

# PTSD following a HG pregnancy

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# HG research on the South Wales Doctorate in Clinical Psychology at Cardiff University

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- Part of the DClinPsy
- Offer LSRP
- Dr Hayley MacGregor & Dr Lisa Garvin have completed (2019)
- Jerrie Serrell almost completed data collection (2020/2021)
- Research strands includes PTSD, Emetophobia, Attachment, Parental Stress.
- Work closely with PSS

# Testing a cognitive model to predict posttraumatic stress disorder in women following experiences of Hyperemesis Gravidarum

Hayley D. MacGregor, Cerith S. Waters, and Helen Penny



**Dr Hayley MacGregor**

This study investigated whether theoretically derived variables of the cognitive model of PTSD explained unique variance in postnatal PTSD symptoms when key sociodemographic, HG variables and potential protective factors of dispositional mindfulness, general self-efficacy and postnatal social support were controlled

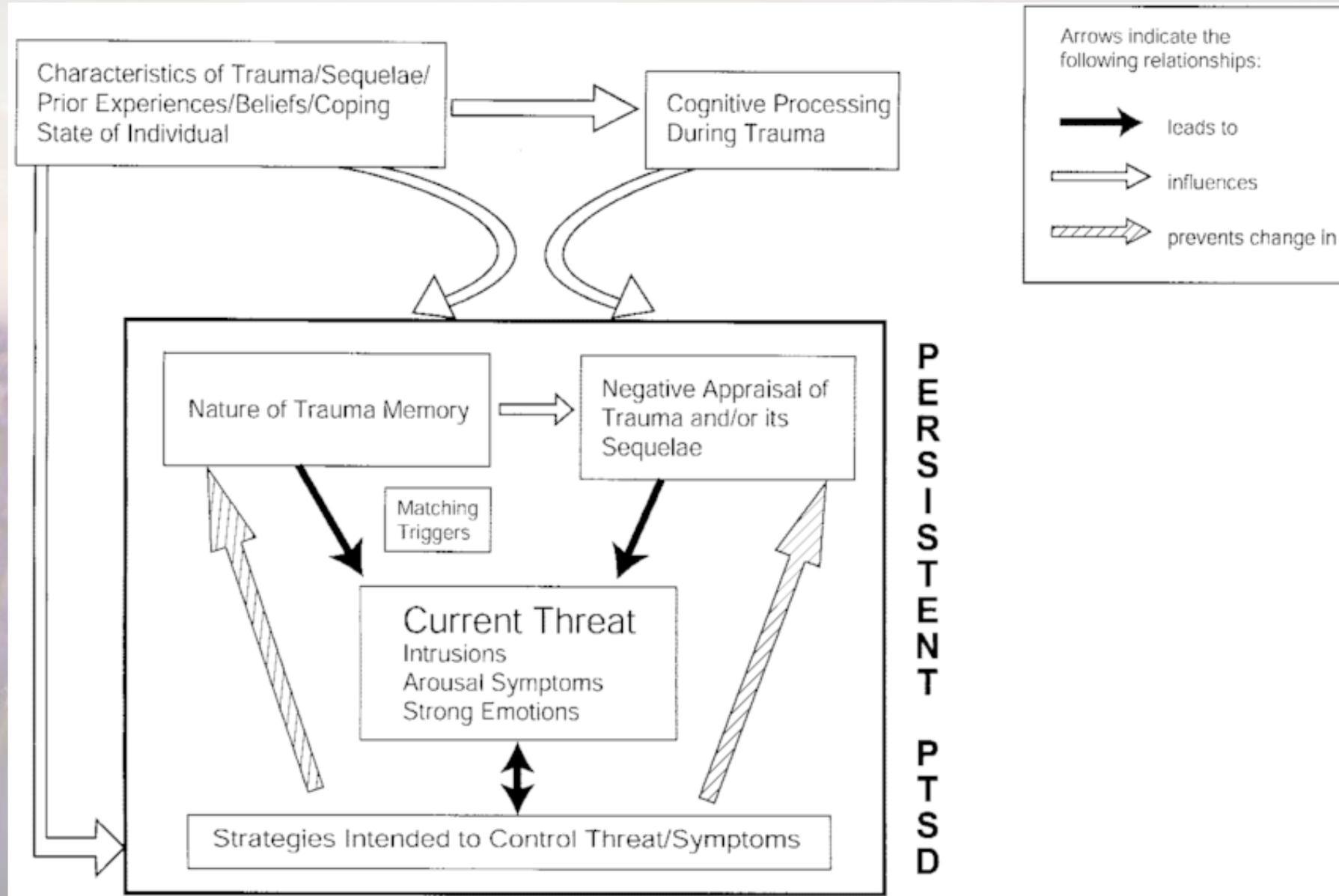
## Rationale

HG appears to be associated with developing PTSD  
e.g. Christodoulou-Smith et al. (2011) showed that 18% of women met full diagnostic criteria for PTSD

PTSD is well-researched and understood from a psychological perspective. Mapping the experience of women with HG and PTSD onto existing models, will provide valuable directions for formulation and intervention.

# Ehlers and Clark (2000) cognitive theory of posttraumatic stress disorder (PTSD).

Behaviour Research and Therapy, 38, A. Ehlers and D. M. Clark, " A Cognitive Model of Posttraumatic Stress Disorder, " pp. 319 –345.



