



THE UNIVERSITY *of* EDINBURGH

# Exploring the impact of psychological flexibility on the relationship between fear of cancer recurrence and adjustment in cancer survivors

Dr Kate Randell, NHS Forth Valley

Dr Susie Porteus, NHS Forth Valley

Dr. David Gillanders , University of Edinburgh



# Fear of Cancer Recurrence

- The first or second biggest concern for cancer survivors

Baker et al., 2005

- Clinical levels affecting around 49% of patients

Simard et al., 2013

- Associated with functional impairment, distress, and lowered QoL

Simard et al., 2013; Crist & Grunfeld, 2013; Koch et al., 2013



# Controversies

- No consensus on definition, measurement, screening, interventions, clinical management, or theoretical understanding

Lebel et al., 2017

- FoR is common, understandable and only for some problematic
- What are the mechanisms linking FoR with adverse outcomes?



# Psychological Inflexibility

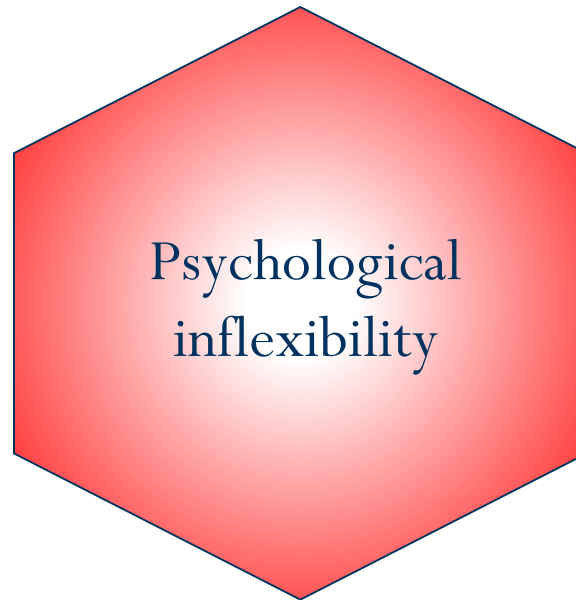
Mental time travel  
to feared future

Avoidance of  
threatening  
thoughts and  
feelings

Disengagement  
from life to protect  
from pain or  
protect others

Entangled in threat  
detection:  
automaticity of  
intrusions and  
reminders

Situational  
avoidance of cues  
and reminders



Psychological  
inflexibility

“I must be vigilant”

“I could have died, I could die”

“I must protect others from my distress”



# Evidence for Psychological Flexibility

- Success in living values associated with reduced distress and increased wellbeing

Ciarocchi, Fisher & Lane, 2011

- Fusion and avoidance mediates between threat appraisals and distress, which is buffered by self compassion

Gillanders, Sinclair, McLean and Jardine, 2015

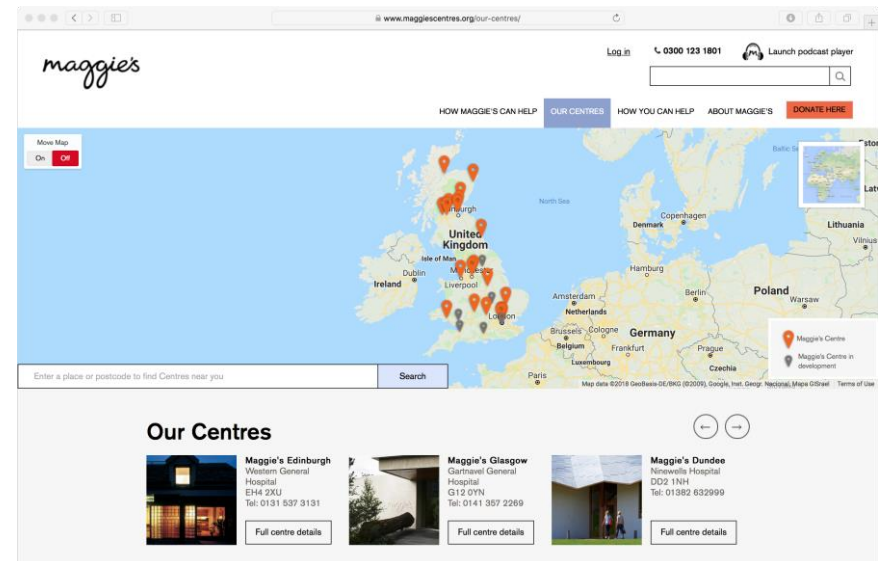


# Aims of the current study

- To investigate if psychological flexibility influences the relationship between FoR and distress and QoL

