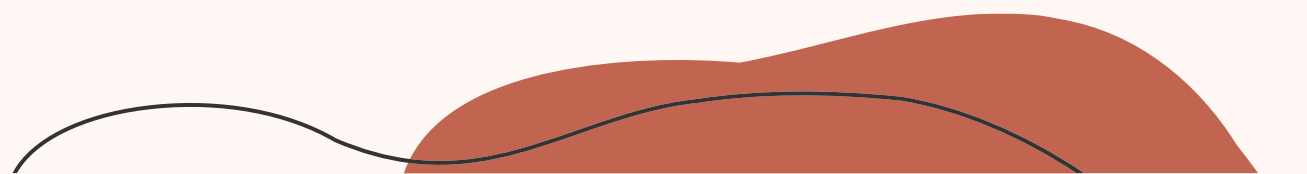




Please be aware that this presentation contains content relating to suicide

Whence do doctoral researcher mental health problems come.... ... and whither are we bound?

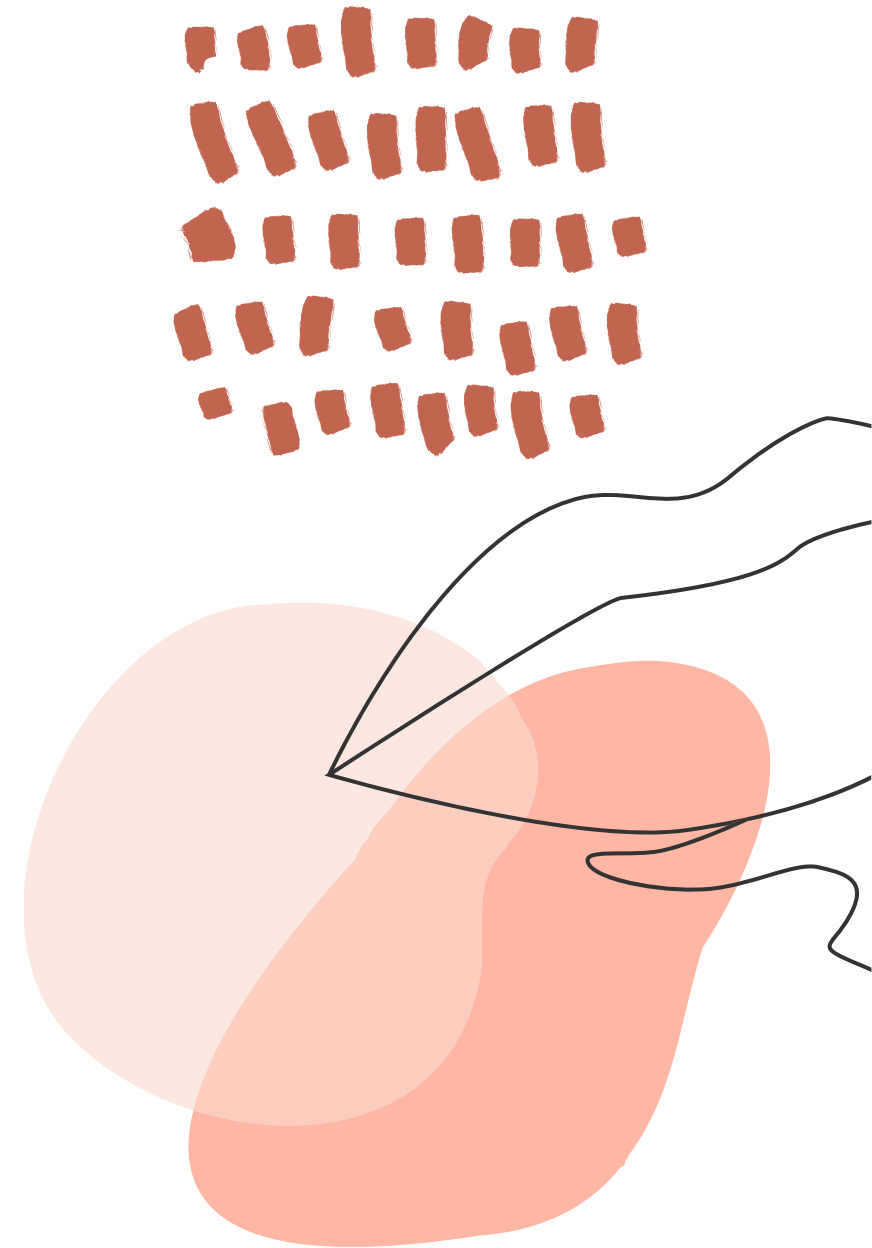
Dr Clio Berry
Senior Lecturer in Healthcare Evaluation and Improvement
Primary Care and Public Health
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c.berry@bsms.ac.uk



What have we learnt about influencing doctoral student mental health problems?

- Evidence from the U-DOC project

...and what is left to learn?



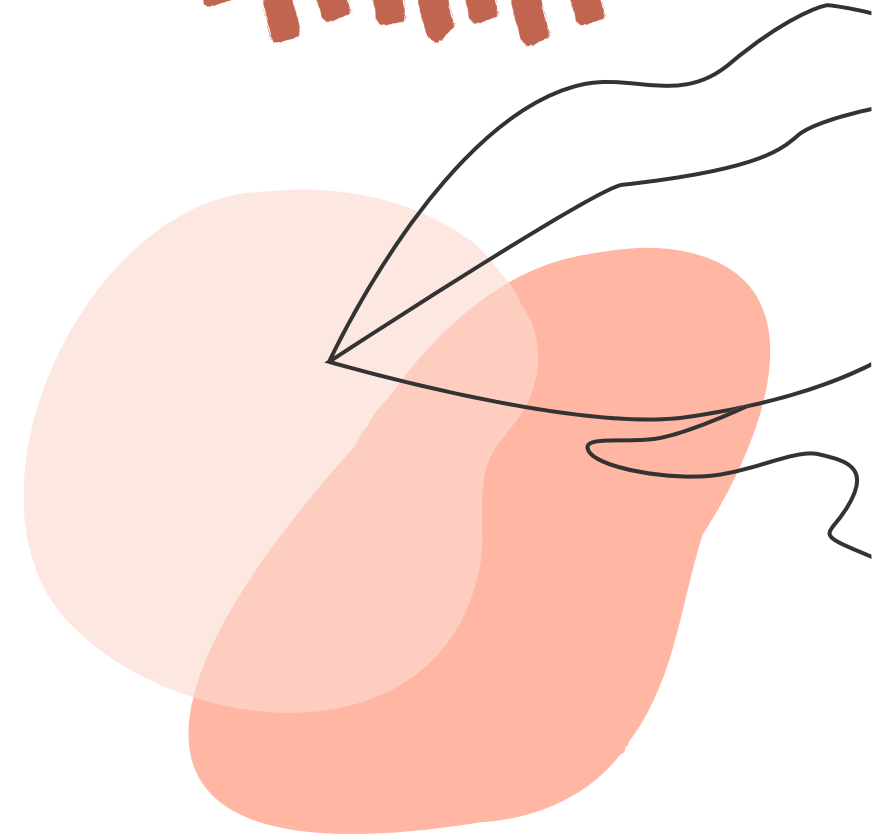
The U-DOC project

Office for Students Catalyst Project 2017-2020

Interdisciplinary team, academic/professional services, Postgraduate Researcher (PGR) panel

Aims

- Review and contribute to research evidence on PGR mental health/ problems and wellbeing
- Explore experiences, needs and preferences of PGRs
- Create and evaluate potential interventions



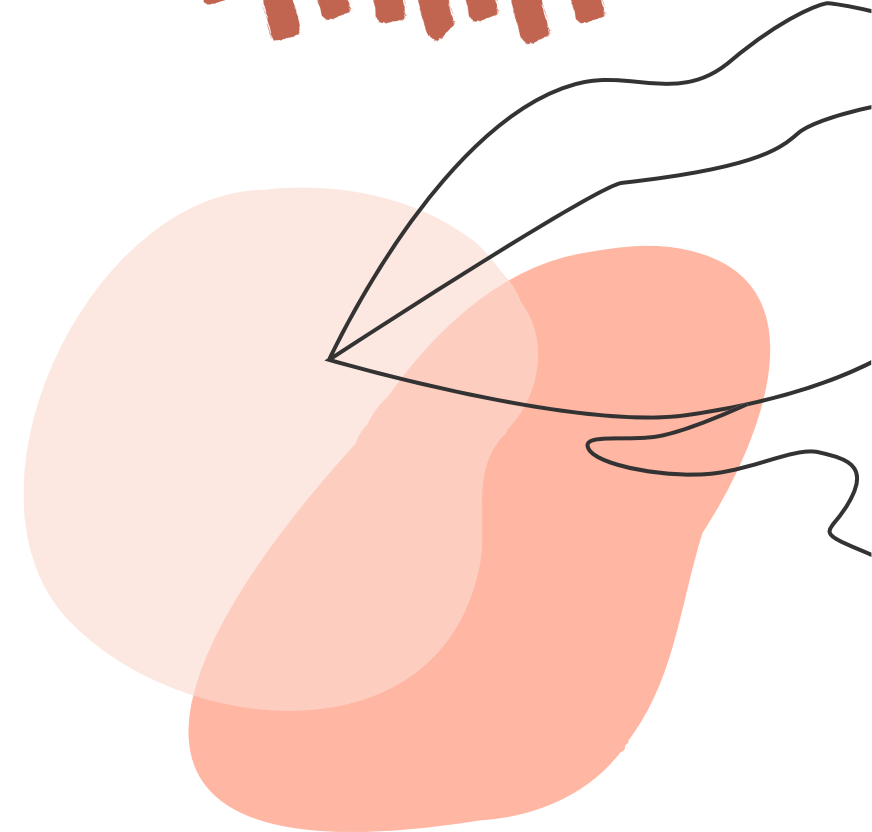
The U-DOC project

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Interdisciplinary team, academic/professional services, Postgraduate Researcher (PGR) panel

Aims

- Review and **contribute to research evidence on PGR mental health problems** and wellbeing
- Explore experiences, needs and preferences of PGRs
- Create and evaluate potential interventions



What did we know pre/peri U-DOC?

Limited epidemiological evidence

Poor inter/national data

Lack of differentiation in e.g. UK health cohort studies

Lack of use of clinically-validated mental health problem measures

Emerging evidence of prevalence

Belgium (N= 3659): 32% PGRs at risk of having/developing common psychiatric disorder (GHQ), especially depression (Levecque et al. 2017)

USA (N= 2279): 41% of PGRs reporting moderate to severe anxiety (GAD7) and 39% moderate to severe depression (PHQ9) (Evans et al. 2018)

PhD as high stress, low support/isolated occupation

Evidence from other 'high stress' occupations e.g. health professions high rates of mental health problems

Loneliness a risk factor for mental health problems

Youth mental health vulnerability

Largest full-time doctoral age group is under 25s, and a third of part-time students in this group

Particular period of mental health vulnerability

Particular period to interrupt long-term trajectories

RESEARCH

Open Access

Understanding the mental health of doctoral researchers: a mixed methods systematic review with meta-analysis and meta-synthesis



Cassie M. Hazell¹, Laura Chapman², Sophie F. Valeix³, Paul Roberts⁴, Jeremy E. Niven⁵ and Clio Berry^{6*}

International Journal of Educational Research 102 (2020) 101575

Abstract

Background
increased risk
doctoral rese
identify what



Registered report

Hanging in the balance: Conceptualising doctoral researcher mental health as a dynamic balance across key tensions characterising the PhD experience

C. Berry^{a,b,c,*}, S. Valeix^a, J.E. Niven^a, L. Chapman^a, P.E. Roberts^a, C.M. Hazell^{a,d}

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^c Sussex Partnership NHS Foundation Trust, UK
^d University of Westminster, UK

Received: 10 August 2020 | Revised: 5 May 2021 | Accepted: 4 June 2021

DOI: 10.1002/capr.12437

ORIGINAL ARTICLE

Understanding suicidality and reasons for living amongst Doctoral Researchers: A thematic analysis of qualitative U-DOC survey data

Cassie M. Hazell¹ | Clio Berry² | Jeremy E. Niven³ | Jay-Marie Mackenzie¹

¹School of Social Sciences, University of Westminster, London, UK

²Brighton and Sussex Medical School, University of Sussex, Brighton, UK

³School of Life Sciences, University of Sussex, Brighton, UK

Correspondence
Cassie M. Hazell, School of Social Sciences, University of Westminster, 115 New

Abstract

Evidence regarding the mental health of doctoral researchers (DRs) is very limited; that which exists suggests DRs are particularly vulnerable to experiencing mental health difficulties during their PhD. Despite the associated jeopardy, however, to our knowledge there are no data published nor in the grey literature, reporting on suicidality amongst DRs. Using an online survey, we invited UK DRs to complete the Suicide Behaviour Questionnaire-Revised and qualitatively describe their experience

ARTICLE

https://doi.org/10.1057/s41599-021-00983-8 OPEN

Nationwide assessment of the mental health of UK Doctoral Researchers

Cassie M. Hazell¹, Jeremy E. Niven², Laura Chapman³, Paul E. Roberts⁴, Sam Cartwright-Hatton³, Sophie Valeix², S. Clio Berry^{5,6*}



BIPsych Open (2021)
7, e205, 1–11. doi: 10.1192/bjo.2021.1041



Personal, social and relational predictors of UK postgraduate researcher mental health problems

Clio Berry, Jeremy E. Niven and Cassie M. Hazell

Background

Emerging evidence demonstrates that postgraduate researchers have high rates of mental health problems. These problems are distressing, affect PhD studies, and have longer-term potential effects beyond the duration of the PhD. Yet large-scale studies of multiple risk and protective factors are rare.

Aims

We aimed to test the predictive validity of a comprehensive set of potential determinants of mental health symptoms (depression, anxiety and suicidality) among postgraduate researchers in the UK, including personal, study-related, and supervision characteristics.

Method

We used regression models applied to data obtained from a

Greater perfectionism, more impostor thoughts and reduced supervisory communion most strongly and consistently predict mental health symptoms.

Conclusions

Institutions training postgraduate researchers should focus interventions intended to improve depression, anxiety, suicidality, on self-beliefs and social connectedness. Moreover, supervisors should be provided with training that improves the degree of agency, and especially communion, in the relationships they form with postgraduate researchers.

Keywords

Doctoral students; depressive disorders; suicidality; supervision; higher education.

The current issue and full text archive of this journal is available on Emerald Insight at:
<https://www.emerald.com/insight/2398-4686.htm>

A mixed-methods investigation of mental health stigma, absenteeism and presenteeism among UK postgraduate researchers

Investigation of mental health stigma

145

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Received 1 July 2020
Revised 8 October 2020
22 January 2021
Accepted 28 January 2021

U-DOC Survey

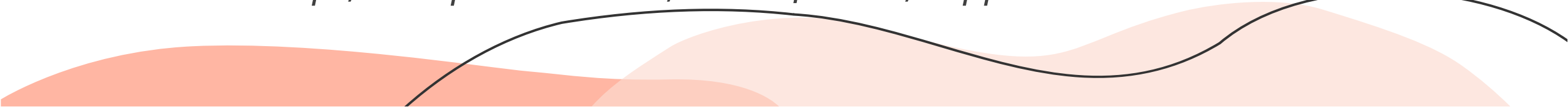
Online self-report national survey current UK doctoral students 2018-2019

Mental health problems/ symptom experiences:

- Depression (Patient Health Questionnaire-9; PHQ-9) - *current*
 - Anxiety (Generalised Anxiety Disorder assessment-7; GAD-7) - *current*
 - Suicidality (Suicide Behaviors Questionnaire-Revised; SBQ-R) – *past/current/future*

 - Premorbid mental health (CIDI) *i.e. when did mental health difficulties begin*

 - Putative correlates

 - Free text questions *i.e. experiences of mood, suicidality, supervisory relationships, workplace culture, social factors, support services*
- 

N= 3352 doctoral students



Age

M = 30.74
SD = 8.82



Gender

65.8% female
32.9% male
0.8% another
gender identity



Ethnicity

52.2% White British
28.0% White Other
6.4% Asian/Asian
British
4.3% Other
3.4% Mixed
2.0%
Chinese/Chinese
British
2.3% Black/African/
Caribbean/Black
British



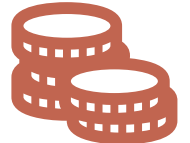
UK citizen

63.2% Yes
36.8% No



Mode

81.4% Full-time
18.6% part-time



Funding

65.4% Full
13.3% Part
21.4% Self

What is the prevalence of doctoral student mental health problems?