# Method

## **Method:**

A cross-sectional design. Women, over 18, who previously had HG and a “second-level” intervention, were invited to anonymously complete validated questionnaires in an online survey. Data was collected using Qualtrics survey software (Snow and Mann, 2013), advertised by Pregnancy Sickness Support through social media from October 2018 through January 2019.

## **Measures:**

Demographics & perinatal factors

**Posttraumatic stress disorder checklist for DSM-5 (PCL5; Blevins, Weathers, Davis, Witte et al. 2015).**

**Cognitive and Behavioural Predictors of PTSD**

*Negative appraisals of trauma and/or its sequelae:*

**The Posttraumatic Cognitions Inventory (PTCI; Foa & Ehlers, 1999)**

*Dysfunctional cognitive and behavioural strategies:*

**The Response to Intrusions Questionnaire (RIQ; Steil & Ehlers, 2000).**

**The Medical Outcomes Study Social Support Survey (MOSSSS; Sherbourne & Stewart, 1991)**

**Five Factor Mindfulness Questionnaire (FFMQ; Baer, Smith, Hopkins, Krietemeyer et al. 2006)**

**The General Self-Efficacy Scale (GSE; Schwarzer & Jerusalem, 1995)**

# Results

**266 women who had experienced HG completed all of the measures** British or Irish (84%) females, mean age of 27 years (SD=5.47), married (70.7%) with a range of highest education level (11.7% GCSE to 66.2% at degree or postgraduate level) and slightly above average household income based on UK national norms.

The mean time since HG pregnancy was 22 months (range 0-100 months) and the mean number of times hospitalised for HG was 2.73 times (range 0-10), 38% of women experienced HG once, 62% had experienced HG during multiple pregnancies.

# Results

The mean total PCL5 score was 29.74 (SD=17.51); **40.6%** of women scored more than 33 points which is a cut-off typically used to indicate that women may be experiencing PTSD and would warrant full assessment by clinical interview.