# Method

- Cross sectional survey
- Online or postal
- Mixed cancer survivors
- Recruited through national cancer support charity, Maggie's



[www.maggiescentres.org](http://www.maggiescentres.org)



# Eligibility

- Read English
- Aged 18 years or more
- Diagnosis of cancer
- Completed curative treatment
- No evidence of current cancer





# Measures

- Fear of Cancer Recurrence Inventory - short form  
(FCRI-SF: Simard & Savard, 2009)  
  
9 items, higher is more fearful,  $\alpha = .86$
  
- Brief Multidimensional Experiential Avoidance  
Questionnaire (BMEAQ: Gamez et al., 2009)  
  
15 items,  $\alpha = .88$



# Measures

- **Cognitive Fusion Questionnaire** (CFQ: Gillanders et al., 2014)  
7 items, higher = more entangled,  $\alpha = .94$
- **Engaged Living Scale** (ELS: Trompetter et al., 2013)  
16 item, higher = more engaged living,  $\alpha = .92$
- **Mindful Attention and Awareness Scale**  
(MAAS: Brown & Ryan, 2003)  
15 items, higher = greater dispositional mindfulness,  $\alpha = .90$



# Measures

- Hospital Anxiety & Depression Scale  
(HADS: Zigmond & Snaith, 1983)  
14 items, higher = more severe symptoms,  $\alpha = .79$  and  $.80$
- Functional Assessment of Cancer Therapy  
(FACT-G: Webster et al., 2003 )  
27 items, 4 domains (physical, social, emotional, functional), total score  
 $\alpha = .75 - .86$



# Analytic Plan

- Green (1991) suggests 109 participants to detect medium effects or larger

- Missing data imputed using estimation maximization

Enders, 2011

- Data assumptions, correlation, regression, PROCESS

(A.F. Hayes, 2013)



# Recruitment

- September 2015 to June 2017
- 3511 home page views
- 92 individuals started survey
- 6 screened out by eligibility questions
- 27 ceased participation during eligibility screening
- 8 ceased participation during the measures
- Leaving 51 online participants and 24 paper responses
- $N = 75$



