



# **Educational resilience: A systematic review of positive psychology interventions in middle childhood**

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Mini-dissertation submitted in partial fulfillment of the requirements for the degree

Master of Arts in Positive Psychology at the  
North-West University

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Graduation: October 2019

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## Foreword

In an increasingly competitive world, filled with progressively more adversities each day, what can be done to ensure a child's chance of future wellbeing and success? The rise in population estimates is a global phenomenon, causing depletion of natural and other essential resources (Bretschger, 2013). This dilemma is further fueled by destruction and disorder raging across the world, giving rise to the ruling psychological survival mindset and adaptability strategies, often accompanied by detrimental consequences (Mordeno, Galela, Nalipay, & Cue, 2018). Our current reality therefore demands more than physical strength; it calls for a new generation of psychosocially robust, resilient and innovative children, to ensure a future of positive and constructive social engineering, which can advance life and living, in a healthy and sustainable direction.

According to Britto (2017), childhood earmarks a period of rapid brain development during which neural connections form at exceptional speeds, cultivating the future reference of complex emotional, cognitive, and social developmental frameworks. The development of the latter dramatically influence childrens' ability to apply critical and creative thinking skills, which allow them to learn, develop, and grow in ways that will significantly influence them on a psychosocial level in adulthood, whether positively or negatively (Britto, 2017; Brown & Jernigan, 2012). A positive childhood predicts a positive adulthood, regardless of social status, educational level, and health status, among others (Richards & Huppert, 2011).

Current literature on positive psychosocial development (in the form of positive psychology interventions contributing to enhanced educational resilience of children in middle childhood) is fragmented across multiple fields and disciplines. The absence of knowledge consolidation related to the aforementioned poses a challenge in determining the existence and accuracy of any potential advances or possible need for progress, which motivated me to set out to bridge this gap in current literature.

## Acknowledgments

The words “*THANK YOU*” often seem so insignificant when I attempt to express how deep, sincere and profound I truly experience gratitude, love, and appreciation for the significant people in my life. Therefore my “*thank you*” will encompass these things and so much more than I will ever be able to translate in comprehensible and logical words.

**Jesus**, thank you for making me your courageous, resilient and relentless “rebel” in order to fulfill the purpose You created me for. You molded, guided, dragged, and pushed me through extremely tough and rugged terrains where angels fear to tread, and in doing so helped me to break free from limiting beliefs and conformities, in becoming the warrior daughter You needed me to be. To **my Mom, Annemarie Williams**, I hope that you are smiling down on me from heaven and I know that you would have been proud of me today.

To **my Dad, Fred Williams**, I firmly believe that God is now providing me the privilege to plow back into you and your life, in the same way that you have always invested so unselfishly in many others. Thank you for believing in me even when I felt like a complete failure and wanted to give up on everything and myself. Dad, I need to confess that the amount of resilience you displayed throughout your life remains an astounding yet intriguing mystery to me, and maybe the answer to your secret runs strongly through my veins. Thank you for raising me to have a curious mind that seeks not merely to know but to truly understand, and for the unique opportunity to pursue my dreams. All your sacrifices made it possible for me to complete this degree and I will be forever thankful.

To my husband, **Hannes Botha**, thank you for your love, patience and the gentle stability in your being throughout the ups and downs of this process. Thank you for the sacrifices you made and your valuable contributions to enable me to continue my studies.

To my brother, **Jacques Williams**, thank you for just instinctively knowing when I needed you. Thank you for being critical and unsympathetic when I needed you to be, and for your wise encouragement and hugs when I needed it. You supported me to remain persistent and complete my studies.

To my sister in law **Dr Carinda Williams**, thank you for being my sister, and most of all thank you for seeing me, just really seeing my heart, soul and being. You convinced me that I have the capability to pursue this degree.

Mom in law, **Christine Botha**, I am one of few, privileged enough to have gained a mother in you! Thank you for teaching me how to have unshaken faith in what I cannot always see. This was instrumental for me to complete this journey.

**Izanke de Wet**, you are my young, wild at heart, unbounded, amazing friend. You carried me, the children and our household through the toughest of times when my physical health was an all-time major challenge. Over several cups of coffee, we laughed and cried throughout my studies. You will always have a special place in my heart.

Thank you to the following family members: **Helga, Ansuné and Leanie Bezuidenhout; Lorinda and Danélle Pretorius; Grandma Lanaine Prinsloo; Martin senior, Ronél, Martin junior and Michelle Prinsloo; Gawie and Amanda Williams**. I genuinely wish I could thank each one of you personally in this part. However, I might have to start working on a sequel for this dissertation then.

Thank you to my friends and mentors; **Mariette and Regardo Bornman; Paul Buys; Kota Cloete; Elzahn de Wet; Jacqueline and Jurgens Human; Peet la Cock; Dr Elsabé Peters; Bernard Potgieter and Jaco Swart**. I know that each one of you will know what you meant to me on my journey and I am sincerely grateful for each one of you! A special thank you to

**Peet and Fransie Fourie**, my next door “mom and dad” for your endless love, care, and support throughout this journey.

