

# Digital Appendix Systematic Cochrane Review and Meta-Analysis on Psychological Interventions to Foster Resilience in Healthcare Professionals

## Appendix D2 Preparation of the Cochrane Review (Prespecified in Review Protocol Helmreich, Kunzler et al., 2017)

### Appendix D2.1 Evidence Rating of Modifiable Resilience Factors

According to current definitions of resilience (see 2.1.2), resilience is viewed as positive outcome of adapting to stressors, which is determined by resilience factors and modifiable over time. Therefore, it was suggested that resilience factors (as predictors) and resilience (as outcome) should also be distinguished from each other at the level of definition and assessment (Bonanno et al., 2015; Chmitorz et al., 2018; Kalisch et al., 2017; Kalisch et al., 2015). To date, various factors were examined as (potential) resilience factors that often overlap and may interact (Bengel & Lyssenko, 2012; Bonanno & Diminich, 2013; Carver et al., 2010; Connor & Zhang, 2006; Earvolino-Ramirez, 2007; Feder et al., 2009; Forgeard & Seligman, 2012; Haglund et al., 2007; Iacoviello & Charney, 2014; Kuiper, 2012; Mancini & Bonanno, 2009; Michael ST, 2003; Ozbay et al., 2007; Rutten et al., 2013; Sapienza & Masten, 2011; Sarkar & Fletcher, 2014; Southwick et al., 2005; Southwick & Charney, 2012; Stewart & Yuen, 2011; Wu et al., 2013; Zauszniewski et al., 2010). *Internal resilience factors* include, for example, (epi)genetics, (neuro-)biological factors (e.g., age, sex, cognitive functions), (resilience-conducive) traits and predispositions (e.g., optimism, hardiness), beliefs (e.g., self-efficacy) or coping styles (e.g., active coping; Kalisch et al., 2015; Reivich & Shatté, 2002; Southwick & Charney, 2012; Southwick et al., 2011). *External and environmental factors* may include the access to material or energy resources and social support as well as the stability of access to these resources (Hobfoll et al., 2015).

Although an immense number of factors have been discussed in the literature, particularly a set of psychosocial factors has been scientifically validated as being appropriate determinants of resilience by cross-sectional and longitudinal (frequently observational) studies in different populations (e.g., patients affected by physical diseases like cancer, diabetes, spinal cord injury, coronary heart disease, etc.; different caregivers; individuals after trauma exposure). Upon closer

examination, only some of the discussed resilience factors may be viewed as well-evidenced factors that have also been found to be protective factors in systematic reviews and meta-analyses (*level 1*). These factors are most likely to be related to adult resilience, as they were proven in different populations facing various adversities and stressors. These level 1-factors were also relevant for the present review. However, it has to be kept in mind that the chosen factors represent the current state of knowledge on psychosocial resilience-promoting factors and that other factors, which are not yet well researched, could also contribute to resilience. The following Table D2.1.1 presents the evidence-rating for psychosocial resilience factors, that are considered as being modifiable. This rating was the basis for the eligibility criteria of the current review.

**Table D2.1.1**

*Evidence Rating of Modifiable Resilience Factors*

Level of evidence and criteria	Resilience factors
Level 1: strong evidence (SRs and MAs)	<ul style="list-style-type: none"> <li>Factor has been studied for its association with resilience (i.e., mental health or well-being or psychological adaptation despite acute/chronic stressors, life events, or traumas) in observational cross-sectional/longitudinal studies in adults</li> <li>There is evidence systematic reviews (SRs) AND meta-analyses (MAs)</li> </ul>
Level 1a: there is evidence for this factor from several SRs AND several MAs (both across different populations)	<ul style="list-style-type: none"> <li>Active coping (e.g., problem-solving, planning) <ul style="list-style-type: none"> <li>2 MAs (Kvillemo &amp; Bränström, 2014; Moskowitz et al., 2009)</li> <li>4 SRs (Bjørkløf et al., 2013; Kneebone &amp; Martin, 2003; Senra et al., 2015; Van Kessel, 2013)</li> <li>Cross-sectional studies (e.g., Al-Yagon &amp; Margalit, 2009; Dörfel et al., 2008; Lechner et al., 2007; Luo et al., 2015; Marty et al., 2010; Wang et al., 2014)</li> <li>Longitudinal studies (e.g., Butler et al., 2009; Silver et al., 2002)</li> </ul> </li> <li>Self-efficacy <ul style="list-style-type: none"> <li>2 MAs (Jackson et al., 2014; Lee et al., 2013)</li> <li>9 SRs (Allart et al., 2013; Dias et al., 2015; Korpershoek et al., 2011; Luszczynska et al., 2009; Morris &amp; Rao, 2013; Peter et al., 2012; Stewart &amp; Yuen, 2011; Van Kessel, 2013; Van Leeuwen et al., 2012)</li> <li>Cross-sectional studies (e.g., Barry et al., 2003; Northouse et al., 2002; Orengo et al., 2001; Schwarzer &amp; Hallum, 2008; Wright et al., 2008)</li> <li>Longitudinal studies (e.g., DeRoos-Cassini et al., 2010; Guest et al., 2015; Hartley et al., 2008)</li> </ul> </li> <li>Optimism or positive attributional style <ul style="list-style-type: none"> <li>4 MAs (Helgeson et al., 2006; Lee et al., 2013; Prati &amp; Pietrantonio, 2009; Shand et al., 2015)</li> <li>5 SRs (Dias et al., 2015; Duits et al., 1997; Peter et al., 2012; Stewart &amp; Yuen, 2011; Van Kessel, 2013)</li> </ul> </li> </ul>

Level of evidence and criteria	Resilience factors
	<ul style="list-style-type: none"> <li>○ Cross-sectional studies (e.g., Martin-Krumm et al., 2003; Sumer et al., 2005)</li> <li>○ Longitudinal studies (e.g., Ahmad et al., 2010; Carver et al., 2010; Fresco et al., 2006; Grote et al., 2007; Kivimäki et al., 2005; Myhren et al., 2010; Segovia et al., 2012)</li> <li>● Social support<sup>a</sup> <ul style="list-style-type: none"> <li>○ 4 MAs (Lee et al., 2013; Ozer et al., 2003; Prati &amp; Pietrantonio, 2009; Shand et al., 2015)</li> <li>○ 11 SRs (Allart et al., 2013; Casale &amp; Wild, 2013; Dias et al., 2015; Duits et al., 1997; McCann et al., 2013; Morris &amp; Rao, 2013; Paterson et al., 2013; Pragodpol &amp; Ryan, 2013; Senra et al., 2015; Stewart &amp; Yuen, 2011; Van Kessel, 2013)</li> <li>○ Cross-sectional studies (e.g., Ahern et al., 2004; Fuller-Iglesias et al., 2008; Kaspersen et al., 2003; Schumm et al., 2006)</li> <li>○ Longitudinal studies (e.g., Bartone et al., 1989; Dyrbye et al., 2010; Johnson et al., 2009; Koenen et al., 2003; Solomon et al., 1988)</li> </ul> </li> <li>● Cognitive flexibility (e.g., positive reappraisal, acceptance of negative situations and emotions)<sup>b</sup> <ul style="list-style-type: none"> <li>○ 6 MAs (Helgeson et al., 2006; Kvillemo &amp; Bränström, 2014; McIntosh &amp; Rosselli, 2012; Moskowitz et al., 2009; Prati &amp; Pietrantonio, 2009; Shand et al., 2015)</li> <li>○ 11 SRs (Allart et al., 2013; Bjørkløf et al., 2013; Dias et al., 2015; Guardino &amp; Schetter, 2013; Kneebone &amp; Martin, 2003; Morris &amp; Rao, 2013; Nowlan et al., 2015; Peter et al., 2012; Senra et al., 2015; Stewart &amp; Yuen, 2011; Van Leeuwen et al., 2012)</li> <li>○ Cross-sectional studies (e.g., Bailey et al., 2013; Farber et al., 2003; Johnson &amp; Tottenham, 2015; Min et al., 2013)</li> <li>○ Longitudinal studies (e.g., Park et al., 2008; Silver et al., 2002; Wade et al., 2001)</li> </ul> </li> <li>● Religiosity or spirituality or religious coping (e.g., frequent religious attendance)<sup>b</sup> <ul style="list-style-type: none"> <li>○ 7 MAs (Ano &amp; Vasconcelles, 2005; Helgeson et al., 2006; McIntosh &amp; Rosselli, 2012; Moskowitz et al., 2009; Prati &amp; Pietrantonio, 2009; Salsman et al., 2015; Shand et al., 2015)</li> <li>○ 7 SRs (Bjørkløf et al., 2013; Guardino &amp; Schetter, 2013; McCann et al., 2013; Peter et al., 2012; Senra et al., 2015; Stewart &amp; Yuen, 2011; Visser et al., 2010)</li> <li>○ Cross-sectional studies (e.g., Cruz et al., 2016; Tsai et al., 2015)</li> <li>○ Longitudinal studies (e.g., Hebert et al., 2007; Kasen et al., 2014; Koenig, 2007; Walsh et al., 2002)</li> </ul> </li> </ul>
Level 1b: there is evidence for this factor from several SRs AND a single MA (both across different populations)	<ul style="list-style-type: none"> <li>● Positive emotions or positive affect <ul style="list-style-type: none"> <li>○ 1 MA (Lee et al., 2013)</li> <li>○ 2 SRs (Van Kessel, 2013; Van Leeuwen et al., 2012)</li> <li>○ Cross-sectional studies (e.g., Cohen et al., 2006; Gloria &amp; Steinhardt, 2016; Ong et al., 2006)</li> <li>○ Longitudinal studies (e.g., Fredrickson et al., 2003; Geschwind et al., 2010; Quale &amp; Schanke, 2010; Strand et al., 2006; Zautra et al., 2005)</li> </ul> </li> <li>● Hardiness <ul style="list-style-type: none"> <li>○ 1 MA (Eschleman et al., 2010)</li> <li>○ 4 SRs (Brooks, 2003; Dias et al., 2015; McCann et al., 2013; Stewart &amp; Yuen, 2011)</li> </ul> </li> </ul>

Level of evidence and criteria	Resilience factors
Level 1c: there is evidence for this factor from several SRs (across different populations) AND a single MA (in the same population)	<ul style="list-style-type: none"> <li>○ Cross-sectional studies (e.g., Alexander &amp; Klein, 2001; Andrew et al., 2008; Bernas &amp; Major, 2000; Farber et al., 2000; Hystad et al., 2011; Judkins &amp; Rind, 2005; King et al., 1998; Natvik et al., 2011; Waysman et al., 2001; Weiss, 2002)</li> <li>○ Longitudinal studies (e.g., Bartone et al., 1989; Dolan &amp; Adler, 2006)</li> <li>● Self-esteem <ul style="list-style-type: none"> <li>○ 1 MA (Lee et al., 2013)</li> <li>○ 4 SRs (Allart et al., 2013; Peter et al., 2012; Stewart &amp; Yuen, 2011; Van Leeuwen et al., 2012)</li> <li>○ Cross-sectional studies (e.g., Besser et al., 2014; Fernández-Lansac et al., 2012; Hayter &amp; Dorstyn, 2014)</li> <li>○ Longitudinal studies (e.g., Bookwala, 2014)</li> </ul> </li> <li>● Meaning in life or purpose in life <ul style="list-style-type: none"> <li>○ 1 MA (Winger et al., 2016)</li> <li>○ 5 SRs (Allart et al., 2013; Peter et al., 2012; Van Kessel, 2013; Van Leeuwen et al., 2012; Visser et al., 2010)</li> <li>○ Cross-sectional studies (e.g., Alim et al., 2008; Bauer-Wu &amp; Farran, 2005; Blackburn &amp; Owens, 2015; Feder et al., 2013; Lyon &amp; Younger, 2001; Owens et al., 2009; Pietrzak &amp; Cook, 2013; Schaefer et al., 2013; Smith et al., 2009; Tsai et al., 2015)</li> <li>○ Longitudinal studies (e.g., Krause, 2007; Tsai et al., 2016)</li> </ul> </li> <li>● Sense of coherence <ul style="list-style-type: none"> <li>○ 1 MA (Winger et al., 2016)</li> <li>○ 7 SRs: (Allart et al., 2013; Bjørkløf et al., 2013; Eriksson, 2016; Peter et al., 2012; Pragodpol &amp; Ryan, 2013; Van Kessel, 2013; Van Leeuwen et al., 2012)</li> <li>○ Cross-sectional studies (e.g., Al-Yagon &amp; Margalit, 2009; Cohen &amp; Savaya, 2003; Forstmeier et al., 2009)</li> <li>○ Longitudinal studies (e.g., Frommberger et al., 1999; Schnyder et al., 2008)</li> </ul> </li> </ul>
Level 2: moderate evidence (only SRs or single MA)	<ul style="list-style-type: none"> <li>● Factor has been studied for its association with resilience (i.e., mental health or well-being or psychological adaptation despite acute/chronic stressors, life events, or traumas) in observational cross-sectional/longitudinal studies in adults</li> <li>● There is evidence from SR OR a single MA</li> </ul>
Level 2a: there is evidence for this factor from several SRs (across different populations) OR there is no evidence from SRs, but from a MA (across different populations)	<ul style="list-style-type: none"> <li>● (Internal) Locus of control <ul style="list-style-type: none"> <li>○ 6 SRs (Bjørkløf et al., 2013; Dias et al., 2015; Saksvik et al., 2011; Senra et al., 2015; Stewart &amp; Yuen, 2011; Van Leeuwen et al., 2012)</li> <li>○ Cross-sectional studies (e.g., Kilic et al., 2013; Sattler et al., 2014; Solomon et al., 1988)</li> <li>○ Longitudinal studies (e.g., Karstoft et al., 2015; Lawler &amp; Schmied, 1992; Milte et al., 2015; White et al., 2012)</li> </ul> </li> <li>● Coping flexibility <ul style="list-style-type: none"> <li>○ 1 MA (Cheng et al., 2014)</li> <li>○ Cross-sectional studies (e.g., Atal &amp; Cheng, 2016; Bonanno et al., 2011; Burton et al., 2012; Park et al., 2015)</li> <li>○ Longitudinal studies (e.g., Bonanno et al., 2004; Galatzer-Levy et al., 2012)</li> </ul> </li> </ul>
Level 2b: there is evidence for this factor from several SRs (in the same population)	<ul style="list-style-type: none"> <li>● Hope <ul style="list-style-type: none"> <li>○ 2 SRs (Peter et al., 2012; Van Leeuwen et al., 2012)</li> </ul> </li> </ul>

