagnosis, prevention, and treatment of cancer, rehabilitation from cancer, and the continuing care of cancer patients and the families of cancer patients. (Retrieved 1/12/2012 from <http://www.cancer.gov/aboutnci/overview/mission.>) [Return to Text](#)

[3] Support for predoctoral and postdoctoral level training is now available at NCI. The predoctoral fellowship award, in particular, offers an exciting opportunity for students in biobehavioral and psychological sciences to fund education and dissertation research, as well as the opportunity for faculty members in this area to work with promising graduate students who may otherwise go unfunded. The postdoctoral award allows early-career scientists to fund their own postdoctoral program of research, facilitating increased independence, productiveness, and freedom in their area of science. [Return to Text](#)