LETTER TO THE EDITOR

Response to Connelly

Response from the Behavior Change Consortium
Representativeness and Translation Work Group: the issue is one of impact, not of world view or preferred approach

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Professor Connelly raises a number of important issues in his critique (Connelly, 2002) of the ongoing Behavior Change Consortium (BCC) projects. Several of the larger philosophy of science and methodological issues are addressed in the accompanying response by Williams (Williams, 2002) and will not be discussed here due to space limitations.

Our work group basically agrees with Professor Connelly’s point that greater attention to social, contextual and economic factors related to unhealthy behaviors is a useful approach (McLeroy et al., 1988; Bronfenbrenner, 1989; Dzewaltowski, 1997; Estabrooks, 2000; Glasgow, 2000; Glasgow and Bull, 2001; Institute of Medicine, 2001; Berkman and Kawachi, 2002). However, we also believe in the fundamental tenet of ecological theory that it is the interaction between an individual AND her/his environment that produces behavioral outcomes (Bronfenbrenner, 1989). Professor Connelly suggests that projects in the BCC are too focused on individual choice and too limited by a ‘subpersonal cognitive psychology’. None of us is a ‘cognitive psychologist’, let along ‘subpersonal’ in our thinking or research, but our methods do encompass evaluation of meta-theoretical constructs that recognize the complex interactions among personal and environmental variables. We believe that the research challenge given to BCC investigators was to (1) identify and evaluate intervention strategies that have potential to effect multiple individual behaviors, and (2) better understand theoretical and practical mechanisms through which these interventions achieve (or do not achieve) their effects. In this brief response, we have two primary goals: (1) to direct attention to the issue of obtaining public health impact (or potential for such) from behavior change interventions and (2) to elaborate on the mission and activities of the Representativeness and Translation Work Group of the BCC related to our first goal. We believe the goals and activities of the Work Group are relevant to many of the issues raised by Professor Connelly.

To address the potential of various interventions to obtain overall public health or population-based impact, our BCC work group has examined several issues related to intervention planning, research design and program evaluation, and has recently conducted reviews of the health behavior literature (Glasgow et al., 2002a,b) (www.re-aim.org). We think that the core issue is not whether a project

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takes a primarily individual or a societal/policy level approach to health behavior change, but rather the potential of the intervention for wide scale application, replication and public health impact. Although an empirical question, we believe it is likely that multi-level intervention approaches will be necessary to provide public health impact. The core issue is how the product of cumulative theory-based studies can contribute to strategies that translate into public health practice and impact. Although a single project could hypothetically demonstrate public health impact from a broadly defined population, in a large random sample of participants and in a large random sample of settings such a project would likely be impractical, and beyond the scope and budget of the individual BCC projects. Much of our work in the BCC has focused on enhancing the study design, and reporting of contextual and setting level factors across studies to improve the external validity of findings and potential for translation into public health practice.

Professor Connelly notes five BCC projects that he feels make ‘partial exceptions’ to an individualistic perspective. Many more could be cited. For example, several additional studies are using Motivational Interviewing interventions that emphasize collaborative and egalitarian intervention approaches, and eschew manipulation and authoritarianism. Additionally, several studies not mentioned by Connelly focus on community or contextual aspects such as the social environment or social supports (Elliott et al., 2002; Toobert et al., 2002) and nine studies list key aspects of their intervention that include a focus on social norms and/or social support [see Table I in (Ory et al., 2002)]. Other developmental work within the BCC includes measurement of the physical environment to assess its relationship to activity opportunities in sites interested in physical activity change (see BCC website: http://www1.od.nih.gov/behaviorchange).

While other examples and interpretations can be offered, instead of quibbling on definitions of individualistic versus environmental approaches, from our perspective, the core issue should be: ‘What is the potential of this type of intervention for eventual translation and contribution to a multi-faceted approach to obtain overall public health impact?’ It may well be that Professor Connelly’s preferred larger social contextual approaches fare better on this criterion, at least for some targets and in locales with certain social philosophies. From our perspective, this is an empirical question that can best be answered by multiple studies with investigators collaborating in measurement and reporting of results (like the BCC). We do agree that greater attention should be devoted to policy issues in the BCC and US studies in general.