Level of evidence and criteria	Resilience factors
Level 2c: there is evidence for this factor from a single SR (in the same population)	<ul style="list-style-type: none"> <li>○ Cross-sectional studies (e.g., Besser et al., 2014; Hernandez et al., 2013; Ong et al., 2006; Truitt et al., 2012)</li> <li>○ Longitudinal studies (e.g., Ho et al., 2010)</li> <li>● Humor <ul style="list-style-type: none"> <li>○ 1 SR (McCann et al., 2013)</li> <li>○ Cross-sectional studies (e.g., Abel, 2002; Abel &amp; Maxwell, 2002)</li> <li>○ Longitudinal studies (e.g., Kuiper et al., 1992; Nezu et al., 1988)</li> </ul> </li> </ul>
Level 3: weak evidence (no SR or MA)	<ul style="list-style-type: none"> <li>● Expert opinion without explicit critical appraisal</li> <li>● Factor has not been studied sufficiently for its association with resilience (i.e., mental health or well-being or psychological adaptation despite acute/chronic stressors, life events, or traumas) in adults</li> <li>● Factor is only mentioned in unsystematic narrative reviews or discussion papers, or both <ul style="list-style-type: none"> <li>● Altruism <ul style="list-style-type: none"> <li>○ Narrative reviews or discussion papers (Haglund et al., 2007; Southwick et al., 2005; Wu et al., 2013)</li> </ul> </li> </ul> </li> </ul>

*Note.* MA = Meta-analysis; SR = Systematic review.

Table taken from review Kunzler et al. (2020) and review protocol (Helmreich et al., 2017).

Results of systematic reviews and meta-analyses based on a literature search for potentially modifiable resilience factors in MEDLINE (search strategy: respective resilience factor.tw. AND (review or meta-analy\$).tw.; search limited to “All adults (19 plus years)” and 1990-2016).

<sup>a</sup> Social support: Forms of support may include emotional (e.g., empathy), instrumental (e.g., assistance with a problem), tangible (e.g., financial help), informational support (e.g., provision of advice), or appraisal support (e.g., providing helpful information for self-evaluation; Southwick et al., 2005).

<sup>b</sup> Cognitive flexibility and religiosity or spirituality are multidimensional concepts resulting in highly ambiguous operationalizations. Cognitive flexibility comprises several concepts, such as positive reappraisal and acceptance (Southwick et al., 2005). Religiosity or spirituality combines affective, behavioral, and cognitive dimensions, each measured differently (Ano & Vasconcelles, 2005; Pargament et al., 2000; Salsman et al., 2015).

## Appendix D2.2

### *Examples of Training Methods to Address Resilience Factors With Evidence Levels 1a-1c*

Evidence-based resilience factor	Examples of training methods to address the resilience factor
Active coping (e.g., problem-solving, planning)	Introduce the problem-solving model and familiarize participants with the use of active coping strategies in stressful situations (e.g., making action plans; e.g., Abbott et al., 2009 ; Bekki et al., 2013; Sahler et al., 2013)
Self-efficacy	Support participants in identifying personal strengths and other sources of self-efficacy (e.g., social connections); support individuals in realizing previous successes (e.g., coping of negative situations)
Optimism or positive attributional/explanatory style	Teach participants to adapt a more positive attributional style for stressful (i.e., external, unstable, specific) and pleasant events (i.e., internal, stable, global); encourage individuals to gain a brighter outlook for the future by enhancing their attention for and the discovery of positive aspects in their lives (e.g., Carver et al., 2010; Sadow & Hopkins, 1993)
Social support	Encourage the individual's reflection on his or her current network (i.e., magnitude of social network, positive or negative aspects in social relationships); enhance the individual's support network by providing them with communication techniques (e.g., Kent et al., 2011; Schachman et al., 2004; Sood et al., 2011; Steinhardt & Dolbier, 2008)
Cognitive flexibility (e.g., positive reappraisal, acceptance of negative situations and emotions)	Positive reappraisal: introduction of ABC (Activating Event, Belief, Consequence) Technique of Irrational Beliefs (Ellis, 1957) of cognitive therapy; train participants in identifying and challenging maladaptive thoughts and replacing them by more positive ones (e.g., Abbott et al., 2009 ; Farchi & Gidron, 2010; Songprakun & McCann, 2012; Steinhardt & Dolbier, 2008) Acceptance: relaxation or mindfulness techniques
Religiosity, spirituality or religious coping (e.g., frequent religious attendance)	Spiritual exercises like meditation or yoga; psychoeducation on coping strategies like regular praying or participating in religious community activities (e.g., worship; e.g., Sood et al., 2011)
Positive emotions or positive affect	Psychoeducation on emotions; mindfulness techniques; support individuals in identifying pleasant activities to enhance positive emotions (e.g., Jennings et al., 2013)
Hardiness (challenge, commitment, control)	Situational reconstruction (i.e., imagination of stressful circumstances); focusing (i.e., reflection on bodily sensations of emotional upset; e.g., Maddi et al., 2009; Maddi et al., 1998)
Self-esteem	Support participants in identifying personal strengths
Meaning in life or purpose in life	Introduce the benefits of purpose in life; support individuals in identifying important sources of meaning (e.g., social relationships, work) as well as in setting priorities and guiding values for their life (e.g., Sood et al., 2011)
Sense of coherence (comprehensibility, meaningfulness, manageability)	Promote the understanding of external life challenges, personal beliefs and emotions; encourage participants to reflect on personal (internal or external) resources and to use them more frequently (e.g., Tan et al., 2016)

*Note.* Taken from review Kunzler et al. (2020) and review protocol (Helmreich et al., 2017).

## Appendix D2.3

### *Potential (Prespecified) Scales to Assess Psychological Resilience*

N°	Measure <sup>c</sup>	Theory and item selection	Internal consistency	Validity	Rating
1	Resilience Scale (RS-25; Wagnild & Young, 1993) <sup>a</sup>	+	+++	+++	6 ♦
2	Brief Resilience Scale (BRS; Smith et al., 2008)	+	+++	+++	6 ♦
3	Ego Resiliency (Klohn, 1996) <sup>a</sup>	+	++	+++	5 ♦
4	Connor-Davidson Resilience Scale (CD-RISC; Connor & Davidson, 2003)	+	++	+++	5 ♦
5	Resilience Scale for Adults (RSA <sub>33</sub> ; Friborg et al., 2005)	+	++	+++	5 ♦
6	Trauma Resilience Scale (TRS <sub>37</sub> ; Madsen & Abell, 2010)	+	+++	++	5 ♦
7	Ego-Resiliency Scale (ER89; Block & Kremen, 1996) <sup>a</sup>	-	++	+++	5 ◇
8	Resilience Scale (RS-14; Wagnild, 2009) <sup>a</sup>	+	+++	+	4 ♦
9	Resilience Scale for Adults (RSA <sub>37</sub> ; Friborg et al., 2003)	+	++	++	4 ♦
10	Resilience at Work Scale (Winwood et al., 2013)	+	++	++	4 ♦
11	Workplace Resilience Inventory (WRI; McLarnon & Rothstein, 2013)	+	++	++	4 ♦
12	Multidimensional Trauma Recovery and Resiliency Scale (MTRR; Harvey et al., 2003)	+	+++	+	4 ♦
13	Resiliency Attitudes and Skills Profile (RASP; Hurtes & Allen, 2001)	+	+++	+	4 ♦
14	Resilience Appraisals Scale (RAS; Johnson et al., 2010)	-	+++	+	4 ◇
15	Revised Ego Resiliency 89 Scale (ER89-R; Alessandri et al., 2007) <sup>a</sup>	+	++	+	3 ♦
16	Ego Resiliency (Bromley et al., 2006) <sup>a</sup>	+	++	+	3 ♦
17	Connor-Davidson Resilience Scale (CD-RISC-10; Campbell-Sills & Stein, 2007)	+	++	+	3 ♦
18	Resilience Scale for Adults (RSA <sub>45</sub> ; Hjemdal et al., 2001)	+	+++	-	3 ♦
19	Brief Resilient Coping Scale (BRCS; Sinclair & Wallston, 2004)	+	+	++	3 ♦
20	Trauma Resilience Scale (TRS <sub>48</sub> ; Madsen & Abell, 2010)	+	+++	-	3 ♦
21	Child and Youth Resilience Measure - 28 (CYRM-28; Liebenberg et al., 2012; Ungar et al., 2008)	+	+++	-	3 ♦
22	Post-traumatic Growth Inventory (PTGI; Tedeschi & Calhoun, 1996) <sup>b</sup>	+	++	+	3 ♦
23	Adolescent Resilience Scale (Oshio et al., 2002; Oshio et al., 2003)	-	++	+	3 ◇
24	Resilience and Reintegration (20 items drawn from Spirit Core Scale; Waite & Richardson, 2004)	-	+++	-	3 ◇
25	Psychological resilience (Windle et al., 2008)	+	++	-	2 ♦
26	Child and Youth Resilience Measure-12 (CYRM-12; Liebenberg et al., 2013)	+	++	-	2 ♦

N°	Measure <sup>c</sup>	Theory and item selection	Internal consistency	Validity	Rating
27	Resilience scale (Bekki et al., 2013)	+	++	-	2 ♦
28	Perceived resilience (Van der Kleij et al., 2011)	-	++	-	2 ♦
29	Romanian Scale of Resilience to Occupational Stress (SROS; Aniței et al., 2012)	-	-	-	0 ♦

*Note.*

Taken from review Kunzler et al. (2020) and review protocol (Helmreich et al., 2017); based on previous reviews (Leppin et al., 2014; Macedo et al., 2014; Robertson et al., 2015; Vanhove et al., 2016) and additional literature searches.

The resilience scales are specified hierarchically according to psychometric quality criteria.

Theory & item selection: - (♦): no description of theory or item selection process available; and + (♦): description of theory or item selection process available.

Internal consistency (Cronbach's alpha): - (0): no information; + (1):  $\alpha < 0.70$ ; ++ (2):  $\alpha \geq 0.70$ ; and +++ (3):  $\alpha > 0.90$ .

Validity (convergent/divergent or criterion validity): - (0): no information; + (1): correlations (r) with construct-related measures or criterions available, all correlations  $< 0.50$  or resilience measure only correlated with original instrument/long-form or no correlations but alternative results reported (e.g., odds ratio); ++ (2): correlations (r) with construct-related measures or criterions available,  $\leq 50\%$  of correlations  $\geq 0.50$ ; and +++ (3): correlations (r) with construct-related measures or criterions available,  $> 50\%$  of correlations  $\geq 0.50$ .

<sup>a</sup> Scales assessing resilience as personality characteristic.

<sup>b</sup> Scale assessing posttraumatic growth.

<sup>c</sup> At the time of prespecifying these measures and the publication of the protocol (Helmreich et al., 2017), the systematic review of Joyce et al. (2018) had not yet been published and was not considered for this appendix.



## Appendix D2.4 Potential (Prespecified) Scales to Measure Mental Health and Well-Being

Based on RCTs included in previous reviews and meta-analyses (Leppin et al., 2014; Macedo et al., 2014; Robertson et al., 2015; Vanhove et al., 2016), the following assessment scales for the measurement of mental health and well-being were prespecified.

