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Exploring the causes of mental health problems experienced by medical undergraduates in the United Kingdom: a realist review

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Background

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- Medical students have higher rates of mental health conditions compared to the general population[1]
- In a recent worldwide meta-analysis[2]:
  - Depressive symptoms: 27.2%
  - Suicidal ideation 11.1%
  - Other MH conditions also prevalent
- Important consequences on wellbeing, future careers, and workforce
- Current research has largely focused on describing the scale of the issue, but not explaining reasoning why

Study Rationale and Questions

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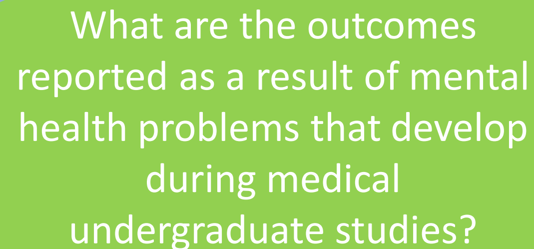
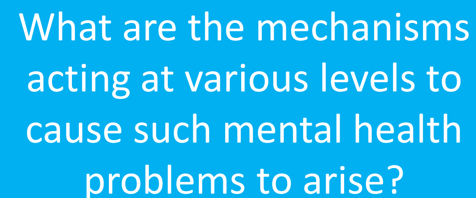
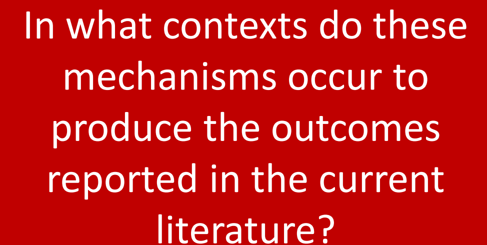
- MH has been recognised as a key area by GMC[3]
- Medical education in the UK has idiosyncratic factors that need to be considered – e.g. dual entry pathways, FPAS, etc.
- Realist analysis allows an approach that considers the underlying mechanisms behind the outcomes previously reports
- Our study therefore used a realist approach, with the following research questions:







What is a Realist review?

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Aims to delineate *'what works, how, for whom and in what circumstances'*

'social reality cannot be measured directly, but can be understood through careful and systematic investigation of underlying causal mechanisms, the contexts in which events occur, and the outcomes produced'[4]

5 Simple (!) Steps to Realist Review

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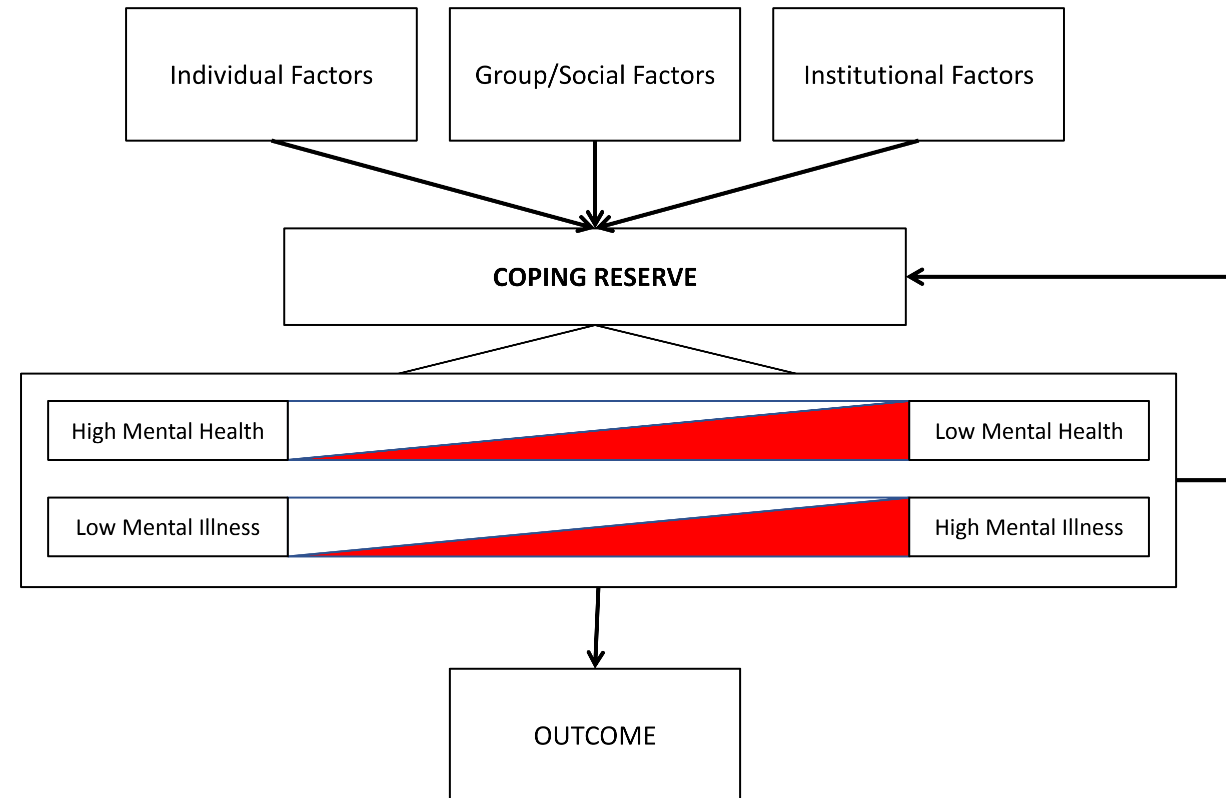
1. Identify the review question
2. Search the available literature
3. Study selection / ‘Quality Appraisal’
4. Extracting and organising data
5. Synthesise the data

