

Supplementary information 1 for: Relationship between PERMA and children's wellbeing, resilience and mental health: A scoping review

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Supplement 1. Demographic characteristics of the samples of each of the three studies

1. Models/Frameworks

Reference	Country	Context	PERMA Components	Outcomes	Relevant Results	Critical appraisal score
McLaughlin & Lambert (2017)	US	Theoretical	R	R	Protective factors: • Caregiver Support	High
Noble & McGrath (2005)	Australia	Theoretical	P, S	R, MH	Resilience: • Self-efficacy & success orientation • Thinking optimistically • Thinking helpfully & regulating emotions	High
Sege et al. (2017)	US	Theoretical	P, R, S	W, MH	Themes: • Being in nurturing, supportive relationships • Having opportunities for constructive social engagement and to develop a sense of connectedness • Learning social and emotional competencies.	High
Sege & Harper Browne (2017)	US	Theoretical	P, R, S	W, MH	Themes: • Nurturing, supportive relationships • Opportunities for constructive social engagement • Develop a sense of connectedness Learning social and emotional competencies.	High

Reference	Country	Context	PERMA Components	Outcomes	Relevant Results	Critical Appraisal Score
Bostic et al. (2019)	US	Theoretical	S	W, MH	Key points: <ul style="list-style-type: none"> • Music decreases behavioural issues & aggression • Music can decrease anxiety (when undergoing medical procedures) • Music can alter mood • Suggests incorporating music into clinical treatment via PERMA 	Moderate
Schlechter et al. (2019)	US	Theoretical	P, E, R, M, A, S	W, MH	Key points: <ul style="list-style-type: none"> • Suggests assessing patient's strengths at the beginning of psychiatric interview in order to elicit positive emotions, building relationship with the patient • Positive emotions activate reward centre in brain increasing engagement 	High
Konu & Rimpelä (2002)		Theoretical	R, M, S	W	Relevant parts of model: <ul style="list-style-type: none"> • Loving (social relationships) • Being (means for self-fulfilment in school) 	High
Phipps (2007)	US	Theoretical	P	W, R, MH	Relevant aspects of framework for children with cancer: <ul style="list-style-type: none"> • Optimism • Positive emotions 	High
McCrea (2014)	US	Theoretical	R, S	R	Psychotherapy for development of resilience for severely traumatised children (co-identified goals): <ul style="list-style-type: none"> • a trustworthy, pleasurable alliance with the therapist • regulating violence toward self and/or others • developing friendship • mastering the challenges of learning and athletics • optimizing their caregiving relationships (with parents and therapist) 	High
McCrea et al. (2016)	US	Theoretical	S	R	Key points: <ul style="list-style-type: none"> • Hope provides children with resilience (believing they can achieve their goals in the midst of adversity) 	High
Newland (2014)	US	Theoretical	R, S	W, R	Wellbeing model includes self-regulation, mental health and social competence. Variables that support positive outcomes for at risk children: <ul style="list-style-type: none"> • social competence • self-esteem • adaptability • active coping skills • autonomy • secure attachment style, • a sense of humour 	Moderate

Zhang (2013)	Singapore	Theoretical	S	W, R	<p>Key points (for children with disability):</p> <ul style="list-style-type: none"> • Spirituality is seen by the WHO as a means of supporting well-being • Researchers found that personal empowerment, optimism, empathy, understanding, intellectual confidence, academic performance, physical and psychological health, and self-esteem are positively associated with spirituality. • Benefits of good quality spiritual care include: improved relationships, with self, others and with God/creation/nature; and a new sense of meaning, resulting in a reawakening of hope and peace of mind, enabling people to accept and live with problems not yet resolved • Spiritual care can help one experience a feeling of belonging and being valued, a sense of safety, respect, and dignity (for example, Swinton, 2001b; Vanier, 2000; Zhang, 2010) • Child's spiritual life and psychological condition can help him or her discover coping strategies and learn to resolve personal problems. 	High
Greenberg (2017)	US	Theoretical	R	MH	<p><u>Outcomes of SEL programs in school</u></p> <p>Short term includes:</p> <ul style="list-style-type: none"> • positive attitudes toward self and others • positive social behaviours • reduced emotional distress • academic competence <p>Long term includes:</p> <ul style="list-style-type: none"> • healthy relationships • mental health 	Moderate

Notes. P = Positive Emotions, E = Engagement, R = Relationships, M = Meaning, A = Achievement, W = Well-being, R = Resilience, MH = Mental Health

2. Case studies

Author	Country	Context	Participants		PERMA Components	Outcomes	Relevant Results	Critical Appraisal Score
			Age	Sample Size				
Anbar & Murthy (2010)	US	Clinical	10	1	P, S	W	Key points for patient with cystic fibrosis: <ul style="list-style-type: none"> • A hopeful attitude can strengthen a patient (having a goal to look forward to) • Patient became enthusiastic • Reestablishment of hope appeared to improve wellbeing 	High
Holder et al. (2015)	US	Clinical	12	1	R	MH	Relationship centred care approach includes: <ul style="list-style-type: none"> • Relationships • Emotional connection with others • Patient family involved In case study this approach rendered positive results for George's MH.	High

Notes. P = Positive Emotions, E = Engagement, R = Relationships, M = Meaning, A = Achievement, W = Well-being, R = Resilience, MH = Mental Health

3. Cross-sectional

Author	Country	Context	Participants Age (Mean)	Sample Size	PERMA Components	Outcomes	Type of data	Relevant Results	Critical Appraisal Score
Butler et al. (2022)	UK	School	8-15 (10.4)	2,074	R	W	Chi-square	Relationships between sources of support and low mental well-being were significant between high and low family adult support ($\chi^2 = 115.256, p < 0.001$), between high and low school adult support ($\chi^2 = 171.205, p < 0.001$) and high and low peer adult support ($\chi^2 = 228.800, p < 0.001$). Low levels of support were associated with lower mental well-being.	High
Bate et al. (2021)	US	Community (COVID-19 focus)	Parents with children aged 6-12 (8.73)	158	R	MH	Correlations	Child-parent conflict was significantly associated with child internalising ($r = .47, p < .01$) and externalising ($r = .68, p < .01$) symptoms. Child-parent positivity was significantly associated with child internalising ($r = -.18, p < .05$) and externalising ($r = -.19, p < .05$) symptoms.	High
Casas et al. (2020)		International (18 countries)	10-12		P	W	Confirmatory factor analysis	Highest contribution to latent variable (life satisfaction on positive affect) across different countries was "happy" and "satisfied"	High
Ojala (2012)	Sweden	School	12	293	M	W, MH	Correlations	Children who used meaning-focused coping were less likely to experience negative affect ($r = -.12, p < .05$) and more likely to experience life satisfaction ($r = .22, p < .01$).	Moderate
Guhn et al. (2013)	Canada	School (population study)	(9.7)	2,792	R	W, MH	Correlations	All correlations were significant at $< .01$ level. Adult connectedness and life satisfaction were significantly correlated for girls ($r = .40$) and boys ($r = .42$), as well as adult connectedness and anxiety for girls ($r = -.11$) and boys ($r = -.07$), and adult connectedness and depression in girls ($r = -.27$) and boys ($r = -.22$). Peer connectedness was also correlated with life satisfaction in boys and girls ($r = .42$), anxiety in girls ($r = .22$) and boys ($r = -.10$), and depression in girls ($r = -.34$) and boys ($r = -.27$).	High

Shoshani & Russo-Netzer (2017)	Israel	School	9-12 (Sample 1: 10.48, Sample 2: 10.71)	1957	P, M, S	W, MH	Correlations	Life satisfaction was positively correlated to creativity ($r = .40, p < .001$), meaning in life ($r = .53, p < .001$) and positive emotions ($r = .54, p < .001$). The SDQ was negatively correlated with meaning in life ($r = -.20, p < .001$) and positive emotions ($r = -.35, p < .001$), but was not significantly related to creativity.	High
Wang et al. (2018)	China	School	9-14 (11.4)	653	P, S	MH	Correlations	<i>Validating Strengths measure.</i> The measure (consisting of gratitude, optimism and zest) was significantly correlated to depression ($r = -.32, p < .001$).	High
Keyfitz et al. (2013)	Canada	School	9-14 (11.44)	172	P	R, MH	Correlations	Optimism was related to depression ($r = -.50, p < .001$), anxiety ($r = -.19, p < .05$) and resilience ($r = .56, p < .001$). (High
Moilanen & Myhrman (1989)	Finland & Sweden	School		320	R, A	MH	<i>t</i> -tests	Significant differences between the group No Disorder and Disorder were found for all achievement measures, including Mathematics ($t = 3.09, p = .0036$) & Grammar ($t = 4.34, p = .0001$). Those with No Disorder more often had pen-friends in Sweden after returning to Finland ($\chi^2 = 3.72, p = 0.0538$). <i>Participants were migrants</i>	Low
Ey et al. (2005)	US	School	Grades 3-6	Sample 1: 204, Sample 2: 156	P, S	MH	Spearman's correlations	<i>Testing a new measure of optimism.</i> The optimism measure was associated with some of the variables including hope ($q = .54, p < .0001$), externalising ($q = -.38, p < .0001$) and CDI ($q = -.38, p < .0001$) but not internalising ($q = -.14, ns$) or anxiety ($q = -.31, ns$), however anxiety was significant with total optimism measure ($q = -.36, p < .0001$).	High
Ostberg (2003)	Scotland	School	7-11	13,932	R	W, MH	Logistic regression	Higher peer status was associated with (reduced) malaise ($p < .001$).	High
Graham-Bermann et al. (1996)	US	Family	7-12(9.63)	121	R	MH	Correlations & <i>t</i> -tests	For girlfriend/boyfriend relationships support factor was higher for those in homeless families than for those in low-income families	High