**Table D2.4.1**

### *Prespecified Scales for the Assessment of Mental Health and Well-Being*

Mental health or well-being variable	Scales
Anxiety	<ul style="list-style-type: none"> <li>Depression Anxiety and Stress Scales (DASS-21; Lovibond &amp; Lovibond, 1995)</li> <li>Smith Anxiety Scale (SAS; Smith et al., 2007)</li> <li>Beck Anxiety Inventory (BAI; Beck &amp; Steer, 1993)</li> <li>State-Trait Anxiety Inventory (STAI; Spielberger et al., 1970)</li> </ul>
Depression	<ul style="list-style-type: none"> <li>DASS-21 (Lovibond &amp; Lovibond, 1995)</li> <li>Center for Epidemiological Studies - Depression Scale (CES-D; Radloff, 1977)</li> <li>Maslach Burnout Inventory (MBI; Maslach et al., 1997)</li> <li>Oldenburg Burnout Inventory (Demerouti et al., 2010)</li> <li>Beck Depression Inventory (BDI; Beck et al., 1961)</li> <li>Beck Depression Inventory-II (BDI-II; Beck et al., 1996)</li> <li>Visual Analog Scale - Fatigue (VAS-Fatigue; Wolfe, 2004)</li> <li>Patient Health Questionnaire for Depression (PHQ-D; Spitzer et al., 1999)</li> <li>Hospital Anxiety and Depression Scale (HADS; Zigmond &amp; Snaith, 1983)</li> <li>Time Urgency Scale (TUS; Landy et al., 1991)</li> </ul>
Stress or stress perception	<ul style="list-style-type: none"> <li>DASS-21 (Lovibond &amp; Lovibond, 1995)</li> <li>Perceived Stress Scale (PSS; Cohen &amp; Williamson, 1988)</li> <li>Personal Stress Scale (PSS, self-developed; Petree et al., 2012)</li> <li>Subjective Units of Distress (SUDS; Wolpe, 1958)</li> <li>Visual Analog Scale (VAS; Arnetz et al., 1985; Hasson &amp; Arnetz, 2005)</li> <li>Stress and Perception of Control Scale (SPOCS, unpublished instrument; Rose et al., 2013)</li> </ul>
Well-being or quality of life	<ul style="list-style-type: none"> <li>Well-being: <ul style="list-style-type: none"> <li>Ryff's Scales of Psychological Well-Being (Ryff, 1989)</li> <li>Workplace Well-being Index (WWBI; Page, 2005)</li> </ul> </li> <li>Life satisfaction <ul style="list-style-type: none"> <li>Satisfaction with Life Scale (Diener et al., 1985)</li> </ul> </li> <li>(Health-related) Quality of life (QOL): <ul style="list-style-type: none"> <li>Linear Analog Self-Assessment Scale (QOL-LASA; Locke et al., 2007)</li> <li>Medical Outcomes Study (MOS) 36-item short-form health survey (SF-36; Ware et al., 1994)</li> <li>World Health Organization Quality of Life – BREF (WHOQOL-BREF; WHOQOL Group, 1998)</li> </ul> </li> <li>Vitality <ul style="list-style-type: none"> <li>Subscale of the SF-36 (Ware et al., 1994)</li> </ul> </li> <li>Vigor <ul style="list-style-type: none"> <li>Work Vigour subscale of the Utrecht Work Engagement scale (Schaufeli et al., 2002)</li> </ul> </li> </ul>

*Note.* Taken from review Kunzler et al. (2020) and review protocol (Helmreich et al., 2017).

At the time of prespecifying these measures and the publication of the protocol (Helmreich et al., 2017), the systematic review of Joyce et al. (2018) had not yet been published and was not considered for this appendix.

## Appendix D2.5 Potential (Prespecified) Scales to Assess Resilience Factors

Based on RCTs included in previous reviews and meta-analyses (Leppin et al., 2014; Macedo et al., 2014; Robertson et al., 2015; Vanhove et al., 2016), the following assessment scales for the measurement of resilience factors were prespecified.

**Table D2.5.1**

*Prespecified scales for the Assessment of Resilience Factors*

Resilience factor	Scales
Social support	<ul style="list-style-type: none"> <li>• Interpersonal Support Evaluation List-12 (ISEL-12; Cohen &amp; Hoberman, 1983)</li> <li>• Personal Resources Questionnaire (PRQ-85; Brandt &amp; Weinert, 1981)</li> <li>• Social Provisions Scale (Cutrona &amp; Russell, 1987)</li> <li>• Subscale Interpersonal relations of the Health-Promoting Lifestyle Profile II (Walker et al., 1987)</li> <li>• Interpersonal Relationship Inventory (IPR; Tilden et al., 1990)</li> <li>• Support questionnaire (Cushway et al., 1996)</li> <li>• MOS Social Support Survey (Sherbourne &amp; Stewart, 1991)</li> <li>• Total of four scales devised by Moos (1979) for perceived social support (Maddi et al., 1998)</li> </ul>
Optimism	<ul style="list-style-type: none"> <li>• Life Orientation Test-Revised (LOT-R; Scheier et al., 1994)</li> </ul>
Self-efficacy	<ul style="list-style-type: none"> <li>• Coping self-efficacy (CSE; Chesney et al., 2003)</li> <li>• Self-efficacy scale (Sherer et al., 1982)</li> <li>• Teachers' Sense of Efficacy Questionnaire (TSES; Tschannen-Moran &amp; Woolfolk Hoy, 2001)</li> <li>• New General Self-Efficacy Scale (NGSE; Chen et al., 2004)</li> <li>• Coping Efficacy Scale (self-developed; Bekki et al., 2013)</li> </ul>
Active coping	<ul style="list-style-type: none"> <li>• Brief Coping Orientations to Problems Experienced scale (Brief COPE; Carver, 1997)</li> <li>• Ways of Coping Questionnaire (WOC; Folkman &amp; Lazarus, 1988)</li> <li>• Coping Styles Questionnaire (CSQ; Williams, 1997)</li> <li>• Coping Styles (self-developed; Bekki et al., 2013)</li> </ul>
Self-esteem	<ul style="list-style-type: none"> <li>• Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965)</li> <li>• Self-Esteem Rating Scale (SERS; Nugent &amp; Thomas, 1993)</li> </ul>
Hardiness	<ul style="list-style-type: none"> <li>• HardiSurvey III-R (Maddi &amp; Khoshaba, 2001)</li> <li>• Personal Views Survey (Maddi, 1987)</li> <li>• Hardiness Scale or College Student Hardiness Measure (CSHM; Atri, 2007; Atri et al., 2007; Kanekar et al., 2009-2010)</li> <li>• Cognitive Hardiness Scale (Nowack, 1990)</li> </ul>
Positive emotions or positive affect	<ul style="list-style-type: none"> <li>• Positive and Negative Affect Schedule (PANAS; Watson et al., 1988)</li> <li>• Positive and Negative Affect Schedule Expanded Form (PANAS-X; Watson &amp; Clark, 1994)</li> <li>• Authentic Happiness Inventory (AHI, unpublished measure; Abbott et al., 2009 )</li> </ul>

*Note.* Taken from review Kunzler et al. (2020) and review protocol (Helmreich et al., 2017).

At the time of pre-specifying these measures and the publication of the protocol (Helmreich et al., 2017), the systematic review of Joyce et al. (2018) had not yet been published and was not considered for this appendix.

## References

- Abbott, J.-A., Klein, B., Hamilton, C., & Rosenthal, A. (2009 ). The impact of online resilience training for sales managers on wellbeing and performance. *E-Journal of Applied Psychology*, 5(1), 89–95. <https://doi.org/10.7790/ejap.v5i1.145>
- Abel, M. H. (2002). Humor, stress, and coping strategies. *International Journal of Humor Research*, 15(4), 365–381. <https://doi.org/10.1515/humr.15.4.365>
- Abel, M. H., & Maxwell, D. (2002). Humor and effective consequences of a stressful task. *Journal of Social and Clinical Psychology*, 21(2), 165–190. <https://doi.org/10.1521/jscp.21.2.165.22516>
- Ahern, J., Galea, S., Fernandez, W. G., Koci, B., Waldman, R., & Vlahov, D. (2004). Gender, social support, and posttraumatic stress in postwar Kosovo. *Journal of Nervous and Mental Disease*, 192(11), 762–770. <https://doi.org/10.1097/01.nmd.0000144695.02982.41>
- Ahmad, S., Feder, A., Lee, E. J., Wang, Y., Southwick, S. M., Schlackman, E., & al., e. (2010). Earthquake impact in a remote South Asian population: psychosocial factors and posttraumatic symptoms. *Journal of Traumatic Stress*, 23(3), 408–412. <https://doi.org/10.1002/jts.20535>
- Al-Yagon, M., & Margalit, M. (2009). Positive and negative affect among mothers of children with intellectual disabilities. *British Journal of Developmental Disabilities*, 55(109), 109–127. <https://doi.org/10.1179/096979509799103070>
- Alessandri, G., Vecchio, G. M., Steca, P., Caprara, M. G., & Caprara, G. V. (2007). A revised version of Kremen and Block's Ego Resiliency Scale in an Italian sample. *TPM-Testing, Psychometrics, Methodology in Applied Psychology*, 14(3-4), 165–183. [www.tpmap.org/wp-content/uploads/2014/11/14.3.4.pdf](http://www.tpmap.org/wp-content/uploads/2014/11/14.3.4.pdf)
- Alexander, D. A., & Klein, S. (2001). Ambulance personnel and critical incidents: impact of accident and emergency work on mental health and emotional well-being. *British Journal of Psychiatry*, 178(1), 76–81. <https://doi.org/10.1192/bjp.178.1.76>
- Alim, T. N., Feder, A., Graves, R. E., Wang, Y., Weaver, J., Westphal, M., Alonso, A., Aigbogun, N. U., Smith, B. W., Doucette, J. T., Mellman, T. A., Lawson, W. B., & Charney, D. S. (2008). Trauma, resilience, and recovery in a high-risk African-American population. *American Journal of Psychiatry*, 165(12), 1566–1575. <https://doi.org/10.1176/appi.ajp.2008.07121939>

- Allart, P., Soubeyran, P., & Cousson-Gélie, F. (2013). Are psychosocial factors associated with quality of life in patients with haematological cancer? A critical review of the literature. *Psycho-oncology*, 22(2), 241–249. <https://doi.org/10.1002/pon.3026>
- Andrew, M. E., McCanlies, E. C., Burchfiel, C. M., Charles, L. E., Hartley, T. A., Fekedulegn, D., & Violanti, J. M. (2008). Hardiness and psychological distress in a cohort of police officers. *International Journal of Emergency Mental Health*, 10(2), 137–147.
- Aniței, M., Chraif, M., & Chiriac, G. (2012). Resilience to stress evidence-based improvements in integrative psychotherapy working groups. *Procedia - Social and Behavioral Sciences*, 33, 1042–1046. <https://doi.org/10.1016/j.sbspro.2012.01.281>
- Ano, G. G., & Vasconcelles, E. B. (2005). Religious coping and psychological adjustment to stress: a meta-analysis. *Journal of Clinical Psychology*, 61(4), 461–480. <https://doi.org/10.1002/jclp.20049>
- Arnetz, B. B., Fjellner, B., Eneroth, P., & Kallner, A. (1985). Stress and psoriasis: psychoendocrine and metabolic reactions in psoriatic patients during standardized stressor exposure. *Psychosomatic Medicine*, 47(6), 528–541. <https://doi.org/10.1097/00006842-198511000-00003>
- Atal, S., & Cheng, C. (2016). Socioeconomic health disparities revisited: coping flexibility enhances health-related quality of life for individuals low in socioeconomic status. *Health and Quality of Life Outcomes*, 14, 7. <https://doi.org/10.1186/s12955-016-0410-1>
- Atri, A. (2007). *Role of social support, hardiness and acculturation as predictors of mental health among the international students of Asian Indian origin in Ohio* [Unpublished thesis]. University of Cincinnati.
- Atri, A., Sharma, M., & Cottrell, R. (2007). Role of social support, hardiness, and acculturation as predictors of mental health among international students of Asian Indian origin. *International Quarterly of Community Health Education*, 27(1), 59–73. <https://doi.org/10.2190/IQ.27.1.e>;
- Bailey, A., Sharma, M., & Jubin, M. (2013). The mediating role of social support, cognitive appraisal, and quality health care in black mothers' stress-resilience process following loss to gun violence. *Violence and Victims*, 28(2), 233–247.
- Barry, L. C., Guo, Z., Kerns, R. D., Duong, B. D., & Reid, M. C. (2003). Functional self-efficacy and pain-related disability among older veterans with chronic pain in a primary care setting. *Pain*, 104(1-2), 131–137. [https://doi.org/10.1016/S0304-3959\(02\)00471-2](https://doi.org/10.1016/S0304-3959(02)00471-2)