Thank you to my supervisor, **Karliën Smit**. I know the road might have been tough with excellent and challenging times. However, I have learned a lot from you. Thank you for translating my recently diagnosed ADHD thoughts and words into an academically and scientifically comprehensible language. Thank you for teaching me to write scientifically and to conduct a mean and rigorous systematic literature review. I know that your future will be bright, blessed and full of love and vitality.

Thank you to my first co-supervisor, **Tasleem Sayed** for just understanding me and my journey, for teaching and guiding me through the review process and always being there when I needed your assistance. Your kind, sincere, loving and resilient nature amidst whatever curveball came our way is truly an inspiration to me. I will always be grateful for the way you conducted the entire reviewing process, and whenever I would get the opportunity to be a supervisor, I will undoubtedly apply your methods and approaches.

To my second co-supervisor, **Dr Lizanlé van Biljon**. Thank you for your expert guidance, advice, and input with regards to middle childhood psychological developmental aspects, and for ensuring that I continuously refrained from blurring the boundaries between clinical and positive psychology. May your future endeavors be fortunate and blessed.

Thank you to the **North West University (NWU), Potchefstroom campus** and the **Africa Unit for Transdisciplinary Health Research** for the opportunity to further my studies. Thank you to all the members of the **small group panel of experts in positive psychology**, the **AUTHeR Scientific Committee** and the **Health Research Ethics Committee of the NWU** for critically reviewing the progress of this mini-dissertation and providing expert input and expertise to ensure a quality end product. Thank you to positive psychology intern, **Samantha**

**Marais**, for your vibrant, fresh and energetic contribution. **Barbary Bradley** (language editor) and **Elsa Esterhuizen**, (technical editor), thank you for ensuring that the language and technical aspects were taken care of to ensure outstanding quality. Your time and efforts are greatly appreciated. A huge thank you to **Dr G.A. Ahrari** for translating his findings for me in English for inclusion in my study.

I dedicate this mini-dissertation to my two precious daughters **Katelynn Botha** (8 years) and **Anika Botha** (7 years). You supported me throughout the entire process, and I will cherish every memory of this journey when reminiscing on the way you curled up on my lap after waking up during the early morning hours, while I was still working. Your bedtime kisses and hugs with the words “do not let the M-bugs bite”, or just falling asleep on the bed behind me, so I would know I am not alone. Also the times you creatively joined me with your color pencils and crayons so that you can work on your master’s degrees with me, strengthened me throughout my journey. You both exhibit immense resilience and astonishing self-regulatory abilities for your ages. When times get tough and believe me it will. Always faithfully continue one step at a time and continue to grow and break through all limiting and false beliefs. No matter what the critics outside of you or the possible critic inside of you have to say, never settle for less. I pray that my legacy will always be your loving, guiding light in tough times and the humble delight in your hearts during prosperous times.



*“It’s the children the world almost  
breaks who grow up to save it!”*

*~ Frank Warren ~*

*All my love.*

*Mom.*

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**List of Abbreviations**

AUTHeR	Africa Unit for Transdisciplinary Health Research
ASC	AUTHeR Scientific Committee
CASP	Critical Appraisal Skills Program
CDC	Centre for Disease Control and Prevention
FHS	Faculty of Health Sciences
EF	Executive function
ER	Educational resilience
ERIC	Education Resource Information Centre
EPHPP	Effective Public Health Practice Project
MAStARI	Meta-Analysis of Statistics Assessment and Review Instrument
MeSH	Medical Subject Headings
NWU	North-West University
HREC	Health Research Ethics Committee
NOTARI	Narrative, Opinion and Text Assessment, and Review
OIT	Organismic Integration Theory
PRISMA	Preferred Reporting Items for Systematic Reviews and Meta-Analysis
PP	Positive psychology
PP2	Second wave positive psychology
PPIs	Positive psychology interventions
SEL	Social and emotional learning
SDT	Self-determination theory
SPICE	Setting, Perspective, Intervention, Comparison, and Evaluation
SR	Systematic review
WHO	World Health Organization

**Conceptual definitions**

- Child mental health:** The Centre for Disease Control and Prevention (CDC) defines childhood mental health as the successful accomplishment of emotional, social, and physical developmental milestones, while obtaining knowledge about appropriate life skills, that can be used effectively in coping with various adversities during this period of development (CDC, 2016).
- Coping:** Coping forms part of the regulation and resilience processes. Coping refers to the effective regulation of motivation, behavior, emotion, cognition, and attention. Coping or dealing with stressors involves a process in which individuals perceive, appraise, react, and behave towards stressors and adversities encountered in daily life, resulting in the successful management thereof, which in turn contributes to their personal growth (Skinner & Zimmer-Gembeck, 2016).
- Educational resilience:** Educational resilience (ER) refers to an increased possibility of success in school and overall life endeavors, despite external difficulties (Wang, Haertel, & Walberg, 1994).
- Eudaimonic wellbeing** Eudaimonic wellbeing refers to the theoretically supported eudaimonic domain of wellbeing and focuses on holistic positive functioning and internal/personal

qualities; this promotes positive mental health. Factors encompassed in eudaimonic wellbeing include, among others, environmental mastery, autonomy, personal growth, self-acceptance, relational wellbeing, purpose and satisfaction with life (Deci & Ryan, 2008; Heintzelman, 2018).

