



## Short Reports: Exploring the Role of Optimism on Psychosomatic Disorders and Life Stressors among Yemeni Medical Students

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**Abstract:** A predictor of health and wellbeing, psychological assets like optimism take on particular importance in countries like Yemen. In this first positive psychology study conducted in the country, we examine the relationship between optimism, pessimism, psychosomatic disorders, and life stressors among 160 male and 97 female university medical students. They completed the Arab List of Optimism and Pessimism (ALOP), Psychosomatic Disorders Scale (PDS), and Life Stressors Scale (LSS). Results showed that the difference in means of optimism between males and females was not significant; yet, female participants reported higher pessimism. There was also no statistically significant difference between male and female reports of stressful life events; yet, males reported higher psychosomatic disorders. For both males and females, significant positive correlations were found between (1) pessimism and psychosomatic disorders, (2) pessimism and life stressors, and (3) psychosomatic disorders and life stressors. This study carries implications for emotional management skills training for university students, particularly in war-afflicted environments, as well as the bolstering role of optimism and adaptive role of pessimism.

**ملخص البحث:** التفاؤل هو مؤشر مهم للصحة والسعادة، حيث تكتسب الأصول النفسية مثل التفاؤل أهمية خاصة في بلدان مثل اليمن وفي حياة الشباب الذين يحاولون صياغة مستقبل هناك. في أول دراسة نفسية إيجابية على الإطلاق أجريت في اليمن، قمنا بفحص العلاقة بين التفاؤل والتشاؤم والاضطرابات النفس-جسدية وضغوطات الحياة عند طلاب الطب. بشكل عام أكمل 160 طالباً و 97 طالبة من طلاب جامعة عدن القائمة العربية للتفاؤل والتشاؤم، ومقياس الاضطرابات النفس-جسدية، وكذلك مقياس ضغوطات الحياة. أظهرت النتائج ان الاختلاف في متوسط التفاؤل بين الذكور والاناث لم يكن ذي أهمية إحصائية، وعلى الرغم من ذلك أبلغت المشاركات الإناث عن تشاؤم أعلى. لم يكن هناك فرق يعدد به إحصائياً بين استجابات الذكور والإناث عن أحداث الحياة الضاغطة أيضاً، ومع ذلك أبلغ الذكور عن اضطرابات نفس-جسدية أعلى. بالنسبة لكل من الذكور والإناث، وجدت علاقة ارتباط موجبة ذات أهمية بين (1) التشاؤم والاضطرابات النفس-جسدية، (2) التشاؤم وضغوطات الحياة، و (3) الاضطرابات النفس-جسدية وضغوطات الحياة. كما أنه لا توجد علاقة بين التفاؤل والاضطرابات النفس-جسدية أو ضغوطات الحياة بين الذكور والإناث بشكل منفصل. ومع ذلك، عند تحليل استجابات عينة البحث الكلية (ذكوراً وإناثاً) كان التفاؤل مرتباً بشكل إيجابي بالاضطرابات النفس-جسدية. أوصت هذه الدراسة على تدريب طلاب الجامعة على مهارات الإدارة الانفعالية، لا سيما في البيئات المنكوبة بالحرب، فضلاً عن دور التفاؤل وما إذا كان من الأفضل موازنته بجرعة من التشاؤم.

**Keywords:** Optimism; Pessimism; Life Stressor; Psychosomatic; Yemen; Positive Psychology Interventions



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**Considerable positive psychology research has been devoted** to improving the subjective wellbeing of individuals and groups, with studies focusing on a wide range of constructs such as meaning, flow, relationships, and positive emotions, as well as their applications to a growing number of opportunities and problems, and populations. Much of this literature has stemmed from the West, although non-Western studies are growing (Basurrah et al., 2021; Hendriks et al., 2019). There have also been calls to attend to broader systemic contributors to wellbeing, with the recognition that contributions to wellbeing can be made by individuals and institutions alike (Lambert et al., 2020; Waters et al., 2021). Despite this progress in scholarship and research, much of the positive psychology inquiry has been conducted in largely stable contexts; as such, there have been calls over the years for positive psychology to be more attentive to the examination of positive phenomena within populations in distress, conflict as well as low-income settings (Al-Krenawi et al., 2011; Berger et al., 2018; Foka et al., 2021). One such important and overlooked context is Yemen.