Humanities & Social Sciences
Communications

ARTICLE



<https://doi.org/10.1057/s41599-021-00983-8>

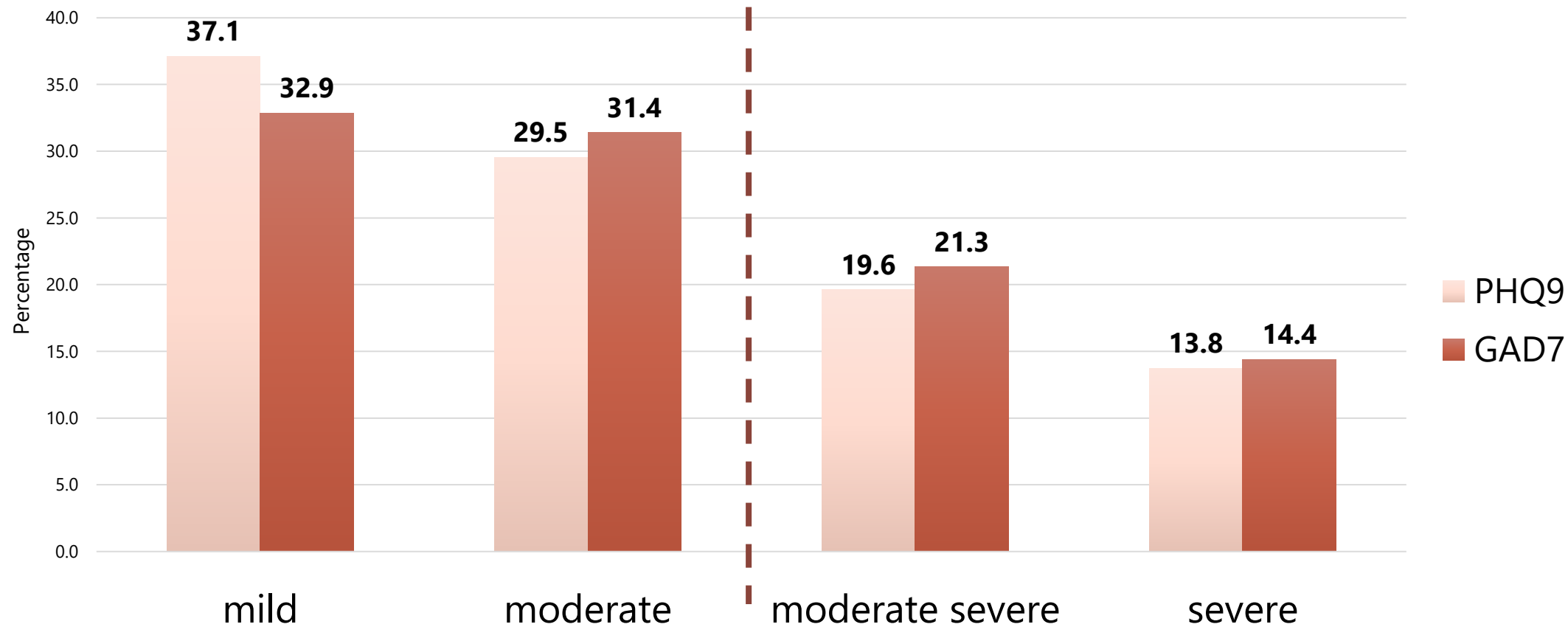
OPEN

Nationwide assessment of the mental health of UK Doctoral Researchers

Cassie M. Hazell¹, Jeremy E. Niven², Laura Chapman³, Paul E. Roberts⁴, Sam Cartwright-Hatton³,
Sophie Valeix² & Clio Berry⁵✉

Doctoral Researchers (DRs) are an important part of the academic community and, after graduating, make substantial social and economic contributions. Despite this importance, DR

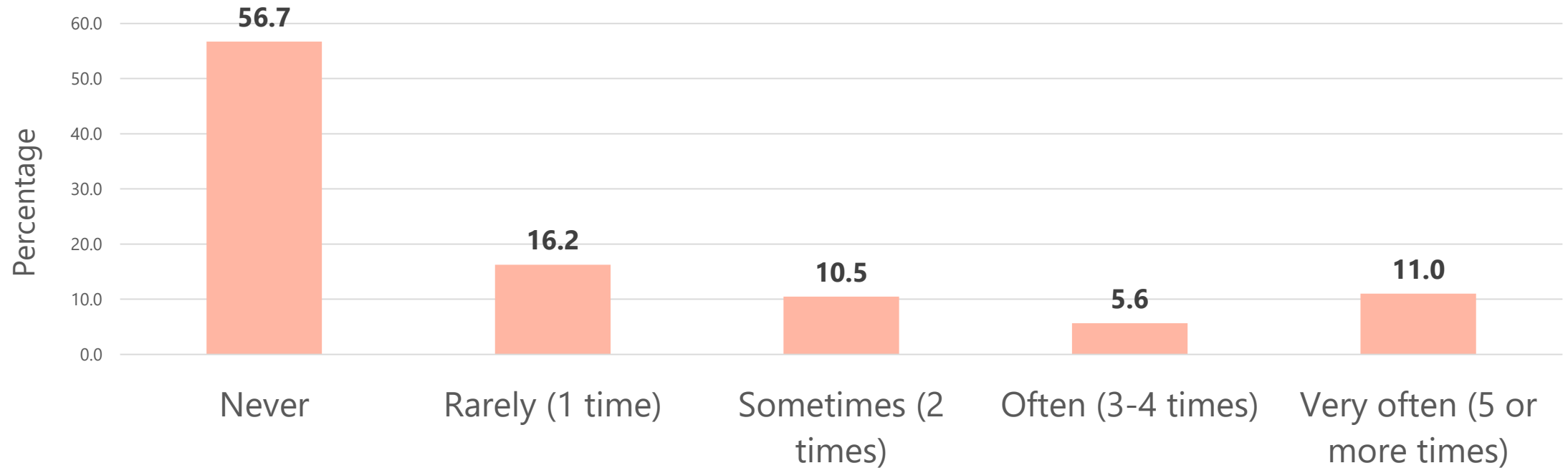
Depression (PHQ-9) and anxiety (GAD-7)



PHQ-9 33.4% \geq clinical threshold
GAD-7 35.7% \geq clinical threshold

Suicidality (SBQ-R)

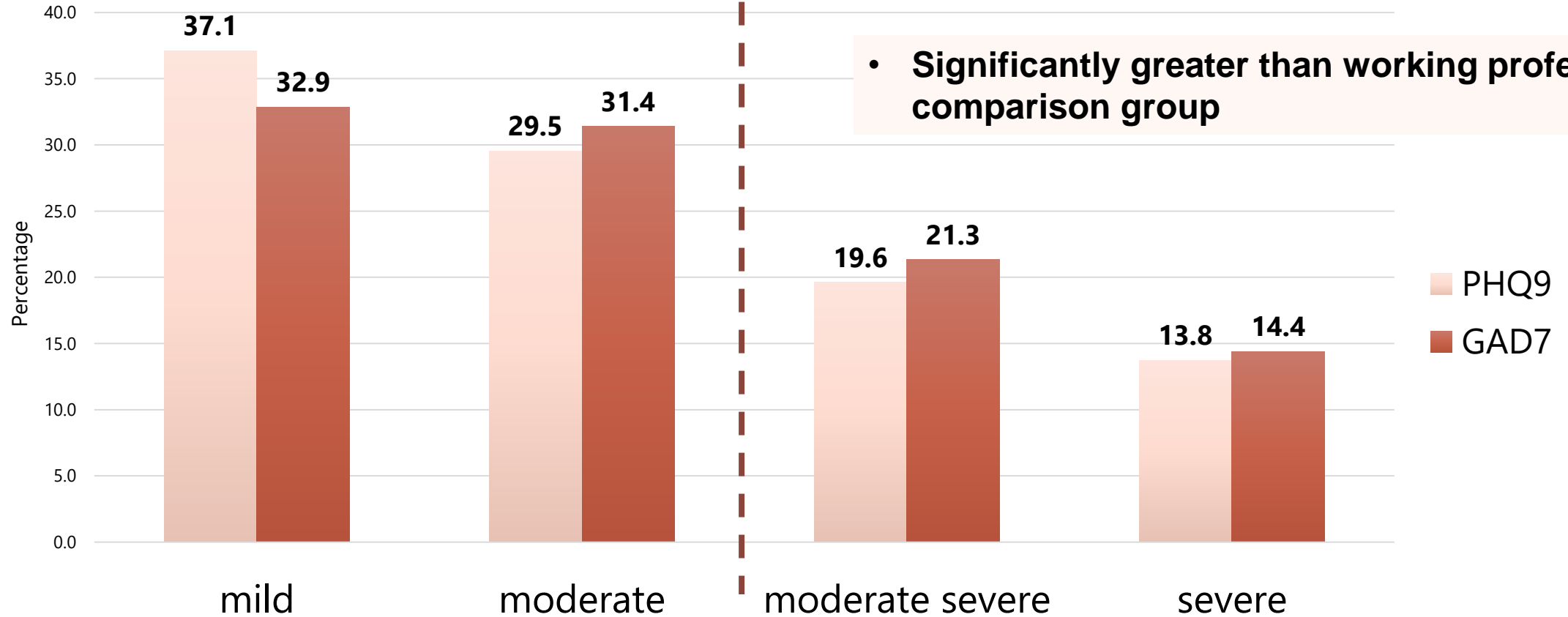
How often have you thought about killing yourself in the past year?



40.3% ≥ 7 'high risk' threshold

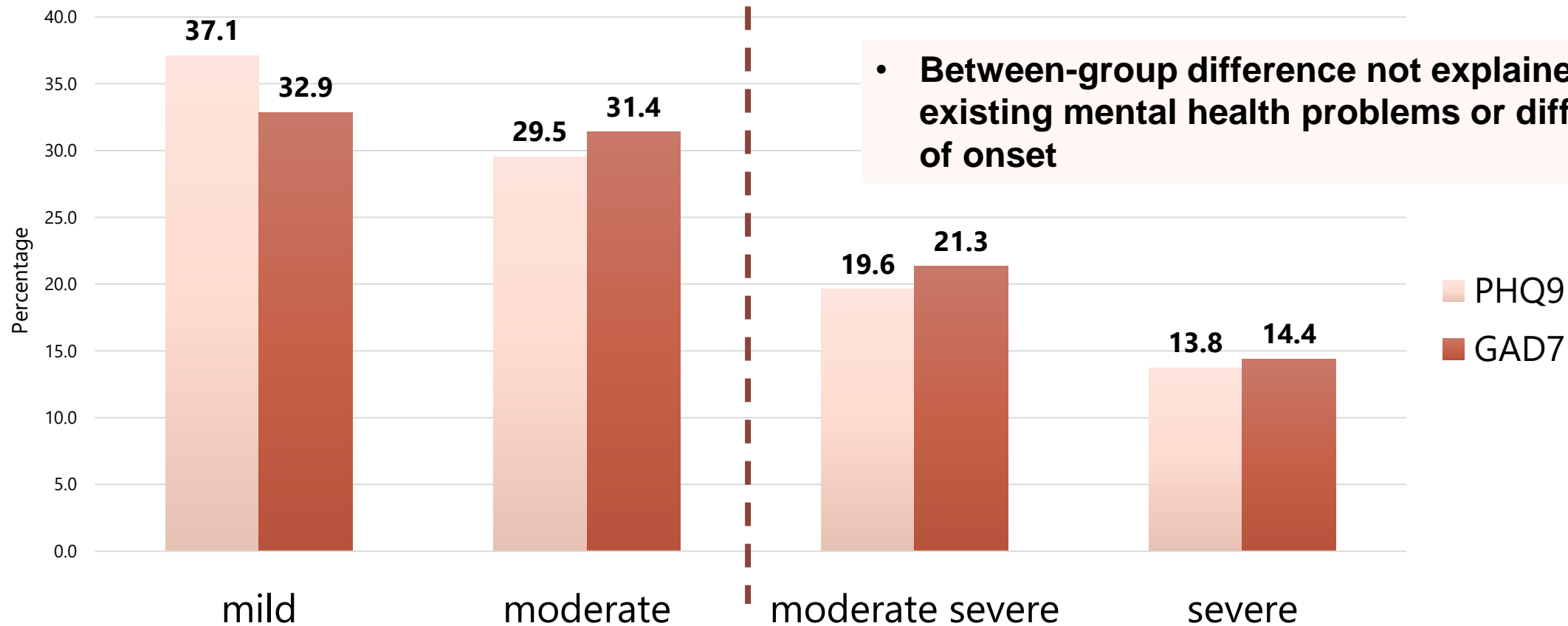
33.2% ≥ 8 'high risk' threshold

Depression (PHQ-9) and anxiety (GAD-7)



PHQ-9 33.4% \geq clinical threshold
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Depression (PHQ-9) and anxiety (GAD-7)



PHQ-9 33.4% \geq clinical threshold
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What predicts mental health problems for doctoral students?

BJPsych
open

BJPsych Open (2021)
7, e205, 1–11. doi: 10.1192/bjo.2021.1041



Personal, social and relational predictors of UK postgraduate researcher mental health problems

Clio Berry, Jeremy E. Niven and Cassie M. Hazell

Background

Emerging evidence demonstrates that postgraduate researchers have high rates of mental health problems. These problems are distressing, affect PhD studies, and have longer-term potential effects beyond the duration of the PhD. Yet large-scale studies of multiple risk and protective factors are rare.

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We aimed to test the predictive validity of a comprehensive set of

Greater perfectionism, more impostor thoughts and reduced supervisory communion most strongly and consistently predict mental health symptoms.

Conclusions

Institutions training postgraduate researchers should focus interventions intended to improve depression, anxiety, suicidality, on self-beliefs and social connectedness. Moreover, supervisors should be provided with training that improves the degree of agency and especially communion in the relationships they

What predicts symptoms?

Block 1: Demographic

Age, White/non-White, Female/non-Female, UK/non-UK resident, Disability, Pre-existing mental health problems

Block 2: Occupational

PhD mode, Funding, Occupational hours (PhD, teaching, work), PhD year, Continuation status, Fieldwork (past/planned)

Block 3: Psychological

Impostor thoughts, Perfectionism standards, Perfectionism discrepancy

Block 4: Social

Loneliness, Multiple group memberships

Block 5: Relational

Supervisor relationship agency, Supervisor relationship communion

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Impostor thoughts, Perfectionism standards, Perfectionism discrepancy

Block 4: Social

Impostor thoughts (CIPS) e.g. *I can give the impression that I'm more competent than I really am*

Block 5: Relational

Perfectionism (SAPS)

Standards e.g. *I have a strong need to strive for excellence*

Discrepancy e.g. *I am hardly ever satisfied with my performance*

What predicts symptoms?

