



## MUHAMAD SAIFUL BAHRI YUSOFF

Director, Center for Development of Academic Excellence (CDAE),  
Assoc. Prof, Department of Medical Education, School of Medical  
Sciences, Universiti Sains Malaysia, email: [msaiful\\_bahri@usm.my](mailto:msaiful_bahri@usm.my).

# How to Promote **RESILIENCE?**

Visiting Medical Education Scholar Webinar | Faculty of Medicine, Mahidol University

# TODAY'S FOCUS

#1

RESILIENCE  
CONCEPTS

#2

RESILIENCE  
INDICATORS

#3

RESILIENCE  
DRIVERS

#4

RESILIENCE  
STRATEGIES



**Brittle** describes something that is fragile and prone to breaking

**Anxious** reflects a state of worry or unease

**Non-linear** refers to processes that do not follow a straightforward path

**Incomprehensible** indicates something that is difficult to understand

Embracing these forces, medical education can prepare future healthcare professionals for a transformative future

**BRITTLE** ↔ **RESILIENCE**

**ANXIOUS** ↔ **WELL-BEING**

**NON-LINEAR** ↔ **FORESIGHT**

**INCOMPREHENSIBLE** ↔ **ACCESSIBLE**

# The Evolution of Resilience Concepts

## 1<sup>st</sup> Wave

Resilience is seen as  
**a stable trait**

A consistent characteristic,  
demonstrated through  
repeated observations of  
positive accomplishments in  
individuals identified as  
"survivors," "stress-  
resistant," or "resilient."



## 2<sup>nd</sup> Wave

Resilience is seen as  
**a dynamic process**

Resilience development  
through the process of  
coping with adversities that  
results in a better outcome.



## 3<sup>rd</sup> Wave

Resilience is seen as  
**multiple dynamic  
processes that shape  
resilience development**

Identification of the **forces that  
drive individuals to resilience  
reintegration.**

SPECIAL  
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## Evolution of Resilience Construct, Its Distinction with Hardiness, Mental Toughness, Work Engagement and Grit, and Implications to Future Healthcare Research

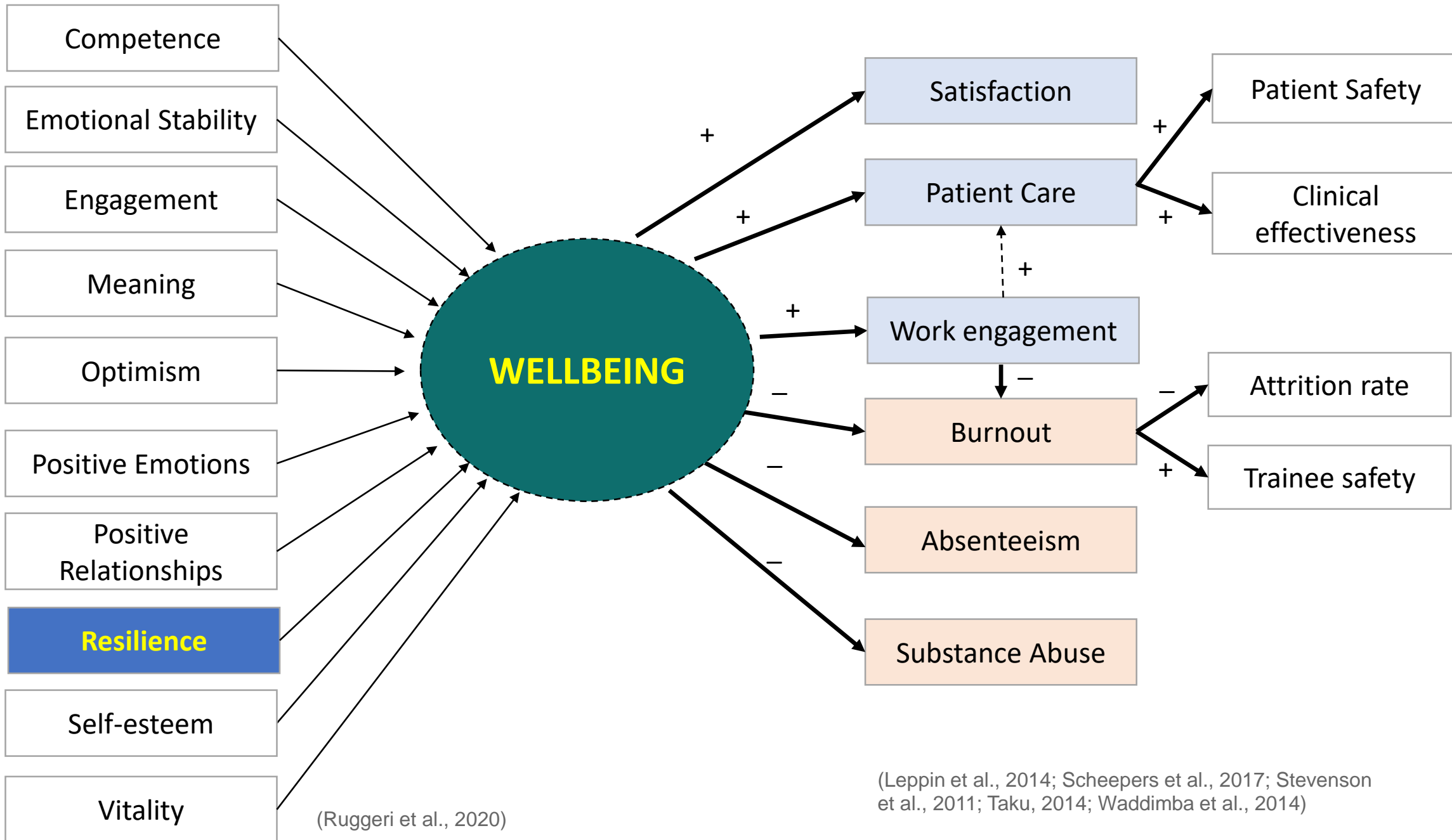
Nurhanis Syazni Roslan<sup>1</sup>, Muhamad Saiful Bahri Yusoff<sup>1</sup>, Karen Morgan<sup>2,3</sup>, Asrenee Ab Razak<sup>4,5</sup>, Nor Izzah Ahmad Shauki<sup>6</sup>

<sup>1</sup>*Department of Medical Education, School of Medical Sciences, Universiti Sains Malaysia, Kelantan, MALAYSIA*

**Figure 1:** Relationship between resilience and related concepts.

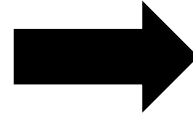
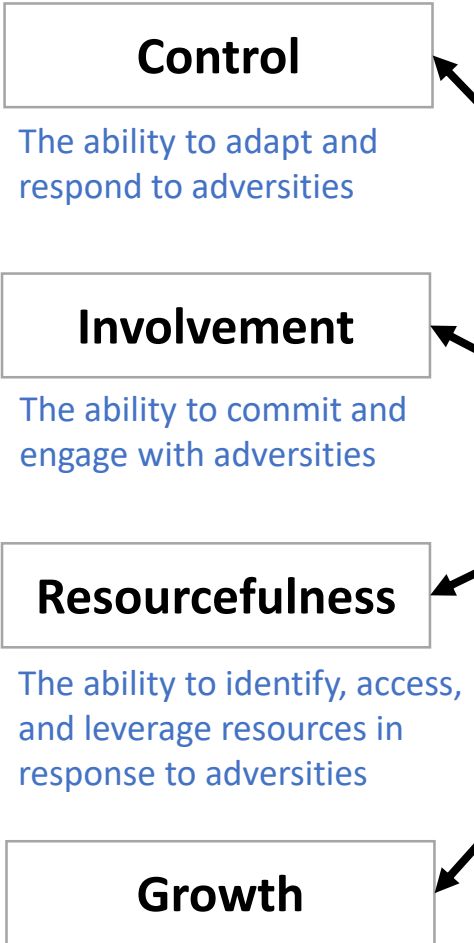
Note: <sup>a</sup>(44–45); <sup>b</sup>(46–47, 50); <sup>c</sup>(52, 55); <sup>d</sup>(43, 56, 59–60).