War has caused death and displacement, with severe adverse mental health effects on Yemenis (Alhariri et al., 2021; Karasapan, 2020; UN News, 2020). A report commissioned by the Sana'a Center (2017) revealed that a 25-year-old in Yemen today has already been impacted by 15 wars and major conflicts, generating for the population some of the world's highest conflict-related rates of depression and PTSD. With a collapsed healthcare system, food insecurity, growing poverty, water shortages, a lack of infrastructure and weak government services, options are scarce. Limited studies document the status of mental health and wellbeing in Yemen. In 2015, al-Ammar (2018) collected data among young people, showing that nearly 80% qualified with DSM-VI symptoms of PTSD in regions where intense fighting took place. More broadly, a review of international reports estimating the prevalence of mental disorders (i.e., depression, anxiety, schizophrenia, post-traumatic stress disorder, bipolar disorder) in conflict areas stood at 22%, five times the global mean average, with rates worse as age increased and for females, particularly for depression (Charlson et al., 2019). Yet, to date, there is scarce research on the role of how individuals approach life stressors (i.e., optimism, pessimism) in conflict-ridden regions and there has been no positive psychology



study conducted in Yemen. The current paper sets out to make a first preliminary foray in shedding light on, and attending to this gap in Yemen.

### **Somatization and Mental Health**

Somatization, the manifestation of psychological distress through physical complaint, is common in the Middle East/North Africa (MENA) region (Al Busaidi, 2010; Al Gelban, 2009; Alkhadhari et al., 2018; Alsaleem & Ghazwani, 2014; Bener et al., 2010; Hamdan, 2009; Wilkins et al., 2018). Considered acceptable to express distress physically given the stigma against psychological issues, somatization can help individuals save face, gain attention, avoid disclosure, and interrupt the course of problems for a time (Choi et al., 2016). It may also reflect a lack of skills in managing emotions and play a role in emotional suppression (see Okur Güney et al., 2019). Prevalence across genders seems mixed - sometimes it is higher in women (e.g., Al-Mashaan, 2000, 2003; Bener et al., 2010; Nazzal et al., 2021), in other studies, no gender differences are found (i.e., Garrusi et al., 2019), while in others, differences are small (i.e., 24.2% (female) versus 23.7% (male) in Qatar; Bener et al., 2010). Yet, symptoms have consistently been shown to overlap with, and be more prevalent in those with depression or anxiety, and without social support (e.g., Bekhuis et al., 2015; Beutel et al., 2019; Kohlmann et al., 2016). Not trivial, it represents a sizeable proportion of healthcare visits in Kuwait (Alkhadhari et al., 2018), with numbers as high as 32% in Palestine (Nazzal et al., 2021), 24% in Qatar (Bener et al., 2010), and between 13% and 42% in Iran (Garrusi et al., 2019).

### **Relevance of Positive Psychology**

Positive psychology focuses on managing negative emotions as well as promoting positive psychological assets which contribute to greater wellbeing (Lomas & Ivtzan, 2016). While mental health interventions have been mostly concerned with reducing negative states, improving positive states is also vital. Building more positive psychological states carries benefits beyond the absence of the negative, a critical point given that a lack of mental health results in similar outcomes as the presence of mental illness (Westerhof & Keyes, 2010). For instance, individuals who decline from a state of very good to moderate mental health are four times as likely to have a mental illness, whereas declining from moderate to poor mental health increases the odds of mental illness 10 years later by 86% (Keyes et al., 2010). A robust state of wellbeing has also been linked to greater physical health outcomes (Chida & Steptoe, 2008; Kubzansky et al., 2015, 2018). Psychological assets that are amenable to intervention form the bulk of research identifying the means to improve wellbeing (Malouff & Schutte, 2017; Rincón Uribe et al., 2020). Thus, next, we turn to a key positive psychological asset, optimism, to explore its role in the challenging context of Yemen.