Block 1: Demographic

Age, White/non-White, Female/non-Female, UK/non-UK resident, Disability, Pre-existing mental health problems

Block 2: Occupational

PhD mode, Funding, Occupational hours (PhD, teaching, work), PhD year, Continuation status, Fieldwork (past/planned)

Block 3: Psychological

Impostor thoughts, Perfectionism standards, Perfectionism discrepancy

Block 4: Social

Loneliness, Multiple group memberships

Block 5: Relational

Loneliness (UCLA) e.g. *There is no-one I can turn to*
Multiple group memberships e.g. *I belong to lots of different groups*

What predicts symptoms?

Block 1: Demographic

Age, White/non-White, Female/non-Female, UK/non-UK resident, Disability, Pre-existing mental health problems

Block 2: Occupational

PhD mode, Funding, Occupational hours (PhD, teaching, work), PhD year, Continuation status, Fieldwork (past/planned)

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Block 4: Social

Loneliness, Multiple group memberships

Block 5: Relational

Supervisor relationship agency, Supervisor relationship communion

Supervisor relationship (QSDI) – *My supervisor...*

Agency (influence) and Communion (proximity) dimensions, comprising weighted items from subscales e.g.

Dissatisfaction ... *disbelieves me, thinks I know nothing*

Uncertainty - ... *is timid in our meetings*

What predicts symptoms?

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Age, White/non-White, Female/non-Female, UK/non-UK resident, Disability, Pre-existing mental health problems

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What predicts symptoms?

Table 4 Hierarchical regression models predicting depression, anxiety and suicidality

Model step	Parameter	Regression model, depression		Regression model, anxiety		Regression model, suicidality	
		β (B [95% CI])	s.e. for B	β (B [95% CI])	s.e. for B	β (B [95% CI])	s.e. for B
Block 1: demographic	Age	-0.07 (-0.05 [-0.08 to -0.02])****^a	0.01	-0.05 (-0.03 [-0.06 to -0.01])*	0.01	-0.03 (-0.01 [-0.03 to 0.01])	0.01
	Female gender (0 non-female, 1 female)	0.02 (0.25 [-0.22 to 0.72])	0.24	0.04 (0.51 [0.09-0.93])*	0.22	-	-
	White ethnicity (0 Black and minority ethnic, 1 White)	-0.05 (-0.80 [-1.36 to -0.24])**	0.29	-	-	0.03 (0.28 [-0.13 to 0.70])	0.21
	UK citizen (0 non-UK citizen, 1 UK citizen)	-	-	-0.05 (-0.56 [-0.98 to -0.15])**	0.21	0.04 (0.27 [-0.07 to 0.61])	0.17
	Disability (0 none, 1 disability)	0.05 (1.04 [0.37-1.71])**^a	0.34	0.03 (0.57 [-0.04 to 1.18])	0.31	0.06 (0.68 [0.20-1.16])**	0.24
	Pre-existing mental health problems (0 none, 1 pre-existing)	-	-	-	-	0.11 (1.01 [0.59-1.43])****^a	0.21
	ΔF	19.86***	16.37***	11.63***			
	R^2	3.8%	3.2%	3.7%			
Block 2: occupational	PhD mode (0 part time, 1 full time)	0.02 (0.28 [-0.33 to 0.89])	0.31	0.02 (0.25 [-0.30 to 0.80])	0.28	-	-
	PhD year of study	0.07 (0.37 [0.19-0.54])**^a	0.09	0.08 (0.35 [0.19-0.51])**^b	0.08	-	-
	Average weekly hours in occupation	0.02 (0.01 [-0.01 to 0.02])	0.01	0.07 (0.02 [0.01-0.04])**^b	0.01	-	-
	Fieldwork (0 none, 1 past/planned)	-	-	-0.02 (-0.20 [-0.61 to 0.21])	0.21	-	-
	Continuation status (0 not in continuation, 1 in continuation)	-	-	-	-	0.05 (0.95 [0.04-1.85])*	0.46
	ΔF	11.11***	15.64***	6.39*			
	R^2	5.1%	6.1%	4.2%			
	Block 3: psychological	Impostor thoughts (CIPS)	0.19 (0.07 [0.06-0.09])**^a	0.01	0.18 (0.06 [0.04-0.08])**^b	0.01	0.08 (0.02 [0.00-0.03])*
Perfectionism standards (SAPS-S)		-0.03 (-0.04 [-0.10 to 0.02])	0.03	0.05 (0.07 [0.01-0.12])*	0.03	-0.01 (-0.01 [-0.05 to 0.03])	0.02
Perfectionism discrepancy (SAPS-D)		0.15 (0.17 [0.12-0.23])**^a	0.03	0.17 (0.17 [0.12-0.22])**^b	0.03	0.13 (0.08 [0.04-0.11])**^a	0.02
ΔF		202.19***	190.01***	60.07***			
R^2		27.4%	27.0%	14.5%			
Block 4: social	Loneliness (UCLA)	0.38 (0.17 [0.15-0.19])**^a	0.01	0.31 (0.12 [0.10-0.13])**^b	0.01	0.33 (0.08 [0.06-0.09])**^a	0.01
	Multiple group memberships (MGM)	-0.01 (-0.01 [-0.05 to 0.03])	0.02	-0.00 (-0.00 [-0.04 to 0.03])	0.02	-0.00 (-0.00 [-0.03 to 0.03])	0.01
	ΔF	245.59***	151.62***	93.75***			
R^2	41.8%	36.6%	24.1%				
Block 5: relational	Supervisory relationship agency (QSDI-A)	-0.04 (-2.09 [-3.78 to -0.39])*	0.86	-0.02 (-1.07 [-2.60 to 0.47])	0.78	-	-
	Supervisory relationship communion (QSDI-C)	-0.13 (-2.28 [-2.94 to -1.63])**^a	0.33	-0.13 (-2.09 [-2.68 to -1.50])**^a	0.30	-0.06 (-0.58 [-1.04 to -0.12])*	0.24
	ΔF	26.24***	24.85***	6.02*			
R^2	43.3%	38.2%	24.4%				

Berry, C., Niven, J. E., & Hazell, C. M. (2021). Personal, social and relational predictors of UK postgraduate researcher mental health problems. *BJPsych Open*, 7(6).

What predicts symptoms?

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	Female gender (0 non-female, 1 female)	0.02 (0.25 [-0.22 to 0.72])	0.24	0.04 (0.51 [0.09-0.93])*	0.22	-	-
	White ethnicity (0 Black and minority ethnic, 1 White)	-0.05 (-0.80 [-1.36 to -0.24])**	0.29	-	-	0.03 (0.28 [-0.13 to 0.70])	0.21
	UK citizen (0 non-UK citizen, 1 UK citizen)	-	-	-0.05 (-0.56 [-0.98 to -0.15])**	0.21	0.04 (0.27 [-0.07 to 0.61])	0.17
	Disability (0 none, 1 disability)	0.05 (1.04 [0.37-1.71])**	0.34	0.03 (0.57 [-0.04 to 1.18])	0.31	0.06 (0.68 [0.20-1.16])**	0.24
	Pre-existing mental health problems (0 none, 1 pre-existing)	-	-	-	-	0.11 (1.01 [0.59-1.43])****	0.21
	ΔF	19.86***	16.37***	11.63***			
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Block 2: occupational	PhD mode (0 part time, 1 full time)	0.02 (0.28 [-0.33 to 0.89])	0.31	0.02 (0.25 [-0.30 to 0.80])	0.28	-	-
	PhD year of study	0.07 (0.37 [0.19-0.54])****	0.09	0.08 (0.35 [0.19-0.51])****	0.08	-	-
	Average weekly hours in occupation	0.02 (0.01 [-0.01 to 0.02])	0.01	0.07 (0.02 [0.01-0.04])****	0.01	-	-
	Fieldwork (0 none, 1 past/planned)	-	-	-0.02 (-0.20 [-0.61 to 0.21])	0.21	-	-
	Continuation status (0 not in continuation, 1 in continuation)	-	-	-	-	0.05 (0.95 [0.04-1.85])*	0.46
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	R^2	5.1%	6.1%	4.2%			
Block 3: psychological	Impostor thoughts (CIPS)	0.19 (0.07 [0.06-0.09])****	0.01	0.18 (0.06 [0.04-0.08])****	0.01	0.08 (0.02 [0.00-0.03])*	0.01
	Perfectionism standards (SAPS-S)	-0.03 (-0.04 [-0.10 to 0.02])	0.03	0.05 (0.07 [0.01-0.12])*	0.03	-0.01 (-0.01 [-0.05 to 0.03])	0.02
	Perfectionism discrepancy (SAPS-D)	0.15 (0.17 [0.12-0.23])****	0.03	0.17 (0.17 [0.12-0.22])****	0.03	0.13 (0.08 [0.04-0.11])****	0.02
		ΔF	202.19***	190.01***	60.07***		
	R^2	27.4%	27.0%	14.5%			
Block 4: social	Loneliness (UCLA)	0.38 (0.17 [0.15-0.19])****	0.01	0.31 (0.12 [0.10-0.13])****	0.01	0.33 (0.08 [0.06-0.09])****	0.01
	Multiple group memberships (MGM)	-0.01 (-0.01 [-0.05 to 0.03])	0.02	-0.00 (-0.00 [-0.04 to 0.03])	0.02	-0.00 (-0.00 [-0.03 to 0.03])	0.01
		ΔF	245.59***	151.62***	93.75***		
	R^2	41.8%	36.6%	24.1%			
Block 5: relational	Supervisory relationship agency (QSDI-A)	-0.04 (-2.09 [-3.78 to -0.39])*	0.86	-0.02 (-1.07 [-2.60 to 0.47])	0.78	-	-
	Supervisory relationship communion (QSDI-C)	-0.13 (-2.28 [-2.94 to -1.63])****	0.33	-0.13 (-2.09 [-2.68 to -1.50])****	0.30	-0.06 (-0.58 [-1.04 to -0.12])*	0.24
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	Pre-existing mental health problems (0 none, 1 pre-existing)	-	-	-	-	0.11 (1.01 [0.59-1.43])****^a	0.21
	ΔF	19.86***	16.37***	11.63***			
	R^2	3.8%	3.2%	3.7%			
Block 2: occupational	PhD mode (0 part time, 1 full time)	0.02 (0.28 [-0.33 to 0.89])	0.31	0.02 (0.25 [-0.30 to 0.80])	0.28	-	-
	PhD year of study	0.07 (0.37 [0.19-0.54])****^a	0.09	0.08 (0.35 [0.19-0.51])****^b	0.08	-	-
	Average weekly hours in occupation	0.02 (0.01 [-0.01 to 0.02])	0.01	0.07 (0.02 [0.01-0.04])****^b	0.01	-	-
	Fieldwork (0 none, 1 past/planned)	-	-	-0.02 (-0.20 [-0.61 to 0.21])	0.21	-	-
	Continuation status (0 not in continuation, 1 in continuation)	-	-	-	-	0.05 (0.95 [0.04-1.85])*	0.46
	ΔF	11.11***	15.64***	6.39*			
	R^2	5.1%	6.1%	4.2%			
	Block 3: psychological	Impostor thoughts (CIPS)	0.19 (0.07 [0.06-0.09])****^a	0.01	0.18 (0.06 [0.04-0.08])****^b	0.01	0.08 (0.02 [0.00-0.03])*
Perfectionism standards (SAPS-S)		-0.03 (-0.04 [-0.10 to 0.02])	0.03	0.05 (0.07 [0.01-0.12])*	0.03	-0.01 (-0.01 [-0.05 to 0.03])	0.02
Perfectionism discrepancy (SAPS-D)		0.15 (0.17 [0.12-0.23])****^a	0.03	0.17 (0.17 [0.12-0.22])****^b	0.03	0.13 (0.08 [0.04-0.11])****^a	0.02
ΔF		202.19***	190.01***	60.07***			
Block 4: social	R^2	27.4%	27.0%	14.5%			
	Loneliness (UCLA)	0.38 (0.17 [0.15-0.19])****^a	0.01	0.31 (0.12 [0.10-0.13])****^b	0.01	0.33 (0.08 [0.06-0.09])****^a	0.01
	Multiple group memberships (MGM)	-0.01 (-0.01 [-0.05 to 0.03])	0.02	-0.00 (-0.00 [-0.04 to 0.03])	0.02	-0.00 (-0.00 [-0.03 to 0.03])	0.01
	ΔF	245.59***	151.62***	93.75***			
Block 5: relational	R^2	41.8%	36.6%	24.1%			
	Supervisory relationship agency (QSDI-A)	-0.04 (-2.09 [-3.78 to -0.39])*	0.86	-0.02 (-1.07 [-2.60 to 0.47])	0.78	-	-
	Supervisory relationship communion (QSDI-C)	-0.13 (-2.28 [-2.94 to -1.63])****^a	0.33	-0.13 (-2.09 [-2.68 to -1.50])****^b	0.30	-0.06 (-0.58 [-1.04 to -0.12])*	0.24
	ΔF	26.24***	24.85***	6.02*			
R^2	43.3%	38.2%	24.4%				

What predicts symptoms?

Table 4 Hierarchical regression models predicting depression, anxiety and suicidality