- Bartone, P. T., Ursano, R. J., Wright, K. M., & Ingraham, L. H. (1989). The impact of a military air disaster on the health of assistance workers: a prospective study. *Journal of Nervous and Mental Disease*, 177(6), 317–328.
- Bauer-Wu, S., & Farran, C. J. (2005). Meaning in life and psycho-spiritual functioning: a comparison of breast cancer survivors and healthy women. *Journal of Holistic Nursing*, 23(2), 172–190. <https://doi.org/10.1177/0898010105275927>
- Beck, A. T., & Steer, R. A. (1993). *Beck Anxiety Inventory manual*. Psychological Corporation.
- Beck, A. T., Steer, R. A., & Brown, G. (1996). *Manual for the Beck Depression Inventory-II*. Psychological Corporation.
- Beck, A. T., Ward, C. H., Mendelson, M., Mock, J., & Erbaugh, J. (1961). An inventory for measuring depression. *Archives of General Psychiatry*, 4(6), 561–571.
- Bekki, J. M., Smith, M. L., Bernstein, B., & Harrison, C. (2013). Effects of an online personal resilience training program for women in STEM doctoral programs. *Journal of Women and Minorities in Science and Engineering*, 19(1), 17–35. <https://doi.org/10.1615/JWomenMinorScienEng.2013005351>
- Bengel, J., & Lyssenko, L. (2012). *Resilienz und psychologische Schutzfaktoren im Erwachsenenalter. Stand der Forschung zu psychologischen Schutzfaktoren von Gesundheit im Erwachsenenalter*. Bundeszentrale für gesundheitliche Aufklärung.
- Bernas, K. H., & Major, D. A. (2000). Contributors to stress resistance: testing a model of women's work-family conflict. *Psychology of Women Quarterly*, 24(2), 170–178. <https://doi.org/10.1111/j.1471-6402.2000.tb00198.x>
- Besser, A., Weinberg, M., Zeigler-Hill, V., & Neria, Y. (2014). Acute symptoms of posttraumatic stress and dissociative experiences among female Israeli civilians exposed to war: the roles of intrapersonal and interpersonal sources of resilience. *Journal of Clinical Psychology*, 70(12), 1227–1239. <https://doi.org/10.1002/jclp.22083>
- Bjørkløf, G. H., Engedal, K., Selbæk, G., Kouwenhoven, S. E., & Helvik, A. S. (2013). Coping and depression in old age: a literature review. *Dementia and Geriatric Cognitive Disorders*, 35(3-4), 121–154. <https://doi.org/10.1159/000346633>

- Blackburn, L., & Owens, G. P. (2015). The effect of self efficacy and meaning in life on posttraumatic stress disorder and depression severity among veterans. *Journal of Clinical Psychology, 71*(3), 219–228. <https://doi.org/10.1002/jclp.22133>
- Block, J., & Kremen, A. M. (1996). IQ and ego-resiliency: conceptual and empirical connections and separateness. *Journal of Personality and Social Psychology, 70*(2), 349–361.
- Bonanno, G., & Diminich, E. (2013). Annual Research Review: positive adjustment to adversity--trajectories of minimal-impact resilience and emergent resilience. *Journal of Child Psychology and Psychiatry, and Allied Disciplines, 54*(4), 378–401. <https://doi.org/10.1111/jcpp.12021>
- Bonanno, G. A., Papa, A., Lalande, K., Westphal, M., & Coifman, K. (2004). The importance of being flexible: the ability to both enhance and suppress emotional expression predicts long-term adjustment. *Psychological Science, 15*(7), 482–487. <https://doi.org/10.1111/j.0956-7976.2004.00705.x>
- Bonanno, G. A., Pat-Horenczyk, R., & Noll, J. (2011). Coping flexibility and trauma: The Perceived Ability to Cope With Trauma (PACT) scale. *Psychological Trauma: Theory, Research, Practice, and Policy, 3*(2), 117–129. <https://doi.org/10.1037/a0020921>
- Bonanno, G. A., Romero, S. A., & Klein, S. I. (2015). The temporal elements of psychological resilience: an integrative framework for the study of individuals, families, and communities. *Psychological Inquiry, 26*(2), 139–169. <https://doi.org/10.1080/1047840X.2015.992677>
- Bookwala, J. (2014). Spouse health status, depressed affect, and resilience in mid and late life: a longitudinal study. *Developmental Psychology, 50*(4), 1241–1249. <https://doi.org/10.1037/a0035124>
- Brandt, P. A., & Weinert, C. (1981). The PRQ - a social support measure. *Nursing Research, 30*(5), 277–280.
- Bromley, E., Johnson, J. G., & Cohen, P. (2006). Personality strengths in adolescence and decreased risk of developing mental health problems in early adulthood. *Comprehensive Psychiatry, 47*(4), 315–324. <https://doi.org/10.1016/j.comppsy.2005.11.003>
- Brooks, M. V. (2003). Health-related hardiness and chronic illness: a synthesis of current research. *Nursing Forum, 38*(3), 11–20.
- Burton, C. L., Yan, O. H., Pat-Horenczyk, R., Chan, I. S., Ho, S., & Bonanno, G. A. (2012). Coping flexibility and complicated grief: a comparison of American and Chinese samples. *Depression and Anxiety, 29*(1), 16–22. <https://doi.org/10.1002/da.20888>

- Butler, L. D., Koopman, C., Azarow, J., Blasey, C. M., Magdalene, J. C., DiMiceli, S., Seagraves, D. A., Hastings, T. A., Chen, X.-H., Garlan, R. W., Kraemer, H. C., & Spiegel, D. (2009). Psychosocial predictors of resilience after the September 11, 2001 terrorist attacks. *Journal of Nervous and Mental Disease*, 197(4), 266–273. <https://doi.org/10.1097/NMD.0b013e31819d9334>
- Campbell-Sills, L., & Stein, M. B. (2007). Psychometric analysis and refinement of the Connor-Davidson Resilience Scale (CD-RISC): validation of a 10-item measure of resilience. *Journal of Traumatic Stress*, 20(6), 1019–1028. <https://doi.org/10.1002/jts.20271>
- Carver, C. S. (1997). You want to measure coping but your protocol's too long: consider the brief COPE. *International Journal of Behavioural Medicine*, 4(1), 92–100. [https://doi.org/10.1207/s15327558ijbm0401\\_6](https://doi.org/10.1207/s15327558ijbm0401_6)
- Carver, C. S., Scheier, M. F., & Segerstrom, S. C. (2010). Optimism. *Clinical Psychology Review*, 30(7), 879–889. <https://doi.org/10.1016/j.cpr.2010.01.006>
- Casale, M., & Wild, L. (2013). Effects and processes linking social support to caregiver health among HIV/AIDS-affected carer-child dyads: a critical review of the empirical evidence. *AIDS and Behavior*, 17(5), 1591–1611. <https://doi.org/10.1007/s10461-012-0275-1>
- Chen, G., Goddard, T. G., & Casper, W. J. (2004). Examination of the relationships among general and work-specific self-evaluations, work-related control beliefs, and job attitudes. *Applied Psychology*, 53(3), 349–370. <https://doi.org/10.1111/j.1464-0597.2004.00175.x>
- Cheng, C., Lau, H. P., & Chan, M. P. (2014). Coping flexibility and psychological adjustment to stressful life changes: a meta-analytic review. *Psychological Bulletin*, 140(6), 1582–1607. <https://doi.org/10.1037/a0037913>
- Chesney, M. A., Chambers, D. B., Taylor, J. M., Johnson, L. M., & Folkman, S. (2003). Coping effectiveness training for men living with HIV: results from a randomized clinical trial testing a group-based intervention. *Psychosomatic Medicine*, 65(6), 1038–1046.
- Chmitorz, A., Kunzler, A., Helmreich, I., Tüscher, O., Kalisch, R., Kubiak, T., Wessa, M., & Lieb, K. (2018). Intervention studies to foster resilience - a systematic review and proposal for a resilience framework in future intervention studies. *Clinical Psychology Review*, 59, 78–100. <https://doi.org/10.1016/j.cpr.2017.11.002>
- Cohen, O., & Savaya, R. (2003). Sense of coherence and adjustment to divorce among Muslim Arab citizens of Israel. *European Journal of Personality*, 17(4), 309–326. <https://doi.org/10.1002/per.493>

- Cohen, S., Alper, C. M., Doyle, W. J., Treanor, J. J., & Turner, R. B. (2006). Positive emotional style predicts resistance to illness after experimental exposure to rhinovirus or influenza A virus. *Psychosomatic Medicine*, 68(6), 809–815. <https://doi.org/10.1097/01.psy.0000245867.92364.3c>
- Cohen, S., & Hoberman, H. M. (1983). Positive events and social supports as buffers of life change stress. *Journal of Applied Social Psychology*, 13(2), 99–125. <https://doi.org/10.1111/j.1559-1816.1983.tb02325.x>
- Cohen, S., & Williamson, G. (1988). Perceived stress in a probability sample of the United States. In S. Spacapan & S. Oskamp (Eds.), *The social psychology of health*. Sage.
- Connor, K. M., & Davidson, J. R. (2003). Development of a new resilience scale: the Connor-Davidson Resilience Scale (CD-RISC). *Depression and Anxiety*, 18(2), 76–82. <https://doi.org/10.1002/da.10113>
- Connor, K. M., & Zhang, W. (2006). Resilience: determinants, measurement, and treatment responsiveness. *CNS Spectrums*, 11(Suppl S12), 5–12. <https://doi.org/10.1017/S1092852900025797>
- Cruz, J. P., Colet, P. C., Qubeilat, H., Al-Otaibi, J., Coronel, E. I., & Suminta, R. C. (2016). Religiosity and health-related quality of life: a cross-sectional study on Filipino Christian hemodialysis patients. *Journal of Religion and Health*, 55(3), 895–908. <https://doi.org/10.1007/s10943-015-0103-9>
- Cushway, D., Tyler, P. A., & Nolan, P. (1996). Development of a stress scale for mental health professionals. *British Journal of Clinical Psychology*, 35(2), 279–295. <https://doi.org/10.1111/j.2044-8260.1996.tb01182.x>
- Cutrona, C. E., & Russell, D. W. (1987). The provisions of social relationships and adaptation to stress. In W. H. Jones & D. Perlman (Eds.), *Advances in personal relationships* (pp. 37–67). JAI Press.
- Demerouti, E., Mostert, K., & Bakker, A. B. (2010). Burnout and work engagement: a thorough investigation of the independency of both constructs. *Journal of Occupational Health Psychology*, 15(3), 209–222. <https://doi.org/10.1037/a0019408>
- DeRoos-Cassini, T. A., Mancini, A. D., Rusch, M. D., & Bonanno, G. (2010). Psychopathology and resilience following traumatic injury: a latent growth mixture model analysis. *Rehabilitation Psychology*, 55(1), 1–11. <https://doi.org/10.1037/a0018601>
- Dias, R., Santos, R. L., Barroso de Sousa, M. F., Lima Nogueira, M. M., Torres, B., Belfort, T., & Nascimento Dourado, M. C. (2015). Resilience of caregivers of people with dementia: a systematic review of biological and psychosocial determinants. *Trends in Psychiatry and Psychotherapy*, 37(1), 12–19. <https://doi.org/10.1590/2237-6089-2014-0032>



- Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The Satisfaction With Life Scale. *Journal of Personality Assessment*, 49(1), 71–75.
- Dolan, C. A., & Adler, A. B. (2006). Military hardiness as a buffer of psychological health on return from deployment. *Military Medicine*, 171(2), 93–98.
- Dörfel, D., Rabe, S., & Karl, A. (2008). Coping strategies in daily life as protective and risk factors for post traumatic stress in motor vehicle accident survivors. *Journal of Loss and Trauma*, 13(5), 422–440. <https://doi.org/10.1080/15325020701742136>
- Duits, A. A., Boeke, S., Taams, M. A., Passchier, J., & Erdman, R. A. (1997). Prediction of quality of life after coronary artery bypass graft surgery: a review and evaluation of multiple, recent studies. *Psychosomatic Medicine*, 59(3), 257–268.
- Dyrbye, L. N., Power, D. V., Massie, F. S., Eacker, A., Harper, W., Thomas, M. R., Szydlo, D. W., Sloan, J. A., & Shanafelt, T. D. (2010). Factors associated with resilience to and recovery from burnout: a prospective, multi-institutional study of US medical students. *Medical Education*, 44(10), 1016–1026. <https://doi.org/10.1111/j.1365-2923.2010.03754.x>
- Earvolino-Ramirez, M. (2007). Resilience: a concept analysis. *Nursing Forum*, 42(2), 73–82. <https://doi.org/10.1111/j.1744-6198.2007.00070.x>
- Ellis, A. (1957). Rational psychotherapy and individual psychology. *Journal of Individual Psychology*, 13(1), 38–44.
- Eriksson, M. (2016). The sense of coherence in the salutogenic model of health. In M. B. Mittelmark, S. Sagy, M. Eriksson, G. F. Bauer, J. M. Pelikan, B. Lindström, & G. A. Espnes (Eds.), *The handbook of salutogenesis* (pp. 91–96). Springer. [https://doi.org/10.1007/978-3-319-04600-6\\_11](https://doi.org/10.1007/978-3-319-04600-6_11)
- Eschleman, K. J., Bowling, N. A., & Alarcon, G. M. (2010). A meta-analytic examination of hardiness. *International Journal of Stress Management*, 17(4), 277–307. <https://doi.org/10.1037/a0020476.supp>
- Farber, E. W., Mirsalimi, H., Williams, K. A., & McDaniel, J. S. (2003). Meaning of illness and psychological adjustment to HIV/AIDS. *Psychosomatics*, 44(6), 485–491. <https://doi.org/10.1176/appi.psy.44.6.485>
- Farber, E. W., Schwartz, J. A., Schaper, P. E., Moonen, D. J., & McDaniel, J. S. (2000). Resilience factors associated with adaptation to HIV disease. *Psychosomatics*, 41(2), 140–146. <https://doi.org/10.1176/appi.psy.41.2.140>

