

an interview with

Theory-based behaviour prediction and change: An interview with Gaston Godin

By Vera Araújo-Soares and Justin Presseau

ehp: From your research programme we can see that you conduct research with different groups, namely adolescents, adults, and healthcare professionals. From your experience what do you consider as similarities and distinguishing factors of behaviour and behaviour change predictors between these groups?

GG: It would be more appropriate to say that I have applied social cognition theories to predict different behaviours performed in different contexts among different populations. This combination of dimensions is challenging for predictive studies because each of these dimensions requires special attention. With respect to your question regarding applying theory to different populations, studies among populations of adults are often the easiest to conduct. This is one of the reasons why I have never been a fan of conducting my research with university students; they are (too) often used as participants in the scientific psychology literature. Furthermore, any study among youth is challenging because of the important variations in cognitive development at younger ages. Measurement is always problematic with youth. In recent years we have been using “palm computers” to assess Theory of Planned Behaviour (TPB) variables. This has proven to be a very useful approach, and of course the kids enjoy the tool! We also face a number of challenges with healthcare professionals. First, it is very difficult to clearly define the action to be adopted by healthcare professionals as well as the “context” of behavioural performance. Also, healthcare professionals are inclined to believe that they are adopting clinical behaviours for the benefit of their patients rather than for themselves. As a result, there are important variations in the application of the guidelines and operational definitions of the variables in models such as the TRA/TPB. More research is needed on this latter population.

ehp: There has been considerable research into augmenting dominant social cognition models such as the TPB with additional predictors of behaviour, as well as various moderators and mediators of the effects in these models. Using physical exercise as an example, which constructs would you say are the most relevant and compelling for predicting and/or changing physical exercise over and above intention and perceived behavioural control (PBC)?

GG: If we think about cognitions, how about self-efficacy? I know that several researchers would say that self-efficacy is similar (or equivalent) to PBC, but there



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is some scientific evidence suggesting that the two constructs differ or at least are not assessing the same aspects of control. Self-efficacy refers to specific barriers and contexts whereas PBC refers to a more global evaluation of control. That is why I believe that self-efficacy is a relevant construct for predicting exercise behaviour over and above intention and PBC.

ehp: You also emphasised the measurement issues related to different populations to the detriment of distinct predictors of behaviour. Is this a result of your belief that social cognition-based theories are universal in their application, regardless of the developmental stage of the population you are studying?

GG: This is a tricky question and I do not think that I have the expertise to give a correct answer. Nevertheless, I can say that we have successfully applied social cognition theories such as Ajzen's and Triandis' theories in different cultural contexts (e.g. Inuit living in the Northern part of Quebec, Canada; populations of West Africa; various ethnocultural groups in Canada). In each of these studies, measurement issues proved to be the main challenge that we faced, particularly in how to ensure that the instrument was adapted to the studied populations (i.e., language, type of scale used). Our methodological approach was worth the effort, as we were able to explain intentions just as well as studies conducted with Occidental populations.

ehp: Why is Triandis' (1980) theory of interpersonal behaviour (TIB) so rarely tested? ►

