Title	The effects of positive psychology interventions in Arab countries: A systematic review.
Authors	Basurrah, Asma A.;Di Blasi, Zelda;Lambert, Louise;Murphy, Mike;Warren, Meg A.;Setti, Annalisa;Al-Haj Baddar, Mohammed;Shrestha, Topaz
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Supplementary Table 1: 1a, 1b, 1c, 1d, 1e, 1f

Characteristics of included studies

Table 1a. Characteristics of included studies examining the effect of PPIs from Arab countries												
First author/ year/ country	**Design**	**sample**	**Intervention**	**Delivery**	**Control group**	**Sessions, duration**	**Follow up**	**Sample size (post)**	**Mean age/ SD**	**% Female**	**Retention Rate (post)**	**Main findings**
Abu As'ad, 2017, Jordan	QE	Middle school students with broken families	MPPI (empowerment)	Group	NI	20, 10w	-	E= 32 C= 32	14.4 (2.1)	50%	100%	Significant mean differences in life satisfaction ($p < 0.01$) between the mean scores of the experimental and control groups
Abu Ghali, 2017, Palestine	RCT	Female school students from broken families	MPPI (Resilience)	Group	NI	18, 8w	2m	E= 14 C= 14	16.5 (0.8)	100%	100%	Significant differences between the experimental and control groups in stress and resilience scores ($p < 0.01$). This improvement was maintained for 2 months follow-up
Al-Eroud, 2018, Jordan	RCT	Nurses	MPPI (Resilience)	Group	NI	16, 8w	1m	E= 12 C= 12	-	100%	100%	Significant differences in the man scores of psychological hardness ($p = 0.003$) between the experimental and control groups, maintained at one month
Al-Fangari, 2008, Egypt	QE	University students	MPPI	Group	NI	13, 4w	2m	E= 15 C= 15	20.8 (1.2)	47%	100%	Significant mean differences in future anxiety ($p < 0.01$) between the mean scores of the experimental and control groups, maintained at 2 months follow-up
Al-Farajani, 2019, Libya	QE	Female secondary school students	Optimism	Group	NI	30	2m	E= 30 C= 30	17.1 (0.3)	100%	100%	Significant mean differences in psychological resilience ($p < 0.01$) between the mean scores of the experimental and control groups, maintained at 2 months follow-up
Al-Ghalib, 2018, Saudi Arabia	RCT	Female university students	The mindful Jeddah training program	Group/ self- help	AC	3, 3w	-	E= 10 C= 16	-	100%	43%	Due to the small sample, no significant differences were found. A comparison of the mean scores of the pretest and posttest for the experimental group showed that wellbeing marginally increased while anxiety, depression and stress slightly decreased. The experimental group experienced a significant increase in life satisfaction from the pretest to the posttest ($p = 0.02$)

Table 1b. Characteristics of included studies examining the effect of PPIs from Arab countries

First author/ year/ country	Design	sample	Intervention	Delivery	Control group	Sessions, duration	Follow up	Sample size (post)	Mean age/ SD	% Female	Retention Rate (post)	Main findings
Al-Hattab, 2017, Jordan	QE	Injured Military	MPPI	Group	NI	14, 7w	-	E= 20 C= 20	-	3%	100%	There were significant differences between the experimental and control groups in reducing anxiety and depression and improving quality of life (p = 0.05)
Al-Kfouri, 2019, Egypt	QE	University students mistreated in their childhood	Positive thinking	Group	NI	33, 11w	-	E= 10 C= 10	18-20	-	100%	Significant effects of positive thinking intervention in improving psychological hardness ($p < 0.01$)
Al-khatatneh, 2019, Jordan	QE	University students	Mindfulness	Group	NI	8, 4w	-	E = 64 C = 64	19-21	50%	100%	Mindfulness intervention decreased significantly stress ($p < 0.01$)
Al-Khateeb, 2019, Jordan	RCT	University students	MPPI (PERMA)	Group	NI	12, 6w	6w	E = 16 C = 16	-	-	100%	Significant effects on increasing psychological hardness and reducing stress ($p = 0.05$). This improvement maintained at 6 weeks follow-up
Al–Menshawi, 2021, Jordan	QE	Female depressed cancer patients	MPPI	Group	NI	14, 7w		E = 15 C = 15	30-50	100%	100%	Significant differences between the mean scores of the experimental and control groups in depression ($p < 0.05$)
Al-Rashidi, 2018, Saudi Arabia	RCT	Addicted adults	PPT (Transcendental meditation - mindfulness)	Group / Individual	NI	16, 6w	7w	E = 16 C = 16	19-60	0%	100%	Significant differences between the mean scores of the experimental and control groups in stress ($p < 0.01$), maintained at seven-week follow-up
Al-Salmouni, 2016, Egypt	QE	Elderly	MPPI (Happiness)	Group	NI	24, 12w	2m	E = 10 C = 10	-	-	100%	MPPI increased happiness ($p < 0.001$). This improvement maintained at 2 months follow-up