- Farchi, M., & Gidron, Y. (2010). The effects of "psychological inoculation" versus ventilation on the mental resilience of Israeli citizens under continuous war stress. *Journal of Nervous and Mental Disease*, 198(5), 382–384. <https://doi.org/10.1097/NMD.0b013e3181da4b67>
- Feder, A., Ahmad, S., Lee, E. J., Morgan, J. E., Singh, R., Smith, B. W., & Southwick, S. M., & Charney, D. S. (2013). Coping and PTSD symptoms in Pakistani earthquake survivors: purpose in life, religious coping and social support. *Journal of Affective Disorders*, 147(1-3), 156–163. <https://doi.org/10.1016/j.jad.2012.10.027>
- Feder, A., Nestler, E. J., & Charney, D. S. (2009). Psychobiology and molecular genetics of resilience. *Nature Reviews. Neuroscience*, 10(6), 446–457. <https://doi.org/10.1038/nrn2649>
- Fernández-Lansac, V., Crespo López, M., Cáceres, R., & Rodríguez-Poyo, M. (2012). Resilience in caregivers of patients with dementia: a preliminary study. *Revista Española de Geriatria y Gerontología*, 47(3), 102–109. <https://doi.org/10.1016/j.regg.2011.11.004>
- Folkman, S., & Lazarus, R. (1988). *Ways of Coping Questionnaire manual*. Consulting Psychologists Press Inc.
- Forgeard, M. J. C., & Seligman, M. E. P. (2012). Seeing the glass half full: a review of the causes and consequences of optimism. *Pratiques Psychologiques*, 18(2), 107–120. <https://doi.org/10.1016/j.prps.2012.02.002>
- Forstmeier, S., Kuwert, P., Spitzer, C., Freyberger, H. J., & Maercker, A. (2009). Posttraumatic growth, social acknowledgment as survivors, and sense of coherence in former German child soldiers of World War II. *American Journal of Geriatric Psychiatry*, 17(12), 1030–1039. <https://doi.org/10.1097/JGP.0b013e3181ab8b36>
- Fredrickson, B. L., Tugade, M. M., Waugh, C. E., & Larkin, G. R. (2003). What good are positive emotions in crises? A prospective study of resilience and emotions following the terrorist attacks on the United States on September 11th, 2001. *Journal of Personality and Social Psychology*, 84(2), 365–376.
- Fresco, D. M., Alloy, L. B., & Reilly-Harrington, N. (2006). Association of attributional style for negative and positive events and the occurrence of life events with depression and anxiety. *Journal of Social and Clinical Psychology*, 25(10), 1140–1160. <https://doi.org/10.1521/jscp.2006.25.10.1140>
- Friborg, O., Barlaug, D., Martinussen, M., Rosenvinge, J. H., & Hjemdal, O. (2005). Resilience in relation to personality and intelligence. *International Journal of Methods in Psychiatric Research*, 14(1), 29–42.
- Friborg, O., Hjemdal, O., Rosenvinge, J. H., & Martinussen, M. (2003). A new rating scale for adult resilience: what are the central protective resources behind healthy adjustment? *International Journal of Methods in Psychiatric Research*, 12(2), 65–76.

- Frommberger, U., Stieglitz, R. D., Straub, S., Nyberg, E., Schlickewei, W., Kuner, E., & Berger, M. (1999). The concept of "sense of coherence" and the development of posttraumatic stress disorder in traffic accident victims. *Journal of Psychosomatic Research*, 46(4), 343–348. [https://doi.org/10.1016/S0022-3999\(98\)00117-2](https://doi.org/10.1016/S0022-3999(98)00117-2)
- Fuller-Iglesias, H., Sellars, B., & Antonucci, T. C. (2008). Resilience in old age: social relations as a protective factor. *Research in Human Development*, 5(3), 181–193. <https://doi.org/10.1080/15427600802274043>
- Galatzer-Levy, I. R., Burton, C. L., & Bonanno, G. A. (2012). Coping flexibility, potentially traumatic life events, and resilience: a prospective study of college student adjustment. *Journal of Social and Clinical Psychology*, 31(6), 542–567. <https://doi.org/10.1521/jscp.2012.31.6.542>
- Geschwind, N., Peeters, F., Jacobs, N., Delespaul, P., Derom, C., Thiery, E., & al., e. (2010). Meeting risk with resilience: high daily life reward experience preserves mental health. *Acta Psychiatrica Scandinavica*, 122(2), 129–138. <https://doi.org/10.1111/j.1600-0447.2009.01525.x>
- Gloria, C. T., & Steinhardt, M. A. (2016). Relationships among positive emotions, coping, resilience and mental health. *Stress Health*, 32(2), 145–156. <https://doi.org/10.1002/smi.2589>
- Grote, N. K., Bledsoe, S. E., Larkin, J., Lemay, E. P., Jr., & Brown, C. (2007). Stress exposure and depression in disadvantaged women: the protective effects of optimism and perceived control. *Social Work Research*, 31(1), 19–33. <https://doi.org/10.1093/swr/31.1.19>
- Guardino, C. M., & Schetter, C. D. (2013). Coping during pregnancy: a systematic review and recommendations. *Health Psychology Review*, 8(1), 70–94. <https://doi.org/10.1080/17437199.2012.752659>
- Guest, R., Craig, A., Nicholson Perry, K., Tran, Y., Ephraums, C., Hales, A., Dezarnaulds, A., Crino, R., & Middleton, J. (2015). Resilience following spinal cord injury: a prospective controlled study investigating the influence of the provision of group cognitive behavior therapy during inpatient rehabilitation. *Rehabilitation Psychology*, 60(4), 311–321. <https://doi.org/10.1037/rep0000052>
- Haglund, M. E., Nestadt, P. S., Cooper, N. S., Southwick, S. M., & Charney, D. S. (2007). Psychobiological mechanisms of resilience: relevance to prevention and treatment of stress-related psychopathology. *Development and Psychopathology*, 19(3), 889–920. <https://doi.org/10.1017/S0954579407000430>
- Hartley, S. M., Vance, D. E., Elliott, T. R., Cuckler, J. M., & Berry, J. W. (2008). Hope, self-efficacy, and functional recovery after knee and hip replacement surgery. *Rehabilitation Psychology*, 53(4), 521–529. <https://doi.org/10.1037/a0013121>

- Harvey, M. R., Liang, B., Harney, P. A., Koenen, K., Tummala-Narra, P., & Lebowitz, L. (2003). A multidimensional approach to the assessment of trauma impact, recovery and resiliency. *Journal of Aggression, Maltreatment & Trauma*, 6(2), 87–109. [https://doi.org/10.1300/J146v06n02\\_05](https://doi.org/10.1300/J146v06n02_05)
- Hasson, D., & Arnetz, B. B. (2005). Validation and findings comparing VAS vs. Likert scales for psychosocial measurements. *International Electronic Journal Health Education*, 8, 178–192.
- Hayter, M. R., & Dorstyn, D. S. (2014). Resilience, self-esteem and self-compassion in adults with spina bifida. *Spinal Cord*, 52(2), 167–171. <https://doi.org/10.1038/sc.2013.152>
- Hebert, R. S., Dang, Q., & Schulz, R. (2007). Religious beliefs and practices are associated with better mental health in family caregivers of patients with dementia: findings from the REACH study. *American Journal of Geriatric Psychiatry*, 15(4), 292–300. <https://doi.org/10.1097/01.JGP.0000247160.11769.ab>
- Helgeson, V. S., Reynolds, K. A., & Tomich, P. L. (2006). A meta-analytic review of benefit finding and growth. *Journal of Consulting and Clinical Psychology*, 74(5), 797–816. <https://doi.org/10.1037/0022-006X.74.5.797>
- Helmreich, I., Kunzler, A., Chmitorz, A., König, J., Binder, H., Wessa, M., & Lieb, K. (2017). Psychological interventions for resilience enhancement in adults [Protocol]. *Cochrane Database of Systematic Reviews*, 2, CD012527. <https://doi.org/10.1002/14651858.CD012527>
- Hernandez, M., Barrio, C., & Yamada, A. M. (2013). Hope and burden among Latino families of adults with schizophrenia. *Family Process*, 52(4), 697–708. <https://doi.org/10.1111/famp.12042>
- Hjemdal, O., Friborg, O., Martinussen, M., & Rosenvinge, J. H. (2001). Mestring og psykologisk motstandsdyktighet hos voksne: utvikling og foreløpig validering av et nytt instrument [Preliminary results from the development and validation of a Norwegian scale for measuring adult resilience]. *Tidsskrift for Norsk Psykologforening*, 38, 310–317.
- Ho, S. M., Ho, J. W., Bonanno, G. A., Chu, A. T., & Chan, E. M. (2010). Hopefulness predicts resilience after hereditary colorectal cancer genetic testing: a prospective outcome trajectories study. *BMC Cancer*, 10, 279. <https://doi.org/10.1186/1471-2407-10-279>
- Hobfoll, S. E., Stevens, N. R., & Zalta, A. K. (2015). Expanding the science of resilience: Conserving resources in the aid of adaptation. *Psychological Inquiry*, 26(2), 174–180. <https://doi.org/10.1080/1047840X.2015.1002377>

- Hurtes, K. P., & Allen, L. R. (2001). Measuring resiliency in youth: the Resiliency Attitudes and Skills Profile. *Therapeutic Recreation Journal*, 35(4), 333–347.
- Hystad, S. W., Eid, J., & Brevik, J. I. (2011). Effects of psychological hardiness, job demands, and job control on sickness absence: a prospective study. *Journal of Occupational Health Psychology*, 16(3), 265–278. <https://doi.org/10.1037/a0022904>
- Iacoviello, B. M., & Charney, D. S. (2014). Psychosocial facets of resilience: implications for preventing posttrauma psychopathology, treating trauma survivors, and enhancing community resilience. *European Journal of Psychotraumatology*, 5, 1-10.
- Jackson, T., Wang, Y., Wang, Y., & Fan, H. (2014). Self-efficacy and chronic pain outcomes: a meta-analytic review. *Journal of Pain*, 15(8), 800–814. <https://doi.org/10.1016/j.jpain.2014.05.002>
- Jennings, P. A., Frank, J. L., Snowberg, K. E., Coccia, M. A., & Greenberg, M. T. (2013). Improving classroom learning environments by Cultivating Awareness and Resilience in Education (CARE): results of a randomized controlled trial. *School Psychology Quarterly*, 28(4), 374–390. <https://doi.org/10.1037/spq0000035>
- Johnson, A. J., & Tottenham, N. (2015). Regulatory skill as a resilience factor for adults with a history of foster care: a pilot study. *Developmental Psychobiology*, 57(1), 1–16. <https://doi.org/10.1002/dev.21227>
- Johnson, J., Gooding, P. A., Wood, A. M., & Tarrier, N. (2010). Resilience as positive coping appraisals: testing the schematic appraisals model of suicide (SAMS). *Behaviour Research and Therapy*, 48(3), 179–186. <https://doi.org/10.1016/j.brat.2009.10.007>
- Johnson, R. J., Canetti, D., Palmieri, P. A., Galea, S., Varley, J., & Hobfoll, S. E. (2009). A prospective study of risk and resilience factors associated with posttraumatic stress symptoms and depression symptoms among Jews and Arabs exposed to repeated acts of terrorism in Israel. *Psychological Trauma: Theory, Research, Practice, and Policy*, 1(4), 291–311. <https://doi.org/10.1037/a0017586>
- Joyce, S., Shand, F., Tighe, J., Laurent, S. J., Bryant, R. A., & Harvey, S. B. (2018). Road to resilience: a systematic review and meta-analysis of resilience training programmes and interventions. *BMJ Open*, 8(6), e017858. <https://doi.org/10.1136/bmjopen-2017-017858>
- Judkins, S., & Rind, R. (2005). Hardiness, job satisfaction, and stress among home health nurses. *Home Health Care Management & Practice*, 17(2), 113–118. <https://doi.org/10.1177/10848223042700201>
- Kalisch, R., Baker, D., Basten, U., Boks, M., Bonanno, G. A., Brummelman, E., Chmitorz, A., Fernández, G., Fiebach, C., Galatzer-Levy, I., Geuze, E., Groppa, S., Helmreich, I., Hendler, T., Hermans, E., Jovanovic, T., Kubiak,