### **Optimism: A Construct that Matters**

Optimism, a stable expectation that the best outcome is to appear, has been construed in several ways (Kleiman et al., 2017), i.e., a disposition, personality trait, inferential or attributional pattern, illusion of control, self-enhancing bias, cognitive response, and emotion (Carver et al., 2010; Carver & Scheier, 2014, 2019; Mosing et al., 2009; Peterson, 2000; Scheier & Carver, 2018; Schueller & Seligman, 2008; Sharpe et al., 2011; Whitfield et al., 2020). Irrespective of its operationalization, it is an asset that can be augmented (e.g., Malouff & Schutte, 2017), as much as



it can also be influenced by events. In the face of major stressors and increasing age, optimism can be undermined and erode with time (Chopik et al., 2020; Krane et al., 2018).

Positive expectations for the future drive motivation and the self-regulation of goal-directed behavior; it also influences how individuals face threat and adversity (Scheier & Carver, 2018). Optimism allows for more effective coping and serves as a buffer on the negative psychosomatic consequences of stress (Baumgartner et al., 2018). For undergraduate students, anticipating positive outcomes facilitates their ability to utilize social support, organize, and actively cope, whereas pessimists tend to experience higher levels of stress (Pacheco & Kamble, 2016). For young people especially, developing optimism seems to favor both physical and psychological wellbeing (Rincón Uribe et al., 2020), with high levels associated with fewer mental health conditions, including lower rates of depression, anxiety, and suicidal ideation (Dooley et al., 2015; Kleiman et al., 2017; Rincón Uribe et al., 2021; Schou-Bredal et al., 2019; Smida et al., 2021; Tanner et al., 2014). It also buffers and moderates the effect of stressors and life hassles (Kleiman et al., 2017; Lai, 2009).

Considered one of the strongest positive health assets (Kubzansky et al., 2015, 2018), optimism has consistent relationships with reduced cardiovascular disease and premature mortality, including cancer, heart disease, stroke, respiratory disease, and infection (Kim et al., 2017; Rozanski et al., 2019; Tindle et al., 2009), and independently so of depression, anxiety or anger (Boehm & Kubzansky, 2012). A reduced perception of threat to the self is associated with a healthier gene expression of immune cells (Uchida et al., 2018). Longevity is also greatly improved in the optimistic, with an 11 to 15% longer life span on average, while controlling for socioeconomic status, depression and smoking (Lee et al., 2019). On the other hand, pessimism, as well as unrealistic optimism have been linked to greater all-cause cardiovascular mortality (Craig et al., 2021; Pänkäläinen et al., 2016; Whitfield et al., 2020). Pessimism is also a consistent predictor of depression (O'Driscoll et al., 2021) and poor life satisfaction in the immediate present (Piper, 2019). Regional studies (e.g., Al-Mashaan, 2003) note women's greater pessimism and reports of psychosomatic disorders than men.

### The Present Study

We conducted an exploratory study examining the relationship between optimism and pessimism with psychosomatic disorders and life stressors of Yemeni medical students with the aim of determining whether optimism indeed made a difference, and what next steps could be developed from such findings. As little research emerges from Yemen given its current political instability, this paper represents a first in the area of positive psychology and offers a valuable contribution to the field. Consequently, there were no a priori hypotheses. Importantly though, the study represents an early milestone towards continuing investigations into factors that could be shaped for progress to be made towards the development of wellbeing, with implications for nation building and peace.

### Method

#### *Participants*

Participants (see Table 1) included 257 students (160 of which were male, 97 female) (Median age = 22,  $SD = 1.75$ ). The study was conducted at the Faculty of Medicine, University of Aden, from August to October, 2020.



### *Procedure*

This was a pilot study with the purpose of assessing optimism and pessimism in association with psychosomatic disorders and life stressors among medical students in Yemen. The study was approved by the Research and Ethics Committee of the university. Informed consent was obtained from each participant prior to inclusion in the study, which explained the objectives of the study and confidentiality of the data collected. They were asked to include their sociodemographic variables and complete the screening instruments, with researchers available for any queries.

### *Measures*

The following scales were used; all of which are validated Arabic instruments used in prior studies in the region with good reliability and validity. They included:

*The Arab List for Optimism and Pessimism (ALOP)* (Abdel Khaleq, 1996): It includes 15 items to measure optimism and 15 for pessimism rated on Likert's five-point scale (5: Too much, 4: A lot, 3: Middle, 2: Few, 1: No). Optimism was measured using items such as "Life seems beautiful to me" and "I feel like tomorrow will be a bright day." Pessimism was measured using items such as "Experience tells me that the world is as black as the dark night" and "I always have bad luck."