# 10 Indicators of Wellbeing

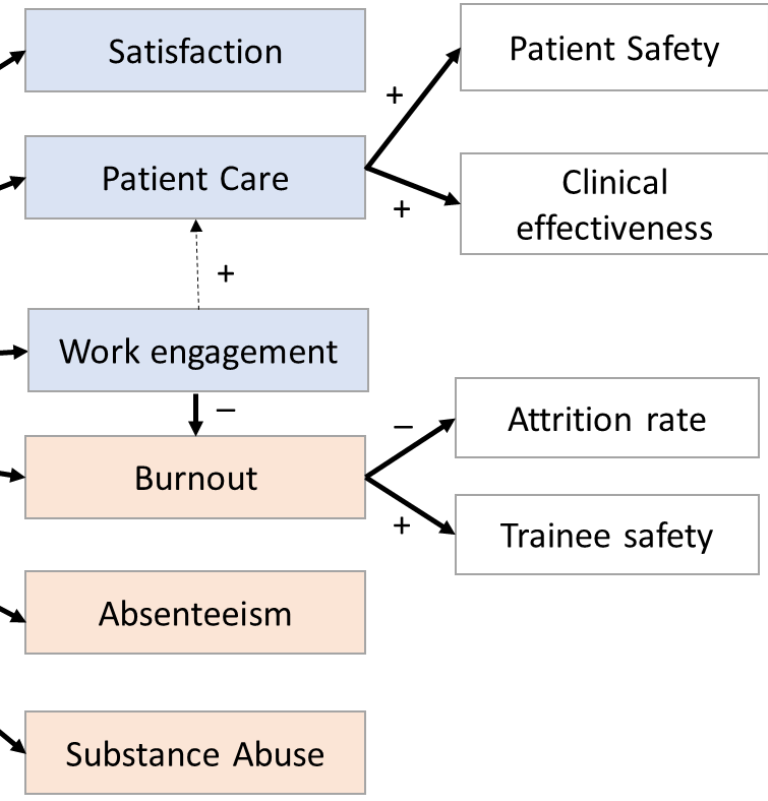


(Leppin et al., 2014; Scheepers et al., 2017; Stevenson et al., 2011; Taku, 2014; Waddimba et al., 2014)

**Resilience** refers to the ability to bounce back/ recover from adversities and grow stronger



(Ruggeri et al., 2020)

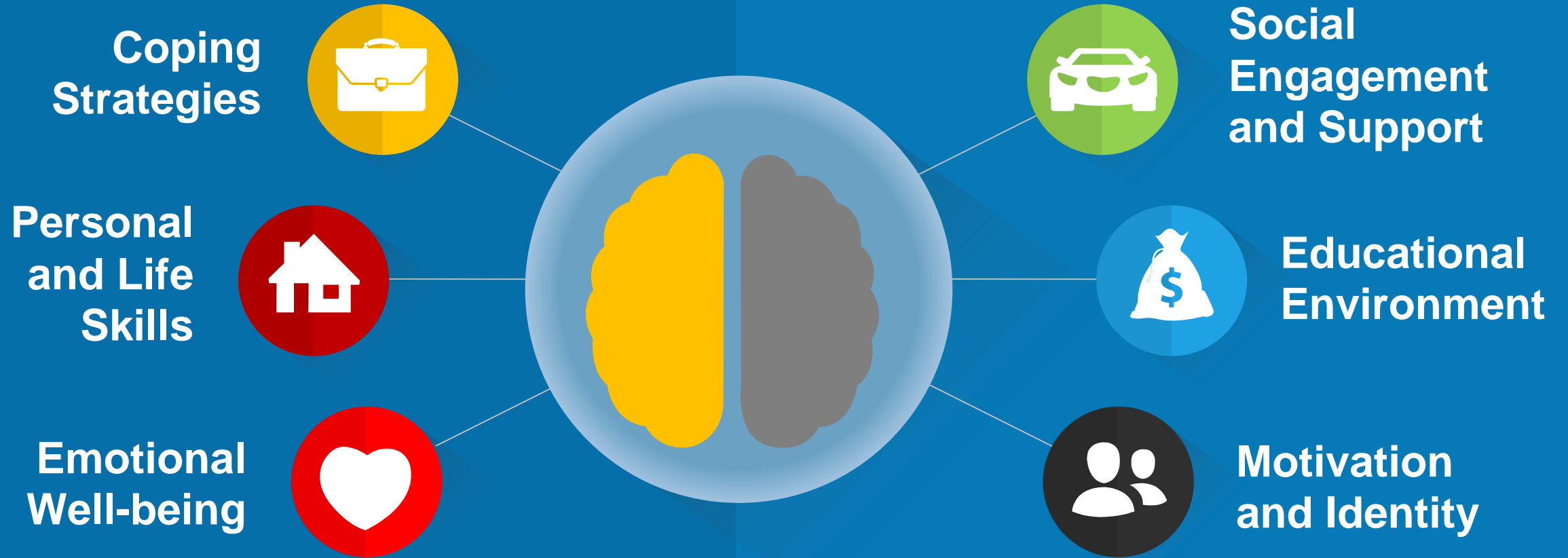


(Leppin et al., 2014; Scheepers et al., 2017; Stevenson et al., 2011; Taku, 2014; Waddimba et al., 2014)

(Wadi et al, 2020, Rahman et al, 2021)



# Six Contributing Factors to Resilience



(Yusoff, 2017)



# Coping Strategies

## Increased Resilience

Flexibility & involvement  
(Neumann et al., 1990)

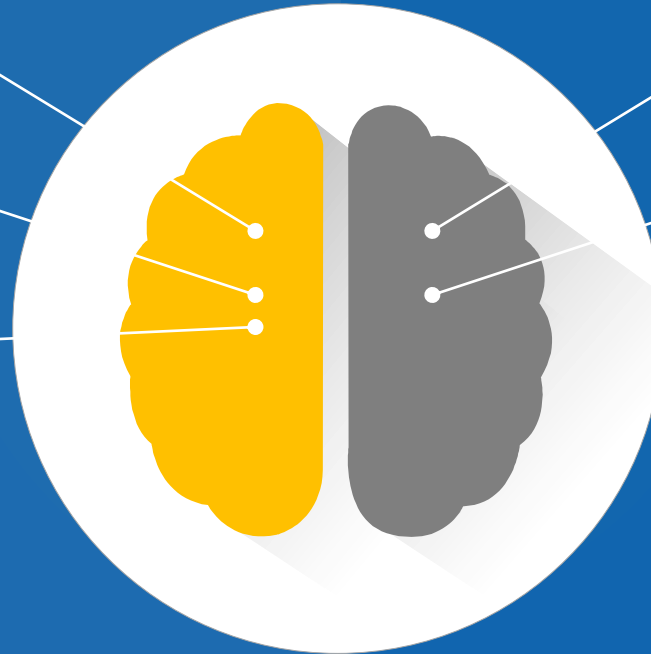
Positive attitude & feeling  
toward challenges (Cazan, 2015)

Task-oriented coping  
(Watson et al., 2008)

## Reduced Resilience

Emotion-oriented coping  
(Watson et al., 2008)

Avoidance coping (Gibbons, 2010)





