MODEL OF RESILIENCE IN FAMILY CAREGIVERS OF RELATIVES WITH NEUROTRAUMA (TBI OR SCI): A MULTIGROUP ANALYSIS

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Learning Outcomes



At the end of this presentation, you will be able to:

- Describe the usefulness of Structural Equation Modelling (SEM) as a method to study resilience in family members of relatives with TBI or SCI
- Interpret a model of resilience in family members of relatives with TBI or SCI
- Recognise resilience as a key factor in psychological adjustment of family members of individuals with TBI or SCI

TBI and SCI IMPACT ON FAMILY MEMBERS

- Physical and emotional strain
- Strain on family relationships
- Isolation
- Financial stress
- Poor health including fatigue and lack of sleep
- Lack of privacy and power
- Lack of social support

Boschen et al. 2005; Charlifue et al. 2016; Angel & Buus, 2011; Rodakowski et al. 2013; Anderson et al. 2009; Anderson et al. 2013; Kreutzer et al .2009)

RESILIENCE – A PARADIGM SHIFT IN REHABILITATION?

....demanding and stressful experiences do not inevitably lead to vulnerability, failure to adapt, and psychopathology (Saleebey, 2006, p.13

Within neurorehabilitation, the paradigm shift is away from a deficits-based and towards a strengths-based approach… (White et al. 2008; Godwin & Kreutzer, 2013)

… this focus can be expanded to family caregivers, to investigate the role of resilience in their recovery and long-term adaptation in response to the traumatic injury of a close relative (Simpson & Jones, 2013; Middleton et al. 2014)

RESILIENCE

" … a dynamic process encompassing **positive adaptation** within the context of significant adversity" (Luthar et al. 2000, p. 543).

"Resilience is generally considered a **multidimensional construct** consisting of behaviours, thoughts and actions, which can be **learned over time**" (White et al. 2008, p. 9).

AIM

To test a model of resilience among family caregivers supporting relatives with TBI or SCI



Bing

WHAT IS STRUCTURAL EQUATION MODELLING (SEM)?

- SEM is a general term that has been used to describe statistical models employed to evaluate the validity of substantive theories with empirical data
- enables the strength and direction of multiple relationships between variables to be examined simultaneously
- It is applicable to both experimental, non-experimental, cross-sectional and longitudinal data
- The goal is to determine whether a hypothesised theoretical model is consistent with the data collected (i.e. *model-data-fit)*
- *(Ho, 2014)*

FAMILY

Similar profile in age, sex, employment, residential status

More people with TBI were supported by a parent compared to SCI

More people with SCI were supported by a spouse than people with TBI

Family caregivers	TBI (n=131)	SCI (n=50)
Sex (n, %)		
Male	25 (19.1)	7 (14.0)
Female	106 (80.9)	43 (86.0)
Age, years (mean, SD)	53.5 ±11.7	49.5 ±13.2
Marital status (n, %)		
Married/De facto	103 (78.6)	43 (86.0)
Single	9 (6.9)	4 (8.0)
Separated/divorced/widowed	19 (14.5)	3 (6.0)
Relationship to person with injury (n, %)		
Parent	58 (44.3)	13 (26.0)
Spouse	59 (45.0)	31 (62.0)
Other*	14 (10.7)	6 (12.0)
Current employment status (n, %)		
Employed full time	44 (33.6)	17 (34.0)
Employed part time	31 (23.7)	10 (20.0)
Not employed	56 (42.7)	23 (46.0)
Living with person with injury at time of injury (n, %)		
Yes	98 (74.8)	36 (72.0)
No	33 (25.2)	14 (28.0)
Living with person with injury now		
Yes	109 (83.2)	41 (82.0)
No	22 (16.8)	9 (18.0)