*Psychosomatic Disorders Scale (PDS)* (original; Ullrich & Fitzgerald, 1990; Arabic translation; Al-Otaibi, 1997). This scale includes 14 items to measure psychosomatic symptoms rated on Likert's five-point scale (5: Always, 4: Frequently, 3: Sometimes, 2: Scarcely, 1: Not applicable). Sample items include "I have stomach pain"; "I feel menstrual cramps or other menstrual-related problems (women only)."

*Life Stressors Scale (LSS)* (original; Holmes & Rahe, 1967; Arabic translation (Al-Mashaan, 2000). The scale has 32 items and scores range from 128 to 96 (high life stressor events), 95 to 64 (moderate), 63 to 32 (low), and 31 and below (no life stressor events). Each questionnaire statement was given a weight according to Likert's four-point scale to estimate the significance of the statement as follows: (4: Always, 3: Frequently, 2: Sometimes, 1: Never). Sample items include "When I am under stress, I notice negative changes in my behavioral patterns," and "My fear of failure prevents me from taking any position".

### **Results**

We first examined gender differences in mean levels of optimism and pessimism, as well as psychosomatic disorders and stressors from life events. Results (see Table 1) show that the difference in means of optimism between males ( $M = 2.12$ ,  $SD = .67$ ) and females ( $M = 2.10$ ,  $SD = .67$ ) was not statistically significant,  $t(255) = .016$ ;  $p = .9$ . However, female participants reported higher pessimism ( $M = 4.07$ ,  $SD = .83$ ) than males ( $M = 3.86$ ,  $SD = .83$ ),  $t(255) = 3.911$ ;  $p < .05$ . Further, there was no statistically significant difference between male ( $M = 2.48$ ,  $SD = .46$ ) and female ( $M = 2.50$ ,  $SD = .40$ ) stressors of life events,  $t(255) = .150$ ;  $p > .05$ , however, male participants reported higher psychosomatic disorders ( $M = 3.31$ ,  $SD = .74$ ) than females ( $M = 3.07$ ,  $SD = .67$ ),  $t(255) = .011$ ;  $p < .05$ .



**Table 1**

*Means (M), Standard deviations (SD) and T values for optimism, pessimism, psychosomatic disorders, and stressors of life events.*

Variables	Gender				Total (n=257)			
	Male (n=160)		Female (n=97)					
	M	SD	M	SD	M	SD	T	Significance
<b>Optimism</b>	2.12	0.67	2.10	0.68	2.11	0.67	0.016	0.900
<b>Pessimism</b>	3.86	0.81	4.07	0.84	3.94	0.83	3.911	0.049*
<b>Psychosomatic Disorders</b>	3.31	0.74	3.07	0.67	3.22	0.72	6.580	0.011*
<b>Stressors of life events</b>	2.48	0.46	2.50	0.40	2.48	0.44	0.150	0.699

*Note:* \*  $p < .05$ . M = mean, SD = standard deviation, T = t-value.

Next, we examined the relationships between variables by performing a bivariate correlational analysis between optimism, pessimism, psychosomatic disorders, and stressors of life events. Given the gender differences in pessimism and psychosomatic disorders, we conducted correlational analyses separately for males and females. To stay consistent, separate analyses for males and females were conducted for all variables. Table 2 shows results of the analysis as it relates to the male sample only. Among males, pessimism and psychosomatic disorders share a significant, positive correlation ( $r = .61, p < .05$ ). Pessimism and stressors of life events also have a significant, positive relationship ( $r = .63, p < .05$ ). Psychosomatic disorders are also significantly, positively correlated with stressors of life events ( $r = .54, p < .05$ ). Optimism was not significantly correlated with psychosomatic disorders or stressors of life events.





