

## Assignment

Van den Broeck Sebastiaan (r0902562)

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# 1 Introduction

Harm avoidance and self-directedness have been linked to depression. A behaviour can be classified under harm avoidance if it is done to avoid novelty and punishment. Self-directedness, on the other hand, is a form of self-determination and ability to regulate behaviour to suit goals and values. It has been proposed that harm avoidance and self-directedness are indirectly linked to depression through social functioning (Tse et al., 2011). In this work I will test this hypothesis on a new dataset, which will be discussed next. The structural equation model to test the hypothesis will be talked about. Lastly, the results and implications thereof will be considered.

# 2 Data

The data treated in the report is the Midlife in the United States (MIDUS) series. Currently, there are three waves in the study, which were collected via phone interviews, surveys and by bringing participants into clinical settings to facility collecting biological data. All three waves cover the contiguous United States in its entirety. The first wave was collected in 1995 and 1996, while the second wave was collected in 2004 and 2005. The most recent wave was collected in 2013 and 2014. The second and third wave have been combined to create a bigger dataset. It was not possible to incorporate the first dataset, since a lot of variables changed between the first and second and third waves (Radler, 2014).

An important reason for choosing this dataset is that it contains a lot of documentation for which variables form certain latent constructs such as depression or social anxiety. Since I am not familiar with the field of psychology this would save me a lot of time. Depression is the most important latent variable in this work. It has been measures through seven questions during which the respondent reflects over the last two weeks. For example, the questions include losing interest, becoming tired, having trouble falling asleep or thinking about death. Each variable which measures this latent construct has been coded such that a 1 reflects a yes answer. As could be expected, a 0 then means a respondent has answered no.

Construct	Code	Question
Depression	C1PA63	During those two weeks, did you lose interest in most things?
	C1P164	Thinking about these same two weeks, did you feel more tired out or low on energy?
	C1PA65	During those same two weeks, did you lose appetite?
	C1PA66	Did you have more trouble falling asleep than you usually do during those two weeks?
	C1PA67	During that same two week period, did you have a lot more trouble concentrating than usual?
	C1PA68	People sometimes feel down on themselves, no good, or worthless. During that two-week period, did you feel this way?
	C1PA69	Did you think a lot about death - either your own, someone else's or death in general - during those two weeks?

Construct	Code	Count	
		0	1
Depression	C1PA63	156	633
	C1P164	61	726
	C1PA65	338	445
	C1PA66	223	565
	C1PA67	111	675
	C1PA68	283	507
	C1PA69	304	485

Another important aspect in this report is harm avoidance. Since it cannot be measured directly, four questions were asked to get an idea about this variable. First, interviewees were asked whether they would enjoy experiencing an earthquake or learning to walk the tightrope. These two variables were

reverse recoded such that a 4 reflects not agreeing with the statement at all (harm avoidance), while a 1 indicates fully agreeing (no avoidance). Second, interviewees were presented with two scenario's twice. For each question, one scenario corresponds to a harmful situation, while the other scenario's is harmless. Again, there was a recoding such that a higher score on these two variables indicates avoiding harm.

Construct	Code	Question
Harm avoidance	C1SE7D	It might be fun and exciting to be in an earthquake.
	C1SE7V	It might be fun learning to walk a tightrope.
	C1SE8	Of these two situations, I would dislike more: Situation 1: Riding a long stretch of rapids in a canoe; Situation 2: Waiting for someone who's late.
	C1SE9	Of these two situations, I would dislike more: Situation 1: Being at the circus when two lions suddenly get loose down in the ring; Situation 2: Bringing my whole family to the circus and then not being able to get in because a clerk sold me tickets for the wrong night.

Construct	Code	Count			
		1 (harm)	2	3	4 (no harm)
Harm avoidance	C1SE7D	274	875	838	4889
	C1SE7V	367	1222	1163	4238

Construct	Code	Count	
		0 (harm)	1 (no harm)
Harm avoidance	C1SE8	3803	3089
	C1SE7V	2994	3898

We should not forget about self-directedness, which has been measured through three variables. Making plans for the future, knowing what to want out of life and setting goals are important for this dimension. Again, the variables were reverse coded such that a higher score reflects agreeing more with the statement. The data indicates that most participants agree somewhat or fully what the three statements.

Construct	Code	Question
Self-directedness	C1SE14O	I like to make plans for the future.
	C1SE14R	I know what I want out of life.
	C1SE14P	I find it helpful to set goals for the near future.

Construct	Code	Count			
		1	2	3	4
Self-directedness	C1SE14O	247	1303	2754	2590
	C1SE14R	251	1089	2929	2604
	C1SE14P	318	1320	3071	2184

Lastly, the latent variable social functioning has been used in the analysis. Seven questions related to this dimension were asked. The variables C1SE1BB, C1SE1D, C1SE1I and C1SE1V were reverse coded such that a higher score indicates a higher degree of social functioning.

Construct	Code	Question
Social functioning	C1SE1BB	People would describe me as a giving person, willing to share my time with others.
	C1SE1D	Most people see me as loving and affectionate.
	C1SE1HH	I have not experienced many warm and trusting relationships with others.
	C1SE1J	Maintaining close relationships has been difficult and frustrating for me.
	C1SE1I	I think it is important to have new experiences that challenge how you think about yourself and the world.
	C1SE1P	I often feel lonely because I have few close friends with whom to share my concerns.
	C1SE1V	I enjoy personal and mutual conversations with family members and friends.

Construct	Code	Count						
		1	2	3	4	5	6	7
Social functioning	C1SE1BB	28	76	127	472	799	2382	3055
	C1SE1D	43	126	219	807	815	2598	230
	C1SE1HH	291	501	575	441	497	1382	3242
	C1SE1J	236	575	818	711	512	1524	2550
	C1SE1I	113	136	142	709	1154	2190	2483
	C1SE1P	242	447	744	655	479	1321	3036
	C1SE1V	63	64	105	211	589	1879	4024

### 3 The base model

## 4 Expanding the base model

## 5 Conclusion