Table 1c. Characteristics of included studies examining the effect of PPIs from Arab countries

First author/ year/ country	Design	sample	Intervention	Delivery	Control group	Sessions, duration	Follow up	Sample size (post)	Mean age/ SD	% Female	Retention Rate (post)	Main findings
Al-Sanabani, 2014, Yemen	QE	Children diagnosed with diabetes mellitus	PPT (Quality of life)	Group	NI	13, 11w	10w, 20w	E = 8 C = 8	-	69%	100%	Significant mean differences in quality of life, happiness ($p = 0.02$), and life satisfaction ($p < 0.01$) between the mean scores of the experimental and control groups
Al-Walani, 2016, Libya	QE	Female university students	MPPI (Happiness)	Group	NI	30, 10w	-	E = 30 C = 30	19.7 (1.2)	100%	100%	There were statistically significant differences in happiness and quality of life scores between the experimental and control groups ($p < 0.01$)
Alzoghby, 2017, Egypt	QE	University female students with learning disabilities	MPPI (Resilience)	Group	NI	-	-	E = 30 C = 30	20.8 (2.6)	100%	100%	There were statistically significant mean differences in vocational Future Anxiety between the mean scores of the experimental and control groups ($p < 0.01$)
Ammar, 2016, Egypt	QE	High school students	MPPI	Group	NI	13, 13w	1m	E = 20 C = 20	15.4 (0.3)	50%	100%	PPIs increased participants level of life satisfaction, happiness and positivity ($p < 001$), maintained at a one-month follow-up.
Awad, 2019, Egypt	QE	University students	Mindfulness (MBSR)	Group	NI	16, 6w	1m	E = 25 C = 25	19.7 (1.0)	60%	100%	Statistically significant differences between the experimental and control groups in psychological resilience ($p < 0.01$), maintained at a one-month follow-up
Basurrah, 2020, Saudi Arabia	RCT	Healthy adults/ elderly	Using signature strengths	Self-help: online	NI	7, 1w	-	E = 17 E = 18 C = 44	28.5 (9.9)	78%	21%	Participants in all groups showed an increase in happiness ($p = 0.004$) and a decreased in depression ($p < 0.001$) from pre-intervention to post-intervention. A marginal significant difference ($p = 0.06$) was found between the experimental and control groups in happiness, with participants in the reminder group had the greatest increase. No significant effects on depression.
Bin Shaban, 2016, Libya	QE	Primary school students	Positive thinking	Group	NI	37,18-19w	-	E = 30 C = 30	9.2 (0.6)	50%	100%	Significant differences between the happiness scores of the experimental and control groups ($p < 0.01$)

Table 1d. Characteristics of included studies examining the effect of PPIs from Arab countries