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GG: That is an interesting question because Triandis' theory was published at the same time period as Fishbein and Ajzen's theory of reasoned action (TRA). The question is also interesting as most of my research has been more strongly influenced by Triandis' theory than by the TPB, even though I am often identified as a researcher that applies the TPB. I can think of three reasons why Triandis' theory of interpersonal behaviour is so rarely tested. First, researchers like parsimonious models. Triandis' theory contains more variables than the popular TRA/TPB. It also contains constructs that were initially not given much attention by health psychologists (e.g., affective versus cognitive attitude, personal/moral norm, role belief, facilitating conditions). Second, contrary to the TRA/TPB, there are no clear guidelines for the operational definition of the variables. For instance, how do you assess role belief and personal/moral norm? How do you combine role belief and normative beliefs in a social norm construct? What are the rules for measuring facilitating conditions to adopt a given behaviour? The operational definition of these variables has been left to the researcher without clear specification. This has had some consequences on the model. For instance, instead of assessing "objective" facilitating conditions researchers tend to use a "subjective" measure. In summary, the measurement of Triandis' variables is not as clearly defined as one would like it to be. Third, Triandis' model was published as a chapter in the proceedings of a scientific meeting in 1980. It took some time before the scientific community became aware of its value. When it became clear that some of the TIB variables were relevant for predicting behaviour, researchers have added these important variables to the TPB, often naming it as an "extended TPB". Thus, most researchers are not aware that important variables such as facilitating conditions, personal/moral norm and role beliefs are parts of the Triandis theory of interpersonal behaviour. It also needs to be mentioned that Triandis is one of the first to have specified that facilitating conditions (i.e., the environmental context) have a moderating effect on the intention-behaviour relationship. He also included both the affective and cognitive attitudes as determinants of intention. In addition, he gave full consideration to habit in the prediction of intention and behaviour and hypothesised that as the influence of habit on behaviour increases, the role of intention decreases. In summary, Triandis' theory is still very valuable for the prediction of health behaviours.

ehp: Are there any theories of behaviour or behaviour change still in use today for which you feel there exists sufficient evidence to reject ?

GG: It is hazardous to state that a given theory should be rejected. Nonetheless, from my point of view, in the field of health, too much credit has been given to the health belief model (HBM). It is true that my work is more invested in "health promotion" than "disease prevention", but the HBM is driven by health (more precisely disease) considerations instead of social considerations. I am of the opinion that behaviours (even so-called "health" behaviours) are adopted and maintained for "social" reasons. There are contextual situations where a given behaviour is adopted for health reasons (e.g. disease), but as soon as the situation is back to normal these behaviours are not maintained. In fact, I don't think there are any "health" behaviours. This classification was created by health professionals. Epidemiologists or experts in medicine see specific behaviours as related to disease (or health) and therefore classify these behaviours as health behaviours. In doing so, they limit the scope of reasons why people adopt a given behaviour. From their perspective, if individuals become informed and

"In fact, I don't think there are any 'health' behaviours"
- *Gaston Godin*

knowledgeable of the risks to their health due to their behaviours, they would change them. These health professionals see the reasons to justify their interventions as the reasons underlying behaviour adoption and maintenance. We know that this is not the case. Do you believe that individuals brush their teeth for health or social reasons? That they lose weight for health or social reasons? That is why I do not support theories such as the HBM but prefer to analyse behaviour using more general/broader theories of behaviour.

ehp: Are there any theories of behaviour or behaviour change that you feel have been sufficiently validated that further testing would not add to the knowledge base?

GG: True tests of theories are still lacking. For instance, one of the most popular theories is the TPB; the scientific literature is filled with applications of the TPB. To undertake a systematic review of studies applying the TPB as I did with Gerjo Kok in the mid-90's would now be a huge task. However, most of these applications remain cross-sectional studies. The number of prospective studies is still modest in comparison, and even less have used experimental designs to test the assumptions of the TPB. Therefore, we still have a poor understanding of the mechanism of behavioural change. Additional tests of the theory are still needed and we need to continue investing in theory building and validation. ►

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ehp: Integrating causal constructs from various theories when predicting and changing behaviour seems to ensure a higher likelihood of success of behaviour change in particular settings, but might be of questionable generalizability. Testing new causal models each time therefore makes accumulating a generalisable knowledge base difficult. Are our current theories of behaviour prediction and change sufficient for the applied role we subject them to, or do we need to stop using current theories in their current forms and put more effort into developing them further?