- T., Lieb, K., Lutz, B., & Kleim, B. (2017). The resilience framework as a strategy to combat stress-related disorders. *Nature Human Behaviour*, 1, 784–790. <https://doi.org/10.1038/s41562-017-0200-8>
- Kalisch, R., Müller, M. B., & Tüscher, O. (2015). A conceptual framework for the neurobiological study of resilience. *Behavioral and Brain Sciences*, 38, e92. <https://doi.org/10.1017/S0140525X1400082X>
- Kanekar, A., Sharma, M., & Atri, A. (2009-2010). Enhancing social support, hardiness, and acculturation to improve mental health among Asian Indian international students. *International Quarterly of Community Health Education*, 30(1), 55–68. <https://doi.org/10.2190/IQ.30.1.e>
- Karstoft, K. I., Armour, C., Elklit, A., & Solomon, Z. (2015). The role of locus of control and coping style in predicting longitudinal PTSD-trajectories after combat exposure. *Journal of Anxiety Disorders*, 32, 89–94. <https://doi.org/10.1016/j.janxdis.2015.03.007>
- Kasen, S., Wickramaratne, P., & Gameroff, M. J. (2014). Religiosity and longitudinal change in psychosocial functioning in adult offspring of depressed parents at high risk for major depression. *Depression and Anxiety*, 31(1), 63–71. <https://doi.org/10.1002/da.22131>
- Kaspersen, M., Matthiesen, S. B., & Götestam, K. G. (2003). Social network as a moderator in the relation between trauma exposure and trauma reaction: a survey among UN soldiers and relief workers. *Scandinavian Journal of Psychology*, 44(5), 415–423. <https://doi.org/10.1046/j.1467-9450.2003.00362.x>
- Kent, M., Davis, M. C., Stark, S. L., & Stewart, L. A. (2011). A resilience-oriented treatment for posttraumatic stress disorder: results of a preliminary randomized clinical trial. *Journal of Traumatic Stress*, 24(5), 591–595. <https://doi.org/10.1002/jts.20685>
- Kilic, S. A., Dorstyn, D. S., & Guiver, N. G. (2013). Examining factors that contribute to the process of resilience following spinal cord injury. *Spinal Cord*, 51(7), 553–557. <https://doi.org/10.1038/sc.2013.25>
- King, L. A., King, D. W., Fairbank, J. A., Keane, T. M., & Adams, G. A. (1998). Resilience-recovery factors in post-traumatic stress disorder among female and male Vietnam veterans: hardiness, postwar social support, and additional stressful life events. *Journal of Personality and Social Psychology*, 74(2), 420–434.
- Kivimäki, M., Vahtera, J., Elovainio, M., Helenius, H., Singh-Manoux, A., & Pentti, J. (2005). Optimism and pessimism as predictors of change in health after death or onset of severe illness in family. *Health Psychology*, 24(4), 413–421. <https://doi.org/10.1037/0278-6133.24.4.413>
- Klohn, E. C. (1996). Conceptual analysis and measurement of the construct of ego-resiliency. *Journal of Personality and Social Psychology*, 70(5), 1067–1079.

- Kneebone, I. I., & Martin, P. R. (2003). Coping and caregivers of people with dementia. *British Journal of Health Psychology*, 8(1), 1–17. <https://doi.org/10.1348/135910703762879174>
- Koenen, K. C., Stellman, J. M., Stellman, S. D., & Sommer, J. F. J. (2003). Risk factors for course of posttraumatic stress disorder among Vietnam veterans: a 14-year follow-up of American Legionnaires. *Journal of Consulting and Clinical Psychology*, 71(6), 980–986. <https://doi.org/10.1037/0022-006X.71.6.980>
- Koenig, H. G. (2007). Religion and remission of depression in medical inpatients with heart failure/pulmonary disease. *Journal of Nervous and Mental Disease*, 195(5), 389–395. <https://doi.org/10.1097/NMD.0b013e31802f58e3>
- Korpershoek, C., Van der Bijl, J., & Hafsteinsdóttir, T. B. (2011). Self-efficacy and its influence on recovery of patients with stroke: a systematic review. *Journal of Advanced Nursing*, 67(9), 1876–1894. <https://doi.org/10.1111/j.1365-2648.2011.05659.x>
- Krause, N. (2007). Evaluating the stress-buffering function of meaning in life among older people. *Journal of Aging and Health*, 19(5), 792–812. <https://doi.org/10.1177/0898264307304390>
- Kuiper, N. A. (2012). Humor and resiliency: towards a process model of coping and growth. *Europe's Journal of Psychology*, 8(3), 475–491. <https://doi.org/10.5964/ejop.v8i3.464>
- Kuiper, N. A., Martin, R. A., & Dance, K. A. (1992). Sense of humour and enhanced quality of life. *Personality and Individual Differences*, 13(12), 1273–1283. [https://doi.org/10.1016/0191-8869\(92\)90169-P](https://doi.org/10.1016/0191-8869(92)90169-P)
- Kunzler, A. M., Helmreich, I., Chmitorz, A., König, J., Binder, H., Wessa, M., & Lieb, K. (2020). Psychological interventions to foster resilience in healthcare professionals. *Cochrane Database of Systematic Reviews*, 7, CD012527. <https://doi.org/10.1002/14651858.CD012527.pub2>
- Kvillemo, P., & Bränström, R. (2014). Coping with breast cancer: a meta-analysis. *PloS One*, 9(11), e112733. <https://doi.org/10.1371/journal.pone.0112733>
- Landy, F. J., Rastegary, H., Thayer, J., & Colvin, C. (1991). Time urgency: the construct and its measurement. *Journal of Applied Psychology*, 76(5), 644–657.
- Lawler, K. A., & Schmied, L. A. (1992). A prospective study of women's health: the effects of stress, hardiness, locus of control, Type A behavior, and physiological reactivity. *Women Health*, 19(1), 27–41. [https://doi.org/10.1300/J013v19n01\\_02](https://doi.org/10.1300/J013v19n01_02)

- Lechner, L., Bolman, C., & Van Dalen, A. (2007). Definite involuntary childlessness: associations between coping, social support and psychological distress. *Human Reproduction*, 22(1), 288–294. <https://doi.org/10.1093/humrep/del327>
- Lee, J. H., Nam, S. K., Kim, A. R., Kim, B., Lee, M. Y., & Lee, S. M. (2013). Resilience: a meta-analytic approach. *Journal of Counseling & Development*, 91(3), 269–279. <https://doi.org/10.1002/j.1556-6676.2013.00095.x>
- Leppin, A. L., Bora, P. R., Tilburt, J. C., Gionfriddo, M. R., Zeballos-Palacios, C., Dulohery, M. M., Sood, A., Erwin, P. J., Brito, J. P., Boehmer, K. R., & Montori, V. M. (2014). The efficacy of resiliency training programs: a systematic review and meta-analysis of randomized trials. *PloS One*, 9(10), e111420. <https://doi.org/10.1371/journal.pone.0111420>
- Liebenberg, L., Ungar, M., & LeBlanc, J. C. (2013). The CYRM-12: a brief measure of resilience. *Canadian Journal of Public Health*, 104(2), e131–e135.
- Liebenberg, L., Ungar, M., & Van de Vijver, F. (2012). Validation of the Child and Youth Resilience Measure-28 (CYRM-28) among Canadian youth. *Research on Social Work Practice*, 22(2), 219–226. <https://doi.org/10.1177/1049731511428619>
- Locke, D. E., Decker, P. A., Sloan, J. A., Brown, P. D., Malec, J. F., Clark, M. M., Rummans, T. A., Ballman, K. V., Schaefer, P. L., & Buckner, J. C. (2007). Validation of single-item linear analog scale assessment of quality of life in neuro-oncology patients. *Journal of Pain and Symptom Management*, 34(6), 628–638. <https://doi.org/10.1016/j.jpainsymman.2007.01.016>
- Lovibond, S. H., & Lovibond, P. F. (1995). *Manual for the Depression Anxiety Stress Scales* (2nd ed.). School of Psychology, University of New South Wales.
- Luo, T., Cheng, X., & Xiong, Y. (2015). Relationship among resilience, coping style and mental health of newly recruited workers born after 1990 in manufacturing industry of Shenzhen City. *Journal of Hygiene Research*, 44(2), 252–256.
- Luszczynska, A., Benight, C. C., & Cieslak, R. (2009). Self-efficacy and health-related outcomes of collective trauma. *European Psychologist*, 14(1), 51–62. <https://doi.org/10.1027/1016-9040.14.1.51>
- Lyon, D. E., & Younger, J. B. (2001). Purpose in life and depressive symptoms in persons living with HIV disease. *Journal of Nursing Scholarship*, 33(2), 129–133.



- Macedo, T., Wilhelm, L., Gonçalves, R., Coutinho, E. S. F., Vilete, L., Figueira, I., & Ventura, P. (2014). Building resilience for future adversity: a systematic review of interventions in non-clinical samples of adults. *BMC Psychiatry*, 14, 227. <https://doi.org/10.1186/s12888-014-0227-6>
- Maddi, S. R. (1987). Hardiness training at Illinois Bell Telephone. In J. Opatz (Ed.), *Health promotion evaluation*. (pp. 101–115). National Wellness Institute.
- Maddi, S. R., Harvey, R. H., Khoshaba, D. M., Fazel, M., & Resurreccion, N. (2009). Hardiness training facilitates performance in college. *Journal of Positive Psychology*, 4(6), 566–577. <https://doi.org/10.1080/17439760903157133>
- Maddi, S. R., Kahn, S., & Maddi, K. L. (1998). The effectiveness of hardiness training. *Consulting Psychology Journal: Practice and Research*, 50(2), 78–86. <https://doi.org/10.1037/1061-4087.50.2.78>
- Maddi, S. R., & Khoshaba, D. M. (2001). *HardiSurvey III-R: test development and internet instruction manual*. Hardiness Institute.
- Madsen, M. D., & Abell, N. (2010). Trauma Resilience Scale: validation of protective factors associated with adaptation following violence. *Research on Social Work Practice*, 20(2), 223–233. <https://doi.org/10.1177/1049731509347853>
- Mancini, A., & Bonanno, G. (2009, 10/01). Predictors and parameters of resilience to loss: toward an individual differences model. *Journal of Personality*, 77(6), 1805–1832. <https://doi.org/10.1111/j.1467-6494.2009.00601.x>
- Martin-Krumm, C. P., Sarrazin, P. G., Peterson, C., & Famose, J.-P. (2003). Explanatory style and resilience after sports failure. *Personality and Individual Differences*, 35(7), 1685–1695. [https://doi.org/10.1016/S0191-8869\(02\)00390-2](https://doi.org/10.1016/S0191-8869(02)00390-2)
- Marty, M. A., Segal, D. L., & Coolidge, F. L. (2010). Relationships among dispositional coping strategies, suicidal ideation, and protective factors against suicide in older adults. *Aging and Mental Health*, 14(8), 1015–1023. <https://doi.org/10.1080/13607863.2010.501068>
- Maslach, C., Jackson, S. E., & Leiter, M. P. (1997). Maslach burnout inventory. In C. P. Zalaquett & R. J. Wood (Eds.), *Evaluating Stress: A Book of Resources* (pp. 191–218). Scarecrow Education.
- McCann, C. M., Beddoe, E., McCormick, K., Huggard, P., Kedge, S., Adamson, C., & al., e. (2013). Resilience in the health professions: a review of recent literature. *International Journal of Wellbeing*, 3(1), 60–81. <https://doi.org/10.5502/ijw.v3i1.4>

- McIntosh, R. C., & Rosselli, M. (2012). Stress and coping in women living with HIV: a meta-analytic review. *AIDS Behavior*, 16(8), 2144–2159. <https://doi.org/10.1007/s10461-012-0166-5>
- McLarnon, M. J. W., & Rothstein, M. G. (2013). Development and initial validation of the Workplace Resilience Inventory. *Journal of Personnel Psychology*, 12(2), 63–73. <https://doi.org/10.1027/1866-5888/a000084>
- Michael ST, C. M., Schmid B, Allen RS. . (2003). Widowhood and spirituality: coping responses to bereavement. *Journal of Women & Aging*, 15(2-3), 145–165; discussion 185–147. [https://doi.org/10.1300/J074v15n02\\_09](https://doi.org/10.1300/J074v15n02_09)
- Milte, C. M., Luszcz, M. A., Ratcliffe, J., Masters, S., & Crotty, M. (2015). Influence of health locus of control on recovery of function in recently hospitalized frail older adults. *Geriatrics & Gerontology International*, 15(3), 341–349. <https://doi.org/10.1111/ggi.12281>
- Min, J. A., Yu, J. J., Lee, C. U., & Chae, J. H. (2013). Cognitive emotion regulation strategies contributing to resilience in patients with depression and/or anxiety disorders. *Comprehensive Psychiatry*, 54(8), 1190–1197. <https://doi.org/10.1016/j.comppsy.2013.05.008>
- Morris, M. C., & Rao, U. (2013). Psychobiology of PTSD in the acute aftermath of trauma: integrating research on coping, HPA function and sympathetic nervous system activity. *Asian Journal of Psychiatry*, 6(1), 3–21. <https://doi.org/10.1016/j.ajp.2012.07.012>
- Moskowitz, J. T., Hult, J. R., Bussolari, C., & Acree, M. (2009). What works in coping with HIV? A meta-analysis with implications for coping with serious illness. *Psychological Bulletin*, 135(1), 121–141. <https://doi.org/10.1037/a0014210>
- Myhren, H., Ekeberg, O., Tøien, K., Karlsson, S., & Stokland, O. (2010). Posttraumatic stress, anxiety and depression symptoms in patients during the first year post intensive care unit discharge. *Critical Care*, 14(1), R14. <https://doi.org/10.1186/cc8870>
- Natvik, S., Bjorvatn, B., Moen, B. E., Magerøy, N., Sivertsen, B., & Pallesen, S. (2011). Personality factors related to shift work tolerance in two- and three-shift workers. *Applied Ergonomics*, 42(5), 719–724. <https://doi.org/10.1016/j.apergo.2010.11.006>
- Nezu, A. M., Nezu, C. M., & Blissett, S. E. (1988). Sense of humor as a moderator of the relation between stressful events and psychological distress: a prospective analysis. *Journal of Personality and Social Psychology*, 54(3), 520–525.