First author/ year/ country	Design	sample	Intervention	Delivery	Control group	Sessions, duration	Follow up	Sample size (post)	Mean age/ SD	% Female	Retention Rate (post)	Main findings
Chérif, 2020, Tunisia	RCT	University students	Strengths-based intervention	Self-help: online	AC	24, 3-4w	1m	E = 40 C = 35	34.6 (7.8)	69%	83%	No significant group differences in happiness after the intervention but on the one-month follow-up ($p < 0.001$)
Elaiwah, 2017, Egypt	QE	University students	Self-compassion	Group	NI	30, 10w	2m	E = 10 C = 10	20.7 (1.3)	-	100%	Self-compassion increased psychological resilience ($p < 0.01$). Maintained at 2 months follow-up
Eldabee, 2021, Saudi Arabia	QE	University students	Self-compassion	Group: online	NI	10, 4w	1m	E = 7 C = 6	20.3 (1.0)	0%	100%	Self-compassion decreased anxiety ($p < 0.01$), maintained at one month follow-up
Haddad, 2014, Jordan	QE	10 grade female students	Positive thinking	Group	NI	12, 4w	6w	E = 30 C = 30	-	100%	100%	Significant differences between the mean scores of the experimental and control groups in test anxiety ($p = 0.05$) also maintained at 6 weeks follow-up
Hanour, 2019, Egypt	QE	Mothers of children with autism spectrum	MPPI (Resilience)	Group	NI	29	2m	E = 5 C = 5	29.7 (4.9)	100%	100%	The effectiveness of the programme improved resilience ($p < 0.01$), maintained at 2 months follow-up
Hemeda, 2017, Egypt	QE	Secondary students	MPPI (Social-emotional competence)	Group	NI	21, 11w	1m	E = 32 C = 32	15.4 (1.2)	59%	100%	Significant differences in the psychological resilience scores ($p < 0.01$) of the experimental and control groups, maintained at one month
Issa, 2019, Egypt	QE	Secondary grade students	MPPI (Positive education)	Group	NI	16, 8w	-	E = 41 C = 40	17.3	50%	100%	There were statistically significant differences between the mean scores of the experimental and control groups in future anxiety and quality of life ($p < 0.01$)
Khlef, 2021, Iraq	QE	Parents of autistic children	Positive thinking	Group	NI	13	2m	E = 10 C = 10	25-45	-	100%	Significant group differences in future anxiety scores ($p < 0.0001$), maintained at 2 months follow-up (($p < 0.01$)

Table 1e. Characteristics of included studies examining the effect of PPIs from Arab countries

First author/ year/ country	Design	sample	Intervention	Delivery	Control group	Sessions, duration	Follow up	Sample size (post)	Mean age/ SD	% Female	Retention Rate (post)	Main findings
Krifa, 2022, Tunisia	RCT	University healthcare students	MPPI (The CARE programme)	Self-help: online	WL	8, 8w	3m	E = 159 C = 165	20.7 (1.6)	94%	89%	Significant reduction in stress, anxiety, and depression ($p < 0.01$) and significant increase in wellbeing ($p < 0.01$) in the experimental group, also maintained at 3 months follow-up
Lambert Study 1, 2019, Kuwait	QE	University students	MPPI	Group	NI	8, 8w	-	E = 133 C = 77	20.9 (2.6)	94%	59%	Significant group differences in flourishing ($p = 0.02$). No significant effect on life satisfaction and positive and negative effects
Lambert Study 2, 2019, Kuwait	QE	High school students	MPPI	Group	NI	8, 8w	-	E = 833 C = 237	16.7 (0.7)	57%	79%	Significant group differences in flourishing ($p = 0.03$) and positive affect (hedonic wellbeing; $p < 0.001$). No significant effect on life satisfaction and negative effect
Lambert, 2021, United Arab Emirates	QE	University students	MPPI	Group	NI	6, 6w	3m	E = 70 C = 50	-	78%	42%	Participants who received the intervention reported more positive emotions over time relative to a control group ($p < 0.05$). No significant effect was found on life satisfaction or perceived stress.
Mansour, 2016, Egypt	QE	Deaf adolescent girls	Psychological support for positive traits	Group	NI	-	2m	E = 15 C = 15	14-19	100%	100%	The study found that after the programme, the experimental group showed a significant improvement in reducing future anxiety ($p < 0.001$)
Mohammad, 2015, Egypt	QE	Mothers of mentally disabled children	Positive thinking	Group	NI	-	2m	E = 12 C = 12	34.6 (2.6)	100%	100%	Participants who received the positive thinking intervention reported reduced stress ($p < 0.0001$), also maintained at 2 months follow-up
Mohammed, 2014, Saudi Arabia	QE	Female university students	Positive thinking	Group	NI	8, 4w	-	E = 40 C = 40	-	100%	100%	There were statistically significant differences between the mean scores of the experimental and control groups in quality of life ($p < 0.01$)
Ramadan, 2014, Egypt	RCT	University students	MPPI (Wellbeing)	Group	NI	12, 12w	2m	E = 30 C = 30	21.4 (1.2)	92%	100%	Participants in MPPI group reported significant improvement in life satisfaction ($p < 0.01$) also at 2 months follow-up