GG: Generally speaking, my research agenda is driven by public health preoccupations. As such, we are applying social cognition theories to better understand behaviour and to use this information to develop theory-based interventions. This is why we have a tendency to integrate constructs from different theories in our prediction studies. In this process, we occasionally try (when possible) to test some theoretical issues, but this is not the priority. One of the drawbacks of this approach is the difficulty (or impossibility) to test the validity of a given theory. I nonetheless acknowledge that the main focus of psychologists is in theory testing and development.

ehp: One of the key issues in behavioural change interventions is maintenance of change. What do you think of the current research in this area? Where do you see it progressing?

GG: I think we are now making some progress. Not long ago, the main interest was nearly restricted to the explanation of intention. Not many people were predicting behaviour and using this information to develop interventions; even less to evaluate such interventions. For instance, we recently conducted a systematic review of applications of social cognition theories to predict healthcare professional's intentions and behaviour (see Godin, Belanger-Gravel, Eccles, & Grimshaw, 2008). We found only 16 prospective studies predicting behaviour but 72 predicting intention. How many of these studies have been used to develop interventions? I would safely say less than five, but I would not be surprised if none resulted in an intervention. Regarding maintenance issues, I think that the field has started making progress with the identification of the intention-behaviour gap (e.g. Orbell & Sheeran, 1998; Sheeran, 2002), the search of "moderators" of this gap (e.g. Cooke & Sheeran, 2004) and the identification of the key role played by stability of intention to favour the translation of intention into action (e.g. Conner & Godin, 2007; Conner, Sheeran, Norman, and Armitage, 2000; Sheeran & Abraham,

2003). Moreover, a few researches are now investing considerable efforts in promoting a research agenda for the development and evaluation of theory-based interventions (e.g., Charles Abraham, Gerjo Kok, Susan Michie).

ehp: The theme of this year's EHPS conference is 'Behaviour, health and healthcare: From physiology to policy'. How can research in health psychology impact on policy, and what do we need to do in order for this to happen?

GG: From my experience in public health, the most important aspect is to ensure that the key stakeholders are involved as partners in the research project. They must be part of your research team. This is the best condition to ensure that the findings will not stay on the shelves.

ehp: Should health psychology be putting more emphasis on the implications of research from other domains (e.g., management, engineering) for developing theory and changing behaviour?

GG: Yes. For instance, experts in education could contribute to the development of health education interventions. The science of intervention is not limited to health psychology. The efficacy of interventions could also be enhanced by the involvement of experts in computing, graphics, communications, etc...

ehp: Do we have compelling evidence that theory based interventions work better than evidenced based interventions?

GG: This is an ongoing debate in the scientific community. The only thing I can say is that the efficacy of interventions appears to be related to the level of planning (Gerjo Kok et al.). We have also observed that the best planned interventions are usually theory-based (Godin et al., 2007). In summary, theory-based interventions seem to enhance efficacy in outcome.

ehp: What are some of the big questions in Health Psychology that you would like to see answered (or at least attempted to answer)?

GG: The main question that everyone would like to have answered is how to change behaviour. Which approaches/strategies work for which groups? However, before this can happen, we will need to have a better understanding of the mechanisms through which behaviour change occurs. To change/modify a "phenomenon" we first need to understand it! ■

Note: For full reference list, please see page 58



Finding better ways of motivating and assisting smokers to stop

a small part of the work being undertaken. For the full programme see www.ucl.ac.uk/hbrc. It is in its early stages but we expect that by the end of the five year period we will have much better information on effective and cost-effective methods of motivating and assisting smoking cessation. We also hope to have a better understanding of how it is that smokers manage to achieve lasting cessation which can be fed into the further development of smoking cessation interventions. Such an understanding will hopefully have implications for behaviour change interventions more generally. ■