RELATIVES

Similar profile in sex, age, employment

People with TBI were longer post-injury than people with SCI

Significant levels of extremely severe CNS impairment for both groups

Relative with neurotrauma	TBI (n=131)	SCI (n=50)
Sex (n, %)		
Male	98 (74.8)	40 (80.0)
Female	33 (25.2)	10 (20.0)
Age, years (mean, SD)	41.2 ±14.3	45.4±15.7
Time since injury, months (mean, SD)	36.3 ±46.9	18.3±49.0
Marital status (n, %)		
Married/De facto	64 (48.9)	33 (66.0)
Single	55 (42.0)	11 22.0)
Separated/divorced	12 (9.2)	6 (12.0)
Current employment status (n, %)		
Employed full time	28 (21.4)	13 (26.0)
Employed part time	27 (20.6)	6 (12.0)
Not employed	76 (58.0)	31 (62.0)
SCI Level		
Paraplegia	-	18 (36.0)
Quadriplegia	-	32 (64.0)
SCI Lesion		
Complete	-	12 (24.0)
Incomplete	-	38 (76.0)
Posttraumatic amnesia (days)		
Severe	4 (3.1)	-
Very severe	42 (32.6)	-
Extremely severe	83 (64.3)	-

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Explanatory variables

Relative with TBI/SCI

- Functional Independence Measure (FIM)

Family Member Attributes

- Demographic
  Age, sex, kinship
- **Personality traits**-Eysenck Personality Questionnaire Revised
- **Coping strategies-** Ways of Coping Questionnaire

Mediating variables

- **Resilience**- Connor-Davidson Resilience Scale
- **Self-efficacy**- General Self-Efficacy Scale
- **Hope**- Herth Hope Scale
- **Social support-** Medical Outcome Study Social Support Survey

Outcome variables

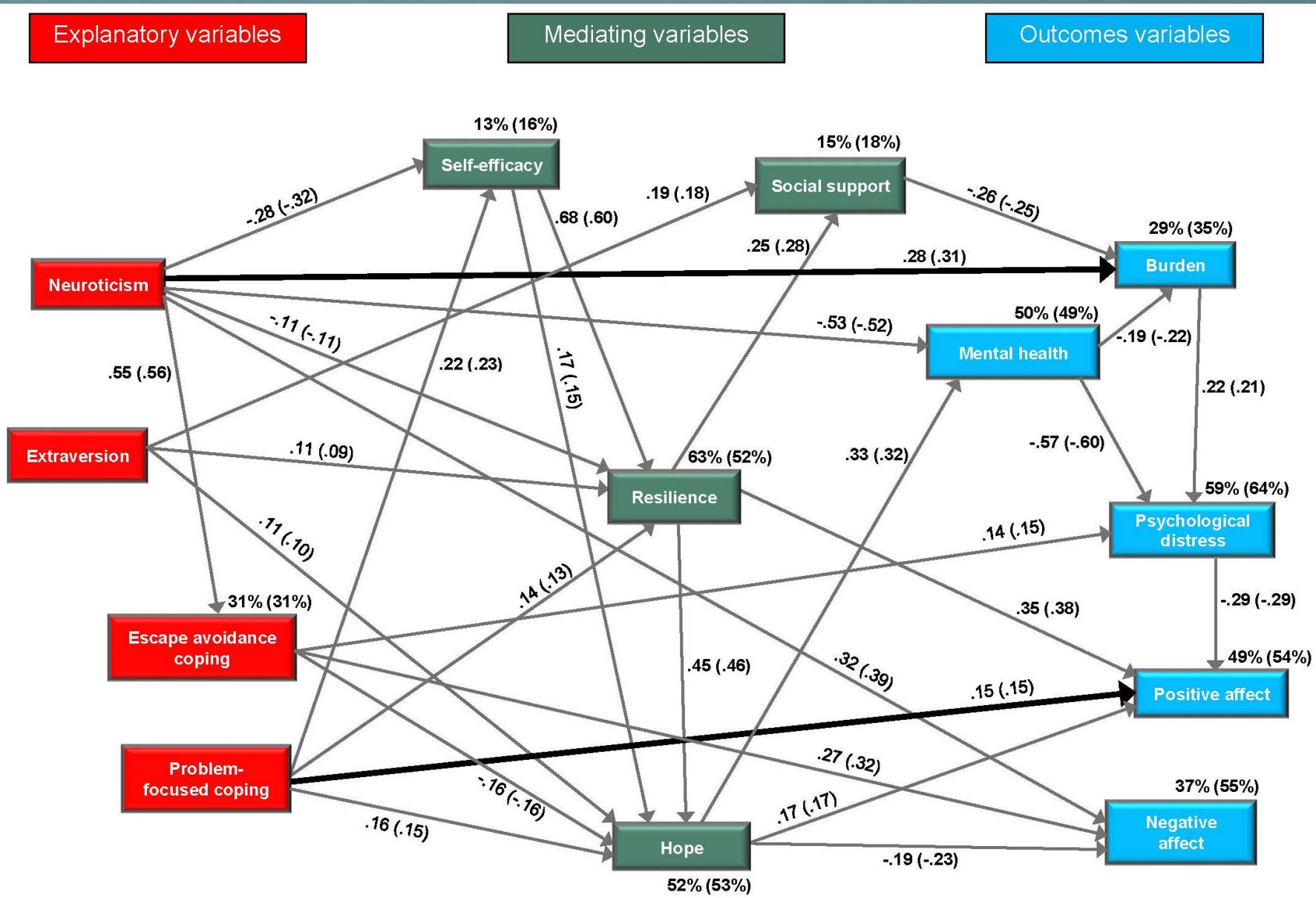
- **Positive Mental health** Medical Outcomes Survey Short -36
- **Psychological distress** – General Health Questionnaire-28
- **Burden**- Caregiver Burden Scale
- **Emotional wellbeing-** Positive and Negative Affect Scale

