ShareSEM: Example and Template R Scripts for SEM, Bayesian, and More

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Acknowledgements: This file does not contain intellectual property or ownership of any of the presented models. The presented models are simply a guide to using the template scripts available in the ShareSEM project.

Further Information: For more information on ShareSEM and related projects follow

@danjhipps on twitter, or go to <https://hapiresearchlab.com/> and

<https://danielhippsresearch.wordpress.com/>

Materials: <https://osf.io/nh2mb/>

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Information

The ShareSEM project is a simple depository of R scripts for running structural equation models and Bayesian modelling in R. The scripts are designed such that, if measurement items are named consistently, models can be ran with no extra scripting. If models or items differ from the template file, the scripts are designed to be easily adaptable. Bayesian path analysis scripts are also available, with pre-specified priors from meta-analyses of the models.

Measures

Item Names

Behaviour: Bhv1, Bhv2

Past Behaviour: PB1, PB2

Autonomous Motivation: AM1, AM2, AM3, AM4

Controlled Motivation: CM1, CM2, CM3, CM4

Attitude: Att1, Att2, Att3, Att4

Subjective Norm: SN1, SN2, SN3

Perceived Behavioural Control: PBC1, PBC2, PBC3, PBC4

Intention: Int1, Int2, Int3

Action Self-Efficacy: ASE1, ASE2, ASE3, ASE4

Action Planning: AP1, AP2, AP3

Coping Planning: CP1, CP2, CP3

Outcome Expectancies: OE1, OE2, OE3, OE4

Implicit Attitudes: IATD

Models

Theory of Planned Behaviour (TPB; Ajzen, 1991).

TPB Model 1: The Theory of Planned Behaviour

TPB Model 1-PB: The Theory of Planned Behaviour, Including Past Behaviour

The Integrated Behaviour Change Model (IBCM; Hagger & Chatzisarantis, 2009, 2014).

Please note that several variants of the IBCM have been used in published literature. The core model features a combination of the Theory of Planned Behaviour (Ajzen, 1991) and Self Determination Theory (Deci & Ryan, 2000; Ryan & Deci, 2000), and stems from meta-analysis (Hagger & Chatzisarantis, 2009). The model has been used with the Health Action Process Approach (Brown, Hagger, Morrissey, & Hamilton, 2018), and integrating impulsive processes using implicit attitudes (Caudwell, Keech, Hamilton, Mullan, & Hagger, 2019; Hagger, Trost, Keech, Chan, & Hamilton, 2017) or habits (Hamilton, Kirkpatrick, Rebar, & Hagger, 2017).

IBCM Model 1: The Integrated Behaviour Change Model

IBCM Model 2: The Integrated Behaviour Change Model with an Implicit Association Test

IBCM Model 3: The Integrated Behaviour Change Model with the Health Action Process Approach

Approach

IBCM Model 4: The Integrated Behaviour Change Model with Behavioural Automaticity

IBCM Model 5: The Integrated Behaviour Change Model with the Habits and an Implicit Association Test

IBCM Model 6: The Integrated Behaviour Change Model with the Health Action Process

Approach and an Implicit Association Test

The Reflective Impulsive Model (RIM; Strack & Deutsch, 2004)

RIM Model 1: The Reflective Impulsive Model

RIM Model 1-PB: The Reflective Impulsive Model with Past Behaviour

The Health Action Process Approach

HAPA Model 1: The Health Action Process Approach, Planning Mediating Intention

HAPA Model 2: The Health Action Process Approach, Planning Moderating and Mediating

Intention

HAPA Model 1-PB: The Health Action Process Approach with Past Behaviour, Planning

Mediating Intention

HAPA Model 2-PB: The Health Action Process Approach with Past Behaviour, Planning

Moderating and Mediating Intention

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