								($t(32.5) = 3.06, p < .004$). Total CBCL score was negatively related to Support from the father for children in both homeless ($r = -.42, p < .01$) and housed ($r = -.27, p < .05$) samples.	
Felix et al. (2013)	Puerto Rico	Post disaster	4-10, 11-17	1886 dyads	R	MH	Correlations	4 to 10-year old's included only Parent child relationship quality and internalising psychopathology ($r = -0.16, p < .01$)	High
Nauli & Mulyono (2019)	Indonesia	School	9-12	100	S	R	Chi-square	39% of participants had high spirituality and positive emotional resilience. Significant relationship between the level of spirituality and emotional resilience ($p = 0.026$) -correlation coefficient not reported.	Moderate
Stocker (1994)	US	Community	(7y11m)	85	R	MH	Multiple regression	Interactions of maternal and friendship warmth were significant for depressive mood ($F(1, 75) = 4.12, p < .05$).	Moderate
Chai et al. (2019)	China	Rural community	9-16 (12.11)	1449	R	W, R	Correlations	There was a significant positive relationship between relationships and resilience ($r = 0.34, p < .01$), as well as relationships and wellbeing ($r = 0.37, p < .01$) in left behind children.	High
Somchit & Sriyaporn (2004)	Thailand	School	9-16 (11.85)	267	A	R	Correlations	The relationship between resilience and academic achievement was not significant ($r = 0.036$).	High
Bang et al. (2018)	Korea	School	Grade 4-5	343	R	MH	Correlations	Significant negative relationship between depression and peer relationships ($r = -0.775, p = 0.01$).	Moderate
Samara et al. (2020)	UK	Community	6-16	269	R	W, MH	ANOVA & regression	Total psychosomatic problems were predicted by negative friendship quality ($\beta = -0.148, p < .05, 95\% \text{ CI } [0.753-0.988]$) in refugee children.	High
Du et al. (2017)	China	Rural community	6-17 (12)	518	M	R, MH	Correlations	Significant positive relationship between meaning in life and resilience ($r = .71, p < .001$), and a significant negative relationship between meaning in life and depression ($r = -.21, p < .001$) in children whose parents have HIV.	High

Manfro et al. (2017)	Brazil	School	6-14 (9.7)	2512	R	MH	Regression & mediation	Higher SDQ was individually associated with lower overall friendship in 3 domains: emotion ($\beta = -0.385, p < 0.001$), hyperkinetic ($\beta = -0.311, p < 0.001$), and conduct ($\beta = -0.516, p < 0.001$).	Moderate
Im & Kim (2012)	Korea	Clinical	7-15 (9.51)	102	R, A	R	Correlation & regression	Significant relationships reported between resilience and the warmth-acceptance of mothers ($r = 0.384, p < 0.01$) and fathers ($r = 0.363, p < 0.01$), as well as resilience and relationship with friends ($r = 0.343, p < 0.01$) and teachers ($r = 0.349, p < 0.01$). The relationship between resilience and achievement was not significant ($r = 0.197$). Relationships with friends was a significant variable affecting resilience ($\beta = 0.300, p < 0.01$). <i>Participants were children with atopic dermatitis currently receiving treatment</i>	High
Veronese et al. (2012)	Palestine	Community (Tulkarem Region of the West Bank)	8-12 (10.8)	226	P, S	W	ANOVA & correlation	Subjective happiness scale correlated positively with the optimism scale (YLOT) ($r = 0.24; p < 0.01$).	High
Lengua (2002)	US	Community	7.8-11.9(9.9)	101	P, S	W, R	Correlations	Significant positive relationships were reported for positive emotionality and positive adjustment (resilience) ($r = .33, p < .01$). As well as for self-regulation and positive adjustment (resilience) ($r = .43, p < .01$).	High
Luthar & Latendresse (2005)	US	School	6th grade	614	A	MH	Correlations	Significant negative relationship between internalising problems and achievement in both low-income girls ($r = -.34, p < .01$) and low-income boys ($r = -.19, p < .01$), this relationship was not significant for affluent girls or boys. Achievement and externalising symptoms had a significant relationship for low-income girls ($r = -.37, p < .01$) but was not significant for low-income boys, or affluent boys or girls.	High

Saputra et al. (2017)	Indonesia	School	6-12	143	R, A	MH	Correlations	Academic competence had a negative relationship with mental health problems ($r = -0.177, p < 0.05$) Family environment-relationship dimension had a negative relationship with mental health problems ($r = -0.176, p < 0.05$).	High
Fayed et al. (2015)	Canada	Clinical	8-14 (11.41)	480	R	W, MH	Mediation model	Peer support had a significant direct effect on mental health ($.28, p < .001$) and total effect on quality of life ($.35, p < .001$), as did parental support on mental health ($.35, p < .001$) and quality of life ($.19, p < .001$) <i>Participants were children with epilepsy.</i>	High
Cedeno et al. (2010)	US	School	5th grade (10.2)	132	S	MH	Correlations	Hope was negatively related to externalizing behaviours for boys ($r = -.27, p < .05$), and to internalizing symptoms for girls ($r = -.31, p < .05$).	High
Lin et al. (2011)	Taiwan	School	7-12 (9.7)	157 children	R, A	MH	Correlations	Child/parent relationship (close/not close) was significantly associated with depression in native families (OR = 1.96, 95% CI [1.20–3.22], $p < .01$) and immigrant families (OR = 2.46, 95% CI [1.10–5.48], $p < .05$). Peer relationships was also significantly associated with depression in native (OR = 1.70, 95% CI [1.07–2.69], $p < .05$) and immigrant families (OR = 3.25, 95% CI [1.36–7.79], $p < .01$). Academic achievement was only significant in immigrant families (OR = 3.03, 95% CI [1.34–6.77], $p < .01$).	Moderate
Lin et al. (2013)	Taiwan	Family	(9.61)		R	MH	ANOVA	There was no significant difference in parent child relationship (close/not close) between different types of households (both parents/single mother/single father). Parent-child relationship (close/not close) was not significant with depression. However, when both parents were not close with child (OR = 2.15, 95% CI [1.41–3.29], $p < .01$) or a single father was not close with child (OR =	High

								4.49, 95% CI [2.01–10.03], $p < .01$) this was associated with depression, single mother was not significant.	
Bergeron et al. (1992)	Canada	General population	6-14	139	R	MH	Correlations	<i>Testing new measure of child mental health.</i> 6–11-year-old data: Parent caring showed highest correlation with MH on Parent DISC-2 scale ($r = -.34$, $p < .05$) and Dominic scale ($r = -.25$, $p < .001$).	High
Bergeron et al. (2007)	Canada	Family	6-14	2400	R	MH	Logistic regression	<i>Results for 6 to 11-year-olds only.</i> Unadjusted ORs were significant for two variables: single-parent versus two-parent family with depression (OR = 2.57, 95% CI [1.29, 4.14]). A weak association was found for low frequency of parent's caring behaviours with depression (OR = 1.45, 95% CI [1.08, 1.96])	High
Mathijssen et al. (1998)	Netherlands	Community	9-16	137 families	R	MH	Pillai's multivariate test & effect sizes	Effects of relationship components on internalising & externalising: Restrictiveness of mothers to children ($F = 6.35$, $p < .01$, ES = .09) and fathers to children ($F = 3.54$, $p < .05$, ES = .05) were significant. Justice was significant in mothers to children only ($F = 12.50$, $p < .01$, ES = .16). Recognition was also significant in mothers to children ($F = 4.58$, $p < .01$, ES = .07) but not fathers to children. Trust was significant in both mothers to children ($F = 3.91$, $p < .05$, ES = .06) and fathers to children ($F = 1.08$, $p < .01$, ES = .02).	High
Pedersen et al. (2019)	Norway	School	8-12	750	A	MH	Correlations & Linear regression	There was a significant relationship between achievement and internalising problems ($r = -0.189$, $p < 0.001$), however there was no significant relationships between achievement and anxiety symptoms ($r = 0.015$, ns) or depressive symptoms ($r = -0.068$, ns).	High
Elvin et al. (2021)	Australia	Community	9-11 (9.96)	93	P, R, S	W, MH	Correlations	Significant relationships were reported between self-regulation and flourishing ($r =$	High

								.680, $p < .001$), anxiety ($r = -.333$, $p < .01$) and depression ($r = -.447$, $p < .001$). Between prosocial behaviours and flourishing ($r = .614$, $p < .001$), anxiety ($r = -.221$, $p < .05$) and depression ($r = -.400$, $p < .001$). Between hope and flourishing ($r = .697$, $p < .001$), anxiety ($r = -.618$, $p < .001$) and depression ($r = -.639$, $p < .001$).	
Finch et al. (2020)	Australia	School	9-14 (11.54)	456	P, S	W, R, MH	Correlations	Significant relationships between hope and resilience ($r = .71$, $p < .01$), flourishing ($r = .69$, $p < .01$), anxiety ($r = -.36$, $p < .01$) and depression ($r = -.51$, $p < .01$). Significant relationships between optimism and resilience ($r = .65$, $p < .01$), flourishing ($r = .65$, $p < .01$), anxiety ($r = -.39$, $p < .01$) and depression ($r = -.55$, $p < .01$).	Moderate
O'Connor et al. (2019)	Australia	School (from other studies)	8-9	3790	A	MH		There were significant associations between mental health competence (MHC) and Numeracy ($\beta = 0.21$, $p < .05$), Persuasive Writing ($\beta = 0.19$, $p < .05$), Reading ($\beta = 0.18$, $p < .05$), and Spelling ($\beta = 0.18$, $p < .05$), but not with Punctuation ($\beta = 0.14$, ns). Children in the high MHC group scored significantly higher on all NAPLAN tests than those with low-moderate MHC.	Moderate
Liu et al. (2020)	US	School	8-12	1060	R, S	W	Correlation	Significant positive relationship between life satisfaction and school connectedness ($r = 0.439$, $p < .01$), as well as life satisfaction and hope ($r = 0.589$, $p < .01$)	Moderate
Choi et al. (2019)	South Korea	School	10-12	4705	P, A	W	Correlations	Significant relationships between achievement and life satisfaction ($r = .352$, $p < .01$), as well as positive affect and life satisfaction ($r = .799$, $p < .01$).	High
Chai et al. (2018)	China	School	8-10(10.06)	439	S	W, MH	Correlations	Significant relationships between hope and depression ($r = -.30$, $p < .001$), and hope and life satisfaction ($r = .57$, $p < .001$).	High