References

- Etter, J. F. (2006). Cytisine for smoking cessation: a literature review and a meta-analysis. *Arch Intern Med*, *166*, 1553-1559.
- Fong, G. T., Cummings, K. M., & Shopland, D. R. (2006). Building the evidence base for effective tobacco control policies: the International Tobacco Control Policy Evaluation Project (the ITC Project). *Tob Control*, *15 Suppl 3*, iii1-2.
- McEwen, A., West, R., & McRobbie, H. (2006). Effectiveness of specialist group treatment for smoking cessation vs. one-to-one treatment in primary care. *Addict Behav*, *31*, 1650-1660.
- Riemsma, R. P., Pattenden, J., Bridle, C., Sowden, A. J., Mather, L., Watt, I. S., & Walker, A. (2003). Systematic review of the effectiveness of stage based interventions to promote smoking cessation. *BMJ*, *326*, 1175-1177.
- Sutton, S. (2001). Back to the drawing board? A review of applications of the transtheoretical model to substance use. *Addiction*, *96*, 175-186.
- West, R. (2005). Time for a change: putting the Transtheoretical (Stages of Change) Model to rest. *Addiction*, *100*, 1036-1039.
- West, R. (2006). New approaches to smoking cessation. : Prous (www.TTMed.com/respiratory). *Timely Topics in Medicine: Respiratory Diseases*.
- West, R. (2006a). *Theory of Addiction*. Oxford: Blackwells.
- West, R. (2006b). Tobacco control: present and future. *Br Med Bull*, *77-78*, 123-136.
- West, R. (2006c). The transtheoretical model of behaviour change and the scientific method. *Addiction*, *101*, 774-778.
- West, R., & Shiffman, S. (2007). *Smoking Cessation* (2nd ed.). Oxford: Health Press.
- West, R., & Sohal, T. (2006). "Catastrophic" pathways to smoking cessation: findings from national survey. *BMJ*, *332*, 458-460.
- World Health Organisation. (2008). *WHO Report on the Global Tobacco Epidemic: the MPOWER report*. Geneva: WHO.

Disclosure: Robert West has undertaken research and consultancy for companies that develop and manufacture smoking cessation medications, including Pfizer, GSK, Novartis, Sanofi-Aventis and Johnson&Johnson.

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Rerences

- Conner, M. & Godin, G. (2007). Temporal stability of behavioural intention as a moderator of intention-health behaviour relationships. *Psychology & Health*, *22*, 875-897.
- Conner, M., Sheeran, P. Norman, P. and Armitage, C.J. (2000). Temporal stability as a moderator of relationships in the Theory of Planned Behaviour. *British Journal of Social Psychology*, *39*, 469-493.
- Cooke, R., & Sheeran, P. (2004). Moderation of cognition-intention and cognition-behaviour relations: A meta-analysis of properties of variables from the theory of planned behaviour. *British Journal of Social Psychology*, *43*, 159-186.
- Godin, G., Belanger-Gravel, A., Eccles, M. & Grimshaw, J. (2008). Healthcare professionals' intentions and behaviours: A systematic review of studies based on social cognitive theories. *Implementation Science*, *3*: 36.
- Godin, G., Gagnon, H., Alary, M., Lévy, J.J., Otis, J. (2007). The degree of planning: an indicator of the potential success of health education programs. *Promotion and Education*, *14*, 138-142.
- Godin, G., & Kok, G. (1996). The theory of planned behavior: A review of its applications to health-related behaviors. *American Journal of Health Promotion*, *11*, 87-98.
- Orbell, S., & Sheeran, P. (1998). "Inclined abstainers": A problem for predicting health-related behaviour. *British Journal of Social Psychology*, *37*, 151-165.
- Sheeran, P. (2002). Intention-behaviour relations: A conceptual and empirical review. In W. Stroebe, & M. Hewstone (Eds.), *European review of social psychology* (pp. 1-36). London: Wiley.
- Sheeran, P., & Abraham, C. (2003). Mediator of moderators: Temporal stability of intention and the intention-behavior relation. *Personality and Social Psychology Bulletin*, *29*, 205-215.
- Triandis, H. C. (1980). Values, attitudes, and interpersonal behavior. In M. M. Page (Ed.), *1979 nebraska symposium on motivation: Beliefs, attitudes, and values* (pp. 195-259). Lincoln, NE: University of Nebraska Press.

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