1. Identify the review question

- Scoping of literature + existing theories
- IPT developed based on:
  - GMC mental health document[3]
  - Dunn et al.'s 'Coping Reserve'
  - Dual axis model of mental health
- Stakeholder opinions also sought on what factors are important to them



2. Search the available literature

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- Comprehensive search developed in collaboration with an information specialist to find possible studies from three databases of interest (Medline, EMBASE, and PsycInfo)

9 of 30 lines completed

EMBASE PCPH MH Medical Students

Permanent

1	exp *medical student/	00:01
2	exp *education, medical, undergraduate/	00:01
3	((medic$ or clinical or physician$ or doctor$ or preclinical) adj3 (student$ or undergraduate$ or trainee$)).tw.	00:04
4	1 or 2 or 3	00:01
5	exp United Kingdom/	00:01
6	("united kingdom" or UK or "great britain" or british or england or ireland or wales or scotland or english or irish or welsh or scottish or "national health service" or NHS).tw.	00:01
7	5 or 6	00:01
8	4 and 7	00:01
9	exp mental disease/	00:01
10	((mental or psychiatric) adj3 (health or disorder$ or illness$)).tw.	00:01
11	(suicid$ or self-harm or (self adj3 (harm or injur$))).tw.	

3. Study selection

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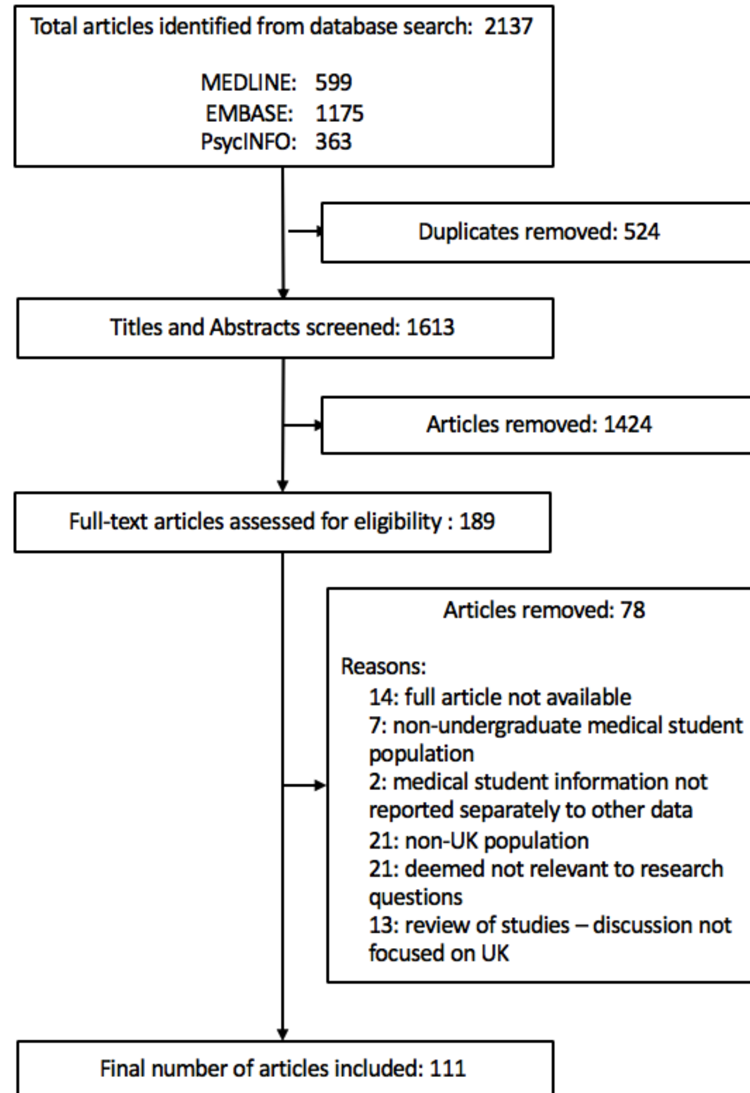
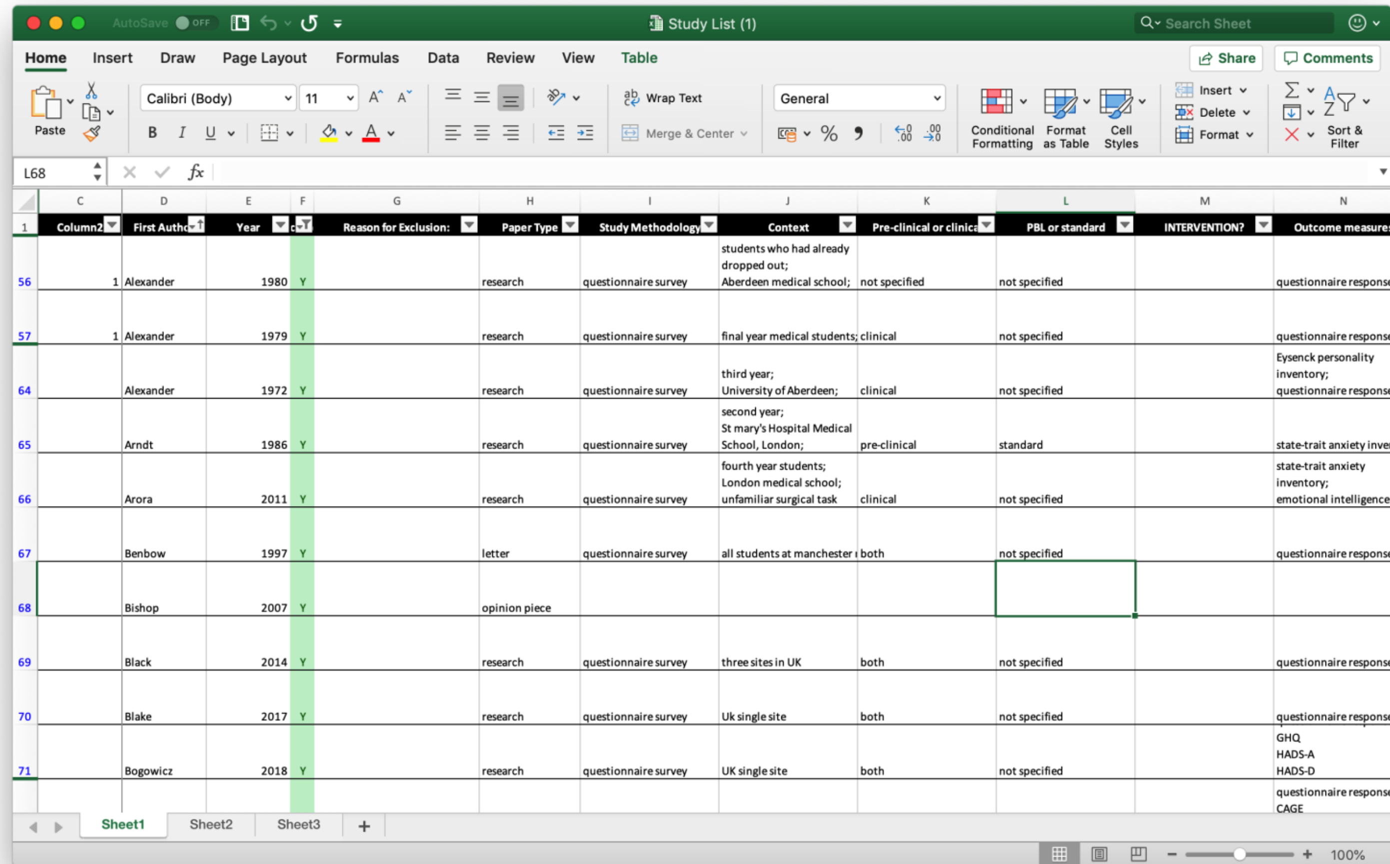
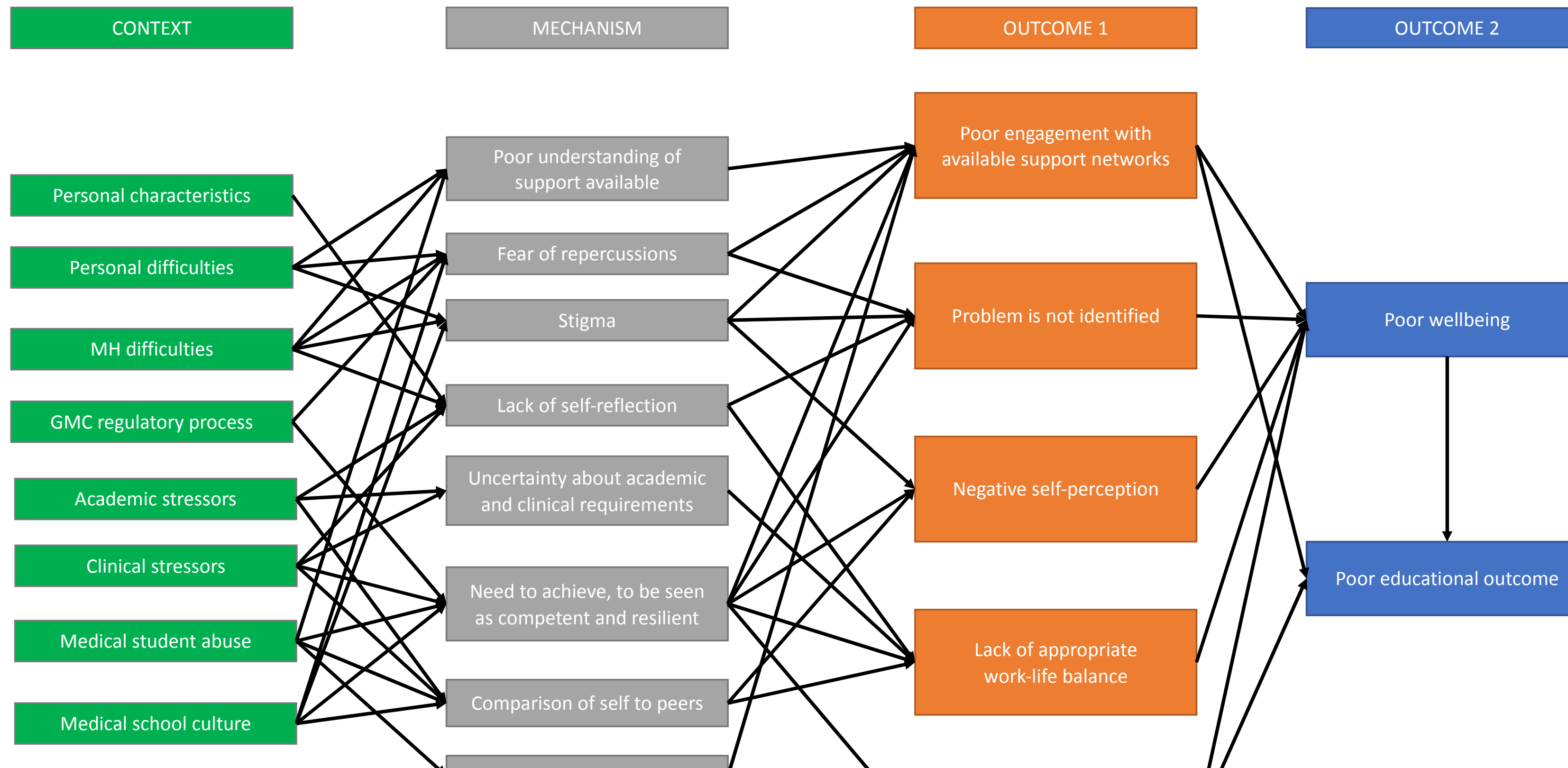