Van Heerden & Wild (2018)	South Africa	School	9-13(10.41)	120	R	MH	Structured interviews	Internalizing problem scores for children with a grandparent in their inner circle ($M = 4.24$, $SD = 3.32$) was not significantly different from those of children without a grandparent in the inner circle ($M = 4.83$, $SD = 3.53$) ($t(118) = 2.90$, $p = .37$). Similarly, there were no significant differences in externalizing problem scores for children with a grandparent in the inner circle ($M = 5.41$, $SD = 4.50$) and those without ($M = 5.83$, $SD = 3.39$), $t(118) = 2.53$, $p = .60$. Out of the different support systems (parent, grandparent, sibling, other relative, friend, professional) only parent support was significant and only with externalising ($r = -.25$, $p < .01$)	High
Sahranc et al. (2018)	Turkey	School	9-13(10.39)	289	S	MH	Correlation & Regression	Social anxiety was negatively correlated with social support ($r = -.51$, $p < .01$), and with hope ($r = -.42$, $p < .01$). Regression analysis showed that social anxiety significantly predicted hope (Coeff. = $-.10$, 95% CI $[-.15$ to $-.04]$, $p < .01$).	Moderate
Yan et al. (2017)	China	Community	6-12(8.54)	150 dyads	R	MH	Correlation	Correlation between attachment & child depression ($r = -.38$, $p < .01$)	High
Holder et al. (2016)	Zambia	School	7-12	391	S	W	Correlations	Life satisfaction correlated with different aspects of spirituality including Spiritual person ($r = .367$, $p < .0167$), connected to nature ($r = .389$, $p < .0167$), connected to plants & animals ($r = .192$, $p < .0167$) and enjoy outdoors ($r = .319$, $p < .0167$).	Moderate
Kroesberg et al. (2016)	Netherlands	School		233	A, S	W, MH	Means	High-creative children had higher scores on internalizing ($M = 2.60$, $SD = 2.29$) and externalizing problems ($M = 4.60$, $SD = 3.16$) than low-creative children internalising ($M = 1.00$, $SD = 1.21$) and externalising ($M = 3.05$, $SD = 2.87$).	High

								High-performing children had fewer internalizing ($M = 1.25$, $SD = 1.29$) problems compared with underachieving children ($M = 1.91$, $SD = 2.15$) and externalizing problems ($M = 2.67$, $SD = 2.67$) than underachieving children ($M = 4.26$, $SD = 3.15$).	
van der Wal et al. (2016)	Netherlands	School	9-13 (10.41)	265	R, S	W	Regression	There was a positive association between psychological wellbeing and self-reported forgiveness ($\beta = .19$, $t(271) = 2.86$, $p = .005$). Forgiveness toward nonfriends was not associated with psychological well-being. More behavioural forgiveness toward friends was associated with more psychological well-being ($\beta = .30$, $t(132) = 3.66$, $p < .001$), whereas this was not significant for forgiveness toward nonfriends.	High
Gaderman et al. (2016)	Canada	School	(9.7)	5026	R	W	Correlations	All relationship variables correlated with life satisfaction including home ($r = .42$, $p < .01$), neighbourhood ($r = .24$, $p < .01$) school ($r = .33$, $p < .01$) and peer belonging ($r = .41$, $p < .01$).	High
John-Akinola & Gabhainn (2015)	Ireland	School	9-13	231	R	W	Logistic regression	Teacher relationship ($OR = 1.20$, 95 % CI [1.10-1.32], $p < .001$) were more likely to be significantly associated with health and wellbeing in non-health promoting schools. Class relationships ($OR = 1.13$, 95 % [CI 1.06-1.21], $p < .001$) and relationship with teacher ($OR = 1.20$, 95 % CI [1.11-1.29], $p < .001$) were both significantly associated with health and wellbeing outcomes for all groups of pupils.	High
Drugli (2013)	Norway	School	6-13	825	R	MH	Correlation	There were significant relationships between teacher-student relationship closeness and internalising ($r = -.20$, $p < .001$), closeness and externalising ($r = -.26$, $p < .001$), conflict and internalising ($r = .31$, $p < .001$) and conflict and externalising ($r = .80$, $p < .001$).	High
Palsdottir et al. (2012)	Iceland	School	10-12	11,387	R	W	Correlations	Correlation between liking teacher at school and wellbeing during school lessons was	Moderate

								significant ($r = .36, p < .001$). The relationship between friends and wellbeing was significant for boys ($r = .29, p < .001$) and girls ($r = .35, p < .001$).	
Chun & Chung (2011)	South Korea	School		207 (105 from children of immigrant women and 102 from Korean children)	R	R, MH	Path analysis	Children of immigrants: Ego resiliency had a significant direct effect ($\beta = .37, p < .001$) on the teacher–student relationship, (higher ego resiliency leading to a more positive teacher–student relationship). Higher ego resiliency had significant levels of direct ($\beta = .37, p < .001$) and indirect ($\beta = .11, p < .01$) effect on peer relationship. Peer relationship ($\beta = -.20, p < .05$) had direct effect on depression. Korean children: Ego resiliency had a direct effect ($\beta = .42, p < .001$) on the teacher–student relationship, Ego resiliency had no significant direct effect but a significant indirect effect ($\beta = .19, p < .05$). Peer relationship ($\beta = -.23, p < .01$) had a significant direct effect on depression.	High
Holder et al. (2010)	Canada	School	8-12 (10.25)	320	S	W	Correlations	Child rated subjective happiness scale was positively correlated with most aspects of spiritual wellbeing questionnaire, including Personal ($r = .38, p < .05$), Communal ($r = .34, p < .05$), and Environmental ($r = .14, p < .05$), but was not significantly correlated to Transcendental aspect ($r = .10, ns$). For other happiness measures (Faces Scale & Oxford Happiness Questionnaire) all aspects were correlated to spirituality.	High
Hakvoort et al. (2011)	Netherlands	Family	8-12 (10.86)	87	R	MH	Multiple regression	Relationship between child & mothers: Wilks's criterion showed no significant main effects of family structure (Wilks's $\lambda = .97, F(1, 80) = 1.10, p > .05$). Child psychosocial adjustment: No significant main effects of family structure (Wilks's $\lambda = .98, F(1, 86) = .62, p > .05$).	High

Earhart (2009)	US	School	3rd-4th grade	89	S	W	Correlations	Significant positive correlation between hope and LS ($r = .557, p < .01$)	Moderate
Hilton et al. (2001)	US	Family	6-10	90 families	R	MH	Means	Group comparisons revealed that single mothers reported more child internalizing ($M = 8.0, SD = 6.74$) and externalizing behaviour ($M = 10.14, SD = 7.78$) than married parents (Internalising $M = 4.9, SD = 3.18$; Externalising $M = 4.79, SD = 3.57$). Single fathers reported more externalizing behaviour ($M = 9.60, SD = 8.85$) than married mothers ($M = 4.79, SD = 3.57$).	High
Terry & Huebner (1995)	Netherlands	School	Grades 3-5 (9.07)	183	R	W	Correlations Multiple regression	Relationship variables and LS were significantly correlated, including parent aspect ($r = .53, p < .005$), peers ($r = .40, p < .005$) and general school ($r = .32, p < .005$) Multiple regression with global LS predicted by self-concept domains: Parent ($F = 72.8, p < 0.001, R^2 \text{ increment} = 0.29, \text{cumulative } R^2 = 0.29$) and Peer ($F = 40.6, p < 0.001, R^2 \text{ increment} = 0.02, R^2 \text{ cumulative} = 0.31$).	High
Corominas et al. (2020)	Spain	School	Years 5-6 (10.74)		R	W		Relevant domain-based contributions to children's SWB were heard by adults ($\beta = .104, p < .001, R^2 = .271$), classmates ($\beta = .067, p < .001, R^2 = .510$), people live with ($\beta = .099, p < .001, R^2 = .533$) and friends ($\beta = .062, p < .001, R^2 = .547$) Affective SWB contributions included happy ($\beta = .461, p < .001, R^2 = .387$) and calm ($\beta = .048, p < .001, R^2 = .424$)	High
Mínguez (2020)	Germany, the United Kingdom, Norway and Spain	International survey	9-12		R	W	Correlations	Relationship with friends was significantly related to subjective wellbeing ($r = .28, p < 0.001$), as was attention of parents and subjective wellbeing ($r = .43, p < 0.001$).	High
Damm et al. (2022)	Denmark	Community	(10.6)	197	R	MH, R	Regression	A relationship with an adult mentor had a significant impact on SDQ factors internalising ($F = 8.28, SE = 2.71, p < .01$) and externalising (F	High

								= 13.51 SE = 2.53, $p < .01$) and on Child and Youth Resilience Measure ($F = 26.82$, SE = 2.28, $p < .01$).	
Steinbach & Augustijn (2022)	Germany	Family	0-14 (7.8)	1,233 families	R	MH	Regression	Mother-child relationship quality predicted mental health problems ($\beta = -.29$, SE = .01, $p < .001$), as did father-child relationship quality ($\beta = -.18$, SE = .08, $p < .001$). <i>Participants were in separated families</i>	High
van Breda (2022)	South Africa	School	6-15 (10.22)	116	A	R	Correlations	Measures of academic achievement and resilience were significantly positively correlated when measured by parent report with Pearson's correlations ranging from .18 to .28, but were not significantly correlated when resilience was measured by self-report.	Moderate

Notes. P = Positive Emotions, E = Engagement, R = Relationships, M = Meaning, A = Achievement, W = Well-being, R = Resilience, MH = Mental Health, SDQ = Strengths and Difficulties Questionnaire, CBCL = Child Behaviour Checklist, SWB = subjective well-being, ES = effect size