RESULTS (n=181)

Model fit statistics

Model	χ^2	df	P	NFI	IFI	TLI	CFI	RMSEA
Benchmark			X^2 = ns	>0.9	>0.9	>0.9	>0.9	<0.05
Total group	47.42	39	.167	0.962	0.993	0.985	0.993	0.035
Invariant-group	126.37	107	.097	0.905	0.984	0.976	0.983	0.032
Variant-group	93.81	78	.107	0.927	0.987	0.973	0.987	0.034

Note. RMSEA root mean squared error of approximation; NFI normed fit index; IFI incremental fit index; TLI Tucker Lewis index; CFI comparative fit index



Model of resilience in family caregivers of relatives with TBI or (SCI). All significant paths and their coefficients are shown. Percent (%) represents portion of variance.

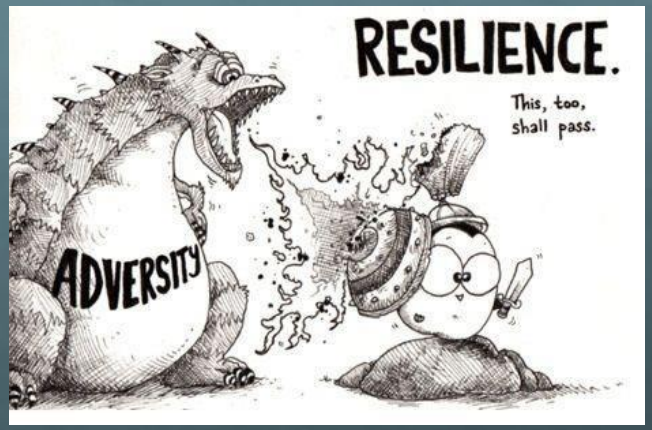
DISCUSSION



- Resilience does seem to play an important role in mediating family morbidity after TBI and SCI
- Important to continue to refine and develop broad consensus about the construct
- Longitudinal studies needed to understand more about the contribution of resilience to the sustainability of informal care
- Psycho-educational programs can be trialled to test whether it is possible to build resilience among family caregivers
- Focus not just on resilient individuals but on resilience in communities and service systems

THANK YOU

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