**Table 2**

*Mutual correlation coefficients between measures of optimism, pessimism, psychosomatic disorders, and stressors of life events for male sample (n = 160).*

Variables	Optimism		Pessimism		Psychosomatic Disorders		Stressors of life events	
	r	p	r	p	r	p	r	p
<b>Optimism</b>	1		- 0.35**	0.001	- 0.12	0.126	- 0.08	0.293
<b>Pessimism</b>	- 0.35**	0.001	1		0.61**	0.001	0.63**	0.001
<b>Psychosomatic Disorders</b>	- 0.12	0.126	0.61**	0.001	1		0.54**	0.001
<b>Stressors of life events</b>	- 0.08	0.293	0.63**	0.001	0.54**	0.001	1	

*Note:* \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ .  $r$  = Pearson correlation coefficient.

Among females (see Table 3 for results only of the female sample), mirroring the results of the male sample, pessimism and psychosomatic disorders share a significant, positive correlation ( $r = .47$ ,  $p < .01$ ). Pessimism and stressors of life events also have a significant, positive relationship ( $r = .53$ ,  $p < .01$ ). Psychosomatic disorders are significantly, positively correlated with stressors of life events ( $r = .57$ ,  $p < .01$ ). Optimism was not significantly correlated with psychosomatic disorders or stressors of life events. As such, the links between pessimism and psychosomatic disorders and stressors of life events show stronger effects for males than females.

Given the similarity of male and female results, we also conducted correlational analyses for the full sample (see Table 4). Findings reveal that pessimism and psychosomatic disorders share a significant, positive correlation ( $r = .52$ ,  $p < .01$ ). Pessimism and stressors of life events also have a significant, positive relationship ( $r = .59$ ,  $p < .01$ ). Psychosomatic disorders are significantly, positively correlated with stressors of life events ( $r = .54$ ,  $p < .01$ ). The relationship between the variables stayed consistent, except for one. When analyzing for all participants (including male and female), optimism is significantly positively correlated with psychosomatic disorders ( $p < .01$ ,  $r = .49^*$ ). However, for male participants alone, the direction of association between optimism and psychosomatic disorders was extremely small but negative, and for female participants, this direction was also extremely small but positive, even though neither association was statistically significant. It is possible that these associations were not significant because of the very small effect sizes and the need for a larger sample to detect these small effects.



**Table 3**

*Mutual correlation coefficients between measures of optimism, pessimism, psychosomatic disorders, and stressors of life events for female sample (n = 159).*

Variables	Optimism		Pessimism		Psychosomatic Disorders		Stressors of life events	
	r	p	r	p	r	p	r	p
Optimism	1		-0.34**	0.001	0.023	0.824	-0.09	0.357
Pessimism	-0.34**	0.001	1		0.47**	0.001	0.53**	0.001
Psychosomatic disorders	0.023	0.824	0.4**	0.001	1		0.57**	0.001
Stressors of life events	-0.09	0.357	0.53**	0.001	0.57**	0.001	1	

*Note:* \* p < .05, \*\* p<.01, \*\*\*p<.001. r = Pearson correlation coefficient.

**Table 4**

*Mutual correlation coefficients between measures of optimism, pessimism, psychosomatic disorders, and stressors of life events of both sexes (n = 257).*

Variables	Optimism		Pessimism		Psychosomatic Disorders		Stressors of life events	
	r	p	r	p	r	p	r	p
Optimism	1		-0.35**	0.001	0.49**	0.001	-0.09	0.162
Pessimism	-0.35**	0.001	1		0.52**	0.001	0.59**	0.001
Psychosomatic disorders	-0.07	0.279	0.52**	0.001	1		0.54**	0.001
Stressors of life events	-0.09	0.162	0.59**	0.001	0.54**	0.001	1	

*Note:* \* p < .05, \*\* p<.01, \*\*\*p<.001. r = Pearson correlation coefficient.





## Discussion

The results of the study revealed no overall differences in levels of optimism between male and female respondents. However, males reported greater psychosomatic disturbances, contrary to some studies (i.e., Al-Mashaan, 2000, 2003; Bener et al., 2010; Nazzal et al., 2021), and females scored higher on pessimism. As there is little prior research on this in the country, studies (al-Amman, 2018; Ba-Saddik et al., 2018; Charlson et al., 2019) in Yemen and the region show higher PTSD and depression rates in females. There was also an expected negative correlation between optimism and pessimism, as well as a positive correlation between pessimism and psychosomatic disorders as well as stressors of life events. However, one surprising result was that for male participants alone, the direction of association between optimism and psychosomatic disorders was extremely small but negative, and for female participants, this direction was also extremely small but positive, even though neither association was statistically significant and signal a need for larger samples. Yet, for the combined sample, optimism was significantly positively correlated with psychosomatic disorders. Optimism being positively associated with psychosomatic disorders runs contrary to the established literature. While more research is needed to understand the role of optimism, particularly given the different directions in which it affects men and women, we posit a few reasons why we consider it might be the case.