- Northouse, L. L., Mood, D., Kershaw, T., Schafenacker, A., Mellon, S., Walker, J., & al., e. (2002). Quality of life of women with recurrent breast cancer and their family members. *Journal of Clinical Oncology*, 20(19), 4050–4064. <https://doi.org/10.1200/JCO.2002.02.054>
- Nowack, K. M. (1990). Initial development of an inventory to assess stress and health risk. *American Journal of Health Promotion*, 4(3), 173–180. <https://doi.org/10.4278/0890-1171-4.3.173>
- Nowlan, J. S., Wuthrich, V. M., & Rapee, R. M. (2015). Positive reappraisal in older adults: a systematic literature review. *Aging and Mental Health*, 19(6), 475–484. <https://doi.org/10.1080/13607863.2014.954528>
- Nugent, W. R., & Thomas, J. W. (1993). Validation of a clinical measure of self-esteem. *Research on Social Work Practice*, 3(2), 191–207.
- Ong, A. D., Bergeman, C. S., Bisconti, T. L., & Wallace, K. A. (2006). Psychological resilience, positive emotions, and successful adaptation to stress in later life. *Journal of Personality and Social Psychology*, 91(4), 730–749. <https://doi.org/10.1037/0022-3514.91.4.730>
- Orengo, C. A., Wei, S. H., Molinari, V. A., Hale, D. D., & Kunik, M. E. (2001). Functioning in rheumatoid arthritis: the role of depression and self-efficacy. *Clinical Gerontologist*, 23(3-4), 45–56. [https://doi.org/10.1300/J018v23n03\\_05](https://doi.org/10.1300/J018v23n03_05)
- Oshio, A., Nakaya, N., Kaneko, H., & Nagamine, S. (2002). Development and validation of an Adolescent Resilience Scale. *Japanese Journal of Counseling Science*, 35, 57–65.
- Oshio, A. K., H., Nagamine, S., & Nayaka, M. (2003). Construct validity of the Adolescent Resilience Scale. *Psychological Reports*, 93(3 Pt 2), 1217–1222.
- Owens, G. P., Steger, M. F., Whitesell, A. A., & Herrera, C. J. (2009). Posttraumatic stress disorder, guilt, depression, and meaning in life among military veterans. *Journal of Traumatic Stress*, 22(6), 654–657. <https://doi.org/10.1002/jts.20460>
- Ozbay, F., Johnson, D., Dimoulas, E., Morgan, C., Charney, D., & Southwick, S. (2007). Social support and resilience to stress: from neurobiology to clinical practice. *Psychiatry*, 4(5), 35–40.
- Ozer, E. J., Best, S. R., Lipsey, T. L., & Weiss, D. S. (2003). Predictors of posttraumatic stress disorder and symptoms in adults: a meta-analysis. *Psychological Bulletin*, 129(1), 52–73.
- Page, K. (2005). *Subjective wellbeing in the workplace* [Unpublished thesis]. Deakin University.
- Pargament, K. I., Koenig, H. G., & Perez, L. (2000). The many methods of religious coping: development and initial validation of the RCOPE. *Journal of Clinical Psychology*, 56(4), 519–543.

- Park, C. L., Edmondson, D., Fenster, J. R., & Blank, T. O. (2008). Meaning making and psychological adjustment following cancer: the mediating roles of growth, life meaning, and restored just-world beliefs. *Journal of Consulting and Clinical Psychology, 76*(5), 863–875. <https://doi.org/10.1037/a0013348>
- Park, M., Chang, E. R., & You, S. (2015). Protective role of coping flexibility in PTSD and depressive symptoms following trauma. *Personality and Individual Differences, 82*, 102–106. <https://doi.org/10.1016/j.paid.2015.03.007>
- Paterson, C., Jones, M., Rattray, J., & Lauder, W. (2013). Exploring the relationship between coping, social support and health-related quality of life for prostate cancer survivors: a review of the literature. *European Journal of Oncology Nursing, 17*(6), 750–759. <https://doi.org/10.1016/j.ejon.2013.04.002>
- Peter, C., Müller, R., Cieza, A., & Geyh, S. (2012). Psychological resources in spinal cord injury: a systematic literature review. *Spinal Cord, 50*(3), 188–201. <https://doi.org/10.1038/sc.2011.125>
- Petree, R. D., Broome, K. M., & Bennett, J. B. (2012). Exploring and reducing stress in young restaurant workers: results of a randomized field trial. *American Journal of Health Promotion, 26*(4), 217–224. <https://doi.org/10.4278/ajhp.091001-QUAN-321>
- Pietrzak, R. H., & Cook, J. M. (2013). Psychological resilience in older U.S. veterans: results from the national health and resilience in veterans study. *Depression and Anxiety, 30*(5), 432–443. <https://doi.org/10.1002/da.22083>
- Pragodpol, P., & Ryan, C. (2013). Critical review of factors predicting health-related quality of life in newly diagnosed coronary artery disease patients. *Journal of Cardiovascular Nursing, 28*(3), 277–284. <https://doi.org/10.1097/JCN.0b013e31824af56e>
- Prati, G., & Pietrantoni, L. (2009). Optimism, social support, and coping strategies as factors contributing to posttraumatic growth: a meta-analysis. *Journal of Loss and Trauma, 14*(5), 364–388. <https://doi.org/10.1080/15325020902724271>
- Quale, A. J., & Schanke, A. K. (2010). Resilience in the face of coping with a severe physical injury: a study of trajectories of adjustment in a rehabilitation setting. *Rehabilitation Psychology, 55*(1), 12–22. <https://doi.org/10.1037/a0018415>
- Radloff, L. S. (1977). The CES-D scale: a self report depression scale for research in the general population. *Applied Psychological Measurement, 1*(3), 385–401. <https://doi.org/10.1177/014662167700100306>

- Reivich, K., & Shatt  , A. (2002). *The resilience factor: 7 essential skills for overcoming life's inevitable obstacles*. Broadway Books.
- Robertson, I. T., Cooper, C. L., Sarkar, M., & Curran, T. (2015). Resilience training in the workplace from 2003 to 2014: a systematic review. *Journal of Occupational and Organizational Psychology*, 88(3), 533–562. <https://doi.org/10.1111/joop.12120>
- Rose, R. D., Buckey, J. C. J., Zbozinek, T. D., Motivala, S. J., Glenn, D. E., Cartreine, J. A., & Craske, M. G. (2013). A randomized controlled trial of a self-guided, multimedia, stress management and resilience training program. *Behaviour Research and Therapy*, 51(2), 106–112. <https://doi.org/10.1016/j.brat.2012.11.003>
- Rosenberg, M. (1965). *Society and the Adolescent Self-Image*. Princeton University Press.
- Rutten, B., Hammels, C., Geschwind, N., Menne-Lothmann, C., Pishva, E., Schruers, K., Van den Hove, D., Kenis, G., van Os, J., & Wichers, M. (2013). Resilience in mental health: Linking psychological and neurobiological perspectives. *Acta Psychiatrica Scandinavica*, 128(1), 3–20. <https://doi.org/10.1111/acps.12095>
- Ryff, C. D. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology*, 57(6), 1069–1081.
- Sadow, D., & Hopkins, B. (1993). Resiliency training and empowerment among homeless, substance-abusing veterans: increasing a sense of self-efficacy and internal attribution of control as a result of resiliency training. *Research Communications in Psychology, Psychiatry & Behavior*, 18(3-4), 121–134.
- Sahler, O. J., Dolgin, M. J., Phipps, S., Fairclough, D. L., Askins, M. A., Katz, E. R., Noll, R. B., & Butler, R. W. (2013). Specificity of problem-solving skills training in mothers of children newly diagnosed with cancer: results of a multisite randomized clinical trial. *Journal of Clinical Oncology*, 31(10), 1329–1335. <https://doi.org/10.1200/JCO.2011.39.1870>
- Saksvik, I. B., Bjorvatn, B., Hetland, H., Sandal, G. M., & Pallesen, S. (2011). Individual differences in tolerance to shift work--a systematic review. *Sleep Medicine Reviews*, 15(4), 221–235. <https://doi.org/10.1016/j.smr.2010.07.002>
- Salsman, J. M., Pustejovsky, J. E., Jim, H. S., Munoz, A. R., Merluzzi, T. V., George, L., Park, C. L., Danhauer, S. C., Sherman, A. C., Snyder, M. A., & Fitchett, G. (2015). A meta-analytic approach to examining the correlation between religion/spirituality and mental health in cancer. *Cancer*, 121(21), 3769–3778. <https://doi.org/10.1002/cncr.29350>

- Sapienza, J. K., & Masten, A. S. (2011). Understanding and promoting resilience in children and youth. *Current Opinion in Psychiatry*, 24(4), 267–273. <https://doi.org/10.1097/YCO.0b013e32834776a8>
- Sarkar, M., & Fletcher, D. (2014). Psychological resilience in sport performers: a review of stressors and protective factors. *Journal of Sports Sciences*, 32(15), 1419–1434. <https://doi.org/10.1080/02640414.2014.901551>
- Sattler, D. N., Boyd, B., & Kirsch, J. (2014). Trauma-exposed firefighters: relationships among posttraumatic growth, posttraumatic stress, resource availability, coping and critical incident stress debriefing experience. *Stress and Health*, 30(5), 356–365. <https://doi.org/10.1002/smi.2608>
- Schachman, K. A., Lee, R. K., & Lederma, R. P. (2004). Baby boot camp: facilitating maternal role adaptation among military wives. *Nursing Research*, 53(2), 107–115. <https://doi.org/10.1097/00006199-200403000-00006>
- Schaefer, S. M., Morozink Boylan, J., Van Reekum, C. M., Lapate, R. C., Norris, C. J., Ryff, C. D., & Davidson, R. J. (2013). Purpose in life predicts better emotional recovery from negative stimuli. *PloS One*, 8(11), e80329x. <https://doi.org/10.1371/journal.pone.0080329>
- Schaufeli, W. B., Salanova, M., González-Romá, V., & Bakker, A. B. (2002). The measurement of engagement and burnout: a two sample confirmatory factor analytic approach. *Journal of Happiness Studies*, 3(1), 71–92.
- Scheier, M. F., Carver, C. S., & Bridges, M. W. (1994). Distinguishing optimism from neuroticism (and trait anxiety, self-mastery, and self-esteem): a re-evaluation of the Life Orientation Test. *Journal of Personality and Social Psychology*, 67(6), 1063–1078.
- Schnyder, U., Wittmann, L., Friedrich-Perez, J., Hepp, U., & Moergeli, H. (2008). Posttraumatic stress disorder following accidental injury: rule or exception in Switzerland? *Psychotherapy and Psychosomatics*, 77(2), 111–118. <https://doi.org/10.1159/000112888>
- Schumm, J. A., Briggs-Phillips, M., & Hobfoll, S. E. (2006). Cumulative interpersonal traumas and social support as risk and resiliency factors in predicting PTSD and depression among inner-city women. *Journal of Traumatic Stress*, 19(6), 825–836. <https://doi.org/10.1002/jts.20159>
- Schwarzer, R., & Hallum, S. (2008). Perceived teacher self-efficacy as a predictor of job stress and burnout: mediation analyses. *Applied Psychology*, 57(S1), 152–171. <https://doi.org/10.1111/j.1464-0597.2008.00359.x>
- Segovia, F., Moore, J. L., Linnville, S. E., Hoyt, R. E., & Hain, R. E. (2012). Optimism predicts resilience in repatriated prisoners of war: a 37-year longitudinal study. *Journal of Traumatic Stress*, 25(3), 330–336. <https://doi.org/10.1002/jts.21691>

- Senra, H., Barbosa, F., Ferreira, P., Vieira, C. R., Perrin, P. B., Rogers, H., Rivera, D., & Leal, I. (2015). Psychologic adjustment to irreversible vision loss in adults: a systematic review. *Ophthalmology*, 122(4), 851–861. <https://doi.org/10.1016/j.ophtha.2014.10.022>
- Shand, L. K., Cowlshaw, S., Brooker, J. E., Burney, S., & Ricciardelli, L. A. (2015). Correlates of post-traumatic stress symptoms and growth in cancer patients: a systematic review and meta-analysis. *Psycho-oncology*, 24(6), 624–634. <https://doi.org/10.1002/pon.3719>
- Sherbourne, C. D., & Stewart, A. L. (1991). The MOS social support survey. *Social Science and Medicine*, 32(6), 705–714.
- Sherer, M., Maddux, J. E., Mercandante, B., Prentice-Dunn, S., Jacobs, B., & Rogers, R. W. (1982). The Self-efficacy Scale: construction and validation. *Psychological Reports*, 51(2), 663–671. <https://doi.org/10.2466/pr0.1982.51.2.663>
- Silver, R. C., Holman, E. A., McIntosh, D. N., Poulin, M., & Gil-Rivas, V. (2002). Nationwide longitudinal study of psychological responses to September 11. *JAMA*, 288(10), 1235–1244.
- Sinclair, V. G., & Wallston, K. A. (2004). The development and psychometric evaluation of the Brief Resilient Coping Scale. *Assessment*, 11(1), 94–101.
- Smith, B. W., Dalen, J., Wiggins, K., Tooley, E., Christopher, P., & Bernard, J. (2008). The Brief Resilience Scale: assessing the ability to bounce back. *International Journal of Behavioral Medicine*, 15(3), 194–200. <https://doi.org/10.1080/10705500802222972>
- Smith, B. W., Tooley, E. M., Montague, E. Q., Robinson, A. E., Cosper, C. J., & Mullins, P. G. (2009). The role of resilience and purpose in life in habituation to heat and cold pain. *Journal of Pain*, 10(5), 493–500. <https://doi.org/10.1016/j.jpain.2008.11.007>
- Smith, C., Hancock, H., Blake-Mortimer, J., & Eckert, K. (2007). A randomised comparative trial of yoga and relaxation to reduce stress and anxiety. *Complementary Therapies in Medicine*, 15(2), 77–83. <https://doi.org/10.1016/j.ctim.2006.05.001>
- Solomon, Z., Mikulincer, M., & Avitzur, E. (1988). Coping, locus of control, social support, and combat-related posttraumatic stress disorder: a prospective study. *Journal of Personality and Social Psychology*, 55(2), 279–285.