# Personal and Life Skills

## Increased Resilience

**Self-efficacy** (Neumann, 1990; Yang, 2004; Gibbons, 2004; Yang et al., 2005, Cazan, 2015)

**Commitment & compassion** (Neumann, 1990; Kyeong, 2013)

**Positive life events** (Dyrbye et al., 2009, 2010; Capri et al., 2012)

**Dispositional control, self-esteem & self-oriented perfectionism** (Gibbons, 2010; Skodova, 2013; Chang et al, 2015)



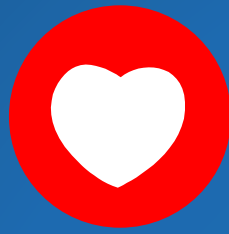
## Reduced Resilience

**Negative life events** (Dyrbye et al., 2006; Dyrbye et al, 2009)

**Intention to leave the course or profession** (Dyrbye et al., 2009; Moneta, 2011)

**Lack of confidence in skills** (Chang et al., 2015)

**Negative self-judgment – being harsh to self in time of suffering** (Beaumont, 2016)



# Emotional Well-being

## Increased Resilience

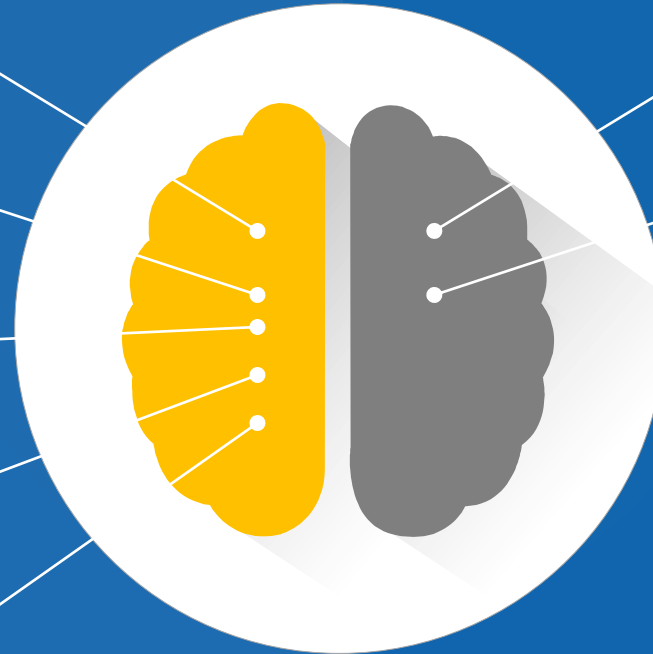
Psychological wellbeing - less stress (Dyrbye et al., 2010; Kyeong, 2013)

Less fatigue (Dyrbye et al., 2010)

Emotional intelligence (Cazan, 2015)

Vacation days (Howard-Hamilton et al., 1998)

High sleep quality (Rella et al., 2008)



## Reduced Resilience

Low motivation to learning (Tukaev et al., 2013)

Unfavorable stress (Watson et al., 2008)



# Social Engagement and Support

## Increased Resilience

- Support uplifts (Gibbon, 2010)
- Social support (Dyrbye et al., 2010; Yeang, 2004; Yang & Farn, 2005)
- Engage with social activities (Fares et al., 2016)
- Music-related activities (Fares et al., 2016)
- Femininity – sex-role socialization (Atalayin et al., 2015)



## Reduced Resilience

- Lack of social integration & competence (Pohlmann et al., 2005)
- In an unhealthy relationship (Fares et al., 2016)
- Living with relative (Fares et al., 2016)
- Socially prescribed perfectionism (Chang et al., 2015)
- Living away from family (Atalayin et al., 2015)



# Educational Environment

## Increased Resilience

Psychological need satisfaction  
– autonomy, competence &  
relatedness (Sulea et al., 2015)

Academic satisfaction  
(Atalayin et al., 2015)

Positive learning climate  
(Dyrbye et al., 2009)



## Reduced Resilience

High course load (Yang,  
2004; Pohlmann, 2005)

Hospital ward rotation, overnight  
call & placement hassles (Dyrbye et  
al., 2009; Gibbons, 2010)

Excessive workload (Atalayin et al.,  
2015; Pohlmann, 2005)

Dissatisfaction with learning  
support (Dyrbye et al., 2009; Chang  
et al., 2015)

Course organization, teaching &  
learning hassles (Gibbons, 2010)



# Motivation and Identity

## Increased Resilience

Intrinsic motivation (Pisarik, 2009)

Need for achievement  
(Moneta, 2011)

Learning motivation (Cazan, 2015)



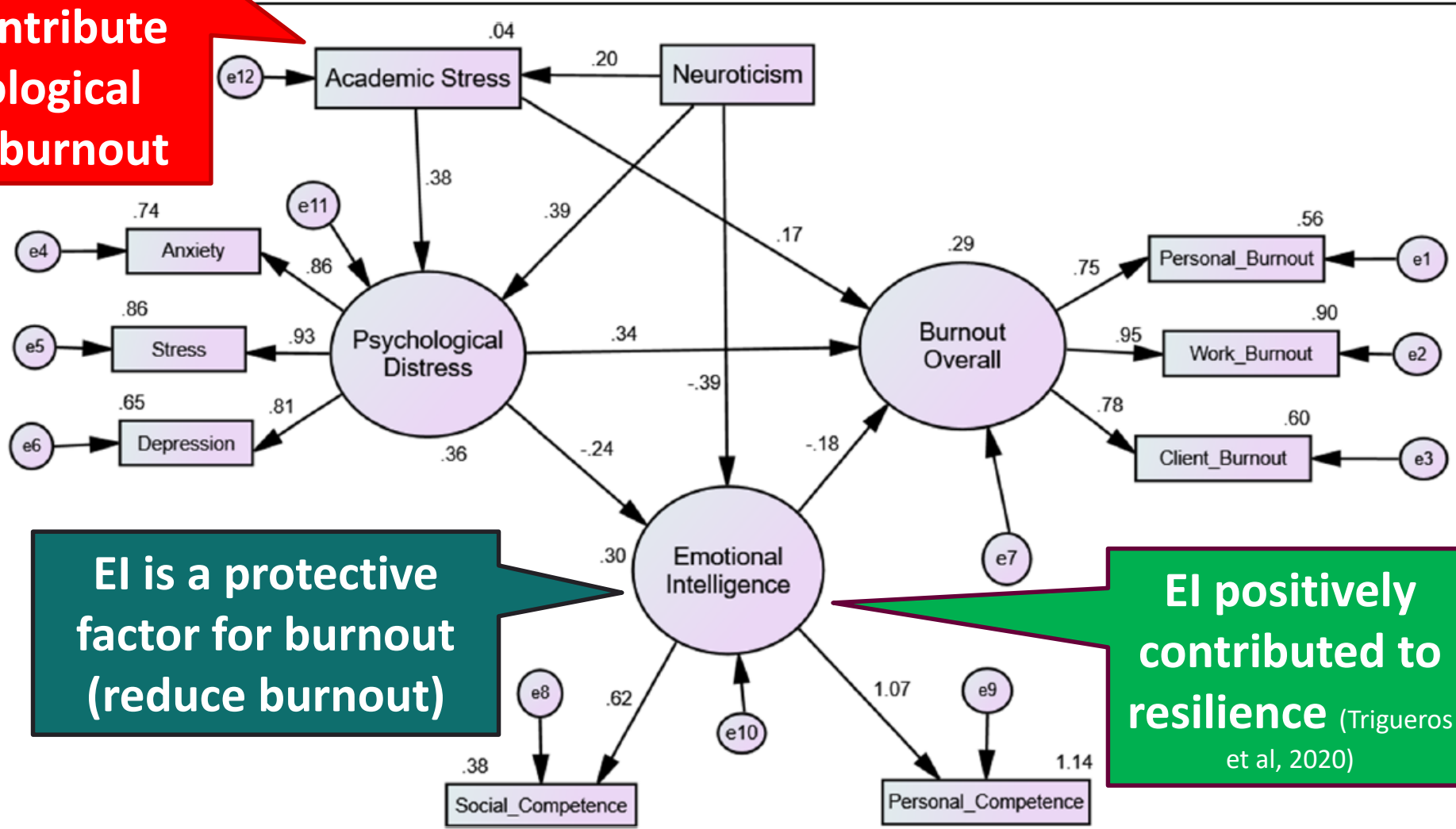
## Reduced Resilience

Amotivation & external  
regulation (Pisarik, 2009)