4. Longitudinal

Author	Country	Context	Participants		PERMA Component/s	Outcome/s	Relevant Results	Critical Appraisal Score
			Age Range (Mean)	Sample Size				
Essler et al. (2021)	Germany	Family (COVID-19 focus)	3-10	T1: 2,921 T2: 890	R	W	Child well-being and negative parent-child relationship quality ($r = -.10, p < .01$) were significantly correlated at Time 1. Child well-being and both positive ($r = .09, p < .05$) and negative ($r = -.11, p < .01$) parent-child relationship quality was significantly correlated at Time 2. Time 1 parent-child relationship quality (positive and negative) were not associated with Time 2 child well-being.	High
McArthur et al. (2021)	Canada	Cohort data (focus on COVID-19)	Birth to 11	846 mother/child dyads	R	MH	<i>Birth to 8-year-old data was pre-pandemic, 9 to 11-year-old data was post COVID-19.</i> Connectedness to caregivers ($B = -0.16, 95\% \text{ CI } [-0.22, -0.09]$) predicted COVID-19 anxiety, controlling for pre-pandemic anxiety. Connectedness to caregivers also predicted COVID-19 depression ($B = -0.26, 95\% \text{ CI } [-0.32 \text{ to } -0.21]$), controlling for pre-pandemic depression. Connectedness to caregivers also predicted happiness post COVID-19 ($B = 0.36, 95\% \text{ CI } [0.28, 0.39]$). Pre-pandemic peer relationships did not predict mental health symptoms.	High
Goetschius et al. (2021)	US	School	Data collected at 3, 5, 9 and 15	4,898	R	MH	<i>9-year-old data used only</i> Correlations between school connectedness and internalising symptoms ($r = -.12, p < .01$) and externalising symptoms ($r = -.15, p < .01$) were significant.	High
Mishra et al. (2018)	US	National survey	8-17 (10.28)	2151	R	MH	Children with greater increases in peer relationship quality over time had greater declines in post-traumatic stress symptoms over time ($\beta = -0.68, p < .001$). Better quality peer relationships at baseline did not significantly predict decrease in PTS symptoms.	High
Harper & Fine (2006)	US	Family	3-12	129	R	W	Father warmth was significantly related to father-reported child well-being ($r = .19, p < .05$).	High

Schottenbauer et al. (2007)	US	School	1 st to 3 rd grade	7,515	A, S	MH	Family attendance at religious or spiritual programs was significantly associated with child mental health problems ($r = 0.027, p < .05$), as well as internalising ($r = -.50, p < .001$) but not externalising (ns). Parent religious coping (prayer/meditation and trust in higher power) was not associated with mental health problems; however, prayer/meditation was associated with internalising behaviours ($r = -.070, p < .05$) and trust in higher power with externalising behaviours ($r = .062, p < .05$).	Moderate
Liew et al. (2018)	US	School	(6.57)	784	R, A	R	Resiliency and teacher-student relationships (warmth) were associated at Time 1 ($r = .73, p < .05$), Time 2 ($r = .73, p < .05$) and Time 3 ($r = .72, p < .05$). Resiliency and teacher-student relationships (conflict) were associated at Time 1 ($r = .67, p < .05$), Time 2 ($r = .68, p < .05$) and Time 3 ($r = .67, p < .05$). Resiliency and peer relationships were associated at Time 1 ($r = .46, p < .05$), Time 2 ($r = .42, p < .05$) and Time 3 ($r = .35, p < .05$).	High
Bayer et al. (2018)	Australia	School	8-9	1221	R	MH	Friendship acts as a protective buffer against internalising problems in children who are bullied, compared to children with no friends ($F(3,349) = 3.9, p = .009$). There was no significant effect of friendship on externalising symptoms.	Moderate
Kaspar (2013)	Canada	National survey	6-14 (10.1)	12,366	R	MH	Peer relationship quality significant predicted psychological/nervous problems in regression model ($\beta = -.66, p < .001, ES = -.015$). Parent-child relationship quality was also a significant predictor ($\beta = -.35, p < .001, ES = -.008$). <i>Participants were Aboriginal children.</i>	Moderate
Lengua (2003)	US	Community	Grades 3-5 (9.9)	89	S	W, MH	Smiling/laughter was related concurrently and longitudinally to higher levels of well-being ($r = .25, p < .05$) but not to internalising or externalising. The Stroop interference score (self-regulation) was not significantly related to any outcomes.	High

Guzman et al. (2011)	Chile	School	4th grade	7903	A	MH	Mentally healthy in 1st grade predicted academic achievement test score in 4th grade ($F = 241.56, p < .001$).	High
Murphy et al. (2015)	Chile	School	1st to 3rd grade	($n = 61,807$ in first grade and $n = 56,476$ in third grade)	A	MH	Mental health risk in 1 st grade and academic performance in 1 st grade had significant negative relationship as reported by teacher ($r = -0.36, p = .01$) and by parent ($r = -0.27, p = .01$). Mental health risk in 1 st grade & academic performance in 3 rd grade reported by teacher ($r = -0.25, p = .01$) and by parent ($r = -0.22, p = .01$)	Moderate
Skinner et al. (2016)	US	School	4th-6th grade	880	E	R	Engagement & coping were significantly related in fall ($r = .57, p < .001$) and in spring: ($r = .59, p < .001$).	High
Sabato & Kogut (2019)	Israel	School	Study 1: 2nd grade & 5th grade; Study 2: 7-11 (7.8 and 10.58)	Study 1: 41; Study 2: 225	R	W	SWB was associated with greater sharing in 5 th grade ($t = 1.53, \beta = .14, p = .12$) but not in 2 nd grade ($t = -0.49, \beta = -.05, p = .62$) Some weak correlations between amount of candy shared & specific well-being scales, e.g., satisfaction with family ($r = .138, p = .041$) and satisfaction with possessions ($r = .163, p = .016$), however friends scale was not significant.	Moderate
Wang et al. (2018)	Australia	Cohort	6-7, 8-9 and 10-11	3,153	R	MH	Peer problems at 4-5 years old was significantly correlated to internalising problems at 6-7 years ($r = .18, p < .01$), 8-9 years ($r = .19, p < .01$) and 10-11 years ($r = .18, p < .01$). Relationships were also significant between peer problems at 6-7 and internalising problems at 6-7 years ($r = .13, p < .01$), 8-9 years ($r = .16, p < .01$) and 10-11 years ($r = .17, p < .01$). Peer problems at 4-5 years was also significantly associated with externalising problems at 4-5 ($r = .15, p < .01$) and at 6-7 ($r = .18, p < .01$). Peer problems at 6-7 were also related to externalising problems at 6-7 ($r = .22, p < .01$)	Moderate
Wang et al. (2016)	Australia	Cohort	6-7, 8-9	2857	R	W	Teacher/Child closeness had a significant negative relationship with peer problems ($r = -0.23, p < .01$), but not emotional symptoms ($r = -0.02, ns$).	Moderate

							Teacher/Child conflict had a significant positive relationship with peer problems ($r = 0.39, p < .01$), as well as emotional symptom's ($r = 0.15, p < .01$).	
Yang et al. (2019)	China	School	Grades 3-5 (9.43)	807	A	W	Academic achievement and subjective well-being in school measured at 3 time points 6 months apart. Academic achievement at Time 1 was positively associated with subjective well-being at Time 1 ($r = .15, p < .001$), Time 2 ($r = .18, p < .001$) and Time 3 ($r = .24, p < .001$). Achievement at Time 2 was also associated with well-being at Time 1 ($r = .12, p < .01$), Time 2 ($r = .18, p < .001$) and Time 3 ($r = .23, p < .001$). Achievement at Time 3 was correlated with well-being at Time 1 ($r = .15, p < .001$), Time 2 ($r = .19, p < .001$) and Time 3 ($r = .24, p < .001$).	High
Flouri et al. (2014)	UK	Cohort	3, 5 & 7	16,916	S	MH	Self-regulation at age 5 significantly correlated with internalising at age 5 ($r = -.25, p < .001$) and 7 ($r = -.22, p < .001$), as well as externalising at age 5 ($r = -.40, p < .001$) and 7 ($r = -.32, p < .001$). Self-regulation at age 7 is also significantly correlated with internalising at age 5 ($r = -.23, p < .001$) and 7 ($r = -.31, p < .001$), as well as externalising at age 5 ($r = -.34, p < .001$) and 7 ($r = -.46, p < .001$).	High
Barbarin et al. (2001)	South Africa	Cohort	5	625	R, S	MH	Family spirituality and anxious/depressed outcome was not significant ($r = .016$), nor was family satisfaction and anxious/depressed ($r = .026$).	High
Degoy & Olmos (2020)	Argentina	School	9-13 (9.5)	533	A	W	Autoregressive model with academic performance (AP) 2 regressed on AP1 for psychological wellbeing was significant ($p < .01, \beta = 0.807$), as was AP2 to AP3 ($p < .01, \beta = 0.797$).	High
Toseeb et al. (2020)	UK	Cohort	2-11 (friendships measured at 7 years, MH measured at 11)	6,531	R	MH	Friendships predicted externalising problems in children without developmental language disorder (DLD) ($\beta = -0.082, 95\% \text{ CI } [-0.116, -0.048], p < .001$) but not with DLD ($\beta = 0.036 [-0.075, 0.146], \text{ns}$). Friendships predicted internalising problems in children without DLD ($\beta = -0.294 [-0.333, -0.254], p < .001$).	High