4. Extracting and organising data



	Column2	First Author	Year		Reason for Exclusion:	Paper Type	Study Methodology	Context	Pre-clinical or clinical	PBL or standard	INTERVENTION?	Outcome measures
56	1	Alexander	1980	Y		research	questionnaire survey	students who had already dropped out; Aberdeen medical school;	not specified	not specified		questionnaire response
57	1	Alexander	1979	Y		research	questionnaire survey	final year medical students;	clinical	not specified		questionnaire response
64		Alexander	1972	Y		research	questionnaire survey	third year; University of Aberdeen;	clinical	not specified		Eysenck personality inventory; questionnaire response
65		Arndt	1986	Y		research	questionnaire survey	second year; St mary's Hospital Medical School, London;	pre-clinical	standard		state-trait anxiety inver
66		Arora	2011	Y		research	questionnaire survey	fourth year students; London medical school; unfamiliar surgical task	clinical	not specified		state-trait anxiety inventory; emotional intelligence
67		Benbow	1997	Y		letter	questionnaire survey	all students at manchester	both	not specified		questionnaire response
68		Bishop	2007	Y		opinion piece						
69		Black	2014	Y		research	questionnaire survey	three sites in UK	both	not specified		questionnaire response
70		Blake	2017	Y		research	questionnaire survey	Uk single site	both	not specified		questionnaire response
71		Bogowicz	2018	Y		research	questionnaire survey	UK single site	both	not specified		GHQ HADS-A HADS-D
												questionnaire response CAGE

5. Synthesise the Data



Solution: limit scope of initial review, aim to explore each intermediate outcome in future work…

Outcome 1: Poor engagement with support networks

Exemplar: students fear repercussions and sanctions (M) due to the current GMC regulatory process (C) (?misunderstanding), which results in poor engagement with support networks within the medical school (O)

Context	Mechanism	Outcome
Personal difficulties	Poor understanding of support available	Poor engagement with support networks
MH difficulties	Fear of repercussions	
Medical student abuse	Stigma	
Medical school culture	Need to achieve and be seen as competent	
Clinical and academic stressors	Inadequate support	
GMC regulatory process		

Outcome 2: Problem is not identified

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Exemplar: students experiencing a high academic burden of responsibility (C) may lack the ‘mental space’ to process and reflect on their issues (M), resulting in difficulties being identified late or not at all (O)

Context	Mechanism	Outcome
Personal difficulties	Fear of repercussions	Problem is not identified
MH difficulties	Stigma	
Clinical and academic stressors	Lack of self-reflection	
GMC regulatory process	Need to be seen as competent	

Outcome 3: Negative self-perception

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Exemplar: a culture of medical student abuse and ward ‘pimping’ (C) constantly challenges a student’s desire to be seen as competent and resilient (M), which in turn may fuel negative self-perception (O)

Context	Mechanism	Outcome
Personal difficulties	Stigma	Negative self-perception
MH difficulties	Need to achieve, to be seen as competent and resilient	
Medical student abuse	Comparison of self to peers	
Medical school culture		
Clinical and academic stressors		
GMC regulatory process		

Outcome 4: inappropriate work-life balance

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Exemplar: an unclear or 'hidden' curriculum (C) leads to uncertainty over exactly what knowledge is required to pass examinations (M); as a result students commonly overwork themselves and neglect an appropriate balance (O)

Context	Mechanism	Outcome
Personal difficulties	Lack of self-reflection	Inappropriate work-life balance
MH difficulties	Uncertainty over clinical/academic requirements	
Medical student abuse	Need to achieve, to be seen as competent and resilient	
Medical school culture	Comparison of self to peers	
Clinical and academic stressors		
GMC regulatory process		