Extrinsic motivation  
(Chang et al., 2015)

The choice of a specialty with  
a high income (Enoch et al., 2013)

**Academic stress directly contribute to psychological distress & burnout**



**EI is a protective factor for burnout (reduce burnout)**

**EI positively contributed to resilience** (Trigueros et al, 2020)

**Fig. 2** Structural equation modelling (standardised estimates) for the mediating effects of academic stress, neuroticism, and emotional intelligence on the psychological distress-burnout relationship. (*e* = error; the decimal value estimates contribution of an item to the construct's variance)



Article

# The Influence of Emotional Intelligence on Resilience, Test Anxiety, Academic Stress and the Mediterranean Diet. A Study with University Students

Rubén Trigueros <sup>1</sup>, Ana M. Padilla <sup>2</sup>, José M. Aguilar-Parra <sup>3,\*</sup>, Patricia Rocamora <sup>4,\*</sup>,  
María J. Morales-Gázquez <sup>5</sup> and Remedios López-Liria <sup>4</sup>

<sup>1</sup> Department of Language and Education, University of Antonio de Nebrija, 28015 Madrid, Spain; rtrigueros@nebrija.es

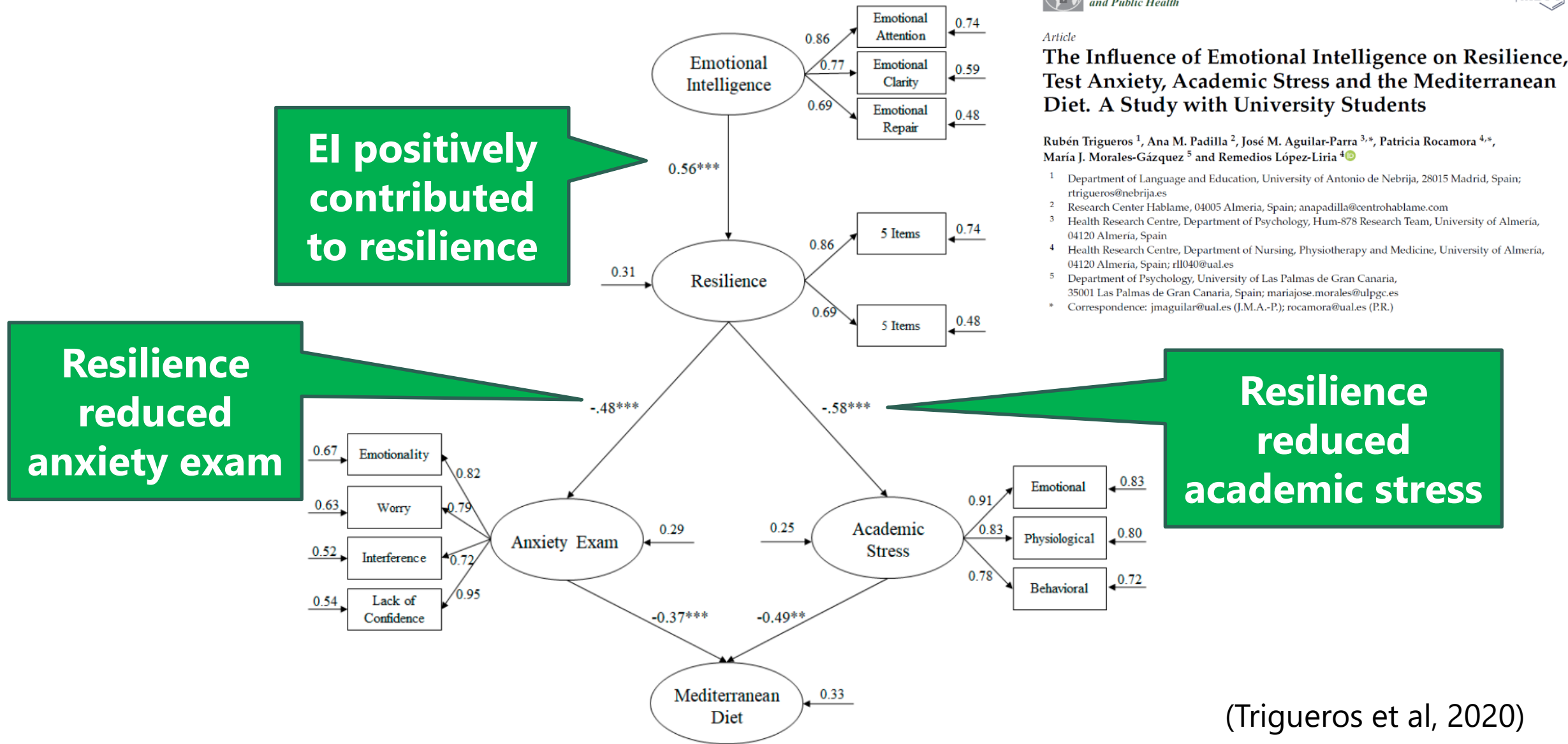
<sup>2</sup> Research Center Hablame, 04005 Almería, Spain; anapadilla@centrohablame.com

<sup>3</sup> Health Research Centre, Department of Psychology, Hum-878 Research Team, University of Almería, 04120 Almería, Spain

<sup>4</sup> Health Research Centre, Department of Nursing, Physiotherapy and Medicine, University of Almería, 04120 Almería, Spain; rl1040@ual.es

<sup>5</sup> Department of Psychology, University of Las Palmas de Gran Canaria, 35001 Las Palmas de Gran Canaria, Spain; mariajose.morales@ulpgc.es

\* Correspondence: jmaguilar@ual.es (J.M.A.-P.); rocamora@ual.es (P.R.)



(Trigueros et al, 2020)

**Figure 3.** Relationship between variables through a structural equation model (SEM). All the relationships are significant, showing the variance on the small arrows. Note: \*\*\*  $p < 0.001$ ; \*\*  $p < 0.01$ .

**Resilience** refers to the ability to bounce back/ recover from adversities and grow stronger

**Control**

The ability to adapt and respond to adversities

**Involvement**

The ability to commit and engage with adversities

**Resourcefulness**

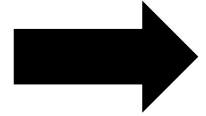
The ability to identify, access, and leverage resources in response to adversities

**Growth**

The ability to take adversities as opportunities for self-development and learning



**Six Contributing factors**



(Ruggeri et al., 2020)