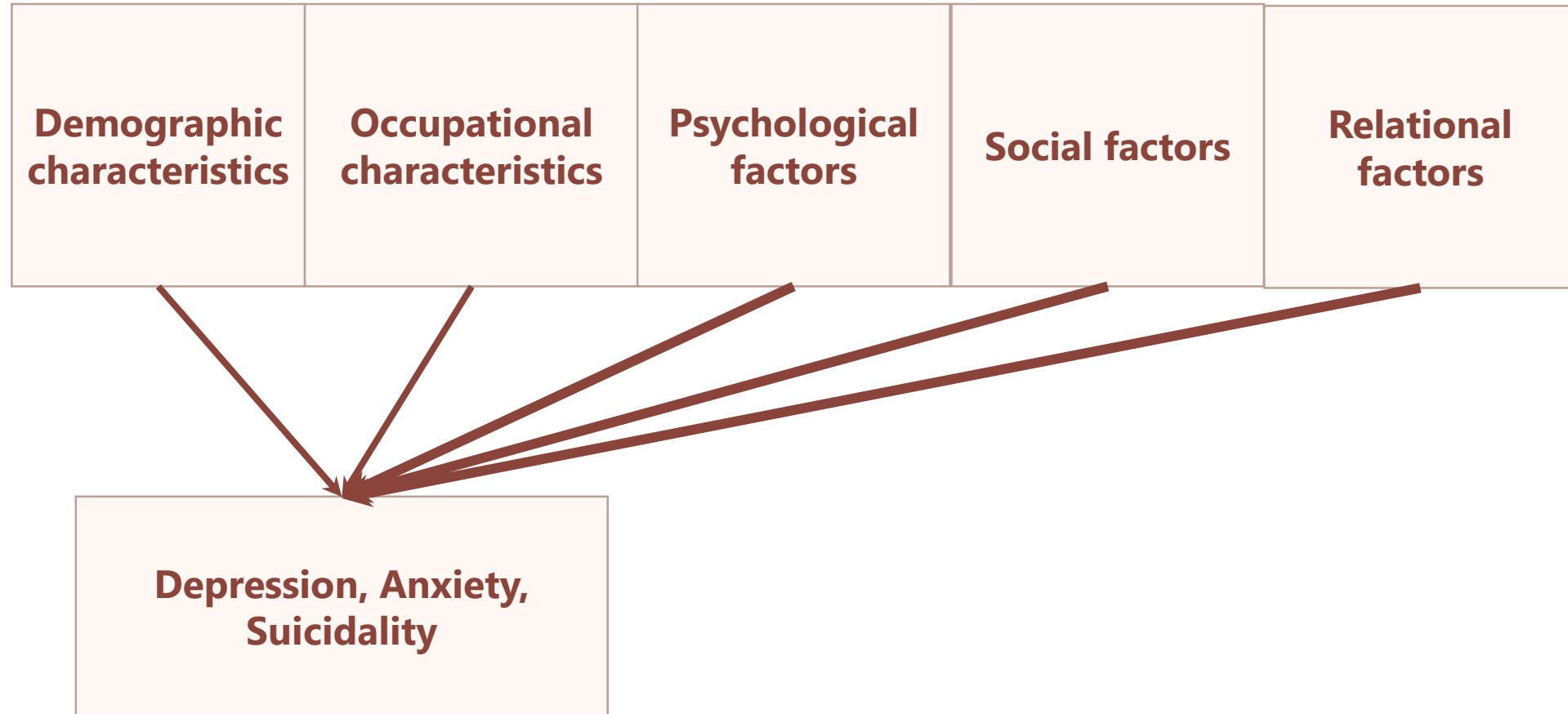
Model step	Parameter	Regression model, depression		Regression model, anxiety		Regression model, suicidality	
		β (B [95% CI])	s.e. for B	β (B [95% CI])	s.e. for B	β (B [95% CI])	s.e. for B
Block 1: demographic	Age	-0.07 (-0.05 [-0.08 to -0.02])****^a	0.01	-0.05 (-0.03 [-0.06 to -0.01])*	0.01	-0.03 (-0.01 [-0.03 to 0.01])	0.01
	Female gender (0 non-female, 1 female)	0.02 (0.25 [-0.22 to 0.72])	0.24	0.04 (0.51 [0.09-0.93])*	0.22	-	-
	White ethnicity (0 Black and minority ethnic, 1 White)	-0.05 (-0.80 [-1.36 to -0.24])**	0.29	-	-	0.03 (0.28 [-0.13 to 0.70])	0.21
	UK citizen (0 non-UK citizen, 1 UK citizen)	-	-	-0.05 (-0.56 [-0.98 to -0.15])**	0.21	0.04 (0.27 [-0.07 to 0.61])	0.17
	Disability (0 none, 1 disability)	0.05 (1.04 [0.37-1.71])**^a	0.34	0.03 (0.57 [-0.04 to 1.18])	0.31	0.06 (0.68 [0.20-1.16])**	0.24
	Pre-existing mental health problems (0 none, 1 pre-existing)	-	-	-	-	0.11 (1.01 [0.59-1.43])****^a	0.21
	ΔF	19.86***	16.37***	11.63***			
	R^2	3.8%	3.2%	3.7%			
Block 2: occupational	PhD mode (0 part time, 1 full time)	0.02 (0.28 [-0.33 to 0.89])	0.31	0.02 (0.25 [-0.30 to 0.80])	0.28	-	-
	PhD year of study	0.07 (0.37 [0.19-0.54])****^a	0.09	0.08 (0.35 [0.19-0.51])****^b	0.08	-	-
	Average weekly hours in occupation	0.02 (0.01 [-0.01 to 0.02])	0.01	0.07 (0.02 [0.01-0.04])****^b	0.01	-	-
	Fieldwork (0 none, 1 past/planned)	-	-	-0.02 (-0.20 [-0.61 to 0.21])	0.21	-	-
	Continuation status (0 not in continuation, 1 in continuation)	-	-	-	-	0.05 (0.95 [0.04-1.85])*	0.46
	ΔF	11.11***	15.64***	6.39*			
	R^2	5.1%	6.1%	4.2%			
	Block 3: psychological	Impostor thoughts (CIPS)	0.19 (0.07 [0.06-0.09])****^a	0.01	0.18 (0.06 [0.04-0.08])****^b	0.01	0.08 (0.02 [0.00-0.03])*
Perfectionism standards (SAPS-S)		-0.03 (-0.04 [-0.10 to 0.02])	0.03	0.05 (0.07 [0.01-0.12])*	0.03	-0.01 (-0.01 [-0.05 to 0.03])	0.02
Perfectionism discrepancy (SAPS-D)		0.15 (0.17 [0.12-0.23])****^a	0.03	0.17 (0.17 [0.12-0.22])****^b	0.03	0.13 (0.08 [0.04-0.11])****^a	0.02
ΔF		202.19***	190.01***	60.07***			
R^2		27.4%	27.0%	14.5%			
Block 4: social	Loneliness (UCLA)	0.38 (0.17 [0.15-0.19])****^a	0.01	0.31 (0.12 [0.10-0.13])****^b	0.01	0.33 (0.08 [0.06-0.09])****^a	0.01
	Multiple group memberships (MGM)	-0.01 (-0.01 [-0.05 to 0.03])	0.02	-0.00 (-0.00 [-0.04 to 0.03])	0.02	-0.00 (-0.00 [-0.03 to 0.03])	0.01
	ΔF	245.59***	151.62***	93.75***			
	R^2	41.8%	36.6%	24.1%			
Block 5: relational	Supervisory relationship agency (QSDI-A)	-0.04 (-2.09 [-3.78 to -0.39])*	0.86	-0.02 (-1.07 [-2.60 to 0.47])	0.78	-	-
	Supervisory relationship communion (QSDI-C)	-0.13 (-2.28 [-2.94 to -1.63])****^a	0.33	-0.13 (-2.09 [-2.68 to -1.50])****^b	0.30	-0.06 (-0.58 [-1.04 to -0.12])*	0.24
	ΔF	26.24***	24.85***	6.02*			
	R^2	43.3%	38.2%	24.4%			

What predicts symptoms?

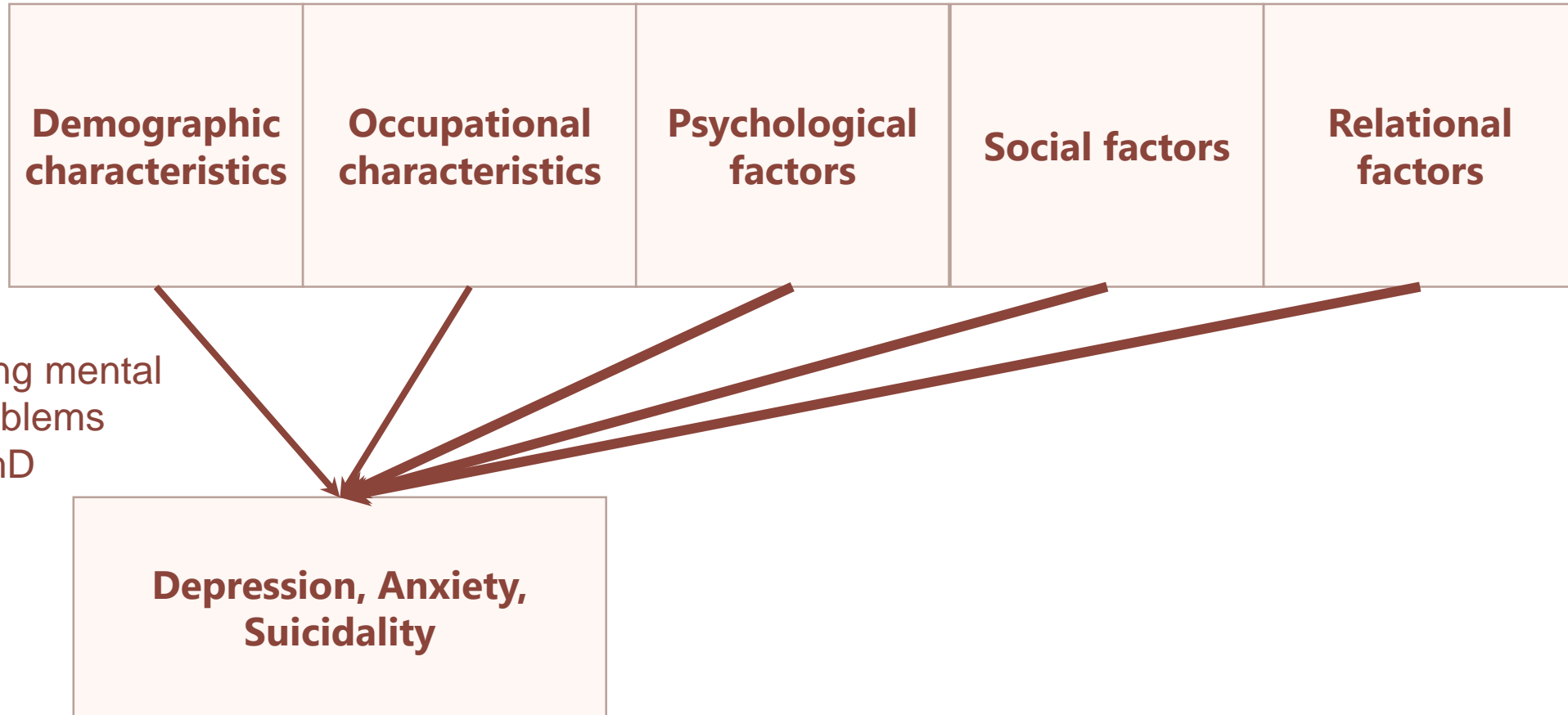
Table 4 Hierarchical regression models predicting depression, anxiety and suicidality

Model step	Parameter	Regression model, depression		Regression model, anxiety		Regression model, suicidality	
		β (B [95% CI])	s.e. for B	β (B [95% CI])	s.e. for B	β (B [95% CI])	s.e. for B
Block 1: demographic	Age	-0.07 (-0.05 [-0.08 to -0.02])****	0.01	-0.05 (-0.03 [-0.06 to -0.01])*	0.01	-0.03 (-0.01 [-0.03 to 0.01])	0.01
	Female gender (0 non-female, 1 female)	0.02 (0.25 [-0.22 to 0.72])	0.24	0.04 (0.51 [0.09-0.93])*	0.22	-	-
	White ethnicity (0 Black and minority ethnic, 1 White)	-0.05 (-0.80 [-1.36 to -0.24])**	0.29	-	-	0.03 (0.28 [-0.13 to 0.70])	0.21
	UK citizen (0 non-UK citizen, 1 UK citizen)	-	-	-0.05 (-0.56 [-0.98 to -0.15])**	0.21	0.04 (0.27 [-0.07 to 0.61])	0.17
	Disability (0 none, 1 disability)	0.05 (1.04 [0.37-1.71])**	0.34	0.03 (0.57 [-0.04 to 1.18])	0.31	0.06 (0.68 [0.20-1.16])**	0.24
	Pre-existing mental health problems (0 none, 1 pre-existing)	-	-	-	-	0.11 (1.01 [0.59-1.43])****	0.21
	ΔF	19.86***	16.37***	11.63***			
	R^2	3.8%	3.2%	3.7%			
Block 2: occupational	PhD mode (0 part time, 1 full time)	0.02 (0.28 [-0.33 to 0.89])	0.31	0.02 (0.25 [-0.30 to 0.80])	0.28	-	-
	PhD year of study	0.07 (0.37 [0.19-0.54])****	0.09	0.08 (0.35 [0.19-0.51])****	0.08	-	-
	Average weekly hours in occupation	0.02 (0.01 [-0.01 to 0.02])	0.01	0.07 (0.02 [0.01-0.04])****	0.01	-	-
	Fieldwork (0 none, 1 past/planned)	-	-	-0.02 (-0.20 [-0.61 to 0.21])	0.21	-	-
	Continuation status (0 not in continuation, 1 in continuation)	-	-	-	-	0.05 (0.95 [0.04-1.85])*	0.46
	ΔF	11.11***	15.64***	6.39*			
	R^2	5.1%	6.1%	4.2%			
	Block 3: psychological	Impostor thoughts (CIPS)	0.19 (0.07 [0.06-0.09])****	0.01	0.18 (0.06 [0.04-0.08])****	0.01	0.08 (0.02 [0.00-0.03])*
Perfectionism standards (SAPS-S)		-0.03 (-0.04 [-0.10 to 0.02])	0.03	0.05 (0.07 [0.01-0.12])*	0.03	-0.01 (-0.01 [-0.05 to 0.03])	0.02
Perfectionism discrepancy (SAPS-D)		0.15 (0.17 [0.12-0.23])****	0.03	0.17 (0.17 [0.12-0.22])****	0.03	0.13 (0.08 [0.04-0.11])****	0.02
ΔF		202.19***	190.01***	60.07***			
R^2		27.4%	27.0%	14.5%			
Block 4: social	Loneliness (UCLA)	0.38 (0.17 [0.15-0.19])****	0.01	0.31 (0.12 [0.10-0.13])****	0.01	0.33 (0.08 [0.06-0.09])****	0.01
	Multiple group memberships (MGM)	-0.01 (-0.01 [-0.05 to 0.03])	0.02	-0.00 (-0.00 [-0.04 to 0.03])	0.02	-0.00 (-0.00 [-0.03 to 0.03])	0.01
	ΔF	245.59***	151.62***	93.75***			
	R^2	41.8%	36.6%	24.1%			
Block 5: relational	Supervisory relationship agency (QSDI-A)	-0.04 (-2.09 [-3.78 to -0.39])*	0.86	-0.02 (-1.07 [-2.60 to 0.47])	0.78	-	-
	Supervisory relationship communion (QSDI-C)	-0.13 (-2.28 [-2.94 to -1.63])****	0.33	-0.13 (-2.09 [-2.68 to -1.50])****	0.30	-0.06 (-0.58 [-1.04 to -0.12])*	0.24
	ΔF	26.24***	24.85***	6.02*			
	R^2	43.3%	38.2%	24.4%			

In summary



In summary

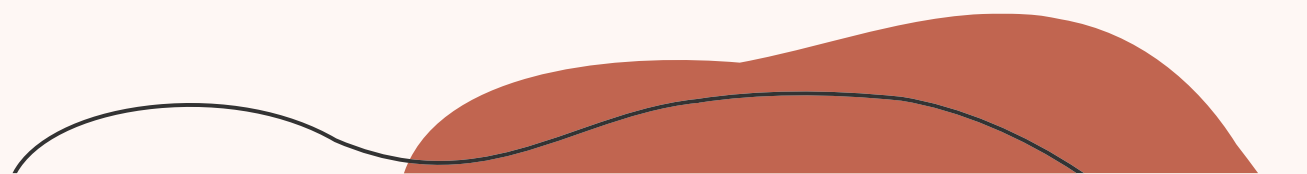


- Younger
- Female
- Disability
- Pre-existing mental health problems
- Longer PhD



What predicts doctoral student functioning?

Berry, C., Niven, J. E., & Hazell, C. M. (Under review). Predictors of UK postgraduate researcher attendance behaviours and mental health-related attrition intention. *Current Psychology*.



Capturing functioning

Absenteeism

Any (non-holiday) absence in past month

Presenteeism

Working but during this time were bothered by physical or psychological problems in the past month

Mental health-related intermission

Had to take a break (intermission) from PhD studies because of own mental health

Mental health-related attrition intentions

Had considered ending PhD studies because of own mental health

Absenteeism and presenteeism

	N(%)	M(SD)
Absenteeism		
During the last 4 weeks, how many days have you been absent from work (not including any annual leave/holidays)?	2766(82.5)	1.76(3.72)
	Zero 1697(61.4)	-
	>Zero 1069(38.6)	-
Presenteeism		
During the last 4 weeks, have there been days in which you worked but during this time were bothered by physical or psychological problems?	2895(86.4)	-
	No 1201(41.5)	-
	Yes 1694(58.5)	-

Mental health-related intermission and attrition intentions

I have had to take a break from my PhD studies because of my mental health.

14.9%

4.7%

80.5%

I have considered ending my PhD studies because of my mental health.

35.8%

10.1%

54.1%

Mental health-related intermission and attrition intentions

I have had to take a break from my PhD studies because of my mental health.

14.9%	4.7%	80.5%
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I have considered ending my PhD studies because of my mental health.

35.8%	10.1%	54.1%
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What predicts attendance behaviours and attrition intentions?

Block 1: Demographic

Age, White/non-White, Female/non-Female, UK/non-UK resident, Disability, Pre-existing mental health problems

Block 2: Occupational

PhD mode, Funding, Occupational hours (PhD, teaching, work), PhD year, Continuation status, Fieldwork (past/planned)

Block 3: Psychological

Impostor thoughts, Perfectionism standards, Perfectionism discrepancy

Block 4: Social

Loneliness, Multiple group memberships

Block 5: Relational

Supervisor relationship agency, Supervisor relationship communion

What predicts attendance behaviours and attrition intentions?

