## **INVITED COMMENTARY**

## Does Socioeconomic Status Moderate the Relationship Between Health Cognitions and Behaviors?: a Comment on Conner et al.

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Published online: 28 March 2013

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The paper of Conner et al. [1] illustrates the growing interest in health psychology towards a better understanding of the (cognitions) intention—behavior gap. In one of the first publication to observe this problem [2], it was revealed that a significant proportion of individuals who had positive intentions regarding the regular practice of physical activity (37.8 %) were still inactive at follow-up. In the scientific literature, this phenomenon is now known as the "intention—behavior gap" [3].

As mentioned by Conner et al. [1], most social theories assume that the influence of external factors (e.g., availability of resources) on behavior is mediated by cognitions. We agree, but one exception is the Theory of Interpersonal Behavior [4]. This theory assumes interaction effects (moderating role) between intention and behavior for variables named facilitating factors such as income, availability of resources, etc. Obviously, in the future, more attention should be given to the theoretical assumptions underlying the causal link between intention and behavior as specified in this theory.

In Conner et al. [1], three tests for the moderating effect of socioeconomic status (SES) are reported. In each test, a specific subgroup of the population (adolescents, primiparous women, working adults), a distinct definition of SES (level of deprivation of schools based on the proportion of children receiving free school lunches, the level of deprivation in the area based on Townsend [5] index, and categories of occupational work), and a different health behavior (smoking initiation, breastfeeding, and physical activity) were used. In light of the convergent observations in their three studies, they concluded

that such results "support the potential generalizability" of the moderating effect of SES. However, we think that their conclusion should be nuanced.

To date, several published scientific papers have reported tests of the moderating effect of the cognition-behavior relationship for a variety of factors (for examples, [6, 7]). Overall, these publications indicated that there is an important variability in findings, including for the moderating role of socioeconomic level variables. For instance, deprivation indices (material and social) as defined by a scale similar to the well known Townsend [5] indices of social deprivation (as used in study 2 on breast feeding initiation [1]) did not yield significant moderating effects with intention in the prediction of leisure time physical activity among the general population [8] and the daily consumption of fruits and vegetable among overweight and obese individuals [9]. Why are there such contradictory results with those of Conner et al. [1] for the same SES measure? Obviously, this suggests that other factors such as the cultural context where the study was conducted, the characteristics of the population under study, as well as the nature of the studied behavior can all affect the moderating effect observed in their study.

An additional important point that the paper of Conner et al. [1] suggests is how should SES be measured in behavioral sciences? In the literature, there is a consensus that variables such as family/personal income, level of education, and type of occupation are all individual indicators of SES. Also, few authors have developed more global area measures of SES such as the Townsend [5] deprivation index. In sum, some of these measures are assessed at the individual level whereas others refer to aggregated environmental or cluster categories. Obviously, it will be important in future applications to investigate not only what is the relative moderating role of individual and environmental indices of SES, but also under which conditions a moderating effect of SES is observed.

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ann. behav. med. (2013) 46:3–4

## References

- Conner M, McEachan R, Jackson C, et al. Moderating effect of socioeconomic status on the relationship between health cognitions and behaviors. *Ann Behav Med*. 2013. doi:10.1007/s12160-013-9481-y.
- Godin G, Shephard RJ, Colantonio A. The cognitive profile of those who intend to exercise but do not. Publ Health Rep. 1986;10:521-526.
- Sheeran P. Intention-behavior relations: A conceptual and empirical review. In: Stroebe W, Hewstone M, eds. European review of social psychology, vol. 12. Chichester: Wiley; 2002:1-36.
- Triandis HC. Values, attitudes and interpersonal behavior. In: Page MM, ed. Nebraska Symposium on Motivation Beliefs, Attitudes and Values, vol. 1. Lincoln, NE: University of Nebraska Press; 1980:195-259.

- 5. Townsend P. Deprivation. J Soc Pol. 1987;16:125-146.
- Cooke R, Sheeran P. Moderation of cognition—intention and cognition—behaviour relations: A meta-analysis of properties of variables from the theory of planned behaviour. *Br J Soc Psychol*. 2004;43:159-186.
- Rhodes RE, Dickau L. Moderators of the intention-behaviour relationship in the physical activity domain: A systematic review. Br J Sports Med. 2013;47:215-225.
- Godin G, Sheeran P, Conner M, et al. Social structure, social cognition, and physical activity: A test of four models. Br J Health Psychol. 2010:1:79-95.
- Godin G, Amireault S, Belanger-Gravel A, et al. Prediction of daily fruit and vegetable consumption among overweight and obese individuals. *Appetite*. 2010;54:480-484.