# Participants

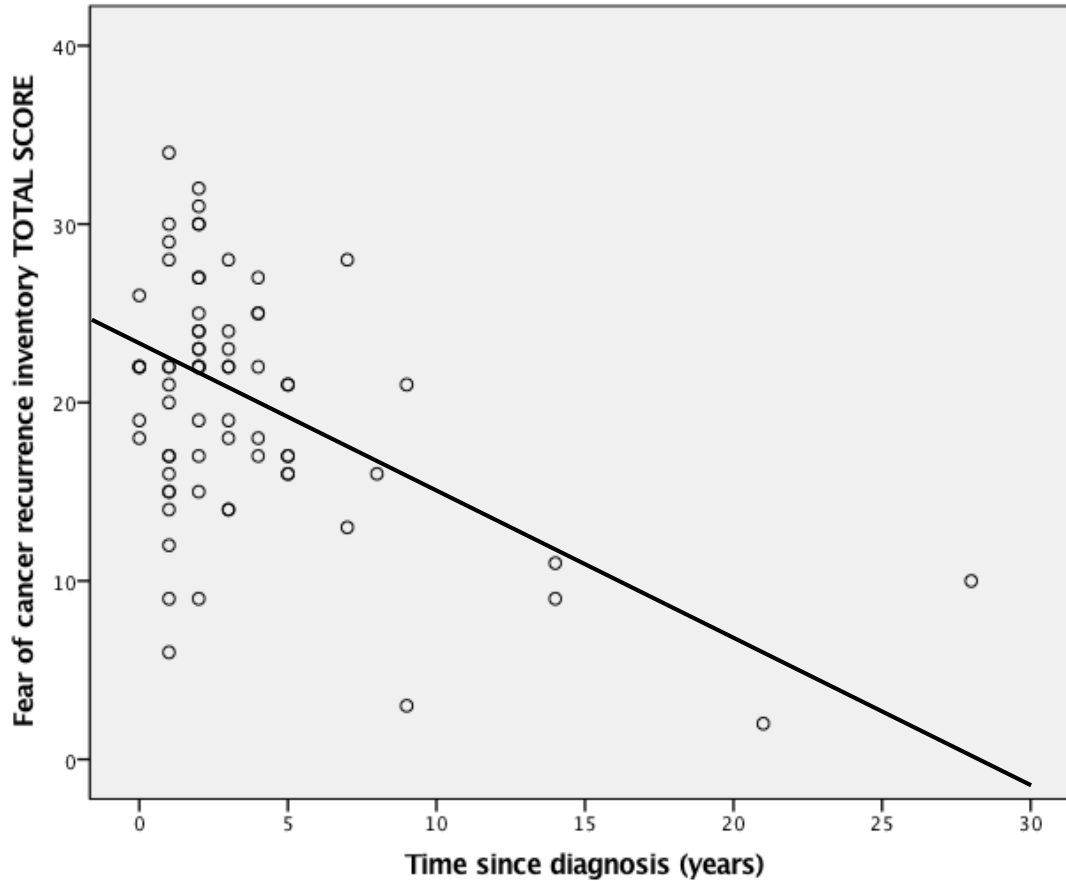
- 92% of sample female
- Mean age of 51.9 years (range 19 – 88)
- 69.3% Breast cancer
- 3.5 years since diagnosis (range 0 – 28 years)
- 2.2 years since finished treatment (range 0 – 9 years)
- 90.7% surgery, 69.3% chemotherapy, 70.7% radiotherapy



# Descriptive data

- Fear of Recurrence = 20.3 (clinical cut off = 13)
- QoL = Less troubled about physical health difficulties than general cancer populations
- HADS = slightly higher than cancer population norms and healthy population norms

# FoR Declines with time



$r = .45, p < .01$

and

Mindfulness increases with age  $r = .36, p < .01$

Herceptin treatment is associated with higher FoR  $F = 7.15, p < .01$





# Regression analyses

---

Variables	$\beta$	$t$	$p$	Adj. $R^2$	$F_{(5,69)}$	$p$
Dependent variable: HADS Anxiety						
Fear of Recurrence	.22	2.41	<.05	.53	17.9	<.001
Experiential avoidance	.01	.07	.94 <i>ns</i>			
Valued Living	-.16	-1.54	.13 <i>ns</i>			
Mindfulness	-.18	-1.75	.09 <i>ns</i>			
Cognitive Fusion	.41	4.11	<.0001			

---



# Regression analyses

---

Variables	$\beta$	$t$	$p$	Adj. $R^2$	$F_{(5,69)}$	$p$
-----------	---------	-----	-----	---------------	--------------	-----

---

Dependent variable: HADS Depression

---

Fear of Recurrence	.11	.97	.34 <i>ns</i>	.27	6.36	<.001
Experiential avoidance	.12	.90	.37 <i>ns</i>			
Valued Living	-.33	-2.56	<.05			
Mindfulness	-.06	-.45	.66 <i>ns</i>			
Cognitive Fusion	.11	.90	.37 <i>ns</i>			

---



# Regression analyses

---

Variables	$\beta$	$t$	$p$	Adj. $R^2$	$F_{(5,69)}$	$p$
-----------	---------	-----	-----	---------------	--------------	-----