Block 0: Depression, anxiety, suicidality

Block 1: Demographic

Age, White/non-White, Female/non-Female, UK/non-UK resident, Disability, Pre-existing mental health problems

Block 2: Occupational

PhD mode, Funding, Occupational hours (PhD, teaching, work), PhD year, Continuation status, Fieldwork (past/planned)

Block 3: Psychological

Impostor thoughts, Perfectionism standards, Perfectionism discrepancy

Block 4: Social

Loneliness, Multiple group memberships

Block 5: Relational

Supervisor relationship agency, Supervisor relationship communion

	Parameter	Regression model A Past month absence		Regression model B Past month presenteeism		Regression model C Mental health-related intermission		Regression model D Mental health-related attrition intention	
		OR(B), [95% CI]	Wald	OR(B), [95% CI]	Wald	OR(B), [95% CI]	Wald	OR(B), [95% CI]	Wald
Block 0 Symptoms	Depression	1.05(0.05)*** , [1.02, 1.07]	13.30	1.06(0.06)*** , [1.03, 1.10]	15.68	0.98(-0.02), [0.94, 1.03]	0.55	1.08(0.07)*** , [1.04, 1.12]	14.43
	Anxiety	1.00(-0.01), [0.97, 1.02]	.174	1.07(0.06)*** , [1.03, 1.10]	15.44	1.01(0.06)* , [1.01, 1.11]	4.80	1.00(0.00), [0.96, 1.05]	0.01
	Suicidality	1.02(0.02), [0.99, 1.05]	1.83	1.09(0.08)*** , [1.04, 1.13]	17.13	1.04(0.04), [0.98, 1.09]	1.69	1.08(0.08)** , [1.03, 1.14]	10.85
	Chi-square ($\chi^2(df)$) Cox-Snell R ²	92.08(3)*** 3.7%		314.39(3)*** 15.4%		24.54(3)*** 2.4%		130.96(3)*** 12.7%	
Block 1 Demographic	Age	0.98(-0.02)** , [0.97, 0.99]	12.02	1.00(0.00), [0.99, 1.01]	0.01	-	-	1.01(0.01), [0.99, 1.03]	1.73
	Female gender (0 non-female, 1 female)	0.74(-0.34)** , [0.61, 0.90]	9.56	0.69(-0.37)** , [0.55, 0.87]	10.20	-	-	0.87(-0.14), [0.62, 1.23]	0.63
	White ethnicity (0 non-White, 1 White)	1.39(0.33)** , [1.10, 1.76]	7.81	0.81(-0.21), [0.62, 1.06]	2.37	0.90(-0.10), [0.55, 1.48]	0.17	0.58(-0.56)* , [0.37, 0.89]	6.15
	UK citizen (0 non-UK citizen, 1 UK citizen)	1.32(0.28)** , [1.09, 1.61]	8.14	-	-	0.96(-0.04), [0.65, 1.42]	0.05	0.79 (-0.24), [0.56, 1.11]	1.86
	Disability (0 none, 1 disability)	0.62(-0.471)** , [0.48, 0.82]	11.86	0.53(-0.64)*** , [0.37, 0.75]	13.08	0.68(-0.39), [0.44, 1.06]	2.89	1.07(0.07), [0.71, 1.63]	0.11
	Pre-existing mental health problems (0 not pre-existing, 1 pre-existing)	-	-	-	-	1.73(0.55)* , [1.09, 2.74]	5.39	1.64(0.50)* , [1.05, 2.58]	4.64
Chi-square ($\chi^2(df)$) Cox-Snell R ²	65.26(5)*** 6.3%		38.62(4)*** 17.2%		22.50(4)*** 4.6%		30.98(6)*** 15.5%		
Block 2 Occupational	PhD mode (0 part-time, 1 fulltime)	0.90(-0.108), [0.68, 1.18]	0.60	1.12(0.11), [0.81, 1.54]	0.47	1.28(0.24), [0.79, 2.05]	1.01	-	-
	Year of PhD study	-	-	1.02(0.02), [0.94, 1.11]	0.24	1.46(0.38)*** , [1.27, 1.69]	28.05	1.23(0.21)** , [1.08, 1.41]	9.37
	Full funding (0 self/partial, 1 full)	1.03(0.03), [0.79, 1.35]	0.06	0.75(-0.29)* , [0.59, 0.95]	5.65	1.11(0.10), [0.66, 1.85]	0.15	0.72(-0.32), [0.51, 1.02]	3.35
	Self-funded (0 full/partial, 1 self)	0.58(-0.54)** , [0.42, 0.80]	11.12	-	-	0.61(-0.49), [0.34, 1.10]	2.69	-	-
	Average weekly hours in occupation	0.98(-0.02)*** , [0.98, 0.99]	31.93	1.02(0.02)*** , [1.01, 1.02]	15.41	0.98(-0.20)** , [0.97, 0.99]	11.05	1.00(-0.00), [0.99, 1.01]	0.00
	Fieldwork (0 none, 1 past/planned)	0.69(-0.27)** , [0.64, 0.92]	8.09	-	-	0.69(-0.37)* , [0.48, 0.97]	4.49	0.89(-0.11), [0.65, 1.23]	0.49
Chi-square ($\chi^2(df)$) Cox-Snell R ²	64.77(5)*** 8.8%		30.67(4)*** 18.5%		76.32(6)*** 11.6%		30.66(4)*** 18.1%		
Block 3 Psychological	Impostor thoughts (CIPS)	1.00(0.00), [0.99, 1.01]	0.25	1.01(0.01), [1.00, 1.02]	2.14	0.99(-0.01), [0.98, 1.01]	0.83	1.01(0.01), [1.00, 1.02]	2.04
	Perfectionism standards (SAPS-S)	0.98(-0.02), [0.95, 1.00]	3.75	1.04(0.03)* , [1.01, 1.06]	5.58	-	-	0.98(-0.02), [0.94, 1.02]	0.88
	Perfectionism discrepancy (SAPS-D)	1.02(0.02), [0.99, 1.05]	3.34	0.99(-0.01), [0.97, 1.02]	0.27	1.02(0.02), [0.97, 1.07]	0.65	1.03(0.03), [0.98, 1.07]	1.43
	Chi-square ($\chi^2(df)$) Cox-Snell R ²	10.08(3)* 9.1%		7.60(3) 18.8%		0.70(2) 11.6%		10.03(3)*** 19.0%	
Block 4 Social	Loneliness (UCLA)	1.00(0.00), [0.99, 1.01]	0.01	1.01(0.01), [0.99, 1.01]	1.03	1.02(0.02)* , [1.00, 1.03]	4.00	1.00(-0.00), [0.99, 1.01]	0.05
	Multiple group memberships (MGM)	-	-	1.01(0.01), [1.00, 1.03]	2.15	1.02(0.02), [0.99, 1.06]	2.35	1.01(0.01), [0.98, 1.03]	0.20
	Chi-square ($\chi^2(df)$) Cox-Snell R ²	0.01(1) 9.1%		2.75(2) 19.0%		4.94(2) 12.1%		0.37(2) 19.0%	
Block 5 Relational	Supervisory relationship agency (QSDI-A)	0.42(-0.87)* , [0.21, 0.83]	6.23	-	-	0.34(-1.08), [0.09, 1.27]	2.59	0.80(-0.23), [0.24, 2.68]	0.14
	Supervisory relationship communion (QSDI-C)	0.86-0.16), [0.66, 1.11]	1.35	0.81(-0.21), [0.57, 1.15]	1.36	0.79(-0.23), [0.49, 1.27]	0.93	0.37(-0.99)*** , [0.23, 0.59]	17.92
	Chi-square ($\chi^2(df)$) Cox-Snell R ²	7.51(2)* 9.4%		1.37(1) 19.0%		3.41(2) 12.4%		19.77(2)*** 20.6%	
Block 6 Attendance behaviours	Past month absence	-	-	-	-	-	-	0.79(-0.24), [0.58, 1.07]	2.28
	Past month presenteeism	-	-	-	-	-	-	0.76(-0.27), [0.53, 1.09]	2.17
	Mental health-related intermission	-	-	-	-	-	-	0.30(-1.20)*** , [0.20, 0.46]	32.42
	Chi-square ($\chi^2(df)$) Cox-Snell R ²	-	-	-	-	-	-	43.07(3)*** 24.1%	

	Parameter	Regression model A Past month absence		Regression model B Past month presenteeism		Regression model C Mental health-related intermission		Regression model D Mental health-related attrition intention	
		OR(B), [95% CI]	Wald	OR(B), [95% CI]	Wald	OR(B), [95% CI]	Wald	OR(B), [95% CI]	Wald
Block 0 Symptoms	Depression	1.05(0.05)***, [1.02, 1.07]	13.30	1.06(0.06)***, [1.03, 1.10]	15.68	0.98(-0.02), [0.94, 1.03]	0.55	1.08(0.07)***, [1.04, 1.12]	14.43
	Anxiety	1.00(-0.01), [0.97, 1.02]	.174	1.07(0.06)***, [1.03, 1.10]	15.44	1.01(0.06)*, [1.01, 1.11]	4.80	1.00(0.00), [0.96, 1.05]	0.01
	Suicidality	1.02(0.02), [0.99, 1.05]	1.83	1.09(0.08)***, [1.04, 1.13]	17.13	1.04(0.04), [0.98, 1.09]	1.69	1.08(0.08)**, [1.03, 1.14]	10.85
	Chi-square ($\chi^2(df)$) Cox-Snell R ²	32.06(3) 3.7%		374.33(3) 15.4%		24.04(3) 2.4%		130.30(3) 12.7%	
Block 1 Demographic	Age	0.98(-0.02)**, [0.97, 0.99]	12.02	1.00(0.00), [0.99, 1.01]	0.01	-	-	1.01(0.01), [0.99, 1.03]	1.73
	Female gender (0 non-female, 1 female)	0.74(-0.34)**, [0.61, 0.90]	9.56	0.69(-0.37)**, [0.55, 0.87]	10.20	-	-	0.87(-0.14), [0.62, 1.23]	0.63
	White ethnicity (0 non-White, 1 White)	1.39(0.33)**, [1.10, 1.76]	7.81	0.81(-0.21), [0.62, 1.06]	2.37	0.90(-0.10), [0.55, 1.48]	0.17	0.58(-0.56)*, [0.37, 0.89]	6.15
	UK citizen (0 non-UK citizen, 1 UK citizen)	1.32(0.28)**, [1.09, 1.61]	8.14	-	-	0.96(-0.04), [0.65, 1.42]	0.05	0.79 (-0.24), [0.56, 1.11]	1.86
	Disability (0 none, 1 disability)	0.62(-0.471)**, [0.48, 0.82]	11.86	0.53(-0.64)***, [0.37, 0.75]	13.08	0.68(-0.39), [0.44, 1.06]	2.89	1.07(0.07), [0.71, 1.63]	0.11
	Pre-existing mental health problems (0 not pre-existing, 1 pre-existing)	-	-	-	-	1.73(0.55)*, [1.09, 2.74]	5.39	1.64(0.50)*, [1.05, 2.58]	4.64
Chi-square ($\chi^2(df)$) Cox-Snell R ²	65.26(5)*** 6.3%		38.62(4)*** 17.2%		22.50(4)*** 4.6%		30.98(6)*** 15.5%		
Block 2 Occupational	PhD mode (0 part-time, 1 fulltime)	0.90(-0.108), [0.68, 1.18]	0.60	1.12(0.11), [0.81, 1.54]	0.47	1.28(0.24), [0.79, 2.05]	1.01	-	-
	Year of PhD study	-	-	1.02(0.02), [0.94, 1.11]	0.24	1.46(0.38)***, [1.27, 1.69]	28.05	1.23(0.21)**, [1.08, 1.41]	9.37
	Full funding (0 self/partial, 1 full)	1.03(0.03), [0.79, 1.35]	0.06	0.75(-0.29)*, [0.59, 0.95]	5.65	1.11(0.10), [0.66, 1.85]	0.15	0.72(-0.32), [0.51, 1.02]	3.35
	Self-funded (0 full/partial, 1 self)	0.58(-0.54)**, [0.42, 0.80]	11.12	-	-	0.61(-0.49), [0.34, 1.10]	2.69	-	-
	Average weekly hours in occupation	0.98(-0.02)***, [0.98, 0.99]	31.93	1.02(0.02)***, [1.01, 1.02]	15.41	0.98(-0.20)**, [0.97, 0.99]	11.05	1.00(-0.00), [0.99, 1.01]	0.00
	Fieldwork (0 none, 1 past/planned)	0.69(-0.27)**, [0.64, 0.92]	8.09	-	-	0.69(-0.37)*, [0.48, 0.97]	4.49	0.89(-0.11), [0.65, 1.23]	0.49
Chi-square ($\chi^2(df)$) Cox-Snell R ²	64.77(5)*** 8.8%		30.67(4)*** 18.5%		76.32(6)*** 11.6%		30.66(4)*** 18.1%		
Block 3 Psychological	Impostor thoughts (CIPS)	1.00(0.00), [0.99, 1.01]	0.25	1.01(0.01), [1.00, 1.02]	2.14	0.99(-0.01), [0.98, 1.01]	0.83	1.01(0.01), [1.00, 1.02]	2.04
	Perfectionism standards (SAPS-S)	0.98(-0.02), [0.95, 1.00]	3.75	1.04(0.03)*, [1.01, 1.06]	5.58	-	-	0.98(-0.02), [0.94, 1.02]	0.88
	Perfectionism discrepancy (SAPS-D)	1.02(0.02), [0.99, 1.05]	3.34	0.99(-0.01), [0.97, 1.02]	0.27	1.02(0.02), [0.97, 1.07]	0.65	1.03(0.03), [0.98, 1.07]	1.43
Chi-square ($\chi^2(df)$) Cox-Snell R ²	10.08(3)* 9.1%		7.60(3) 18.8%		0.70(2) 11.6%		10.03(3)*** 19.0%		
Block 4 Social	Loneliness (UCLA)	1.00(0.00), [0.99, 1.01]	0.01	1.01(0.01), [0.99, 1.01]	1.03	1.02(0.02)*, [1.00, 1.03]	4.00	1.00(-0.00), [0.99, 1.01]	0.05
	Multiple group memberships (MGM)	-	-	1.01(0.01), [1.00, 1.03]	2.15	1.02(0.02), [0.99, 1.06]	2.35	1.01(0.01), [0.98, 1.03]	0.20
Chi-square ($\chi^2(df)$) Cox-Snell R ²	0.01(1) 9.1%		2.75(2) 19.0%		4.94(2) 12.1%		0.37(2) 19.0%		
Block 5 Relational	Supervisory relationship agency (QSDI-A)	0.42(-0.87)*, [0.21, 0.83]	6.23	-	-	0.34(-1.08), [0.09, 1.27]	2.59	0.80(-0.23), [0.24, 2.68]	0.14
	Supervisory relationship communion (QSDI-C)	0.86(-0.16), [0.66, 1.11]	1.35	0.81(-0.21), [0.57, 1.15]	1.36	0.79(-0.23), [0.49, 1.27]	0.93	0.37(-0.99)***, [0.23, 0.59]	17.92
Chi-square ($\chi^2(df)$) Cox-Snell R ²	7.51(2)* 9.4%		1.37(1) 19.0%		3.41(2) 12.4%		19.77(2)*** 20.6%		
Block 6 Attendance behaviours	Past month absence	-	-	-	-	-	-	0.79(-0.24), [0.58, 1.07]	2.28
	Past month presenteeism	-	-	-	-	-	-	0.76(-0.27), [0.53, 1.09]	2.17
	Mental health-related intermission	-	-	-	-	-	-	0.30(-1.20)***, [0.20, 0.46]	32.42
	Chi-square ($\chi^2(df)$) Cox-Snell R ²	-	-	-	-	-	-	43.07(3)*** 24.1%	