							.001) and with DLD ($\beta = -0.255 [-0.409, -0.101]$, $p < .01$).	
Mekonnen et al. (2020)	Ethiopia	Community	6.5-9.3	2090	R, A	MH	High SDQ significantly predicted lower academic achievement ($\beta = -2.89$, 95% CI $[-5.73, -0.06]$, $p < .05$), as did the conduct problems sub-scale of the SDQ ($\beta = -0.57$; 95% CI $[-1.02, -0.12]$, $p < .05$), other subscales were not significant.	High
Flouri et al. (2015)	UK	Cohort	3-7	16,916	R	MH	Parent-child relationship predicted internalising problems ($t = -0.075$, 95% CI $[-0.08, -0.07]$, $p < .001$) and externalising problems ($t = -0.135$, 95% CI $[-0.014, -0.13]$, $p < .001$).	High
Li et al. (2021)	China	School	(Sample 1: 10.36; Sample 2: 10.42) <i>Samples from two different school districts (measured at 4 time points across two semesters).</i>	897 (cross validation sample of 821)	A	MH	There was a significant relational between achievement (T2) and depression (T1) in sample 1 only ($r = -0.12$, $p < .01$). As well as achievement (T2) & depression (T3) in both sample 1 ($r = -0.12$, $p < .01$) and sample 2 ($r = -0.18$, $p < .001$). Significant negative relationships were observed for achievement (T4) and depression (T3) in sample 1 ($r = -0.16$, $p < .001$) and sample 2 ($r = -0.17$, $p < .001$). As well as for achievement (T4) and depression (T1) in both sample 1 ($r = -0.13$, $p < .001$) and sample 2 ($r = -0.09$, $p < .05$)	High
Panayiotou (2019)	UK	School	9-12 (9.17, 10.17, 11.17)	1626	R, A	MH	There is a significant relationship between achievement & mental health difficulties ($r = -.41$, $p < .001$), as well as school connectedness & mental health difficulties ($r = -.40$, $p < .001$).	High
Gubbels (2017)	Netherlands	School	(10.333)	150	S	W	Wellbeing and creative abilities correlated at beginning of 5 th grade ($r = .321$, $p < .01$), end of 5 th grade ($r = .245$, $p < .01$) and end of 6 th grade ($r = .367$, $p < .01$).	Moderate
Marques (2016)	Portugal	School	11-12 (11.61)	592	E, S	W, MH	<i>Only including T1 data (participants 16 at T2).</i> Significant positive relationships between hope and life satisfaction ($r = .55$, $p < .01$), hope and mental health ($r = .42$, $p < .01$), engagement and life satisfaction ($r = .39$, $p < .01$) and engagement and mental health ($r = .36$, $p < .01$).	Moderate

Ng (2014)	Hong Kong	Community	7-12(8.84)	150	S	W	Both facets of the Hope scale (hope-agency and hope-pathway) were related to life satisfaction. Some children in the study had been a part of a mentoring program and some were in a control group. Life satisfaction had a significant positive relationship with hope-agency at both baseline ($r = .20, p < .05$) and follow-up ($r = .55, p < .01$). Life satisfaction had a significant positive relationship with hope-pathway at both baseline ($r = .23, p < .01$) and follow-up ($r = .51, p < .01$).	Moderate
Marques et al. (2011)	Portugal	School	T1: 10-15(11.78)	367	A, S	W, MH	Correlations between variables in the two-year study (predictors used were not relevant). Only T1 used only as participants are >12 at T2. There was a significant positive relationship between hope and life satisfaction ($r = .58, p < .01$), as well as hope and mental health ($r = .46, p < .01$). Achievement had a significant relationship with life satisfaction ($r = .25, p < .01$), but not with mental health ($r = .10, ns$).	High
Froh (2010)	US	School	10-14(11.74)	700	S	W	Gratitude (T1) and life satisfaction (T2) had a significant positive relationship ($r = .30, p < .001$)	High
Kwok et al. (2007)	US	School	1st grade (6.57)	445	A	R	Correlations between achievement measures and ego-resiliency were all significant. Ego-resiliency and maths 1 ($r = .15, p < .01$), maths 2 ($r = .21, p < .01$), reading 1 ($r = .33, p < .01$) and reading 2 ($r = .32, p < .01$).	High
Mok et al. (2014)	UK	Cohort	7-16	171	R	MH	Subscales of SDQ predicted group membership (groups – low/no peer problems, childhood-limited problems, childhood-onset persistent problems & adolescent-onset problems). Children in the childhood-onset persistent problems group were less prosocial than those with low/no peer problems (OR = 0.44, 95% CI [0.30, 0.64], $p < .001$). They showed higher levels of emotional symptoms than low/no problems group (OR = 1.59, 95% CI [1.13, 2.24], $p = .008$). Children with childhood-limited	High

							problems were less prosocial than those with low/no problems (OR =0.53, 95% CI [0.36, 0.77], $p = .001$).	
García-Moya et al. (2015)	UK	International survey	11-15	9,444	R	W	Only included 11-year-old data. Teacher connectedness on well-being was significant ($F(1) = 319.811$, $p = .000$, partial $\eta^2 = .117$).	High
Chen et al. (2012)	China	School	9-12	1,162	R	MH	A significant direct effect was reported for peer relationships (PR) in Grade 3 on depression in Grade 4 ($-.12$, $p < .05$). Significant indirect effects were reported for PR in Grade 3 on depression in Grade 5 ($-.11$, $p < .05$), PR Grade 3 on depression Grade 6 ($-.09$, $p < .05$), but was not significant for PR Grade 4 on depression Grade 6.	High

Notes. P = Positive Emotions, E = Engagement, R = Relationships, M = Meaning, A = Achievement, W = Well-being, R = Resilience, MH = Mental Health, SDQ = Strengths and Difficulties Questionnaire, ES = effect size.

5. Interventions

Author	Country	Context	Participants		PERMA Components	Outcomes	Intervention	Relevant Results	Critical appraisal score
			Age Range (Mean)	Sample Size					
Kirby et al. (2021)	UK	School	8-13	127	P, S	R, MH	Hopeful Minds Programme (based on hope-theory)	No significant change in positive emotions from time 1 to 2 ($t(47) = 1.39$, $p = .17$). Significant decrease in anxiety between time 1 and 2 ($t(45) = 3.30$, $p < .01$) with a medium effect size (Cohen's $D = 0.48$). Resilience scores also increased significantly from time 1 to time 2 ($t(20) = -2.06$, $p < .05$) with a medium effect size (Cohen's $D = 0.44$). Themes from focus groups on experience of programme: <ul style="list-style-type: none"> • Gaining hope - positive thinking • Sharing hope - helping others • Learning new skills - resilience & breaking down communication barriers 	Moderate
Burt et al. (2013)	US	School	9-11	32	S	MH	Leadership Implementation Training	Participants' perceived anger decreased ($t(28) = 7.42$, $p = .003$, $ES = .62$), and leadership ability increased ($t(25) = -8.20$, $p = .002$, $ES = .65$).	Low
Armstrong (2019)	Canada	School (gifted children)	6-12 (7.53)	45	M	MH	D.R.E.A.M. (Developing Resilience through Emotions, Attitudes, and Meaning)	Significant differences between the total pre-test & post Ch.I.P. (meaning) scores ($t(33) = -4.20$, $p < .001$, $d = -.738$). Significant differences between the total pre- and post-test ISA (mental health) surveys ($t(33) = -3.94$, $p < .001$, $d = -.689$).	High

								Regression yielded R^2 change of .32, a third of the variability in mental health scores was explained by a change in meaning scores.	
Schonert-Reichl et al. (2015)	Canada	School	9-11 (10.24)	100	P, R, A, S	MH	MindUP & Social responsibility programs (BAU)	Intervention effect ($F(7, 88) = 2.14, p = .04$), optimism ($F(1, 97) = 5.40, p = .02, d = .48$) significantly decreased depressive symptoms ($F(1, 97) = 4.14, p = .04, d = -0.45$). Analysis showed a trend toward higher year-end math grades for children in the MindUP program ($M = 6.12, SD = 2.17$) than for BAU children ($M = 5.25, SD = 2.46, t(87) = 1.76, p = .07, d = .38$. multivariate effect for intervention ($F(8, 87) = 10.41, p = .001$)	High
Tunariu et al. (2017)	UK	School	11-12	354	R, A, S	W	iNEAR Programme (positive psychology intervention for resilience and emotional wellbeing)	Subjective wellbeing increased over time in the experimental condition ($F(1, 224) = 12.54, p < 0.001$, partial $\eta^2 = 0.05$) and also in the control condition ($F(1, 224) = 2.18, p = 0.14$, partial $\eta^2 = 0.01$). Positive relationships with others increased between baseline and post-intervention time-points ($F(1, 208) = 4.89, p = 0.028$, partial $\eta^2 = 0.02$) but not in control group.	High
Ohl et al. (2013)	UK	School	7-8	375	R	MH	Pyramid project (strengthen friendship skills, build emotional resilience, and social skills)	Total Difficulties decreased in Pyramid group significantly ($p < .01$) but not in comparison group. Significant main effect for Prosocial behaviour scores over time ($F(1, 370) = 4.48, p < .05$, Emotional symptoms ($F(1, 371) = 14.81, p < .001$), but not for Peer problems ($F(1, 371) = 0.88, p > .05$). Peer problems did, however, slightly	High

								decrease in Pyramid group ($t(1,102) = 2.77, p < .01$).	
Foka et al. (2021)	Greece	Refugee camps	7-14 (10.76)	72	P, R, S	W, MH	Strengths for the Journey program	Intervention group reported significant improvements in well-being ($F(1, 46) = 42.99$, partial $\eta^2 = .48$, $p < .001$, optimism ($F(1, 53) = 27.16$, partial $\eta^2 = .34$, $p < .001$ and depressive symptoms ($F(1, 31) = 62.14$, partial $\eta^2 = .67$, $p < .001$).	High
Shoshani (2016)	Israel	Clinical	5-12	66	P, S	MH	Make a Wish	There were significant increase in hope in intervention group from (Cohen's $d = 0.71$, $p = .004$). Positive emotions significantly increased in both intervention ($d = 0.80$, $p = .0003$) and control ($d = .24$, $p = .000$). Depression ($d = 0.7$, $p = .000$) and Anxiety ($d = .41$, $p = .000$) both significantly decreased in intervention group, but Optimism did not change significantly.	Moderate
Kiviruusu et al. (2016)	Finland	School	(8.1)	3704	R	MH	Together at School (Cluster-RCT)	No significant effects of the intervention in social-emotional skills or psychological problems. The intervention was effective in reducing psychological problems among third grade boys (regression estimate = -0.994 , $p = 0.025$), while among first grade boys the effect was close to zero and non-significant.	Moderate
Layous et al. (2012)	Canada	School	9-11 (10.6)	415	P, S	W	Kindness Counts (Intervention group: performed 3 kinds acts; Whereabouts group: visited 3 places)	Both groups increased in life satisfaction & positive affect, no significant differences between groups. Students increased in the raw number of peer nominations they received from classmates ($\gamma_{00} = 0.68$, S.E. = 0.27 , $t(17) = 2.37$, $p = .02$), but those who performed kind acts ($M = +1.57$, $SD =$	High