Satisfaction

Patient Care

Work engagement

Burnout

Absenteeism

Substance Abuse

Patient Safety

Clinical effectiveness

Attrition rate

Trainee safety

**WHAT STRATEGIES TO PROMOTE RESILIENCE?**

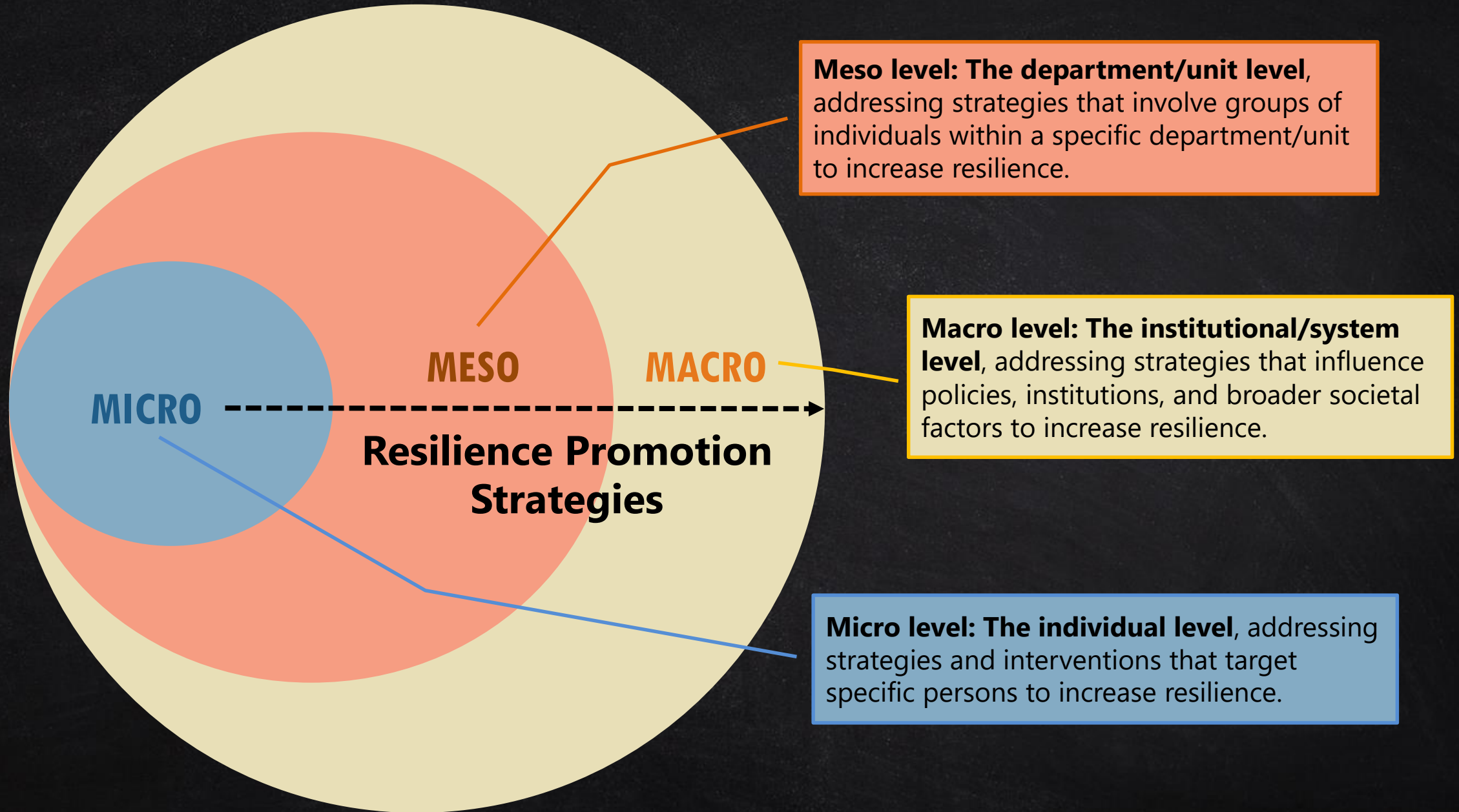
(Leppin et al., 2014; Scheepers et al., 2017; Stevenson et al., 2011; Taku, 2014; Waddimba et al., 2014)

(Wadi et al, 2020)

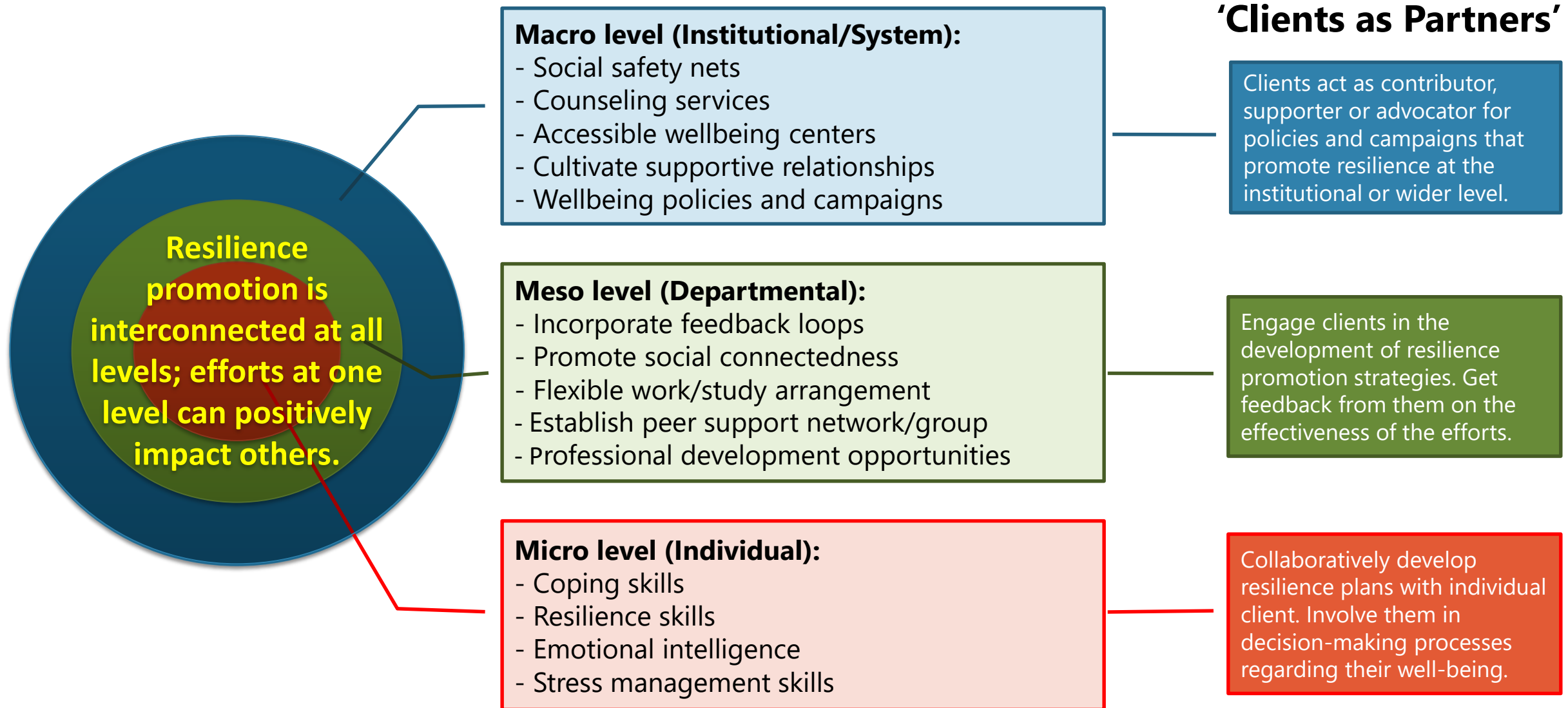
The benefits of **any strategies for wellbeing** could be enhanced by adoption of organization-directed approaches due to **wellbeing is an effort of the whole organization, rather than individuals.**

(Panagioti et al., 2017; Henning et al., 2018; Yusoff, 2023)