	Parameter	Regression model A Past month absence		Regression model B Past month presenteeism		Regression model C Mental health-related intermission		Regression model D Mental health-related attrition intention	
		OR(B), [95% CI]	Wald	OR(B), [95% CI]	Wald	OR(B), [95% CI]	Wald	OR(B), [95% CI]	Wald
Block 0 Symptoms	Depression	1.05(0.05)*** , [1.02, 1.07]	13.30	1.06(0.06)*** , [1.03, 1.10]	15.68	0.98(-0.02), [0.94, 1.03]	0.55	1.08(0.07)*** , [1.04, 1.12]	14.43
	Anxiety	1.00(-0.01), [0.97, 1.02]	.174	1.07(0.06)*** , [1.03, 1.10]	15.44	1.01(0.06)* , [1.01, 1.11]	4.80	1.00(0.00), [0.96, 1.05]	0.01
	Suicidality	1.02(0.02), [0.99, 1.05]	1.83	1.09(0.08)*** , [1.04, 1.13]	17.13	1.04(0.04), [0.98, 1.09]	1.69	1.08(0.08)** , [1.03, 1.14]	10.85
	Chi-square (χ2(df)) Cox-Snell R ²		92.08(3)*** 3.7%		314.39(3)*** 15.4%		24.54(3)*** 2.4%		130.96(3)*** 12.7%
Block 1 Demographic	Age	0.98(-0.02)** , [0.97, 0.99]	12.02	1.00(0.00), [0.99, 1.01]	0.01	-	-	1.01(0.01), [0.99, 1.03]	1.73
	Female gender (0 non-female, 1 female)	0.74(-0.34)** , [0.61, 0.90]	9.56	0.69(-0.37)** , [0.55, 0.87]	10.20	-	-	0.87(-0.14), [0.62, 1.23]	0.63
	White ethnicity (0 non-White, 1 White)	1.39(0.33)** , [1.10, 1.76]	7.81	0.81(-0.21), [0.62, 1.06]	2.37	0.90(-0.10), [0.55, 1.48]	0.17	0.58(-0.56)* , [0.37, 0.89]	6.15
	UK citizen (0 non-UK citizen, 1 UK citizen)	1.32(0.28)** , [1.09, 1.61]	8.14	-	-	0.96(-0.04), [0.65, 1.42]	0.05	0.79 (-0.24), [0.56, 1.11]	1.86
	Disability (0 none, 1 disability)	0.62(-0.471)** , [0.48, 0.82]	11.86	0.53(-0.64)*** , [0.37, 0.75]	13.08	0.68(-0.39), [0.44, 1.06]	2.89	1.07(0.07), [0.71, 1.63]	0.11
	Pre-existing mental health problems (0 not pre-existing, 1 pre-existing)	-	-	-	-	1.73(0.55)* , [1.09, 2.74]	5.39	1.64(0.50)* , [1.05, 2.58]	4.64
	Chi-square (χ2(df)) Cox-Snell R ²		65.26(5)*** 6.3%		38.62(4)*** 17.2%		22.50(4)*** 4.6%		30.98(6)*** 15.5%
Block 2 Occupational	PhD mode (0 part-time, 1 fulltime)	0.90(-0.108), [0.68, 1.18]	0.60	1.12(0.11), [0.81, 1.54]	0.47	1.28(0.24), [0.79, 2.05]	1.01	-	-
	Year of PhD study	-	-	1.02(0.02), [0.94, 1.11]	0.24	1.46(0.38)*** , [1.27, 1.69]	28.05	1.23(0.21)** , [1.08, 1.41]	9.37
	Full funding (0 self/partial, 1 full)	1.03(0.03), [0.79, 1.35]	0.06	0.75(-0.29)* , [0.59, 0.95]	5.65	1.11(0.10), [0.66, 1.85]	0.15	0.72(-0.32), [0.51, 1.02]	3.35
	Self-funded (0 full/partial, 1 self)	0.58(-0.54)** , [0.42, 0.80]	11.12	-	-	0.61(-0.49), [0.34, 1.10]	2.69	-	-
	Average weekly hours in occupation	0.98(-0.02)*** , [0.98, 0.99]	31.93	1.02(0.02)*** , [1.01, 1.02]	15.41	0.98(-0.20)** , [0.97, 0.99]	11.05	1.00(-0.00), [0.99, 1.01]	0.00
	Fieldwork (0 none, 1 past/planned)	0.69(-0.27)** , [0.64, 0.92]	8.09	-	-	0.69(-0.37)* , [0.48, 0.97]	4.49	0.89(-0.11), [0.65, 1.23]	0.49
Chi-square (χ2(df)) Cox-Snell R ²		64.77(5)*** 8.8%		30.67(4)*** 18.5%		76.32(6)*** 11.6%		30.66(4)*** 18.1%	
Block 3 Psychological	Impostor thoughts (CIPS)	1.00(0.00), [0.99, 1.01]	0.25	1.01(0.01), [1.00, 1.02]	2.14	0.99(-0.01), [0.98, 1.01]	0.83	1.01(0.01), [1.00, 1.02]	2.04
	Perfectionism standards (SAPS-S)	0.98(-0.02), [0.95, 1.00]	3.75	1.04(0.03)* , [1.01, 1.06]	5.58	-	-	0.98(-0.02), [0.94, 1.02]	0.88
	Perfectionism discrepancy (SAPS-D)	1.02(0.02), [0.99, 1.05]	3.34	0.99(-0.01), [0.97, 1.02]	0.27	1.02(0.02), [0.97, 1.07]	0.65	1.03(0.03), [0.98, 1.07]	1.43
Chi-square (χ2(df)) Cox-Snell R ²		10.08(3)* 9.1%		7.60(3) 18.8%		0.70(2) 11.6%		10.03(3)*** 19.0%	
Block 4 Social	Loneliness (UCLA)	1.00(0.00), [0.99, 1.01]	0.01	1.01(0.01), [0.99, 1.01]	1.03	1.02(0.02)* , [1.00, 1.03]	4.00	1.00(-0.00), [0.99, 1.01]	0.05
	Multiple group memberships (MGM)	-	-	1.01(0.01), [1.00, 1.03]	2.15	1.02(0.02), [0.99, 1.06]	2.35	1.01(0.01), [0.98, 1.03]	0.20
Chi-square (χ2(df)) Cox-Snell R ²		0.01(1) 9.1%		2.75(2) 19.0%		4.94(2) 12.1%		0.37(2) 19.0%	
Block 5 Relational	Supervisory relationship agency (QSDI-A)	0.42(-0.87)* , [0.21, 0.83]	6.23	-	-	0.34(-1.08), [0.09, 1.27]	2.59	0.80(-0.23), [0.24, 2.68]	0.14
	Supervisory relationship communion (QSDI-C)	0.86(-0.16), [0.66, 1.11]	1.35	0.81(-0.21), [0.57, 1.15]	1.36	0.79(-0.23), [0.49, 1.27]	0.93	0.37(-0.99)*** , [0.23, 0.59]	17.92
Chi-square (χ2(df)) Cox-Snell R ²		7.51(2)* 9.4%		1.37(1) 19.0%		3.41(2) 12.4%		19.77(2)*** 20.6%	
Block 6 Attendance behaviours	Past month absence	-	-	-	-	-	-	0.79(-0.24), [0.58, 1.07]	2.28
	Past month presenteeism	-	-	-	-	-	-	0.76(-0.27), [0.53, 1.09]	2.17
	Mental health-related intermission	-	-	-	-	-	-	0.30(-1.20)*** , [0.20, 0.46]	32.42
	Chi-square (χ2(df)) Cox-Snell R ²		-		-		-		43.07(3)*** 24.1%

	Parameter	Regression model A Past month absence		Regression model B Past month presenteeism		Regression model C Mental health-related intermission		Regression model D Mental health-related attrition intention	
		OR(B), [95% CI]	Wald	OR(B), [95% CI]	Wald	OR(B), [95% CI]	Wald	OR(B), [95% CI]	Wald
Block 0 Symptoms	Depression	1.05(0.05)***, [1.02, 1.07]	13.30	1.06(0.06)***, [1.03, 1.10]	15.68	0.98(-0.02), [0.94, 1.03]	0.55	1.08(0.07)***, [1.04, 1.12]	14.43
	Anxiety	1.00(-0.01), [0.97, 1.02]	.174	1.07(0.06)***, [1.03, 1.10]	15.44	1.01(0.06)*, [1.01, 1.11]	4.80	1.00(0.00), [0.96, 1.05]	0.01
	Suicidality	1.02(0.02), [0.99, 1.05]	1.83	1.09(0.08)***, [1.04, 1.13]	17.13	1.04(0.04), [0.98, 1.09]	1.69	1.08(0.08)**, [1.03, 1.14]	10.85
	Chi-square ($\chi^2(df)$) Cox-Snell R ²	92.08(3)*** 3.7%		314.39(3)*** 15.4%		24.54(3)*** 2.4%		130.96(3)*** 12.7%	
Block 1 Demographic	Age	0.98(-0.02)**, [0.97, 0.99]	12.02	1.00(0.00), [0.99, 1.01]	0.01	-	-	1.01(0.01), [0.99, 1.03]	1.73
	Female gender (0 non-female, 1 female)	0.74(-0.34)**, [0.61, 0.90]	9.56	0.69(-0.37)**, [0.55, 0.87]	10.20	-	-	0.87(-0.14), [0.62, 1.23]	0.63
	White ethnicity (0 non-White, 1 White)	1.39(0.33)**, [1.10, 1.76]	7.81	0.81(-0.21), [0.62, 1.06]	2.37	0.90(-0.10), [0.55, 1.48]	0.17	0.58(-0.56)*, [0.37, 0.89]	6.15
	UK citizen (0 non-UK citizen, 1 UK citizen)	1.32(0.28)**, [1.09, 1.61]	8.14	-	-	0.96(-0.04), [0.65, 1.42]	0.05	0.79 (-0.24), [0.56, 1.11]	1.86
	Disability (0 none, 1 disability)	0.62(-0.471)**, [0.48, 0.82]	11.86	0.53(-0.64)***, [0.37, 0.75]	13.08	0.68(-0.39), [0.44, 1.06]	2.89	1.07(0.07), [0.71, 1.63]	0.11
	Pre-existing mental health problems (0 not pre-existing, 1 pre-existing)	-	-	-	-	1.73(0.55)*, [1.09, 2.74]	5.39	1.64(0.50)*, [1.05, 2.58]	4.64
	Chi-square ($\chi^2(df)$) Cox-Snell R ²	65.26(5)*** 6.3%		38.62(4)*** 17.2%		22.50(4)*** 4.6%		30.98(6)*** 15.5%	
Block 2 Occupational	PhD mode (0 part-time, 1 fulltime)	0.90(-0.108), [0.68, 1.18]	0.60	1.12(0.11), [0.81, 1.54]	0.47	1.28(0.24), [0.79, 2.05]	1.01	-	-
	Year of PhD study	-	-	1.02(0.02), [0.94, 1.11]	0.24	1.46(0.38)***, [1.27, 1.69]	28.05	1.23(0.21)**, [1.08, 1.41]	9.37
	Full funding (0 self/partial, 1 full)	1.03(0.03), [0.79, 1.35]	0.06	0.75(-0.29)*, [0.59, 0.95]	5.65	1.11(0.10), [0.66, 1.85]	0.15	0.72(-0.32), [0.51, 1.02]	3.35
	Self-funded (0 full/partial, 1 self)	0.58(-0.54)**, [0.42, 0.80]	11.12	-	-	0.61(-0.49), [0.34, 1.10]	2.69	-	-
	Average weekly hours in occupation	0.98(-0.02)***, [0.98, 0.99]	31.93	1.02(0.02)***, [1.01, 1.02]	15.41	0.98(-0.20)**, [0.97, 0.99]	11.05	1.00(-0.00), [0.99, 1.01]	0.00
	Fieldwork (0 none, 1 past/planned)	0.69(-0.27)**, [0.64, 0.92]	8.09	-	-	0.69(-0.37)*, [0.48, 0.97]	4.49	0.89(-0.11), [0.65, 1.23]	0.49
Chi-square ($\chi^2(df)$) Cox-Snell R ²	64.77(5)*** 8.8%		30.67(4)*** 18.5%		76.22(6)*** 11.6%		30.66(4)*** 18.1%		
Block 3 Psychological	Impostor thoughts (CIPS)	1.00(0.00), [0.99, 1.01]	0.25	1.01(0.01), [1.00, 1.02]	2.14	0.99(-0.01), [0.98, 1.01]	0.83	1.01(0.01), [1.00, 1.02]	2.04
	Perfectionism standards (SAPS-S)	0.98(-0.02), [0.95, 1.00]	3.75	1.04(0.03)*, [1.01, 1.06]	5.58	-	-	0.98(-0.02), [0.94, 1.02]	0.88
	Perfectionism discrepancy (SAPS-D)	1.02(0.02), [0.99, 1.05]	3.34	0.99(-0.01), [0.97, 1.02]	0.27	1.02(0.02), [0.97, 1.07]	0.65	1.03(0.03), [0.98, 1.07]	1.43
	Chi-square ($\chi^2(df)$) Cox-Snell R ²	10.08(3)* 9.1%		7.60(3) 18.8%		0.70(2) 11.6%		10.03(3)*** 19.0%	
Block 4 Social	Loneliness (UCLA)	1.00(0.00), [0.99, 1.01]	0.01	1.01(0.01), [0.99, 1.01]	1.03	1.02(0.02)*, [1.00, 1.03]	4.00	1.00(-0.00), [0.99, 1.01]	0.05
	Multiple group memberships (MGM)	-	-	1.01(0.01), [1.00, 1.03]	2.15	1.02(0.02), [0.99, 1.06]	2.35	1.01(0.01), [0.98, 1.03]	0.20
	Chi-square ($\chi^2(df)$) Cox-Snell R ²	0.01(1) 9.1%		2.75(2) 19.0%		4.94(2) 12.1%		0.37(2) 19.0%	
Block 5 Relational	Supervisory relationship agency (QSDI-A)	0.42(-0.87)*, [0.21, 0.83]	6.23	-	-	0.34(-1.08), [0.09, 1.27]	2.59	0.80(-0.23), [0.24, 2.68]	0.14
	Supervisory relationship communion (QSDI-C)	0.86(-0.16), [0.66, 1.11]	1.35	0.81(-0.21), [0.57, 1.15]	1.36	0.79(-0.23), [0.49, 1.27]	0.93	0.37(-0.99)***, [0.23, 0.59]	17.92
	Chi-square ($\chi^2(df)$) Cox-Snell R ²	7.51(2)* 9.4%		1.37(1) 19.0%		3.41(2) 12.4%		19.77(2)*** 20.6%	
Block 6 Attendance behaviours	Past month absence	-	-	-	-	-	-	0.79(-0.24), [0.58, 1.07]	2.28
	Past month presenteeism	-	-	-	-	-	-	0.76(-0.27), [0.53, 1.09]	2.17
	Mental health-related intermission	-	-	-	-	-	-	0.30(-1.20)***, [0.20, 0.46]	32.42
	Chi-square ($\chi^2(df)$) Cox-Snell R ²	-	-	-	-	-	-	43.07(3)*** 24.1%	