For the females in this study, higher pessimism may be a protective factor. Holding both pessimistic and optimistic views at the same time may allow for a healthy dose of hope and future thinking, but equally, a clear view of worst-case reality which may allow them to prepare and plan accordingly and thus, feel a greater sense of control and be less affected physically. Indeed, defensive pessimism (Norem, 2001, 2008) is a useful emotional regulation strategy in the face of uncertainty and risk. It offers the freedom and flexibility to look at all aspects of a situation (good and bad), and paradoxically allows individuals to experience less anxiety as they are prepared for all accounts and can subsequently be optimistic at the same time (Norem, 2008). In contrast, it may be that using only optimism as a strategy can yield positive outcomes, but the costs of this strategy potentially include greater anxiety if events take unexpected turns for which individuals did not plan; thus, a preference for pessimism may feel more comfortable and allow individuals to feel more in control over their outcomes and emotional lives (e.g., de Meza & Dawson, 2021). Our findings nonetheless confirm that optimism and pessimism are not two ends of the same continuum, but distinct dimensions that can be held simultaneously (Craig et al., 2021; Scheier & Carver, 2018).

While optimism can be positive and result in greater motivation, resilience and less depression (Colombo et al., 2020; Johnson & Fowler, 2011; Kleiman et al., 2017; O'Driscoll et al., 2021), it may also contribute to poor health. Kleiman et al. (2017) found of all the conceptualizations of optimism, the sense of invulnerability predicted a decreased risk for anxiety in the presence of high life stressors, but, paradoxically, greater reports of physical complaints. While optimism did not differ between male and female students, women's greater pessimism may have served to buffer psychosomatic effects, and could also have contributed to men's greater incidence of them. Thus, while the literature suggests optimism is generally better, there may be situations in which it is more advantageous to also be pessimistic as there appear to be costs (here, physical ones) which stem from using only one emotional regulation strategy. At the same time, the literature suggests there are also costs to greater pessimism (i.e., depression; O'Driscoll et al., 2021, low life satisfaction; Piper, 2019).



Perhaps high pessimism carries similar risks to only using optimism as a singular approach to challenge. It may also be the case that promoting optimism without appropriate emotional regulation skills (not measured here, but which should in future studies) leaves individuals vulnerable to anxiety, the manifestations of which may be physical.

Finally, gender roles may have had an influence. In Arab countries, men's roles include the protection as well as financial and material responsibility for their families, as well as future partners. This might place greater stress on them relative to females, who do not have the same expectations placed upon them. This may be an additional burden when employment opportunities are few and security is not well assured. Further, like in all societies, male gender roles preclude the expression of fear, worry, and emotional vulnerability, which may place them at greater risk of depression, anxiety and other psychological issues (Rice et al., 2021; Sileo & Kershaw, 2020; Stiawa et al., 2020). Such vulnerabilities are nonetheless experienced, but given the stigma of mental health issues, as well as combined male gender roles, are not expressed and instead, perhaps revealed physically. We highlight this point as dominant narratives in the mental health space tend to focus on women's status, but overlook men's as it does not present in the expected manner (Stiawa et al., 2020).

Clearly, more work is needed to disentangle these effects, especially in a Yemeni context, where socio-political conditions over the years have made it difficult to reconcile hope and optimism with concrete realities that leave few options. Defensive pessimism may at once serve to acknowledge these realities and plan for them, but be more pessimistic as a result. At the same time, less pessimism may serve to overlook difficult realities, but nonetheless feel anxious and experience greater psychosomatic symptoms anyways. Finding the right dose of realistic preparedness and future hopefulness, as well as emotional expression and personal dignity, will be key going forward.