Table 1f. Characteristics of included studies examining the effect of PPIs from Arab countries

First author/ year/ country	Design	sample	Intervention	Delivery	Control group	Sessions, duration	Follow up	Sample size (post)	Mean age/ SD	% Female	Retention Rate (post)	Main findings
Ramadan, 2017, Egypt	QE	Gifted secondary students	MPPI (Wisdom)	Group	NI	25	6w	E = 21 C = 23	17 (0.1)	61%	100%	There were statistically significant differences in psychological resilience between the experimental and control groups ($p < 0.01$). This maintained at 6 weeks follow-up
Rayan, 2016, Jordan	RCT	Parents of children with autism	Mindfulness	Individual / Self-help	NI	5, 5w	-	E = 52 C = 52	36.2 (8.5)	70%	87%	Intervention group demonstrated significant improvements in psychological health domain and social health domain of quality of life, and positive stress appraisal ($p < 0.01$). The control group demonstrated improvement in the measure of the dependent variables with a small effect size.
Rayan, 2017, Jordan	RCT	Parents of children with autism	Mindfulness	Individual / Self-help	NI	5, 5w	-	E = 52 C = 52	36.2 (8.5)	70%	87%	Intervention group demonstrated significant improvements in stress, anxiety, and depression scores with medium to large effect size ($p < 0.01$) while the control group showed improvement with much lower effect size
Soud, 2018, Saudi Arabia	QE	Female university students	MPPI	Group	NI	16	1m	E = 20 C = 20	20.4 (1.0)	100%	100%	Significant differences in the positivity ($p = 0.047$) and anxiety scores ($p < 0.000$) of the experimental and control groups, but no significant effects on depression ($p = 0.166$). Levels of positivity and anxiety maintained at one month
Thomas, 2016, UAE	RCT	Female university students	Mindfulness (MBSR)	Group	WL	10, 8w	-	E = 12 C = 12	21.2 (2.0)	100%	100%	Participants in the mindfulness group demonstrated significantly greater reductions in depression ($p < 0.03$) and stress ($p < 0.04$) compared with the control group
Zahran, 2015, Egypt	QE	Mothers of children with Autism	MPPI	Group	NI	16, 6w	1m	E = 8 C = 8	27-47	100%	100%	The effectiveness of positive psychology programme in decreasing future anxiety ($p = 0.003$), also maintained at one month
Zaki, 2016, Egypt	QE	Female university students	Hope	Group	NI	13, 6w	-	E = 26 C = 26	19.7 (0.7)	100%	100%	There were statistically significant differences in the psychological wellbeing scores of the participants in the experimental and control groups ($p < 0.001$)
Zaki, 2019, Egypt	QE	University students	Mindfulness	Group	NI	22	-	E = 27 C = 27	20.7 (0.7)	74%	100%	The effectiveness of mindfulness programme in enhancing academic resilience ($p < 0.001$)