---

Dependent variable: QoL

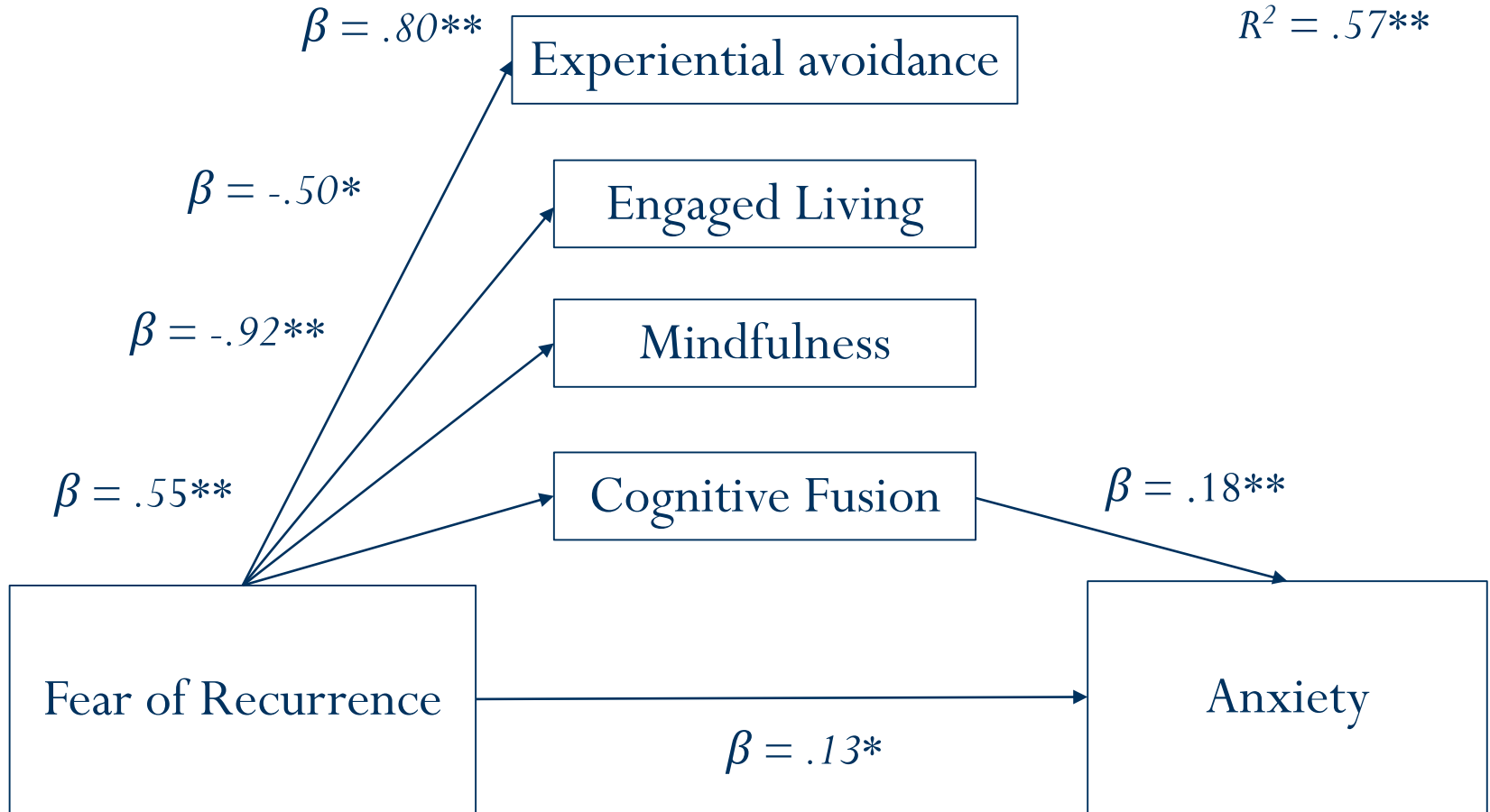
---

Fear of Recurrence	-.19	-1.55	.13 <i>ns</i>	.17	4.12	<.005
Experiential avoidance	.16	1.12	.27 <i>ns</i>			
Valued Living	.39	2.86	<.01			
Mindfulness	-.10	-.75	.46 <i>ns</i>			
Cognitive Fusion	-.20	-1.48	.144 <i>ns</i>			