Outcome 5: maladaptive coping mechanisms

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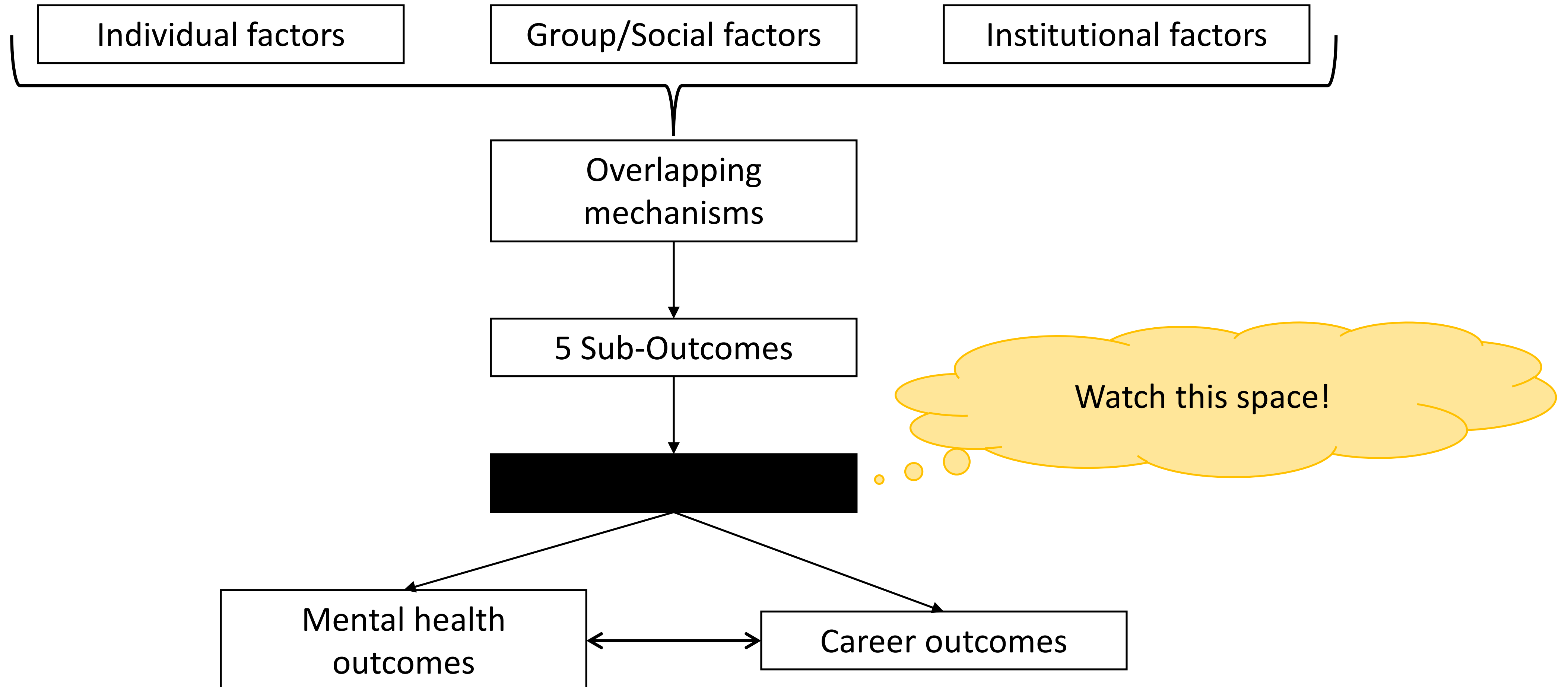
Exemplar: a student culture which is seen to endorse excessive drinking (C) can normalise this behaviour (M), leaving vulnerable individuals to use alcohol as a coping mechanism at times of anxiety and stress (O)

Context	Mechanism	Outcome
Personal characteristics	Need to achieve and be seen as competent	Maladaptive coping mechanisms
Medical student abuse	Inadequate support	
Medical school culture	Comparison of self to peers	
Clinical and academic stressors		
GMC regulatory process		

Final Programme Theory



Limitations and Conclusions

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Limitations

- Combinations of several contextual and mechanistic factors are at play; difficult to illustrate this fully – but acts as a starting point
- Single author screening and appraisal
- Limited by current literature: e.g. negative viewpoint

Conclusions

- Identified 5 sub-outcomes related to MH in the medical student population and defined CMO configurations for these
- Further work needs to determine which factors are necessary/sufficient and which are most appropriate targets for intervention

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References:

1. Hope, V. & Henderson, M. Medical student depression, anxiety and distress outside North America: a systematic review. *Med. Educ.* **48,** 963–979 (2014).
2. Rotenstein, L. S. *et al.* Prevalence of Depression, Depressive Symptoms, and Suicidal Ideation Among Medical Students. *JAMA* **316,** 2214 (2016).
3. General Medical Council. *Supporting medical students with mental health conditions*. (2015).
4. Cooper, Christina et al. “Protocol for a realist review of complex interventions to prevent adolescents from engaging in multiple risk behaviours” *BMJ open* vol. 7,9 e015477. 21 Sep. 2017, doi:10.1136/bmjopen-2016-015477