### Conclusion and Future Directions

The current paper makes a contribution to the positive psychology literature in the region, as well as from Yemen, in addition to the existing literature on optimism. Our study relied upon validated Arabic instruments with high reliability and validity, and showed several points of overlap with the existing literature, as well as a few points of disagreement which could be due to sample size, other spurious factors, or potentially present interesting differences that offer avenues for further research. Still, the participants in this study were all medical students; thus, their particularities may not be generalizable to the broader community, or other institutions. To disentangle these variables, future research must also include measures of wellbeing, depression, and active/passive means of coping to see how these factors influence behaviour. It is also of interest to consider how gender roles – which are vastly different for males and females, and different from other samples in the existing literature – play a role in the strategies used and their outcomes.

Given the state of wellbeing in Yemen, there is potential for effective and affordable ways to boost optimism in young people. Yet, our results also show that optimism in itself is not always the better, or only option. Indeed, Whitefield et al. (2020) propose that finding ways to decrease pessimism (versus increase optimism) may be best. Managing one's emotions, as well as expectations for life, including making plans that are realistic given one's circumstances, are needed in the face of life stressors. Positive Psychology Interventions (PPIs), the empirically validated activities designed to facilitate the use of actions and thoughts that lead to functioning and feeling well (Sin &



Lyubomirsky, 2009), may be worthwhile skills to learn on the part of professors and students alike. Meta-analyses show that PPIs like optimism and other emotional management skills, improve overall wellbeing and mitigate negative emotional experiences over time (Bolier et al., 2013; Carr et al., 2020; Chakhssi et al., 2018; Hendriks et al., 2020; Weiss et al., 2016). Studies have been conducted in the Arab region showing PPIs to be effective in reducing ill-being and boosting wellbeing (see reviews by Basurrah et al., 2021; Rashid & Al-Haj Baddar, 2019). Cost-effective and non-stigmatizing (Layous et al., 2011), the effectiveness of PPIs may be well suited given that stigma against mental distress is high (Samara et al., 2020) and often considered the mischief of 'jinns' (evil spirits) or the fault of individuals for having strayed from God (Alhariri, 2021; Qasem Saleh & Makki, 2008).

Offering wellbeing services that boost positive emotionality and decrease negative emotions can be framed as a professional competency that improves wellbeing for all rather than an identified few (Samara et al., 2020). When medical professionals experience more positive affect and greater life satisfaction (of which optimism plays a role), they have better patient outcomes, make fewer medical errors and perform more effectively (Boldor et al., 2012; Hall et al., 2016; Luthans et al., 2008; West et al., 2018; Williams et al., 2007). Indeed, a study in Qatar showed that medical students with higher rates of optimism (and more active forms of coping) showed lower stress, anxiety, and depressive symptoms, with implications for workplace performance (Smida et al., 2021). As such, wellbeing and mental health are not only "nice to have", but helpful in preparing students as professionals. Being optimistic about one's career calling and ability to have a positive impact in the lives of patients, as well as seeing one's self as a key player in building peace through one's work and community relationships are realistic aims. Since the COVID-19 pandemic, attention to medical students has increased (Molodynski et al., 2021) and programs now include wellbeing competencies as part of professional training (e.g., Cheung et al., 2021; Li & Hasson, 2020; Zhang et al., 2020). As medical colleges are in the business of health, they have a vested interest in teaching future professionals the skills to personally experience it, as well as professionally build it.

Promoting optimism and other emotional regulation strategies through mental health and wellbeing services is not only of interest to those suffer, but can be instrumental in building health assets (Kubzansky et al., 2015, 2018). More importantly, these efforts can also be effective towards securing and maintaining social stability in nations that experience strife (al-Hamdani, 2020; Lee et al., 2019). More optimistic states of mind can reduce the likelihood of interpreting threat and endorsing retaliatory responses, as well as increase the chances of engaging in peacebuilding efforts and community reconciliation (Alhariri et al., 2021; Bhui et al., 2016; Hirsch-Hoefler et al., 2016). It may also help mitigate poor employment and health outcomes that emerge as a result of untreated war trauma (Hadi et al., 2014). A more positive narrative, the skills for which can be developed in university, must emerge as a counterbalance for a better future.

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