The mean PTCL score was 100.44 (SD=44.56); 26.3% of women scored a total score of more than 133, suggesting these women had trauma-related thoughts in the range of those who have PTSD (Foa et al. 1991)

# Regression matrix to show the various predictors of PTSD symptom severity

Variable	$\beta$	SE	t	Sig.
<b>Sociodemographic and HG clinical variables</b>				
(Constant)	1.841	.735	6.281‡	.012
Household income	-.006	.006	.942‡	.332
Marital Status	-.671	.473	2.016‡	.156
Age	-.050	.026	3.536‡	.060
<b>Cognitive Model</b>				
(Constant) for CBT model	-13.218	2.604	-5.077	.000*
<b>Posttraumatic Cognitions Inventory (PTCI)</b>				
Negative cognitions about the self	.146	.062	2.378	.018*
Negative cognitions about the world	.189	.127	1.491	.137
Self-blame	.400	.215	1.859	.064
<b>Response to Intrusions Questionnaire (RIQ)</b>				
Suppression	.525	.164	3.204	.002*
Rumination	.437	.149	2.937	.004*
Numbing	1.063	.389	2.734	.007*
<b>Confounding variables</b>				
(Constant) for confounding model	$\beta$	SE	t	Sig.
(Constant) for confounding model	81.845	5.093	16.070	.000*
Mindfulness FFMQ	-.603	.086	-7.006	.000*
Social support MOSSS	-.064	.054	-1.172	.242
General self-efficacy GSE	-.121	.200	-.604	.546

\* $p < 0.05$   $\beta$  regression coefficient, SE standard error, t-test statistic, Sig significance ‡wald statistic