								1.90) increased significantly more than those who visited places ($M = +0.71$, $SD = 2.17$; $\gamma_{01} = 0.83$, S.E. = 0.39, $t(17) = 2.10$, $p = .05$), gaining an average of 1.5 friends.	
Healy & Sanders (2018)	Australia	School (bullied)	6-12 (8.72)	111	R	MH	Resilience Triple P	Depression (T1) and friendedness (T2) were not significantly correlated ($r = .01$). Internalising response (T1) & friendedness (T2) were however ($r = -.30$, $p < .01$). Child depression (T3) & Friendedness T2: were not significantly related ($r = -.15$), as opposed to internalising response (T3) and friendedness (T2) ($r = -.42$, $p < .001$).	High
Shum et al. (2019)	Hong Kong	School	8-12 (9.53)	459	S	MH	The Adventures of DoReMiFa (digital and school-based intervention)	No significant intervention effects were found in measures of anxiety, positive and negative automatic thoughts the participants immediately and 6 months after completion of the program. There was a significant effect for mental health knowledge ($\beta = .46$, $p = .01$).	High
Sim (2015)	Korea	Clinical	9-12(11)	33	P, R, S	R	Humour intervention	The average resilience score in the experimental group increased by 9.88 (96.41 to 106.29), while the scores of the control group increased by 0.25 (98.88 to 99.13). The experimental group scores were significantly higher than the control group scores ($t = 2.999$, $p = 0.005$). <i>Participants were diagnosed with atopic dermatitis and diabetes.</i>	High
Rousseau et al. (2005)	Canada	School	7-13 (9.8)	138	S	MH	Creative expression workshops for	Effect of creative expression workshops on MH:	High

							immigrant & refugee children	Self-report externalising ($\beta = -4.15, t = -4.44, p < .000$) Self-report internalising ($\beta = -3.13, t = -3.52, p = .001$). Teacher report externalising ($\beta = -1.41, t = -1.24, p = .217$). Teacher report internalising ($\beta = -2.22, t = -2.34, p = .021$).	
Modi et al. (2018)	India	School	10-14	100	R, M, S	W	Mindfulness intervention	Difference between experimental/control group post-intervention mean in: self-regulation ($t(98) = 6.983, p < .001$), well-being ($t(98) = 17.487, p < .001$), positive relationships with others ($t(98) = 5.733, p < .001$), purpose in life ($t(98) = 9.411, p < .001$).	High
Tol et al. (2010)	Indonesia	School	7-15 (9.9)	403	R, S	MH	Cognitive-behavioural & creative-expressive intervention	No significant relationship between social supports & PTSD. No significant impact of Hope on PTSD.	Moderate
Carter et al. (2018)	UK	School	9-11 (9.82)	606	P, S	W, MH	Happy Thoughts (positive events diary)	Study 1: Intervention significantly decreased depression scores from pre-intervention to post-intervention ($F(1, 615) = 24.69, p < .01, \eta^2 = .04$) and from pre-intervention to follow-up ($F(1, 615) = 26.72, p < .01, \eta^2 = .04$). Study 2: Significant increase in happiness in the experimental group across the study: between baseline and post-test ($F(1, 31) = 10.54, p = .003$) and between baseline and follow-up ($F(1, 31) = 9.27, p = .005$). There were no significant differences in the control group.	High
Vuorinen et al. (2019)	Finland	School (Special	10-13	253	P, S	W	Character Strengths intervention	Quantitative: grit ($F(2, 250) = 5.202, p = 0.006$, partial $\eta^2 = .040$) and engagement ($F(2, 241) = 4.192, p =$	High

		educational needs)						0.016, partial $\eta^2 = .034$). increased in intervention; effect disappeared when controlling for gender. Qualitative (themes): <ul style="list-style-type: none"> • Praise • Well-being • Good interaction • The significance of encounters 	
Pandya (2018)	International	Residential homes	8-13	1689	S	W, R, MH	The Chinmaya Mission programme (spirituality intervention)	Psychological wellbeing ($t = 45.12, p = .02$) and resilience ($t = 79.12, p = .01$) were significantly higher post program, and depressive symptoms ($t = -57.24, p = .00$) decreased. <i>Participants were bereaved children.</i>	High
Elfrink et al. (2017)	Netherlands	School	4-12	184	E, R	W, MH	Positive Education Programme	Significant increase in self-reported well-being and health-related quality of life ($d = 3.46, p = 0.00$). Significant decrease between pre- and post- intervention in total difficulties score and reveal a medium- to large-sized overall effect ($d = -0.58, p = 0.02$). None of the SDQ subscales were found to change significantly.	Moderate
Foster et al. (2016)	Australia	Family	8-17 (11.69)	64	P, R, S	W, R, MH	ON FIRE peer support program	Changes in hope were significant between baseline ($M = 21.73, SD = 6.66$) and follow up ($M = 24.41, SD = 6.40$) ($p < 0.05, d = -.32$). Positive affect and connections were not significant overall. No statistically significant changes in the SDQ total difficulties, emotional symptoms, conduct problems, hyperactivity, peer problems or prosocial behaviour were found.	High
Powell & Thompson (2016)	US	Post- disaster	8-12	102	R	MH	Journey of Hope	Significant Treatment x Time effect on prosocial behaviour subscale ($F(95) =$	High

								4.286, $p < .05$) with a medium effect size ($d = 0.41$). No significant changes in other SDQ subscales.	
Allen et al. (2016)	US	Community	5-19	74	S	MH	Resilience and Coping Intervention for Children	The HQ score (hope) was negatively correlated with the self-reported CSDQ (strengths & difficulties) score ($r = -0.35$, $p = 0.0045$).	Moderate
Suldo et al. (2015)	US	School	9-10	12	P, R, S	W	Positive Psychology Intervention	Statistically significant increases from time 1 to time 2 for positive affect ($t(11) = -2.25$, $p = .023$, $d = .52$), global life satisfaction, ($t(11) = -1.59$, $p = .070$, $d = .40$) and satisfaction with friends, ($t(11) = -1.52$, $p = .079$, $d = .43$). No significant changes at follow up.	High
Quinlan et al. (2015)	Australia	School	9-12	193	P, E, R, S	W	Awesome Us Programme (classroom-based strengths program)	At baseline, life satisfaction was positively correlated with positive affect ($r = .173$, $p < .01$) and engagement ($r = .359$, $p < .001$). At follow up life satisfaction had a positive relationship with positive affect ($r = .195$, $p < .001$) and engagement ($r = .383$, $p < .001$).	High
Suldo et al. (2014)	US	School	10-12(11.43)	55	P, S	W, MH	Positive Psychology Group Intervention	Life satisfaction scores of students in the intervention group significantly increased from pre- to post-intervention ($F(1, 19) = 4.81$, $p = .041$, $\eta^2 = .20$), while LS scores in wait-list control group declined, but not to a statistically significant degree. LS from post-intervention to follow-up for the intervention group were not statistically significant. Intervention ($F(1, 19) = 6.37$, $p = .021$, $\eta^2 = .25$) and control ($F(1, 19) = 4.61$, $p = .045$, $\eta^2 = .20$) had significant decreases in internalising symptoms, but no	High

								significant change in externalising symptoms from pre- to post-intervention.	
Froh et al. (2014)	US	School	8-11 (S1:9.03, S2:9.5)	122 (Sample 2:82)	S	W	Nice Thinking! (Gratitude intervention)	Study 1: treatment group reported stronger benefit appraisals than control ($F(1, 98) = 5.88, p < .05, \eta^2 = 0.06$). Study 2: Benefit appraisal increased linearly for whole sample ($\gamma_{00} = 39.798, p < .001$). Gratitude was significantly different between at the two groups at 12 weeks ($t(80) = 1.82, p = .04, d = 0.41$) and at 20 weeks ($t(80) = 2.14, p = .02, d = 0.48$). Life satisfaction did not differ between the two groups significantly.	High
Feinberg et al. (2013)	US	School	8.59-10.8	174 families	R	MH	Siblings Are Special Program	Children in the intervention condition, compared to control, had significantly lower levels of internalizing problems at post-test ($\beta = -.55, ES = 0.31$) (controlling for pre-test levels). There were no significant intervention effects on child externalizing behaviour or father- or teacher-reported internalizing behaviour.	High
Coholic (2012)	Canada	Community	8-14	36	A, S	R	Holistic Arts-Based Group Program	Significant change in reactivity scale of resilience ($F(6,54) = 3.29, p < .01, \eta^2 = .27$), but not mastery or relatedness scales. <i>Participants were referred by child protection agency or mental health centre.</i>	High
Goodkind (2012)	US	Community	7-17(11.1)	18	R	W, MH	Teen Health Resiliency Intervention for Violence Exposure (THRIVE)	Quality of life had significant linear growth ($t(17) = 2.76, p = .015$). Children's social adjustment improved linearly over time during and after the intervention ($t(84) = 2.24, p = .03$). Qualitative:	Moderate