# A Resilience Promotion Strategy Framework



# Implications on Medical Education Facets

**01** Curriculum Design & Development



**Assessment & Test Development**

**02**



**03** Teaching & Learning



**Faculty Development**

**04**



**05** Ethics & Professionalism



**Teacher & Student Wellbeing**

**06**



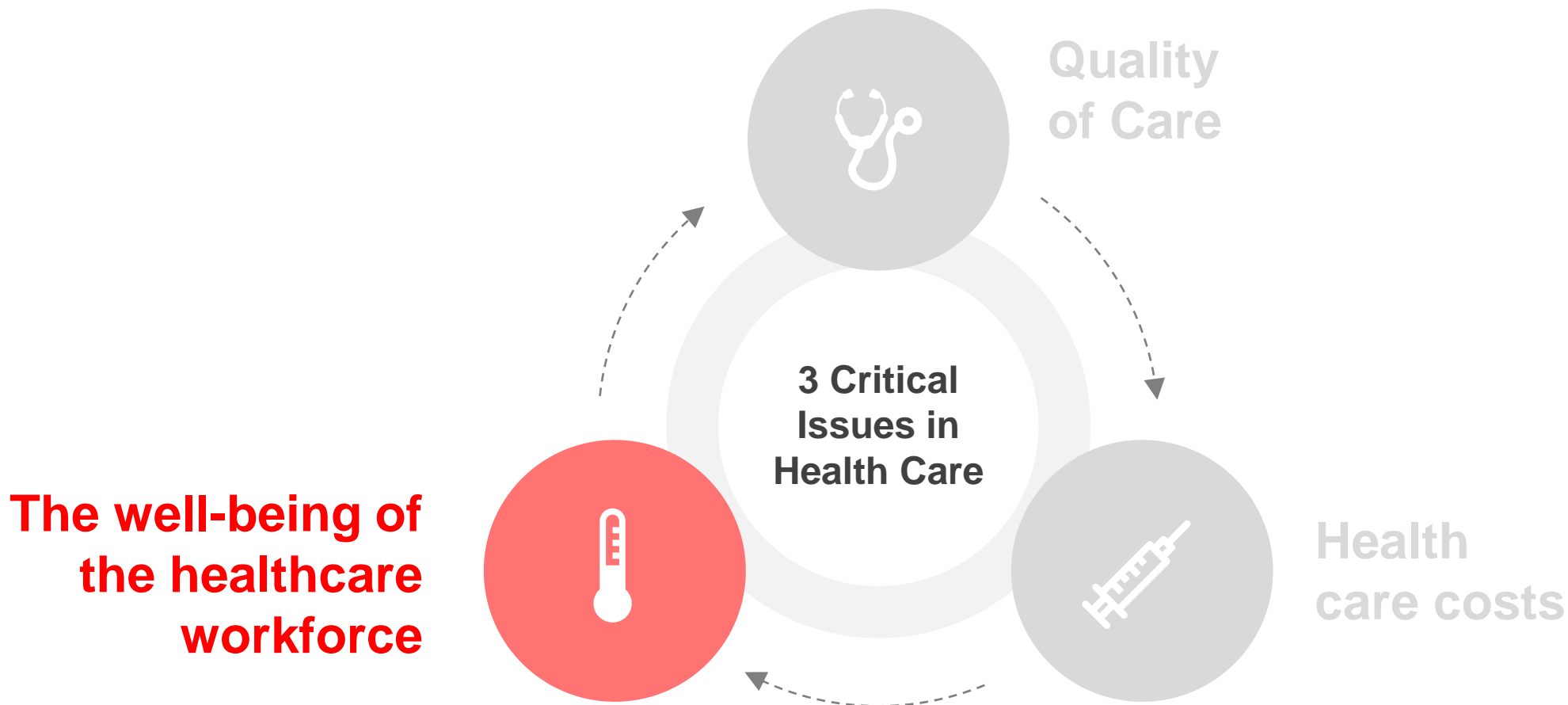
**07** Quality Assurance



# Implications on Medical Education Facets

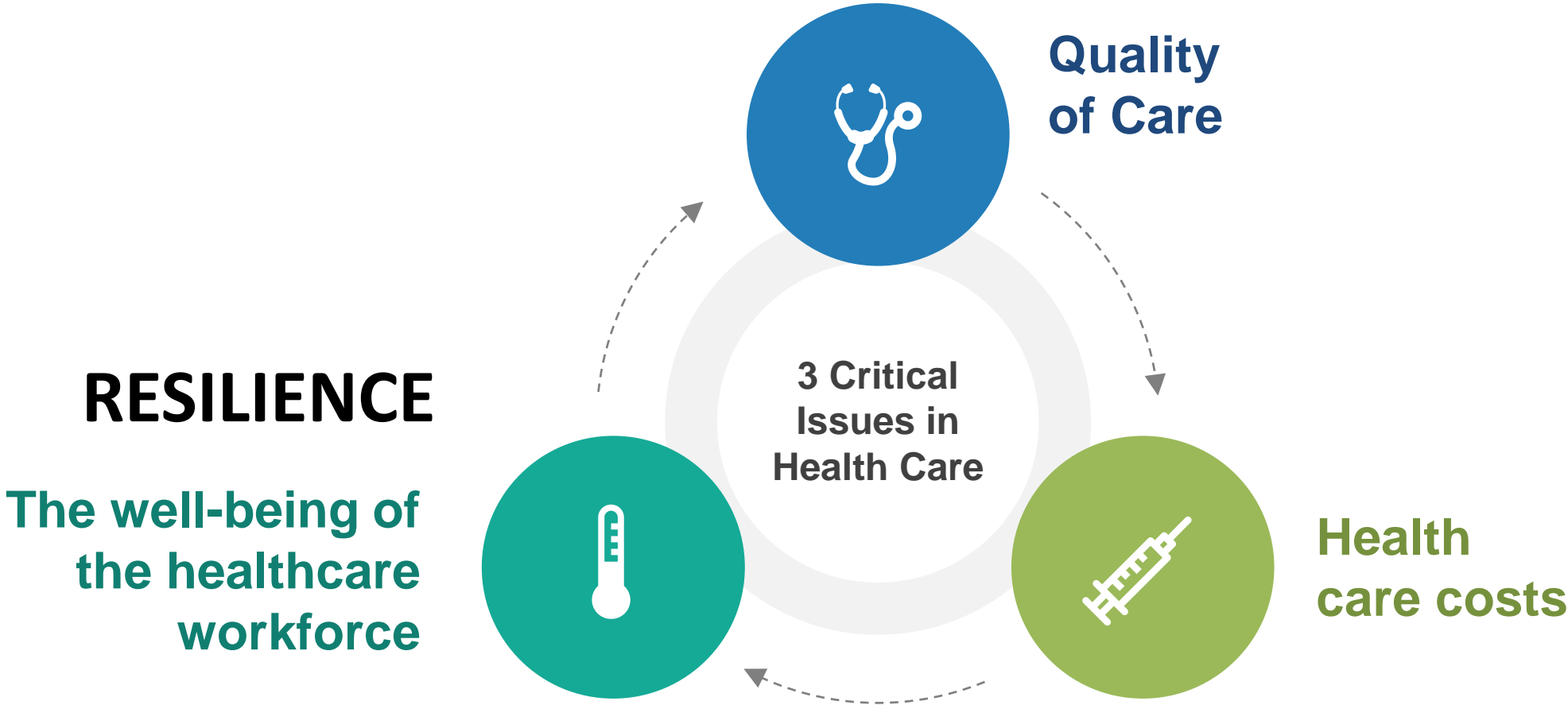


# Changes in these facets can affect the others





# Changes in these facets can affect the others



## Effectiveness of universal programmes for the prevention of suicidal ideation, behaviour and mental ill health in medical students: a systematic review and meta-analysis

Katrina Witt,<sup>1,2</sup> Alexandra Boland,<sup>2</sup> Michelle Lamblin,<sup>2</sup> Patrick D McGorry,<sup>2,3</sup> Benjamin Veness,<sup>4</sup> Andrea Cipriani,<sup>5</sup> Keith Hawton,<sup>5</sup> Samuel Harvey,<sup>6</sup> Helen Christensen,<sup>6</sup> Jo Robinson<sup>2</sup>

► Additional material is published online only. To view please visit the journal online (<http://dx.doi.org/10.1136/ebmental-2019-300082>).

<sup>1</sup>Turning Point, Eastern Health Clinical School, Monash University, Richmond, Victoria, Australia

<sup>2</sup>Orygen, The National Centre for Excellence in Youth Mental Health, University of Melbourne, Melbourne, Victoria, Australia

<sup>3</sup>Centre for Youth Mental Health, University of Melbourne, Melbourne, Victoria, Australia

<sup>4</sup>Alfred Health, Melbourne, Victoria, Australia

<sup>5</sup>Department of Psychiatry, University of Oxford, Oxford, UK

<sup>6</sup>Black Dog Institute, Sydney, New South Wales, Australia

Correspondence to

### ABSTRACT

**Question** A growing body of work suggests that medical students may be particularly at risk of mental ill health, suicidal ideation and behaviour, resulting in recent calls to develop interventions to prevent these outcomes. However, few reviews have synthesised the current evidence base regarding the effectiveness of these interventions and provided guidance to improve future intervention efforts.