---



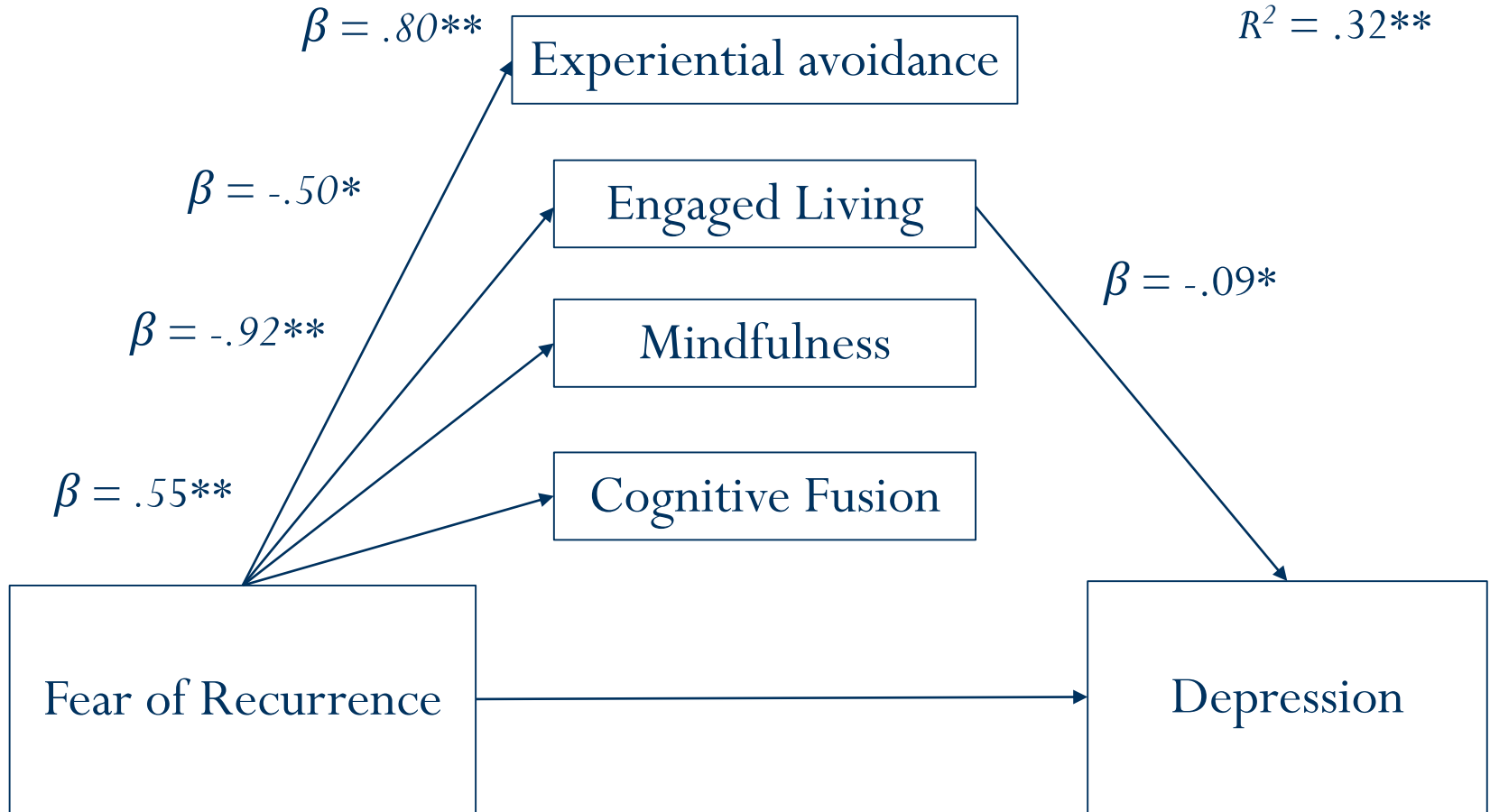
# PROCESS Models



\* $p < .05$  \*\* $p < .01$



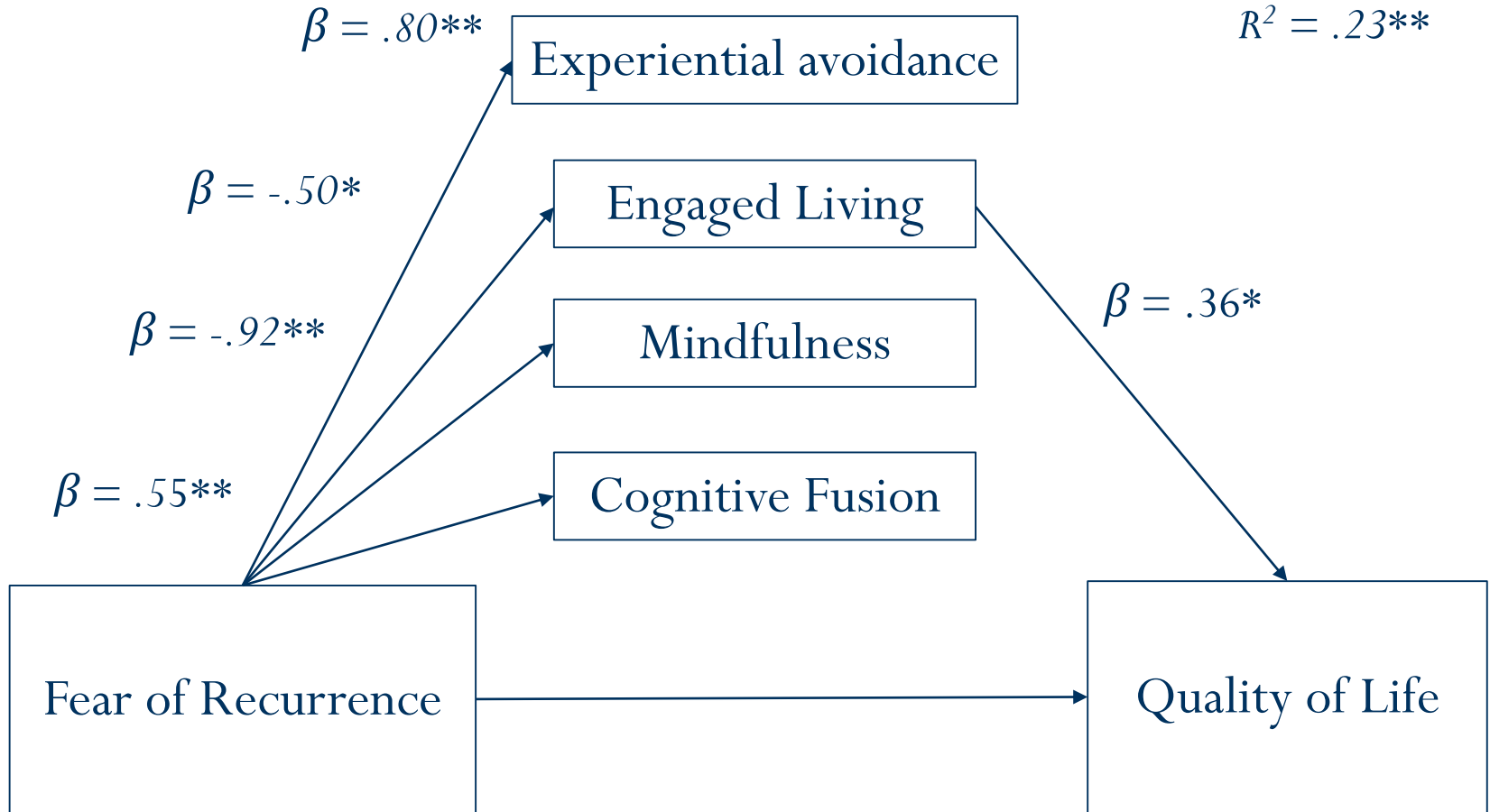
# PROCESS Models



\* $p < .05$  \*\* $p < .01$



# PROCESS Models



\* $p < .05$  \*\* $p < .01$



# Conclusions

- Both fear of recurrence and psychological flexibility are related to adjustment
- No direct relationship between FOR and QoL
- FOR impacts distress and QOL at least in part via its relationships with aspects of PF



# Conclusions

- These findings are consistent with literature linking avoidance to the impact of FOR
- But *experiential* avoidance was not a mediator.
- Instead :not living values was the more important factor.
- Cognitive fusion also played a significant mediating role between FOR and anxiety





# Conclusions

- Fusion findings are consistent with our previous study
- Given that FOR is normal, contains elements of truth, this suggests defusion as a potentially more useful approach
- Engaging in life appears a key determinant of the impact of FOR



THE UNIVERSITY *of* EDINBURGH