								Youth described improvements in all three areas of quality of life measured: family, friends, and school. <i>Participants were Native American Youth.</i>	
Ashdown & Bernard (2012)	Australia	School	Prep to Year 1	99	S	W	You Can Do It! Early Childhood Education Program	Significant effect on Positive Social-Emotional Wellbeing ($F(1,95) = 18.52, p < 0.01$, partial $\eta^2 = 0.16$).	High
Marques et al. (2011)	Portugal	School	10-12(10.96)	62	A, S	W, MH	Building Hope for the Future	Correlation analyses reveal that at Time 1, hope had significant correlations with life satisfaction ($r = .55, p < .01$) and mental health ($r = .47, p < .01$). The intervention group showed a significant increase in life satisfaction from pre- to post-assessment ($t(60) = -4.49, p < .001$) and to 6-month ($t(52) = -3.83, p = .001$) 18-month follow-up ($t(49) = -3.81, p < .001$). The comparison group showed no significant change over time. ANOVA showed no significant interaction between group and time on the MHI, (Wilks' $\lambda = .77, F(3,120) = 1.51, p = .21$, partial $\eta^2 = .03$).	High
Hui & Chau (2009)	Hong Kong	School	11-12(11.8)	56	S	W, MH	Forgiveness intervention	Non-significant difference between the two groups, except the one-item forgiveness scale ($F(55) = 21.66, p < 0.01$, ES = .30), experimental group showed more forgiveness to offenders than control group. Experimental group had a significant increase in hope ($t = 2.13, p < .05$, ES = .14) at post-test one. Significant decrease in depression ($t = 2.97, p < 0.01$, ES = .25) at post-test one, and was maintained at post-test two. No statistically significant differences between the pre-test and post-test	High

								<p>scores of the control group hope or depression.</p> <p>Qualitative: Forgiveness was considered good for 'self-development', for 'having a close relationship with others', and good to both the forgiver and the offender. Participants saw forgiveness bringing "peace and happiness in human society".</p>	
Merrell et al. (2008)	US	School	S1: 10-11 <i>Study 2 & 3 not included</i>	S1: 120	P, R	MH	Strong Kids and Strong Teens	<p>Differences in emotional symptoms checklist scores between pre-test ($M = 12.39$, $SD = 4.84$) and post-test ($M = 12.14$, $SD = 4.23$) were not statistically significant.</p> <p><i>Other two studies excluded due to age.</i></p>	Moderate
Arora & Sharma (2018)	India	Clinical	9-12	6	P	MH	Positive affect intervention	<p>Depression scores were significantly different between pre ($M = 15.83$, $SD = 4.40$) and post ($M = 6.67$, $SD = 3.20$) intervention ($t = 4.12$, $p = .002$).</p> <p><i>Participants were children with depression.</i></p>	Moderate
Beaumont et al. (2019)	Australia	Community	7-12 (9.8)	27	R	MH	The Secret Agent Society (SAS)	<p>SAS led to significant improvements in children's social skills reported by parents ($F(2, 25) = 21.91$, $p < 0.0001$, partial $\eta^2 = 0.46$), children's social competence reported by parents ($F(2, 25) = 17.12$, $p < 0.001$, partial $\eta^2 = 0.58$), children's overall anxiety reported by parents ($F(2, 25) = 8.57$, $p = 0.001$, partial $\eta^2 = 0.41$), and children's social anxiety reported by themselves ($F(2, 25) = 7.14$, $p = 0.004$, partial $\eta^2 = 0.36$).</p>	High
Seale et al. (2021)	Zambia	School	10-13(11.39)	643	S	R	GROW (resilience curriculum)	<p>Outcomes</p> <ul style="list-style-type: none"> Confidence & resilience (e.g., speaking out more in class, 	Moderate

								showing initiative, and leading others)	
								<ul style="list-style-type: none"> • Spiritual impact was a recurring theme • Significant increase in psychological resilience from Time 1 to 2 in the initial-start group ($t = 2.86, p < .001$) and Time 1 to 3 ($t = 2.82, p < .001$), but no significant changes in delayed-start group 	
Kevers et al. (2022)	Belgium	School	8-12	120	S	MH	Creative arts-based expression program	No significant difference in SDQ between intervention and control group. <i>Participants were immigrant and refugee children.</i>	Moderate
Moula et al. (2022)	UK	School	7-10	62	S	MH	Art therapy, music therapy, dramatherapy or dance movement therapy	<i>Qualitative</i> <ul style="list-style-type: none"> • Art therapies assisted in the development of coping mechanisms and stress relief 	Moderate
Rich et al. (2022)	US	School	9-12 (10.82)	169	P, S	MH, R	Resilience Builder Program (Relevant aspects of the intervention included leadership, solving friendship problems, empathy and optimistic thinking)	There was a significant interaction between time and intervention for children's sense of mastery ($F(1,146) = 12.42, p = .001, \eta_p^2 = .08$) and sense of relatedness ($F(1,148) = 7.55, p = .007, \eta_p^2 = .07$). There was a significant interaction between time and intervention for parent report of resilience ($F(1,94) = 14.06, p < .001, \eta_p^2 = .13$) or teacher's report of resilience ($F(1,117) = 9.05, p = .003, \eta_p^2 = .08$).	Moderate

Notes. P = Positive Emotions, E = Engagement, R = Relationships, M = Meaning, A = Achievement, W = Well-being, R = Resilience, MH = Mental Health, SDQ = Strengths and Difficulties Questionnaire, ES = effect size.

6. Qualitative

Author	Country	Context	Participants		PERMA Components	Outcomes	Type of data	Relevant Results	Critical appraisal score
			Age Range (Mean)	Sample Size					
Linh et al. (2021)	Vietnam	School	8-12 (9.51)	228	E, R, A	W	Thematic analysis	Themes relating to when children as satisfied with life: <ul style="list-style-type: none"> • Quality of family relationships • Quality of social relationships • Engagement in interesting and fun leisure and activities • Achieving desired goals 	High
Mitchell (2011)	US	Community (Hope Meadows shared site)	-	-	R, S	R	Qualitative	Resilience factors: <ul style="list-style-type: none"> • Community relations: the site facilitates interaction between neighbours and celebrates children's milestone with whole community • Special relationships with seniors: planned and unplanned activities develop this relationship 	Moderate
Benninger & Savahl (2016)	South Africa	Community	9-12		54 R, M	W, MH	Photovoice & community mapping	Themes: <ul style="list-style-type: none"> • Social connectedness 	High
Pienaar et al. (2011)	South Africa	Residential care (Lebone Land)	9-13		8 P, R, A, S	R	Interviews	Themes of protective factors: <ul style="list-style-type: none"> • Family • Community/Neighbourhood • External supports or support networks • Inner strengths (optimism and positive identity (n = 8), achievement motivation (n = 8), emotional management, (n = 7), trust (n = 7), religion and faith (n = 4), and humour (n = 3). • Interpersonal & problem-solving skills 	High
Braband et al. (2018)	South Africa	Children's homes	10-17		66 R, S	R	Thematic	Themes of resilience: <ul style="list-style-type: none"> • Relationship • Hope 	High

Boström & Strand (2021)	Sweden	Clinical	8-15 (11.4)	7	R	W	Interviews	Themes: <ul style="list-style-type: none"> Attuned parent-child relationship associated with child well-being <i>Participants were children of parents with psychosis.</i>	High
Cefai (2007)	Malta	School	6-9	9 classrooms	E, R, A, S	R	Qualitative	Themes: <ul style="list-style-type: none"> Sense of classroom belonging and connectedness Active engagement and collaboration Positive beliefs and expectations Recognition 	High
Sabolova et al. (2020)	Wales & Czech Republic	School	9-12 (10.2)	53	R	W	Thematic analysis	Protective factors included: <ul style="list-style-type: none"> Positive Child-parent Relationships Meaningful Friendships Coping strategies 	High
Forrest-Bank et al. (2014)	US	Community (public housing neighbourhoods)	9-15(11.9)	20	R,S	R	Thematic	Themes: <ul style="list-style-type: none"> Spiritual coping: Calling on spiritual beliefs or behaviours in response to challenges Connection (relationships that provide companionship, esteem, information, and instrumental support) Aspirations (hope) 	High
Coholic et al. (2012)	Canada	Residential care			S	R	Qualitative	Key points: <ul style="list-style-type: none"> A sense of cohesion with others is vital to development of resilience Arts based methods lead to enjoyment & making friends They were an avenue for feelings and thoughts to emerge in a safer way as thoughts and feelings could be externalized in the art creation or activity 	Moderate
Mohangi et al. (2011)	South Africa	Residential care	11-15 (12)	9	P, S	R	Thematic	Themes: <ul style="list-style-type: none"> A sense of spiritual connectedness Embracing God 	High

								<ul style="list-style-type: none"> • Sense of optimism • Positive personal characteristics 	
Pérez-Aronsson et al. (2019)	Sweden	Community	1-17(9.5)	9 mothers	R, S	W	Thematic	Themes: <ul style="list-style-type: none"> • The importance of supportive relationships • Promoting children's well-being • Focusing on the Present and Hoping for the Future <i>Participants were refugees.</i>	High
Ninomiya et al. (2021)	Japan, Mongolia & Finland	School	9-13 (11.01)	842	P, R	W	Qualitative	All countries were connected with "friend", "family," and "together," as well as "school," like," and "go." The result of related word analysis demonstrated that "friend," family," and "together" were related to each other. Key themes: <ul style="list-style-type: none"> • Interpersonal relationships • Achievement • Positive (and negative) emotions 	High
Buchanan et al. (2022)	UK	School	10-11	23	P, E, R, M, A	W	Interviews	<i>In the context of lower-attaining children during school closures due to COVID-19</i> <ul style="list-style-type: none"> • Some children had increase positive emotions being at home, others reported being sad due to missing play • Engagement decreased due to boredom/not having toys at home. Digital work did increase engagement for some. • Children missed teachers and friends, but had good relationships with family • Meaning given to schooling shifted after school closure • Enjoyed more relaxed academic expectations and more creative activities 	High

Notes. P = Positive Emotions, E = Engagement, R = Relationships, M = Meaning, A = Achievement, W = Well-being, R = Resilience, MH = Mental Health

