

Psychometric Properties of the Beck Depression Inventory–Second Edition (BDI-II) in Individuals with Chronic Pain

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Disclosure Statement:

Cannot identify any potential conflict of interest



Study Relevance

- Prevalence
 - 19-54% in chronic pain
 - general population – 5%
 - primary care medical patients – 23%
- Sex difference
 - General population – 2:1 sex ratio
- Impact
 - Increased pain severity, less active, greater disability, less likely to complete treatment



Measurement Issues cont'd

- BDI-II developed to correspond with DSM-IV
- Commonly used at pain centres
- No study has assessed psychometric properties in chronic pain sample



Purpose

- Evaluate the BDI-II in a large sample of individuals with chronic pain
 - Normative data, Reliability
 - Determine the factor structure of the BDI-II and
 - if the structure is the same for men and women
 - Address the question of symptom overlap



Participants

- 279 women
- 202 men
- Average age = 43.25 (SD=8.71)
- Average pain duration = 7.32 yrs (SD=7.07)
- Heterogeneous pain



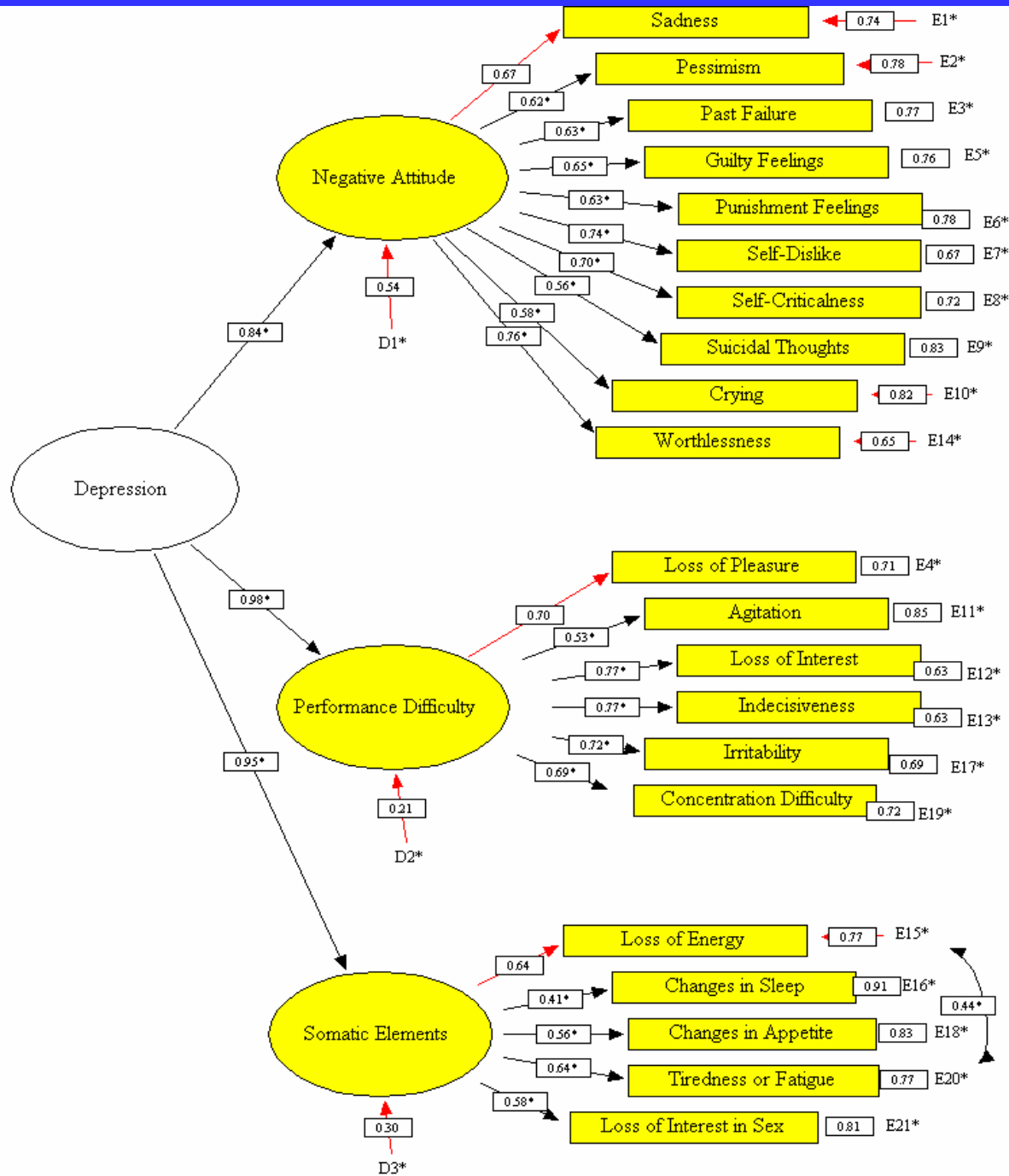
Procedure

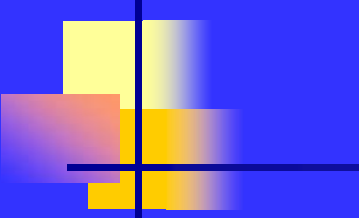
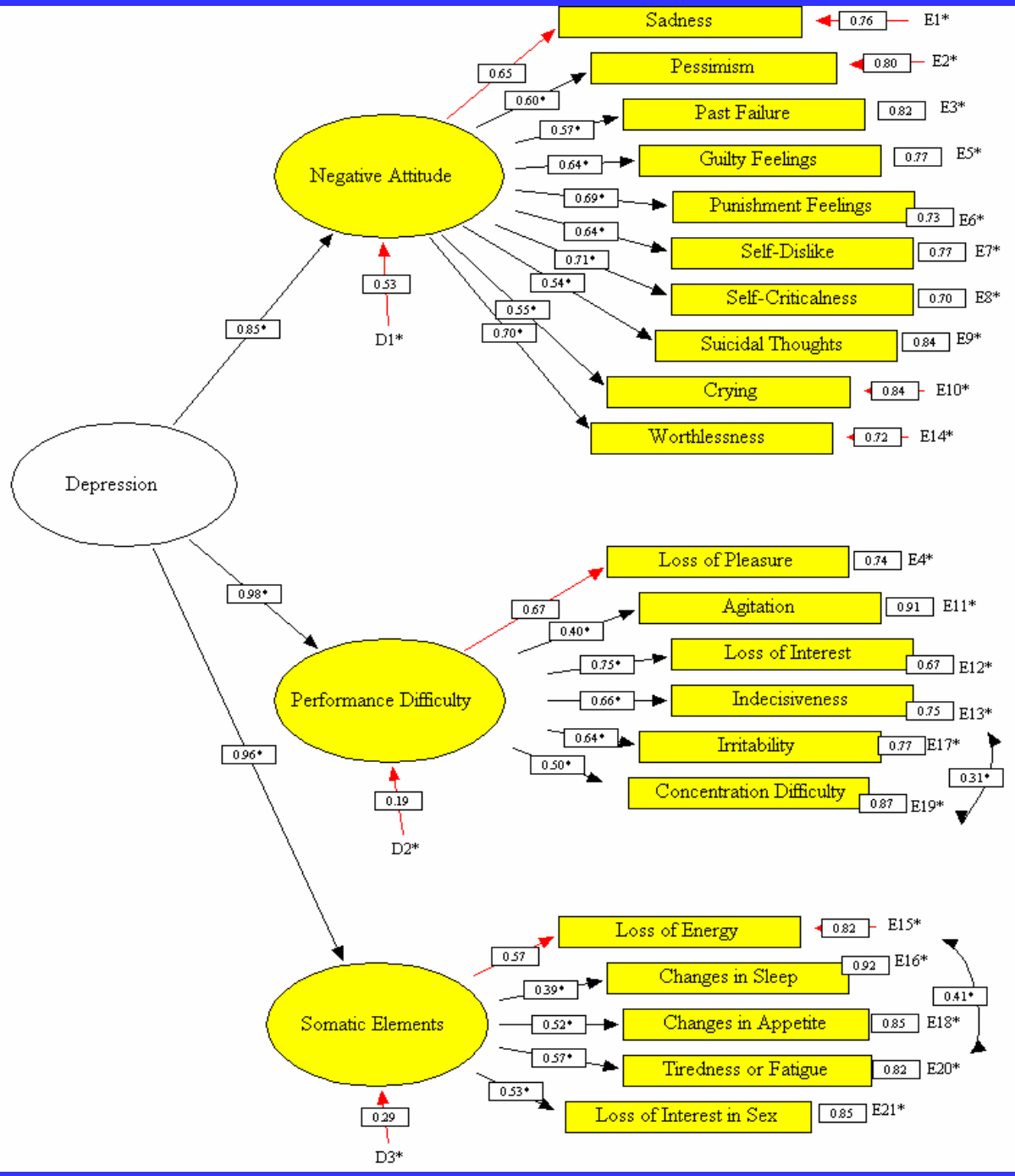
- Participants referred to a multidisciplinary pain centre at the Rehabilitation Centre, Ottawa, ON
- Completed questionnaire package including BDI-II prior to initial assessment appointment
- Requested consent