**Study selection and analysis** The authors conducted a systematic review to identify studies of any design reporting the effectiveness of any universal intervention to address these outcomes in medical students. Embase, MEDLINE and PsycINFO databases were searched from their respective start dates until 1 December 2017.

**Findings** Data from 39 studies were included. Most investigated the effectiveness of relatively brief interventions designed to reduce stress; most commonly using mindfulness-based or guided meditation approaches. Only one implemented an intervention specifically designed to address suicidal ideation.

### Summary box

#### What is already known about this subject?

- Higher rates of suicidal ideation and attempted suicide have been reported in medical students as compared with age-matched members of the general population.
- Medical students face a unique range of personal and professional stressors.
- However, medical students are less likely to access services despite better knowledge of appropriate treatment options for mental illness and suicidal ideation and/or behaviour.

#### What are the new findings?

- Relatively brief mindfulness-based stress management interventions may be effective in reducing anxiety, depression and stress in medical students in the short term.
- Despite recent concerns around suicide rates



ELSEVIER

Journal of Affective Disorders

Volume 257, 1 October 2019, Pages 568-584



Review article

## A systematic review of prevention programs targeting depression, anxiety, and stress in university students

Leslie R. Rith-Najarian<sup>a</sup>, Maya M. Boustani<sup>b</sup>, Bruce F. Chorpita<sup>a</sup>

► Show more

<https://doi.org/10.1016/j.jad.2019.06.035>

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# The DEAL Program

## Single four-hour workshop

## Psychoeducational and Problem-oriented Stress Management Program

**Session one** - psychoeducation on stress, stressors, and coping mechanisms

**Session two** - learning problem-solving techniques and coping strategies to manage stress.

**Session three** - group-based exercises to practice these strategies

**Session four** - sharing experiences

(Rith-Najarian et al, J Affective Disorder, 2019; 257, 568-584; Witt K, et al. *Evid Based Mental Health*, BMJ, 2019;22:84-90)



## TEACHING DELIVERY AWARD

Past Winner Teaching Delivery Award: Universiti Sains Malaysia, Malaysia



### **Project: Promoting Resilience and Preventing Burnout in Medical Students through the DEAL-Based Practice**

Participants in the DEAL-based practice program acquire greater insight about personal ability to handle problems via self-awareness, experience, and conscious effort that allows problems to be handled in effective ways. Eventually, students achieve autonomy by developing the skills necessary efficiently deal with common problems faced in a tertiary education environment. [www.usm.my](http://www.usm.my)

<https://www.reimagine-education.com/teaching-delivery-award/#1627366154193-719860e5-00c9>



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**USED BY EDUCATORS & STUDENTS FOR  
TEACHING, SELF-LEARNING & TRAINING**



The award goes to

Professional Resilience Skill Training  
(Pro-ReST): An evidence-based and feasible  
educational module.

Nurhanis Syazni Roslan



# GMT 110: Medical Professionalism

**2 credit unit**

Coordinator:

Dr Nurhanis Syazni Roslan

(Dept of Medical Education)

nurhanis\_syazni@usm.my



Describe the principles of medical

Incorporate the  
**DEAL-based  
RESILIENCE  
TRAINING** into this  
course.



professionalism perspective.

## **Book Title:**

The DEAL Practice – Cultivating  
Resilience in University Students

**MUHAMAD SAIFUL BAHRI YUSOFF**

*Accepted for publication on 29 September 2021 by Penerbit USM, Pulau Pinang, Malaysia*



Teach students to detect problems early and have positive perception/attitude/believe toward it.

Teach students to learn from the problems through reflection for self-improvement



#01  
**D**ETECTION  
of stressor

# DEAL-BASED PRACTICE

#04  
**L**EARNING  
through self-  
reflection

#02  
**E**VALUATION  
of stressor

#03  
**A**CTION  
toward  
stressor



Teach students to appraise problems positively and appropriately

Teach students to cope with problems positively





DETECT

## DETECTION OF STRESSORS



According to this principle, to manage stress effectively individuals should have:

- 1) knowledge and awareness about the signs and symptoms of psychological distress;
- 2) knowledge and awareness about the potential stressors in their context;
- 3) knowledge about the effective coping strategies to handle the stressors.

EVALUATE

**EVALUATE** STRESSORS



According to this principle, to manage stress effectively individuals should:

- 1) learn to filter and prioritise stressors into priority based on its impact and urgency, hence appropriate solutions can be generated to handle the main and real stressors;
- 2) have healthy and positive perception towards the stressors because only a few will be the main and real stressors.

ACT

**ACT ON STRESSORS**



According to this principle, to manage stress effectively individuals should

- 1) use the best coping strategies to handle specific stressors;
- 2) practice coping strategies that best work in specific context;
- 3) develop personal positive coping strategies, hence similar stressors can be effectively handled in future.

LEARN

## LEARN FROM STRESSORS



According to this principle, to manage stress effectively individuals should:

- 1) learn from various stressors that provide different learning experience;
- 2) reflect on the insight gained as a result of previous stressor encounter;
- 3) ask what else could be done to deal with a particular stressor in better ways;
- 4) use it as a self-evaluation mechanism to enhance own ability to manage stress that is well-suited with personal need, believe and context.



**Quantitative Data**



**Qualitative Data**

**Reduced distress**

**Reduced depression**

**Reduced denial**

**Reduced self-blame**

**Reduced perceived academic stress**

**Perceived as a very useful, relevant, applicable and feasible educational strategy**

**Improved coping ability**

**To apply DEAL approach in dealing with adversities**

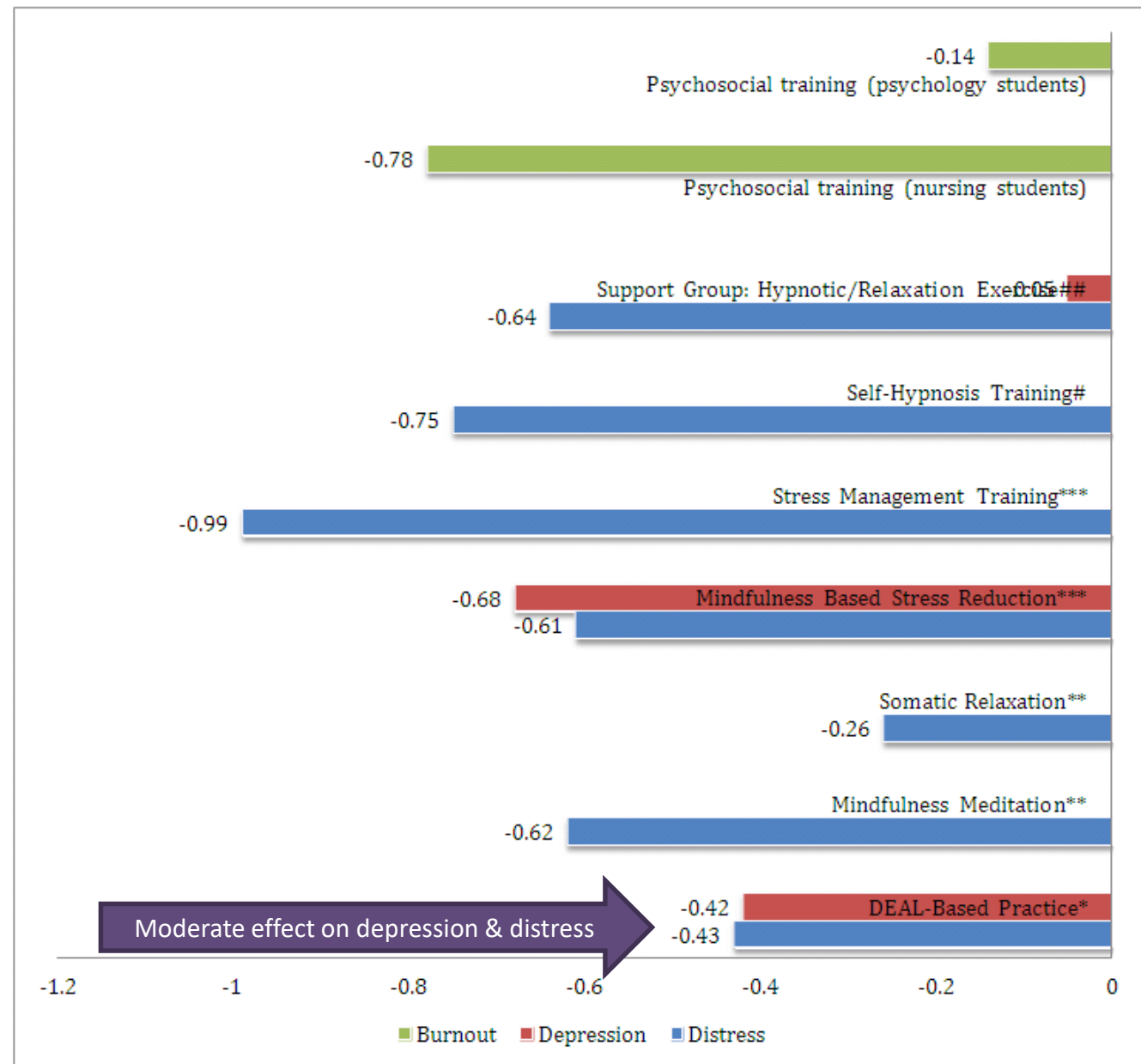
“Excellent and unexpected!! I think it will be bored like only motivation class, but it was totally wrong at all. And now, I know the level of my stress and how to cope with it.” **Student A**