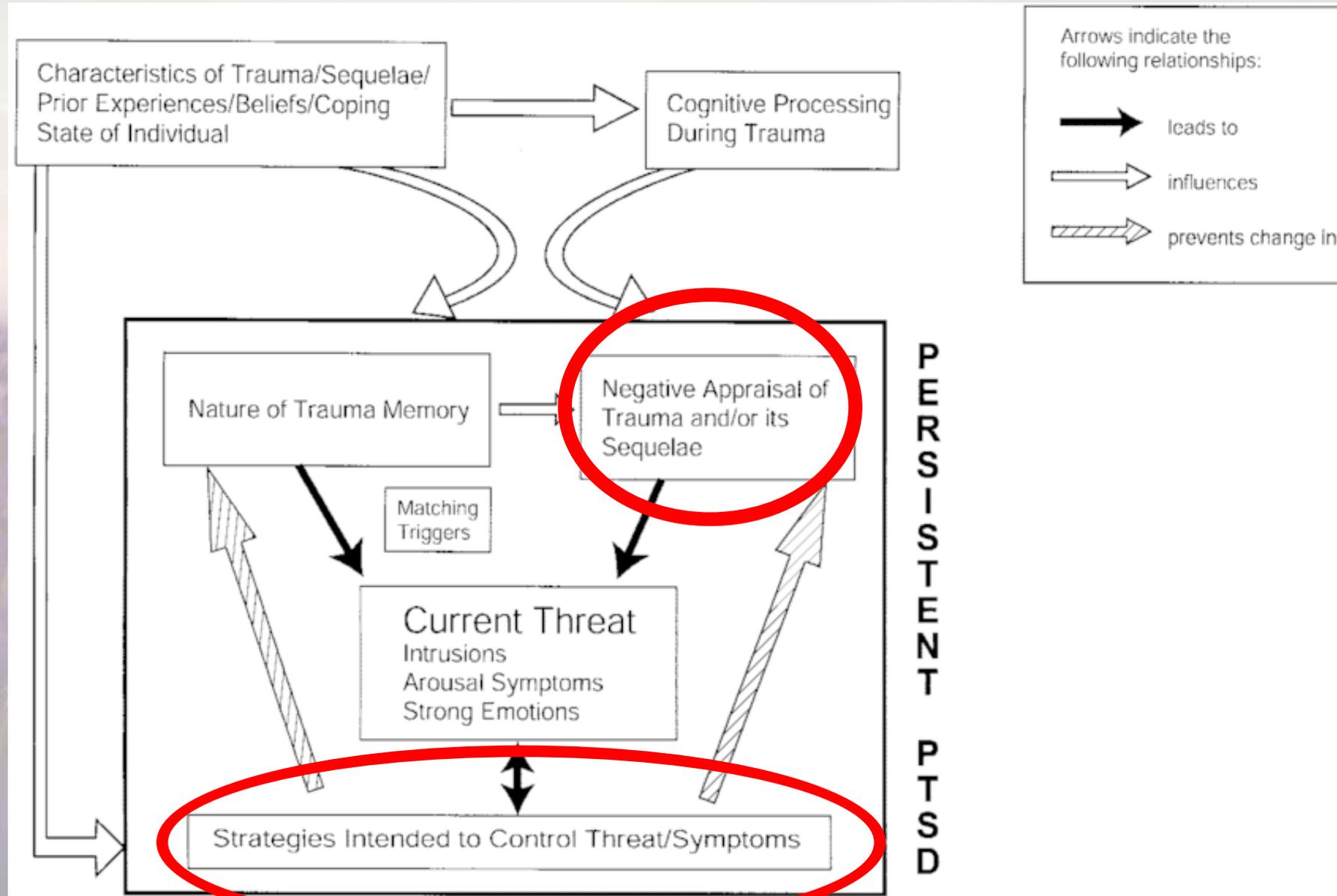
# Hierarchical stepwise regression

Model		Unstandardized Coefficients		t	Sig.
		B	SE		
1	(Constant)	-13.713	2.944	-4.657	.000
	RIQ_ Suppression	.566	.185	3.053	.003
	RIQ_ Rumination	1.203	.136	8.827	.000
	RIQ_ Numbing/Dissociation	1.642	.432	3.800	.000
2	(Constant)	-13.460	2.625	-5.128	.000
	RIQ_ Suppression	.532	.165	3.219	.001
	RIQ_ Rumination	.503	.148	3.398	.001
	RIQ_ Numbing/Dissociation	1.123	.390	2.879	.004
	PTCI_ Negative cognitions about the self	5.938	.716	8.294	.000
3	(Constant)	-14.650	7.344	-1.995	.047
	RIQ_ Suppression	.534	.166	3.217	.001
	RIQ_ Rumination	.503	.148	3.392	.001
	RIQ_ Numbing/Dissociation	1.131	.393	2.875	.004
	PTCI_ Negative cognitions about the self	6.020	.859	7.005	.000
	FFMQ_ Mindfulness	.012	.068	.174	.862

The final model (n=266) included five variables to predict PTSD severity (PCL5 total) and was statistically significant,  $R^2=.622$ ,  $F(5,260) = 85.396$ ,  $p < 0.0005$ ,  $adj. R^2 = .614$ . The first step of the model included response to intrusions subscales (suppression, numbing and rumination) and explained 52.2% of the variance in PTSD severity. The addition of negative cognitions of self-subscale of PTCI (model 2) led to a statistically significant increase of 10%  $R^2=.621$ ,  $F(1,261) = 68.784$ ,  $p < .0005$

# Ehlers and Clark (2000) cognitive theory of posttraumatic stress disorder (PTSD).

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# Conclusions

40.6% scored 33 or more on the PCL-5

Severity of PTSD symptoms were predicted by key cognitive and behavioural factors as predicted by components of the Ehlers and Clark model of PTSD :

1. Negative appraisals of self: 10% of variance
2. Unhelpful responses to intrusions (suppression, rumination, numbing/dissociation): 52%

High trait mindfulness was associated with fewer PTSD symptoms

# Limitations

## Limitations

Single time-point

Study advertised as investigating PTSD

On this occasion we didn't look at variables such as birth trauma & mental health history

# Implications

## Implications

Suggests that the Ehlers and Clark (2000) model and CBT are appropriate for use with women with PTSD following a HG pregnancy

MBCT may also be beneficial – by addressing aspects of the model such as rumination and suppression

Importance of health care professionals being aware and sign-posting early psychology

# Ongoing & Future research

## Data to analyse

Sleep & emetophobia

## Jerrie Serrel's DClInPsy

3 arms and 3 time points – will enable us to look at other aspects of the Ehlers and Clark model in more detail, as well as mechanisms.

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Thank you