- Approved by Research Ethics Board



Analytic Strategy

- EQS 6.1 software – SEM (Bentler & Wu, 2005)
- Maximum likelihood CFA to test factorial validity
 - Tested 3 competing models of BDI-II factor structure separately for men and women
 - Tested second-order model separately for men and women
 - Tested the second-order model for gender invariance (i.e., equivalence of factor structure)







Means / Internal Consistency

	Women (n=279)		Men (n=202)	
	M	α	M	α
Negative attitude	9.9	.88	9.5	.87
Performance difficulty	8.5	.85	9.2	.77
Somatic elements	8.7	.74	8.2	.68
BDI-II total score	27.0	.93	26.8	.91



Item-total correlations

- corrected item-total correlations adequate for all items (>0.3) including somatic items
- provides further evidence that somatic items make salient contributions to the depression construct regardless of whether they are confounded with pain



Conclusion

- In a chronic pain population
 - depression, as measured by BDI-II, is a singular second-order latent construct
 - consists of three interrelated but independent first-order factors
- Inclusion of somatic items and use of total score is supported



Conclusion cont'd

- Men and women with chronic pain experience depressive symptoms, as measured by BDI-II, in fundamentally the same way
- Therefore, the BDI-II is a valid and reliable tool to assess depressive symptoms in both women and men with chronic pain



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