- Songprakun, W., & McCann, T. V. (2012). Effectiveness of a self-help manual on the promotion of resilience in individuals with depression in Thailand: a randomised controlled trial. *BMC Psychiatry*, 12, 12. <https://doi.org/10.1186/1471-244X-12-12>
- Sood, A., Prasad, K., Schroeder, D., & Varkey, P. (2011). Stress management and resilience training among Department of Medicine faculty: a pilot randomized clinical trial. *Journal of General Internal Medicine*, 26(8), 858–861. <https://doi.org/10.1007/s11606-011-1640-x>
- Southwick, S., Vythilingam, M., & Charney, D. (2005). The psychobiology of depression and resilience to stress: implications for prevention and treatment. *Annual Review of Clinical Psychology*, 1, 255–291. <https://doi.org/10.1146/annurev.clinpsy.1.102803.143948>
- Southwick, S. M., & Charney, D. S. (2012). *Resilience: the science of mastering life's greatest challenges*. Cambridge University Press.
- Southwick, S. M., Litz, B. T., Charney, D., & Friedman, M. J. (2011). *Resilience and mental health: challenges across the lifespan*. Cambridge University Press.
- Spielberger, C. D., Gorsuch, R. L., & Lushene, R. E. (1970). *STAI manual for the State-Trait Anxiety Inventory*. Consulting Psychologists Press.
- Spitzer, R. L., Kroenke, K., Williams, J. B. W., & and the Patient Health Questionnaire Primary Study Group. (1999). Validation and utility of a self-report version of PRIME-MD: the PHQ Primary Care Study. *JAMA*, 282(18), 1737–1744. <https://doi.org/10.1001/jama.282.18.1737>
- Steinhardt, M. A., & Dolbier, C. L. (2008). Evaluation of a resilience intervention to enhance coping strategies and protective factors and decrease symptomatology. *Journal of American College Health*, 56(4), 445–453. <https://doi.org/10.3200/JACH.56.44.445-454>
- Stewart, D. E., & Yuen, T. (2011). A systematic review of resilience in the physically ill. *Psychosomatics*, 52(3), 199–209. <https://doi.org/10.1016/j.psych.2011.01.036>
- Strand, E. B., Zautra, A. J., Thoresen, M., Ødegård, S., Uhlig, T., & Finset, A. (2006). Positive affect as a factor of resilience in the pain-negative affect relationship in patients with rheumatoid arthritis. *Journal of Psychosomatic Research*, 60(5), 477–484.
- Sumer, N., Karanci, A. N., Berument, S. K., & Gunes, H. (2005). Personal resources, coping self-efficacy, and quake exposure as predictors of psychological distress following the 1999 earthquake in Turkey. *Journal of Traumatic Stress*, 18(4), 331–342. <https://doi.org/10.1002/jts.20032>



- Tan, K. K., Chan, S. W., Wang, W., & Vehviläinen-Julkunen, K. (2016). A salutogenic program to enhance sense of coherence and quality of life for older people in the community: a feasibility randomized controlled trial and process evaluation. *Patient Education and Counseling*, 99(1), 108–116. <https://doi.org/10.1016/j.pec.2015.08.003>
- Tedeschi, R. G., & Calhoun, L. G. (1996). The Posttraumatic Growth Inventory: measuring the positive legacy of trauma. *Journal of Traumatic Stress*, 9(3), 455–471.
- Tilden, V. P., Nelson, C. A., & May, B. A. (1990). The IPR inventory: development and psychometric characteristics. *Nursing Research*, 39(6), 337–343.
- Truitt, M., Biesecker, B., Capone, G., Bailey, T., & Erby, L. (2012). The role of hope in adaptation to uncertainty: the experience of caregivers of children with Down syndrome. *Patient Education and Counseling*, 87(2), 233–238. <https://doi.org/10.1016/j.pec.2011.08.015>
- Tsai, J., El-Gabalawy, R., Sledge, W. H., Southwick, S. M., & Pietrzak, R. H. (2015). Post-traumatic growth among veterans in the USA: results from the National Health and Resilience in Veterans Study. *Psychological Medicine*, 45(1), 165–179. <https://doi.org/10.1017/S0033291714001202>
- Tsai, J., Sippel, L. M., Mota, N., Southwick, S. M., & Pietrzak, R. H. (2016). Longitudinal course of posttraumatic growth among US military veterans: results from the National Health and Resilience in Veterans Study. *Depression and Anxiety*, 33(1), 9–18. <https://doi.org/10.1002/da.22371>
- Tschannen-Moran, M., & Woolfolk Hoy, A. (2001). Teacher efficacy: capturing an elusive construct. *Teaching and Teacher Education*, 17(7), 783–805. [https://doi.org/10.1016/S0742-051X\(01\)00036-1](https://doi.org/10.1016/S0742-051X(01)00036-1)
- Ungar, M., Liebenberg, L., Boothroyd, R., Kwong, W. M., Lee, T. Y., Leblanc, J., & Duque, L., & Makhnach, A. (2008). The study of youth resilience across cultures: lessons from a pilot study of measurement development. *Research in Human Development*, 5(3), 166–180. <https://doi.org/10.1080/15427600802274019>
- Van der Kleij, R., Molenaar, D., & Schraagen, J. M. (2011). Making teams more resilient: effects of shared transformational leadership training on resilience. *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*, 55(1), 2158–2162.
- Van Kessel, G. (2013). The ability of older people to overcome adversity: a review of the resilience concept. *Geriatric Nursing*, 34(2), 122–127. <https://doi.org/10.1016/j.gerinurse.2012.12.011>

- Van Leeuwen, C. M., Kraaijeveld, S., Lindeman, E., & Post, M. W. (2012). Associations between psychological factors and quality of life ratings in persons with spinal cord injury: a systematic review. *Spinal Cord*, 50(3), 174–187. <https://doi.org/10.1038/sc.2011.120>
- Vanhove, A. J., Herian, M. N., Perez, A. L. U., Harms, P. D., & Lester, P. B. (2016). Can resilience be developed at work? A meta-analytic review of resilience-building programme effectiveness. *Journal of Occupational and Organizational Psychology*, 89(2), 278–307. <https://doi.org/10.1111/joop.12123>
- Visser, A., Garssen, B., & Vingerhoets, A. (2010). Spirituality and well-being in cancer patients: a review. *Psycho-oncology*, 19(6), 565–572. <https://doi.org/10.1002/pon.1626>
- Wade, S. L., Borawski, E. A., Taylor, H. G., Drotar, D., Yeates, K. O., & Stancin, T. (2001). The relationship of caregiver coping to family outcomes during the initial year following pediatric traumatic injury. *Journal of Consulting and Clinical Psychology*, 69(3), 406–415.
- Wagnild, G. M. (2009). *The Resilience Scale user's guide for the US English Version of the Resilience Scale and the 14-Item Resilience Scale (RS-14)*. The Resilience Center.
- Wagnild, G. M., & Young, H. M. (1993). Development and psychometric evaluation of the Resilience Scale. *Journal of Nursing Measurement*, 1(2), 165–178.
- Waite, P. J., & Richardson, G. E. (2004). Determining the efficacy of resiliency training in the work site. *Journal of Allied Health*, 33(3), 178–183.
- Walker, S., Sechrist, K. R., & Pender, N. J. (1987). The Health-Promoting Lifestyle Profile: development and psychometric characteristics. *Nursing Research*, 36(2), 76–81.
- Walsh, K., King, M., Jones, L., Tookman, A., & Blizard, R. (2002). Spiritual beliefs may affect outcome of bereavement: prospective study. *BMJ*, 324(7353), 1551.
- Wang, F., Liu, J., Liu, L., Wang, F., Ma, Z., Gao, D., & Zhang, Q., & Yu, Z. (2014). The status and correlates of depression and anxiety among breast-cancer survivors in Eastern China: a population-based, cross-sectional case–control study. *BMC Public Health*, 14, 326. <https://doi.org/10.1186/1471-2458-14-326>
- Ware, J. E., Kosinski, M., & Keller, S. D. (1994). *SF-36 Physical and Mental Health Summary Scales: A User's Manual*. The Health Institute, New England Medical Center.
- Watson, D., & Clark, L. A. (1994). *The PANAS-X: Manual for the Positive and Negative Affect Schedule-Expanded Form*. The University of Iowa.

- Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: the PANAS scales. *Journal of Personality and Social Psychology*, 54(6), 1063–1070.
- Waysman, M., Schwarzwald, J., & Solomon, Z. (2001). Hardiness: an examination of its relationship with positive and negative long term changes following trauma. *Journal of Traumatic Stress*, 14(3), 531–548. <https://doi.org/10.1023/A:1011112723704>
- Weiss, M. J. (2002). Hardiness and social support as predictors of stress in mothers of typical children, children with autism, and children with mental retardation. *Autism*, 6(1), 115–130.
- White, J. H., Magin, P., Attia, J., Sturm, J., Carter, G., & Pollack, M. (2012). Trajectories of psychological distress after stroke. *Annals of Family Medicine*, 10(5), 435–442. <https://doi.org/10.1370/afm.1374>
- WHOQOL Group. (1998). Development of the World Health Organization WHOQOL-BREF quality of life assessment. *Psychological Medicine*, 28(3), 551–558. <https://doi.org/10.1017/s0033291798006667>
- Williams, R. A. (1997). *Psychometrics of the Coping Styles Questionnaire (CSQ)*. University of Michigan.
- Windle, G., Markland, D. A., & Woods, R. T. (2008). Examination of a theoretical model of psychological resilience in older age. *Aging and Mental Health*, 12(3), 285–292. <https://doi.org/10.1080/13607860802120763>
- Winger, J. G., Adams, R. N., & Mosher, C. E. (2016). Relations of meaning in life and sense of coherence to distress in cancer patients: a meta-analysis. *Psycho-oncology*, 25(1), 2–10. <https://doi.org/10.1002/pon.3798>
- Winwood, P. C., Colon, R., & McEwen, K. (2013). A practical measure of workplace resilience: developing the resilience at work scale. *Journal of Occupational and Environmental Medicine*, 55(10), 1205–1212. <https://doi.org/10.1097/JOM.0b013e3182a2a60a>
- Wolfe, F. (2004). Fatigue assessments in rheumatoid arthritis: comparative performance of visual analog scales and longer fatigue questionnaires in 7760 patients. *Journal of Rheumatology*, 31(10), 1896–1902.
- Wolpe, J. (1958). *Psychotherapy by Reciprocal Inhibition*. Stanford University Press.
- Wright, L. J., Zautra, A. J., & Going, S. (2008). Adaptation to early knee osteoarthritis: the role of risk, resilience, and disease severity on pain and physical functioning. *Annals of Behavioral Medicine*, 36(1), 70–80. <https://doi.org/10.1007/s12160-008-9048-5>
- Wu, G., Feder, A., Cohen, H., Kim, J. J., Calderon, S., Charney, D. S., & Mathé, A. A. (2013). Understanding resilience. *Frontiers in Behavioral Neuroscience*, 7, 10. <https://doi.org/10.3389/fnbeh.2013.00010>
- Zauszniewski, J., Bekhet, A., & Suresky, M. J. (2010). Resilience in family members of persons with serious mental illness. *Nursing Clinics of North America*, 45(4), 613–626. <https://doi.org/10.1016/j.cnur.2010.06.007>

Zautra, A. J., Johnson, L. M., & Davis, M. C. (2005). Positive affect as a source of resilience for women in chronic pain. *Journal of Consulting and Clinical Psychology, 73*(2), 212–220. <https://doi.org/10.1037/0022-006X.73.2.212>

Zigmond, A. S., & Snaith, R. P. (1983). The Hospital Anxiety and Depression Scale. *Acta Psychiatrica Scandinavica, 67*(6), 361–370. <https://doi.org/10.1111/j.1600-0447.1983.tb09716.x>