7. Mixed-methods

Author	Country	Context	Participants		PERMA Components	Outcomes	Type of data	Relevant Results	Critical appraisal score
			Age Range (Mean)	Sample Size					
Kirby et al. (2021)	UK	School	8-13	88	S	R, MH	T-tests and group interviews	Quantitative (primary school participants only) Evaluation of the Hopeful Minds Programme using pre/post measures showed a significant change in anxiety ($t(45) = 3.30, p < .01$, Cohen's $D = .48$). Qualitative Relevant themes from group interviews: <ul style="list-style-type: none"> Gaining hope – positive thinking Learning new skills – resilience 	High
Barfield & Driessnack (2018)	US	Clinical	7-11	20	R	W	Interviews (draw and tell) – focused on qualitative	Connections was one of three themes revealed in content analysis that made children with ADHD's life 'really good'	High
Boniwell (2016)	UK	School	11-12	164	P, E, R, S	W		Non-randomised personal well-being lessons: No significant main or interaction effects were found for the general life satisfaction	Moderate
Gervais et al. (2021)	Canada	Refugees & Migrants	6-14	43	M	R, MH		Support received <ul style="list-style-type: none"> Receiving and providing family support. Receiving informal support (sometimes) Feelings related to immigration <ul style="list-style-type: none"> Experiencing positive feelings. The excitement of discovering new things. Adaptation - refugee status seems to be a protective factor for children in the study, as does the attribution of meaning to immigration	High

Notes. P = Positive Emotions, E = Engagement, R = Relationships, M = Meaning, A = Achievement, W = Well-being, R = Resilience, MH = Mental Health

8. Reviews & Meta-analyses

Author	Country	Participants		Type of study	PERMA Components	Outcomes	Relevant Results	Critical appraisal score
		Age Range (Mean)	Sample Size					
Romano et al. (2015)	Canada	0-18	20 studies	Review	A	MH	Key findings: <ul style="list-style-type: none"> • Internalising problems predict lower reading levels • Externalising problems associated with underachievement • Students with emotional & behavioural impairments perform lower on reading, writing and maths • Emotional/behavioural impairments lead to lower test scores, lower grades & school drop out 	Moderate
Robson et al. (2020)	Australia	3.00-12.99	150 studies (n = 215, 212)	Meta-analysis	S	MH	A negative association was observed between self-regulation and externalizing problems ($k = 40$, $r = -.34$, 95% CI $[-.38, -.31]$).	High
Sleijpen et al. (2016)	Netherlands	10-20	26 studies	Review	R, S	R	Relevant sources of resilience: <ul style="list-style-type: none"> • Social support • Religion • Hope 	High
Mullin (2019)	Canada			Literature review	S	R	Key points: <ul style="list-style-type: none"> • Positive future expectations and self-confidence are key to children's resilience, especially in response to maltreatment • Youth higher in hope are better able to apply coping strategies when faced with significant life stress • People with high hope levels respond better to stressors to those low in hope 	Moderate
van der Wal et al. (2017)	Netherlands			Literature review	R, S	W	Key points: <ul style="list-style-type: none"> • Ability to forgive (as opposed to retaliate) benefits interpersonal relationships & well-being in adults • Self-reported levels of forgiveness in children corresponds with prosocial behaviour toward offending peer • Forgiveness positively associated with self-esteem and negatively with social anxiety 	Moderate

							<ul style="list-style-type: none"> • Forgiveness positively related to well-being (only when forgiving a friend, not when forgiving someone who was not a friend) 	
Pieloch et al. (2016)	US			Literature review	R, A	R	To promote resilience: <ul style="list-style-type: none"> • Social support (from friends and community) • Positive outlook • Family connectedness 	Moderate
Sullivan & Simonson (2016)	US	1,433	13 studies	Systematic review	S	MH	Creative expression therapy: Each of these studies tested interventions shown to be effective with populations of children with mental health difficulties, including exposure to trauma	Moderate
Layous & Lyubomirsky (2014)	US			Literature review	S	W, MH	Key points: <ul style="list-style-type: none"> • Gratitude associated with wellbeing & causes increases in wellbeing • Gratitude negatively related to depression, substance abuse & externalising behaviours • Can mitigate risk factors for psychopathology and predict prosocial behaviour 	Moderate
Beauregard (2014)	Canada		19 studies	Review	S	W, R, MH	Key points: Effects of creative expression programmes on children's well-being <ul style="list-style-type: none"> • Programmes were beneficial on children's mental health. • Programmes seemed to significantly increase children's well-being by lowering impairment in adolescents (Plurality), improving hope scores and facilitating the construction of meaning in immigrant and refugee children • Mixed results were found in the literature regarding prosocial behaviours, self-esteem, coping and resiliency • Significant decreases of PTSD and PTSD-related symptoms for three programmes (CBI, ES-SL and OTT) by decreasing emotional and behavioural problems. • Participation in Art and Storytelling programme led to decrease of internalizing and externalizing symptoms. 	High
Marriott et al. (2014)	UK		50 studies	Narrative review	P, R, A, S	R	Relevant factors associated with resilience: <ul style="list-style-type: none"> • Childhood family relationships and environment (Connected, supportive family) 	High

					<ul style="list-style-type: none"> • Interpersonal/emotional competencies: <ul style="list-style-type: none"> - Social relationships - Friendships/ relationships into adulthood • Church/spirituality • Positive school and education: <ul style="list-style-type: none"> - Positive relationship with teacher - Academic achievement - Development of positive future orientation) 	
Zolkoski & Bullock (2012)	US	Literature review	P, R, A, S	R	<p>Protective factors:</p> <p>Individual characteristics</p> <ul style="list-style-type: none"> • a close bond with a caregiver during the first year of life, • sociability combined with a strong sense of independence, • an optimistic view of their experiences in life even amongst suffering, and • an active engagement in act of required helpfulness (Werner, 1984). • Self-regulation <p>Family conditions</p> <ul style="list-style-type: none"> • family cohesion, • supportive parent–child interactions, • social support, <p>Community supports</p> <ul style="list-style-type: none"> • religious and spiritual organizations 	Moderate
Boynton & Vis (2011)	Canada	Literature review	M, S	R	<p>Reconstruction of meaning is critical for grieving process.</p> <p>Integrative model:</p> <ul style="list-style-type: none"> • the context of the loss • the continuum of subjective meanings associated with the loss • the changing representations of the lost relationship over time and, • the role of coping and emotion-regulation processes. <p>Positive reappraisal and spirituality significant factors contributing to positive outcomes in grief</p>	Moderate
Suldo et al. (2006)	US	Literature review	R, A	W	<p>Academic correlates of life satisfaction:</p> <ul style="list-style-type: none"> • teacher support • achievement • perceived academic competence 	Moderate

Park (2004)	US			Literature review	S	W, R	Character strengths: <ul style="list-style-type: none"> • Buffer against effects of stress & trauma (mitigating disorder) • Assist youth to thrive in a variety of ways (e.g. learning, positive values, social competence, and sense of purpose) • Associated with positive outcomes & reduced problem behaviours • For example, optimism decreases depression & anxiety and hope mediates recovery from depression 	Moderate
Park (2004)	US			Literature review	P	W	Relevant points: <ul style="list-style-type: none"> • Experiencing more positive emotions, leads to more open-minded thinking (tend to think and act in more flexible and efficient ways) – related to higher life satisfaction 	Moderate
Rohner & Veneziano (2001)	US			Literature review	R	W, MH	Summary of studies looking at mother/father relationships: <ul style="list-style-type: none"> • Some conclude that father love is equally as important as mother love in predicting specific child outcomes • Others that father love predicts better than mother love • That father love is the sole significant predictor after removing the influence of mother love • That father love moderates the influence of mother love • Some conclude that paternal versus maternal parenting may be associated with a single outcome or with different outcomes in sons and daughters Child outcomes: personality and psychological adjustment problems; conduct problems; delinquency; mental illness; substance abuse; psychological health and wellbeing	Moderate
Holaday & McPhearson (1997)	US			Literature review	R, M	R	Factors influencing resiliency: <ul style="list-style-type: none"> • social support • cognitive skills (e.g., assignment of meaning) • psychological resources 	Moderate
Neiman (1988)	US			Literature review	R, A, S	R	Relevant factors associated with resilience: <ul style="list-style-type: none"> • Environmental Bonding, Mother-Child Interaction, and Family Relationships • Extrafamilial Factors - hobbies, talents, experience of success & achievement 	Moderate
Barry et al. (2013)	UK	6-18	22 studies	Systematic review	R, S	W, R, MH	Mental health promotion interventions:	High

							<ul style="list-style-type: none"> • Of 11 relevant studies there were improvements in: interpersonal strength, anxiety & depression, emotional symptoms & conduct problems, well-being, PTSD symptoms, and internalising & externalising scores • No significant change reported for: depression scores in some cases or not maintained at follow-up, and social emotional well-being 	
Cheng et al. (2015)	China			Literature review	S	R	Key points: <ul style="list-style-type: none"> • In China creativity is more about social value, achievement attained with limited resources, and the influence of individual morality on creativity – in summary resilience (adaptation in hardship) is viewed as a form of creativity itself 	Moderate
Gorell Barnes (1999)	UK			Review of qualitative work	R, M	R	Key points (resilience after divorce): <ul style="list-style-type: none"> • Finding meaning • A good relationship with one parent when there is a bad relationship with the other parent • Good sibling relationships • Support from their wider families • Social support from adults outside family & children's friends • School experiences (e.g., attention and warmth from teachers) 	Low
Moula et al. (2020)	UK	5-12	7 studies	Systematic review	S	R, MH	Arts therapies lead to improvements in: <ul style="list-style-type: none"> • Mood, communication and resilience. • Small changes in depression & anxiety 	High

Notes. P = Positive Emotions, E = Engagement, R = Relationships, M = Meaning, A = Achievement, W = Well-being, R = Resilience, MH = Mental Health.

Conflict of interest statement

The authors report no conflicts of interest.

Data availability statement

N/A.

Author contributions statement

All authors contributed to the study conception and design. Material preparation, data collection and analysis were performed by Jasmine Turner. The first draft of the manuscript was written by Jasmine Turner and all authors commented on previous versions of the manuscript. All authors read and approved the final manuscript.

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