	Parameter	Regression model A Past month absence		Regression model B Past month presenteeism		Regression model C Mental health-related intermission		Regression model D Mental health-related attrition intention	
		OR(B), [95% CI]	Wald	OR(B), [95% CI]	Wald	OR(B), [95% CI]	Wald	OR(B), [95% CI]	Wald
Block 0 Symptoms	Depression	1.05(0.05)***, [1.02, 1.07]	13.30	1.06(0.06)***, [1.03, 1.10]	15.68	0.98(-0.02), [0.94, 1.03]	0.55	1.08(0.07)***, [1.04, 1.12]	14.43
	Anxiety	1.00(-0.01), [0.97, 1.02]	.174	1.07(0.06)***, [1.03, 1.10]	15.44	1.01(0.06)*, [1.01, 1.11]	4.80	1.00(0.00), [0.96, 1.05]	0.01
	Suicidality	1.02(0.02), [0.99, 1.05]	1.83	1.09(0.08)***, [1.04, 1.13]	17.13	1.04(0.04), [0.98, 1.09]	1.69	1.08(0.08)**, [1.03, 1.14]	10.85
	Chi-square ($\chi^2(df)$) Cox-Snell R ²	92.08(3)*** 3.7%		314.39(3)*** 15.4%		24.54(3)*** 2.4%		130.96(3)*** 12.7%	
Block 1 Demographic	Age	0.98(-0.02)**, [0.97, 0.99]	12.02	1.00(0.00), [0.99, 1.01]	0.01	-	-	1.01(0.01), [0.99, 1.03]	1.73
	Female gender (0 non-female, 1 female)	0.74(-0.34)**, [0.61, 0.90]	9.56	0.69(-0.37)**, [0.55, 0.87]	10.20	-	-	0.87(-0.14), [0.62, 1.23]	0.63
	White ethnicity (0 non-White, 1 White)	1.39(0.33)**, [1.10, 1.76]	7.81	0.81(-0.21), [0.62, 1.06]	2.37	0.90(-0.10), [0.55, 1.48]	0.17	0.58(-0.56)*, [0.37, 0.89]	6.15
	UK citizen (0 non-UK citizen, 1 UK citizen)	1.32(0.28)**, [1.09, 1.61]	8.14	-	-	0.96(-0.04), [0.65, 1.42]	0.05	0.79 (-0.24), [0.56, 1.11]	1.86
	Disability (0 none, 1 disability)	0.62(-0.471)**, [0.48, 0.82]	11.86	0.53(-0.64)***, [0.37, 0.75]	13.08	0.68(-0.39), [0.44, 1.06]	2.89	1.07(0.07), [0.71, 1.63]	0.11
	Pre-existing mental health problems (0 not pre-existing, 1 pre-existing)	-	-	-	-	1.73(0.55)*, [1.09, 2.74]	5.39	1.64(0.50)*, [1.05, 2.58]	4.64
Chi-square ($\chi^2(df)$) Cox-Snell R ²	65.26(5)*** 6.3%		38.62(4)*** 17.2%		22.50(4)*** 4.6%		30.98(6)*** 15.5%		
Block 2 Occupational	PhD mode (0 part-time, 1 fulltime)	0.90(-0.108), [0.68, 1.18]	0.60	1.12(0.11), [0.81, 1.54]	0.47	1.28(0.24), [0.79, 2.05]	1.01	-	-
	Year of PhD study	-	-	1.02(0.02), [0.94, 1.11]	0.24	1.46(0.38)***, [1.27, 1.69]	28.05	1.23(0.21)**, [1.08, 1.41]	9.37
	Full funding (0 self/partial, 1 full)	1.03(0.03), [0.79, 1.35]	0.06	0.75(-0.29)*, [0.59, 0.95]	5.65	1.11(0.10), [0.66, 1.85]	0.15	0.72(-0.32), [0.51, 1.02]	3.35
	Self-funded (0 full/partial, 1 self)	0.58(-0.54)**, [0.42, 0.80]	11.12	-	-	0.61(-0.49), [0.34, 1.10]	2.69	-	-
	Average weekly hours in occupation	0.98(-0.02)***, [0.98, 0.99]	31.93	1.02(0.02)***, [1.01, 1.02]	15.41	0.98(-0.20)**, [0.97, 0.99]	11.05	1.00(-0.00), [0.99, 1.01]	0.00
Chi-square ($\chi^2(df)$) Cox-Snell R ²	Fieldwork (0 none, 1 past/planned) 0.69(-0.27)**, [0.64, 0.92] 8.09	64.77(5)*** 8.8%		- 30.67(4)*** 18.5%	- -	0.69(-0.37)*, [0.48, 0.97] 4.49		0.89(-0.11), [0.65, 1.23] 30.66(4)*** 18.1%	0.49
Block 3 Psychological	Impostor thoughts (CIPS)	1.00(0.00), [0.99, 1.01]	0.25	1.01(0.01), [1.00, 1.02]	2.14	0.99(-0.01), [0.98, 1.01]	0.83	1.01(0.01), [1.00, 1.02]	2.04
	Perfectionism standards (SAPS-S)	0.98(-0.02), [0.95, 1.00]	3.75	1.04(0.03)*, [1.01, 1.06]	5.58	-	-	0.98(-0.02), [0.94, 1.02]	0.88
	Perfectionism discrepancy (SAPS-D)	1.02(0.02), [0.99, 1.05]	3.34	0.99(-0.01), [0.97, 1.02]	0.27	1.02(0.02), [0.97, 1.07]	0.65	1.03(0.03), [0.98, 1.07]	1.43
Chi-square ($\chi^2(df)$) Cox-Snell R ²	10.08(3)* 9.1%		7.60(3) 18.8%		0.70(2) 11.6%		10.03(3)*** 19.0%		
Block 4 Social	Loneliness (UCLA)	1.00(0.00), [0.99, 1.01]	0.01	1.01(0.01), [0.99, 1.01]	1.03	1.02(0.02)*, [1.00, 1.03]	4.00	1.00(-0.00), [0.99, 1.01]	0.05
	Multiple group memberships (MGM)	-	-	1.01(0.01), [1.00, 1.03]	2.15	1.02(0.02), [0.99, 1.06]	2.35	1.01(0.01), [0.98, 1.03]	0.20
Chi-square ($\chi^2(df)$) Cox-Snell R ²	0.04(4) 9.1%		2.75(2) 19.0%		1.04(2) 12.1%		0.07(2) 19.0%		
Block 5 Relational	Supervisory relationship agency (QSDI-A)	0.42(-0.87)*, [0.21, 0.83]	6.23	-	-	0.34(-1.08), [0.09, 1.27]	2.59	0.80(-0.23), [0.24, 2.68]	0.14
	Supervisory relationship communion (QSDI-C)	0.86(-0.16), [0.66, 1.11]	1.35	0.81(-0.21), [0.57, 1.15]	1.36	0.79(-0.23), [0.49, 1.27]	0.93	0.37(-0.99)***, [0.23, 0.59]	17.92
Chi-square ($\chi^2(df)$) Cox-Snell R ²	7.51(2)* 9.4%		1.37(1) 19.0%		3.41(2) 12.4%		19.77(2)*** 20.6%		
Block 6 Attendance behaviours	Past month absence	-	-	-	-	-	-	0.79(-0.24), [0.58, 1.07]	2.28
	Past month presenteeism	-	-	-	-	-	-	0.76(-0.27), [0.53, 1.09]	2.17
	Mental health-related intermission	-	-	-	-	-	-	0.30(-1.20)***, [0.20, 0.46]	32.42
	Chi-square ($\chi^2(df)$) Cox-Snell R ²	- -		- -		- -		43.07(3)*** 24.1%	

	Parameter	Regression model A Past month absence		Regression model B Past month presenteeism		Regression model C Mental health-related intermission		Regression model D Mental health-related attrition intention	
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	Suicidality	1.02(0.02), [0.99, 1.05]	1.83	1.09(0.08)*** , [1.04, 1.13]	17.13	1.04(0.04), [0.98, 1.09]	1.69	1.08(0.08)** , [1.03, 1.14]	10.85
	Chi-square ($\chi^2(df)$) Cox-Snell R ²	92.08(3)*** 3.7%		314.39(3)*** 15.4%		24.54(3)*** 2.4%		130.96(3)*** 12.7%	
Block 1 Demographic	Age	0.98(-0.02)** , [0.97, 0.99]	12.02	1.00(0.00), [0.99, 1.01]	0.01	-	-	1.01(0.01), [0.99, 1.03]	1.73
	Female gender (0 non-female, 1 female)	0.74(-0.34)** , [0.61, 0.90]	9.56	0.69(-0.37)** , [0.55, 0.87]	10.20	-	-	0.87(-0.14), [0.62, 1.23]	0.63
	White ethnicity (0 non-White, 1 White)	1.39(0.33)** , [1.10, 1.76]	7.81	0.81(-0.21), [0.62, 1.06]	2.37	0.90(-0.10), [0.55, 1.48]	0.17	0.58(-0.56)* , [0.37, 0.89]	6.15
	UK citizen (0 non-UK citizen, 1 UK citizen)	1.32(0.28)** , [1.09, 1.61]	8.14	-	-	0.96(-0.04), [0.65, 1.42]	0.05	0.79 (-0.24), [0.56, 1.11]	1.86
	Disability (0 none, 1 disability)	0.62(-0.471)** , [0.48, 0.82]	11.86	0.53(-0.64)*** , [0.37, 0.75]	13.08	0.68(-0.39), [0.44, 1.06]	2.89	1.07(0.07), [0.71, 1.63]	0.11
	Pre-existing mental health problems (0 not pre-existing, 1 pre-existing)	-	-	-	-	1.73(0.55)* , [1.09, 2.74]	5.39	1.64(0.50)* , [1.05, 2.58]	4.64
Chi-square ($\chi^2(df)$) Cox-Snell R ²	65.26(5)*** 6.3%		38.62(4)*** 17.2%		22.50(4)*** 4.6%		30.98(6)*** 15.5%		
Block 2 Occupational	PhD mode (0 part-time, 1 fulltime)	0.90(-0.108), [0.68, 1.18]	0.60	1.12(0.11), [0.81, 1.54]	0.47	1.28(0.24), [0.79, 2.05]	1.01	-	-
	Year of PhD study	-	-	1.02(0.02), [0.94, 1.11]	0.24	1.46(0.38)*** , [1.27, 1.69]	28.05	1.23(0.21)** , [1.08, 1.41]	9.37
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	Self-funded (0 full/partial, 1 self)	0.58(-0.54)** , [0.42, 0.80]	11.12	-	-	0.61(-0.49), [0.34, 1.10]	2.69	-	-
	Average weekly hours in occupation	0.98(-0.02)*** , [0.98, 0.99]	31.93	1.02(0.02)*** , [1.01, 1.02]	15.41	0.98(-0.20)** , [0.97, 0.99]	11.05	1.00(-0.00), [0.99, 1.01]	0.00
	Fieldwork (0 none, 1 past/planned)	0.69(-0.27)** , [0.64, 0.92]	8.09	-	-	0.69(-0.37)* , [0.48, 0.97]	4.49	0.89(-0.11), [0.65, 1.23]	0.49
Chi-square ($\chi^2(df)$) Cox-Snell R ²	64.77(5)*** 8.8%		30.67(4)*** 18.5%		76.32(6)*** 11.6%		30.66(4)*** 18.1%		
Block 3 Psychological	Impostor thoughts (CIPS)	1.00(0.00), [0.99, 1.01]	0.25	1.01(0.01), [1.00, 1.02]	2.14	0.99(-0.01), [0.98, 1.01]	0.83	1.01(0.01), [1.00, 1.02]	2.04
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Chi-square ($\chi^2(df)$) Cox-Snell R ²	10.08(3)* 9.1%		7.60(3) 18.8%		0.70(2) 11.6%		10.03(3)*** 19.0%		
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	Multiple group memberships (MGM)	-	-	1.01(0.01), [1.00, 1.03]	2.15	1.02(0.02), [0.99, 1.06]	2.35	1.01(0.01), [0.98, 1.03]	0.20
Chi-square ($\chi^2(df)$) Cox-Snell R ²	0.01(1) 9.1%		2.75(2) 19.0%		4.94(2) 12.1%		0.37(2) 19.0%		
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	Chi-square ($\chi^2(df)$) Cox-Snell R ²	-	-	-	-	-	-	43.07(3) 24.1%	

What have we learnt so far?

Rates of depression and anxiety elevated amongst doctoral students

Higher than a working professional comparison group

Suicidality also high

Data consistent with elevated doctoral student risk not explained by pre-existing mental health problems

No differences in pre-existing diagnoses or age of onset

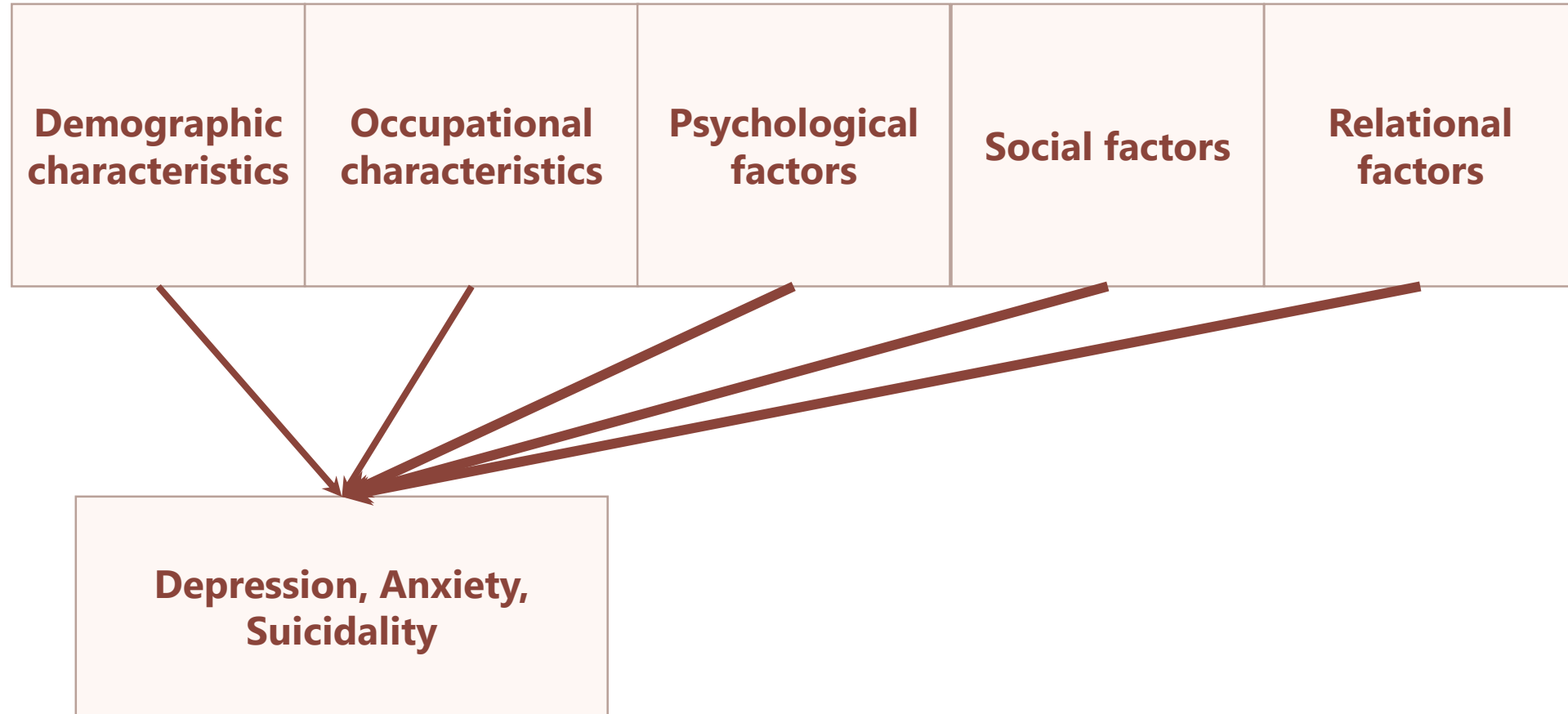
Loneliness strongest predictor across generalised anxiety, depression and suicidality