To enhance studies potential for public health impact, we are recommending that investigators report information included in the RE-AIM model. Specifically, the five components of the RE-AIM model are: (1) Reach, or the percent and representativeness of patients who are willing to participate in a given program; (2) Efficacy or Effectiveness (depending on the study), or the impact of an intervention on important outcomes, including potential negative effects, quality of life and economic outcomes. There are also three less often studied, but equally important factors, which concern impact at the level of the organizational setting. These ‘AIM’ dimensions are: (3) Adoption, or the percent and representativeness of settings that are willing to adopt or try a health promotion program; (4) Implementation, or how consistently various elements of a program are delivered as intended by different intervention agents, and the time/cost requirements of intervention; and (5) Maintenance, or the extent to which a program or policy becomes institutionalized or part of the routine practices and policies of an organization (Glasgow et al., 1999; Glasgow, 2002) (www.re-aim.org). Maintenance in the RE-AIM framework also has referents at the individual level. At the individual level, Maintenance refers to the long-term effects of a program on outcomes 6 months or more following the most recent intervention contact.

The RE-AIM framework can be applied in several capacities including planning studies to maximize understanding of both internal and
external validity characteristics, comparing the effectiveness of several interventions for policy decisions, and judging the level of ‘transferability’ of findings to other settings and populations (www.re-aim.org; www1.od.nih.gov/behaviorchange). RE-AIM can also be used as an evaluative framework to review a body of literature (Bull et al., 2002; Estabrooks et al., 2002; Glasgow et al., 2002a,b). For our purposes here, as summarized in Nigg et al. (Nigg et al., 2002), RE-AIM illustrates that studies that target contextual and social factors, individual level factors or both in concert have the potential to obtain public health impact and contribute to the body of knowledge.

The Representativeness and Translation Work Group of the BCC is described briefly in the Editorial by Drs Nigg, Allegrante and Ory (Nigg et al., 2002), and in more detail on the BCC website (www1.od.nih.gov/behaviorchange). Our mission is to ‘implement and evaluate an explanatory framework to measure intervention impact in its broadest sense. This includes the development of policy relevant criteria for success at both individual and intervention setting levels’. Many of the issues that we address bear on the point raised by Professor Connelly about the BCC projects not being ‘explanatory’. Some issues related to the study of mediating mechanisms are addressed in the accompanying response by Williams (Williams, 2002). Here, we focus on a variety of moderating variables and the possibility of ‘subgroup effects’ and contextual influences of SES, settings and other factors on BCC results.

The Representativeness and Translation Work Group is working with all of the BCC projects to evaluate the reach, adoption (among settings such as worksites, health care settings and schools), intervention implementation by different intervention agents and maintenance (sustainability of the BCC projects). We assert that all of these assessments bear on generalization and the potential of these approaches for broad application and eventual public health impact.

Although less central to the overall critique, we also feel it important to address several misunderstandings by Professor Connelly regarding BCC issues related to our work group. Specifically:

1. **Failure to address moderating variables or ‘subgroup effects’**. As discussed above, we are addressing moderating factors (race, socioeconomic status, etc.)—not only in terms of outcomes, but also in terms of participation and adoption. We have also conducted interviews with settings that chose not to participate and several individual BCC projects are conducting interviews with individuals who decline to participate.

2. **Therapist effects**. Other BCC work groups are studying process variables in great detail and our work group is studying implementation by different intervention agents.

3. **Considering only effect size comparisons**. One of the missions of our work is to explicitly consider a much broader range of outcomes in addition to effect size—including participation, adoption, implementation and maintenance/sustainability. Thus we assert that these assessments are ‘context sensitive.’

4. **Lack of assessment of quality of life**. As described above, our work group considers quality of life—as well as potential negative impacts of interventions—to be a key aspect of effectiveness and according to a survey we conducted of BCC projects, all but two are including measures of quality of life or of potential negative outcomes.

In summary, we are in general agreement with Professor Connelly that research, both in the US and elsewhere, should include greater focus on social and contextual determinants of health. While a number of these factors are being considered both by our work group and by several of the component projects, the BCC also seeks to evaluate individual (as well as larger setting and contextual) factors imbedded in multi-level approaches. To criticize the entire BCC program and all participating investigators as being dominated by a uniform ‘individualistic sub-personal cognitive psychology’ is simply inaccurate.
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References