“Gained a lot of knowledge what exactly stress and how to cope with it. Basically, this workshop had helped the student how to identify good & bad stress which is good so that the students can choose how to deal with it in right way” **Student B**

“I learn how to cope with stressor and the DEAL which is very useful for my future, I can detect my stress level and which aspect that I’m stressing about.” **Student C**

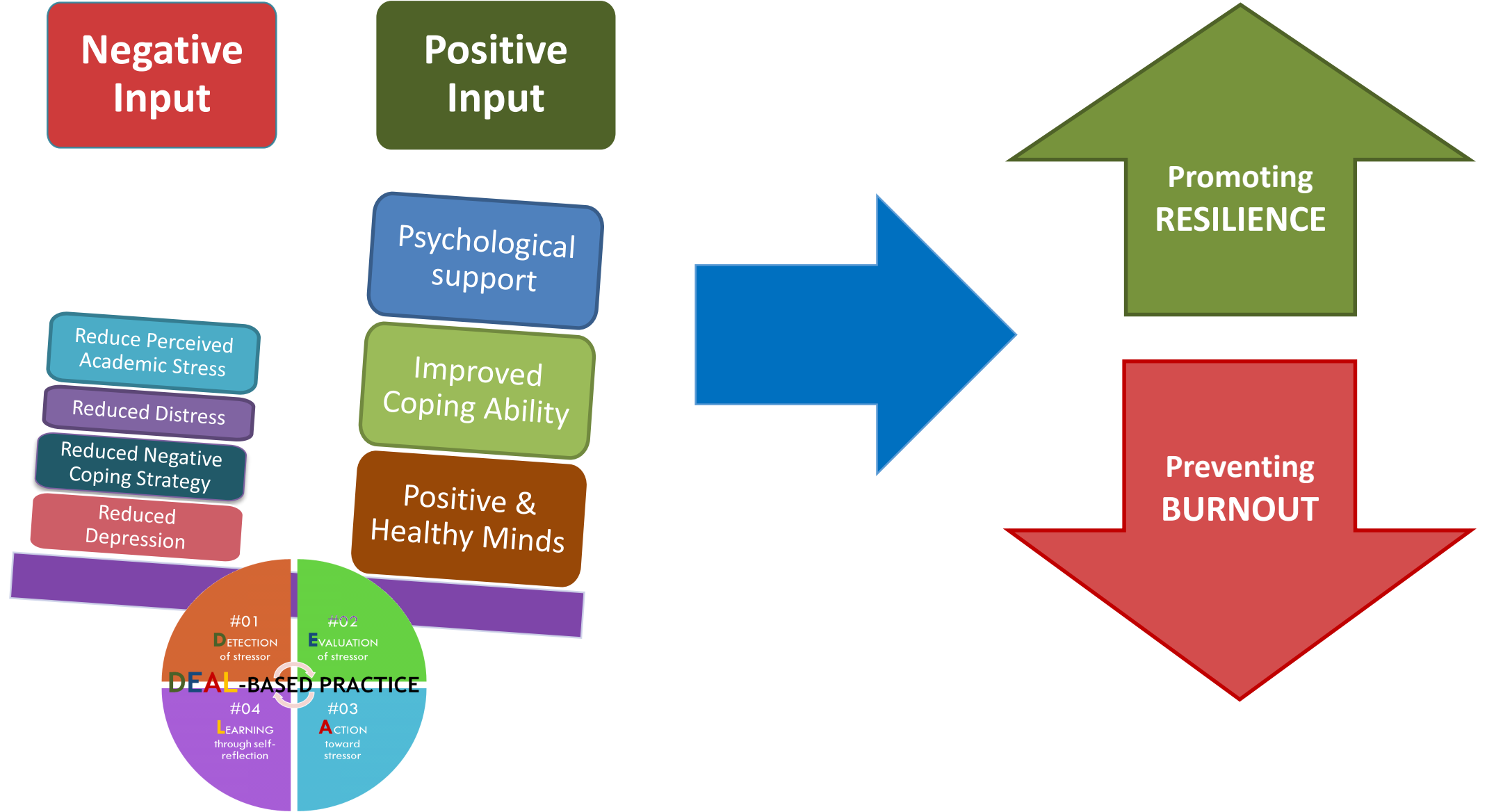
“I try to cope with my stress more positively, don't stress too much, take the stress as a challenges to make me better.” **Student D**

“The DEAL method, I'll try my way of thinking, detection of problems and peoples around me, I'll try to make a difference for myself in the scope of personality as a medical student that surely need to cope with a bundle of stress.” **Student E**



\*brief (less than 2 days), \*\*short-duration (2 days to 4 weeks), \*\*\*medium-duration (more than 4 weeks and up to 8 weeks), #long-duration (more than 8 weeks) and ##other (duration was not mentioned in the articles)

Effect size comparison between different strategies to promote resilience and prevent burnout.



**Negative  
Input**

**Positive  
Input**

Reduce Perceived  
Academic Stress

Reduced Distress

Reduced Negative  
Coping Strategy

Reduced  
Depression

Psychological  
support

Improved  
Coping Ability

Positive &  
Healthy Minds

**Promoting  
RESILIENCE**

**Preventing  
BURNOUT**





**‘Extending educational experiences and innovations to new settings through sharing of practices and policies will be crucial.’**

(UNESCO, 2021, pg 129)



REIMAGINING  
A new social  
OUR FUTURES  
contract for  
TOGETHER  
education

REPORT FROM THE INTERNATIONAL COMMISSION ON THE FUTURES OF EDUCATION



# Final Thoughts

01

## Resilience Concepts

Resilience has been seen in numerous lenses; a trait, a quality, a process, a cycle, a system and a trajectory

02

## Resilience Factors

The resilience factors must be taken into consideration to promote resilience at different levels.

## Resilience Strategies

The resilience promotion strategies offer a framework to infuse resilience at different levels – micro, meso & macro.

03

It has potential implications on important facets of medical education

## ME Implications

04





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# Thank You

MUHAMAD SAIFUL BAHRI YUSOFF, MD, MSc, PHD

Director, Center for Development of Academic Excellence (CDAE),  
Assoc. Prof, Department of Medical Education, School of Medical  
Sciences, Universiti Sains Malaysia, email: msaiful\_bahri@usm.my.



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