Impostor thoughts, perfectionistic discrepancy, lack of sense of communion with supervisor also important

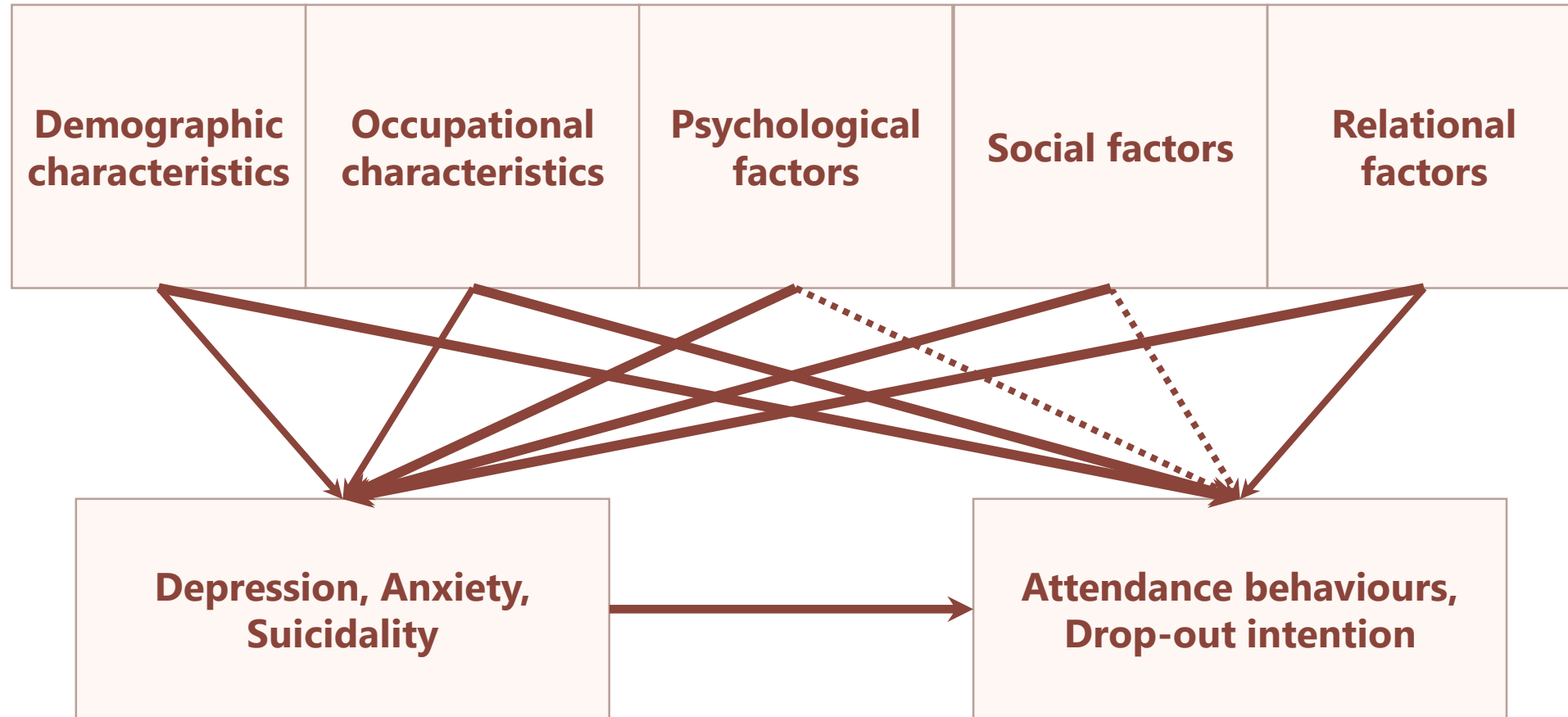
Demographic and occupational characteristics key predictors of functional outcomes

Smaller/less robust independent roles for psychological, social, and relational factors

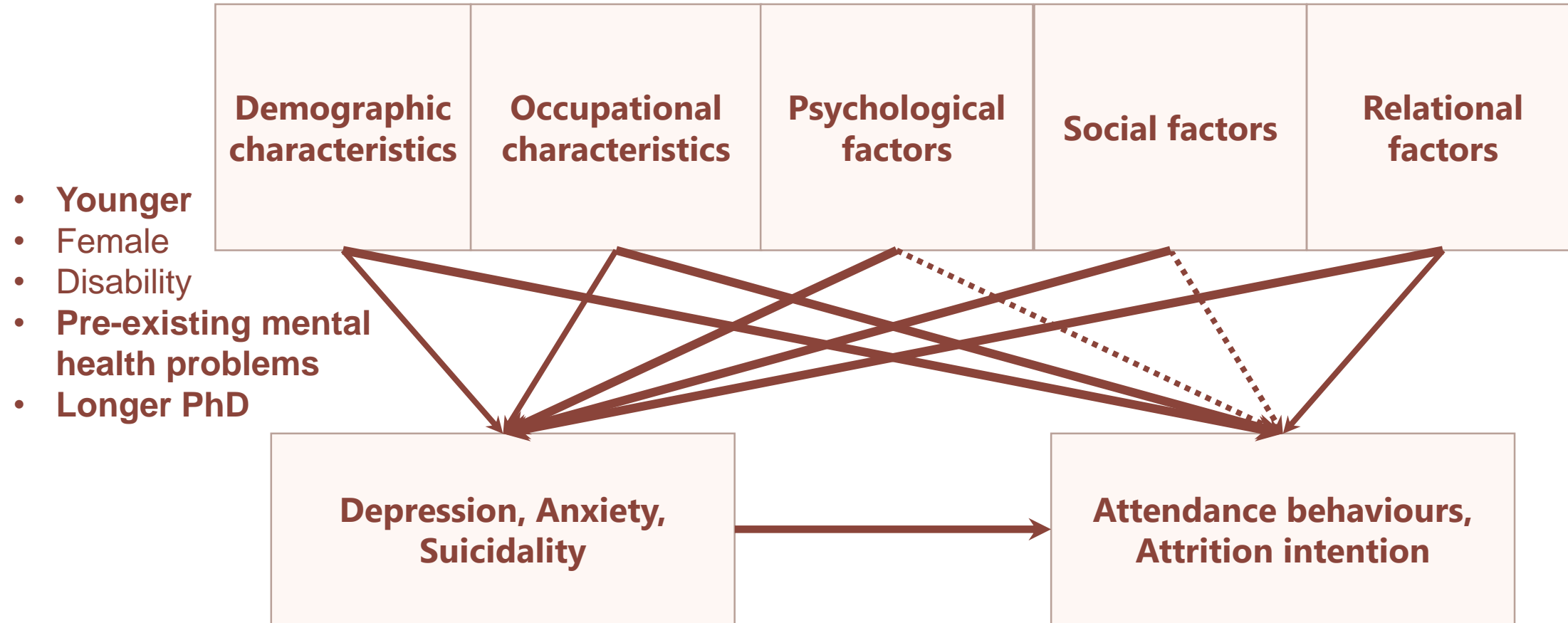
In summary




In summary



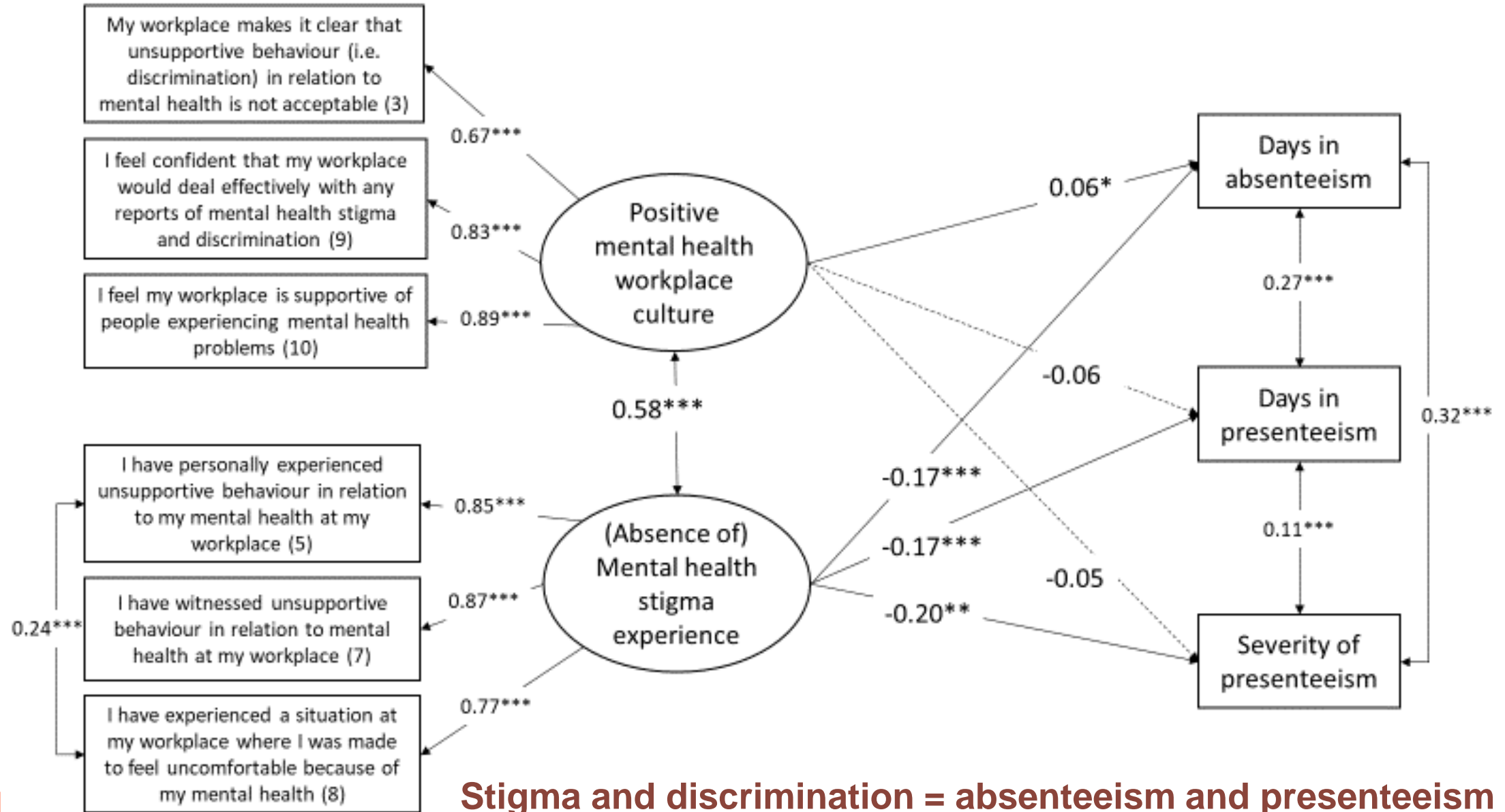
In summary



Reflections

- Epidemiological knowledge remains poor
 - Our sample = self-selecting
 - Our data = cross-sectional/retrospective, 10-20% missing data, pre-COVID
 - 'Crisis' language may not be helpful
 - BUT significant numbers of doctoral students experience clinically-relevant symptoms
 - Data consistent with PhD as a triggering factor
 - BUT people who enter PhD with pre-existing problems distinct and important group
 - AND PhD very often (and should be) positive and transformative!
 - Absenteeism, presenteeism, intermission and attrition intention \neq 'bad'
 - Socio-demographic and PhD characteristics important, but less amendable to change?
 - Psychological, social and relational factors as intervention targets?
- 

Socio-cultural influences



Stigma and discrimination = absenteeism and presenteeism

Where next to go?

STUDIES IN HIGHER EDUCATION
2022, VOL. 47, NO. 9, 1957–1979
<https://doi.org/10.1080/03075079.2021.2020744>

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Interventions, practices and institutional arrangements for supporting PGR mental health and wellbeing: reviewing effectiveness and addressing barriers

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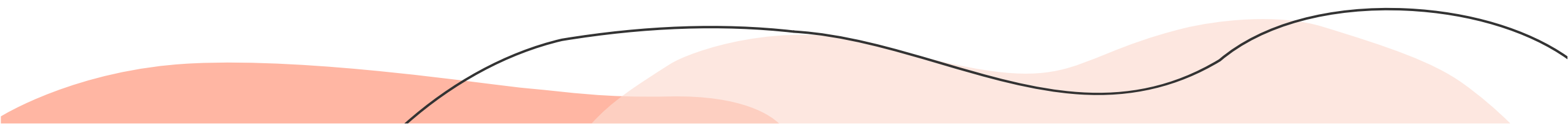
ABSTRACT

A significant, if relatively small, body of literature provides a picture of PGR mental health and wellbeing, and key factors influencing this. However, little has been written on interventions, practices and changes to institutional support for PGRs, how these impact on wellbeing, and what factors influence their success. This paper summarises and synthesises research that has evaluated interventions or institutional changes aimed at supporting PGR mental health and wellbeing. A rapid systematic review methodology identified 21 papers, which evaluated interventions or practices to support PGR wellbeing, gathering data from 1066 students, 33 staff members (mainly supervisors) and 11 recent graduates. The papers included were diverse but limited and therefore did not offer strong evidence for the effectiveness of specific approaches. However, they provided valuable insight, which we conceptualise in a model of approaches to enhancing PGR wellbeing before exploring barriers to implementation of interventions, and recommendations for research, policy and practice.

KEYWORDS

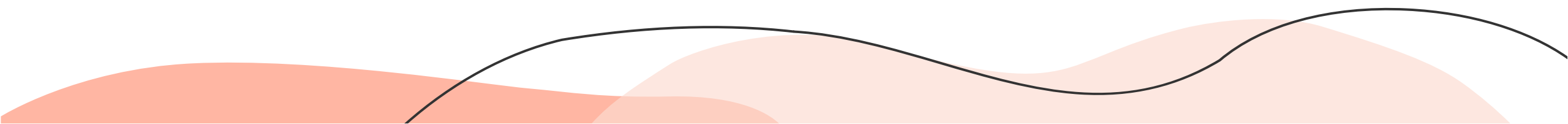
Mental health; wellbeing; PGR; practice/s; intervention; barriers

Where next to go?

- Interventions
 - Limited knowledge on accessibility, efficacy and effectiveness
 - 'Standard' university (and external) mental health/problem interventions
 - Indicated areas of focus
 - **Perfectionist discrepancy and impostor thoughts** E.g. coaching impacts on confidence? (Watson & Turnpenny, 2022)
 - **Loneliness** E.g. formalised training to create sense of community, group doctoral supervision, self-initiated community? (Watson & Turnpenny, 2022)
 - **Relational** E.g. model of aligning supervisory style with doctoral student need and encouraging reflexive discussion, gratitude practice? (Watson & Turnpenny, 2022)
- 

Where next to go?

- Research
 - How to understand and improve supervisory agency and communion?
 - What factors impact on these relational qualities? How the qualities work together and interact?
 - How to best help supervisors improve practice, and engage them in this process?
 - How to reduce loneliness?
 - Especially post-pandemic related occupational changes
 - What about hopefulness?
 - What impact does hopefulness (self-agency and pathways thinking) have on doctoral student mental health/problems?
 - What value might there be in (contextually-sensitive) hopefulness intervention?



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 - What value might there be in (contextually-sensitive) hopefulness intervention?

U-DOC

- Doctoral students with mental health problems - perspectives on accessibility of university support services
- Correlates and qualitative experiences of perfectionism and impostor thoughts, loneliness, supervisory agency and communion



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U-DOC PGR Panel: Justin Crow, Rebecca Teague, Joshua Moon, Lina Skora, Yasser Kosbar, Marie Tuley

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Thank you for listening!!



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