The role of socio-cognitive factors on diabetes self-management in adults: a cross sectional analysis using an extended version of the Theory of Planned Behavior

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Introduction

Previous studies highlighted the utility of the extended Theory of Planned Behavior (TPB, Ajzen 1991) socio-cognitive factors to understand diabetes self-management behaviors (DSMBs) performance. However, the studies accounting for multiple DSMBs within the TPB model are currently limited.

Objectives: To explore the role of the extended TPB socio-cognitive factors on: 1) the intention to perform multiple DSMBs and 2) the actual performance of several types of DSMBs.

Method

Adult with diabetes from a the community-based cohort CoDiab-VD (N=284) were asked to complete a self-reported questionnaire sent at home.
We assessed:

- The extended TPB factors: cognitive 3 items, α= 0.84; affective attitudes 2 items, r= 0.68; subjective norms 2 items, r= 0.33; moral norms 2 items, r= 0.46; perceived behavioral control (PBC) 4 items, α= 0.55; intention 3 items, α= 0.67.
- Actual DSMBs performance: Summary of Diabetes Self-Care Activities questionnaire: healthy eating 4 items, α= 0.80; physical activity 2 items, r= 0.66; self-monitoring of blood glucose (SMBG) 2 items, r= 0.88; and foot care 4 items, α= 0.61.

Sociodemographic and clinical variables were included in the model to explore their relevance. Structural equation modelling was applied for the analysis.

Results
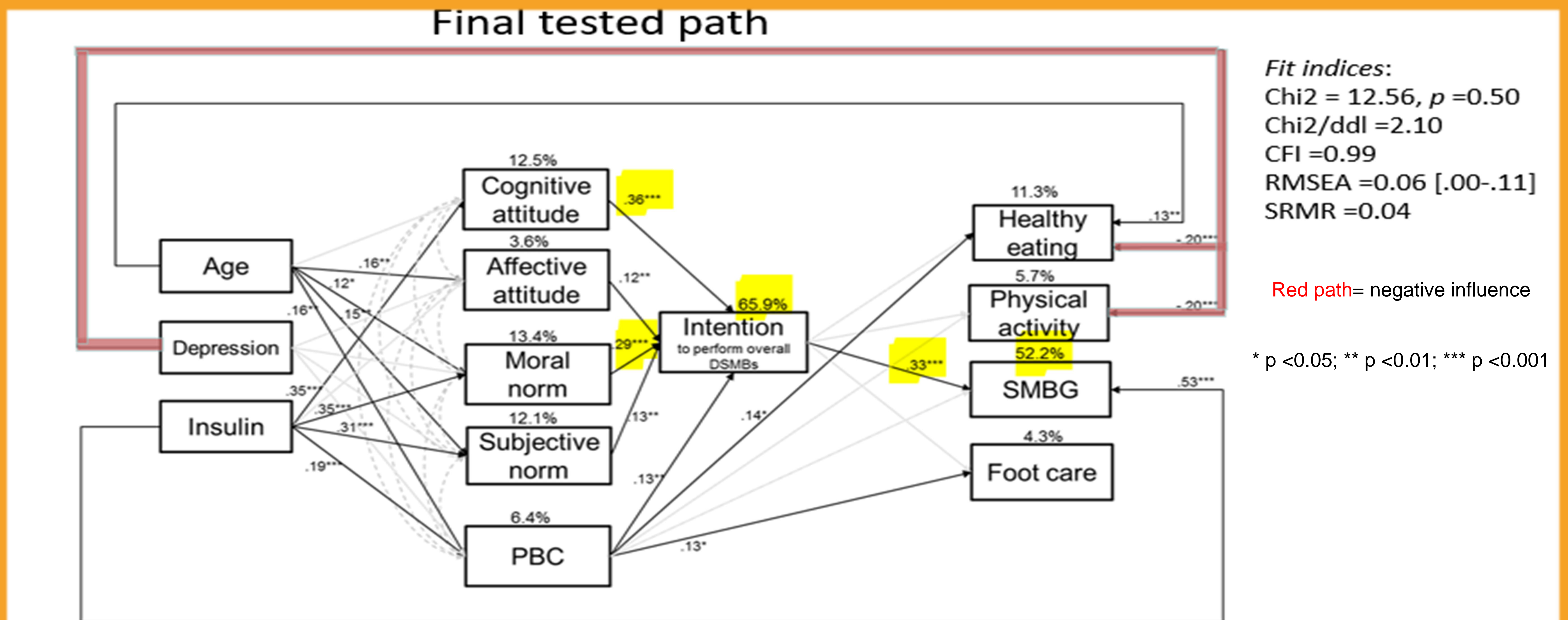
Fig 1. Overall standardized beta coefficients of the final model based on TPB.

- Intention to engage DSMBs is strongly influenced by cognitive attitude, and by moral norms.
- SMBG is highly determined by intention to DSMBs. Healthy eating and foot care are mainly related to PBC.
- Physical activity is more likely determined by the presence of depression than by the TPB factors.
- Age, taking insulin treatment plays a noticeable role on the creation of positive intention to DSMBs.
- Taking insulin treatment exerts a positive influence on SMBG; age exerts a positive influence on healthy eating and physical activity.
- The presence of depression is associated with less lifestyle-type behaviors (healthy eating and physical activity) without affecting the TPB factors.

Conclusions

The results provide a comprehensive understanding of DSMBs in adults with implications on intervention design for diabetes management:

➢ Health professional can actively help in creating positive intentions in patients to perform multiple DSMBs, by reinforcing their beliefs about the importance, utility, and benefits of implementing DSMBs regularly and fostering links between DSMBs and personal values;

➢ Effort should be applied in order to bridge the gap between the intention and the accomplishment of healthy eating, physical activity, and foot care behaviors;

➢ For healthy eating and physical activity behaviors, using real time feedbacks provided by SMBG values might facilitate the implementation of intention into action;

➢ Since PBC contributes both as a determinant of intention and actual behavior adoption, health professionals should also work on strengthening patients' feeling of control over DSMBs;

➢ Intervention strategies should include evaluation and treatments for depression along with the usual focus on promoting DSMBs.

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