Flourishing/thriving:

Flourishing or thriving refers to a state of optimal mental health, in which an individual obtains and maintains a balance between the eudaimonic and hedonic perspectives of wellbeing, in which most favorable levels of social and psychological functioning coalesce with high levels of subjective wellbeing (Keyes, 2002, 2007).

Hedonic wellbeing:

Hedonic wellbeing refers to an individual's perceived level of subjective wellbeing and consists of aspects such as satisfaction in life, while simultaneously experiencing a high level of positive affect and a low level of negative affect (Deci & Ryan, 2008; Hefferon & Boniwell, 2011).

Middle childhood:

Refers to the period of human development that occurs in children between the ages of five to 12 years, during which mental development mostly takes place in the areas of emotional regulation, social behavior, cognition (executive functioning), and motivation (Del Giudice, 2014).

- Mental health:** Mental health refers to reaching and maintaining a level of existence on which individuals can recognize their potential, can cope with normal, everyday stressors of life and can work successfully and effectively, while making a constructive contribution to their community (WHO, 2014).
- Organismic Integration Theory** The Organismic Integration Theory (OIT) refers to a sub-theory of the self-determination theory with the focus on the types of motivation regulation, their elements, properties, and outcomes. Extrinsic motivation is further subdivided and presented in the form of a continuum of internalization. Greater internalization of extrinsic motivation, driven by value, belief system, meaning, and/or purpose derived from specific behavior, results in enhanced personal autonomy (Ryan & Deci, 2000; Deci & Ryan, 2004).
- Positive psychology:** Positive psychology (PP) refers to the scientific study of human thriving/flourishing (Seligman & Csikszentmihalyi, 2014).
- Positive psychology intervention:** Positive psychology intervention (PPI) refers to an activity or series of activities based on scientifically founded PP theory and aspects, with the purpose to promote positive experiences, emotions, personality, and social interactions in people's everyday life, while

enhancing among others resilience (Seligman, Rashid, & Parks, 2006).

**Positive youth development:** This refers to a theoretical framework focusing on the enhancement of young individuals' strengths, amid a supportive and engaging environment, which, among others, fosters enhancement of protective factors, relational skills, self-regulation, critical thinking, creative thinking and academic achievement (Taylor, Oberle, Durlak, & Weissberg, 2017).

**Protective factors:** Protective factors promote positive, constructive psychological and cognitive adaptation against risk factors. These factors exist in the form of individual traits/assets (e.g. self-regulation, intrinsic goal-directed motivation, autonomy, critical thinking, and creative thinking) and social aspects/resources (e.g. strong social support structure, sense of coherence, and family stability) (Rutter, 2013; Schultze-Lutter, Schimmelmann, & Schmidt, 2016).

**Resilience:** Resilience, also referred to as cognitive or psychological adaptation, describes an interactive, ever-evolving process in which an individual can overcome/succeed/thrive amid the experience of stressors, trauma or adversity, resulting in positive and

constructive adaptation, growth and functioning (Rutter, 2013; Schultze-Lutter et al., 2016).

Risk factors:

Risk factors constitute a measurable determinant predicting possible adverse outcomes on pre-specified criteria as a result of adversities, which include various adverse experiences in an individual's personal, family and social domains (Agnafors et al., 2017).

Self-determination:

The theory of self-determination (SDT) refers to a meta-theoretical framework for human motivational and personality studies. Self-determination comprises six sub-theories addressing various facets of personality and motivation in various contexts. For this study, the OIT will be used (Buttitta, Rousseau, & Guerrien, 2017).

Self-regulation:

Self-regulation is a multidimensional and complex construct referring to the bio-psycho-social processes managing the individual's behavior, attention, and emotion in reaction to an experience or stimulus to which the individual has the intention of either achieving or avoiding a specific goal (Mills et al., 2018).

Strengths:

Strengths refer to the innate tendency to act, feel, and think in a specific manner, enabling the individual to perform well and function optimally, while pursuing valued outcomes (Linley, Joseph, Harrington, & Wood, 2006). Social, environmental, and cultural factors greatly

influence the development and extent to which strengths are developed and utilized. Strengths are therefore a malleable aspect with the potential to be developed and evolved or remain dormant and under-utilized across the lifespan of the individual (Wood, Linley, Maltby, Kashdan, & Hurling, 2011).

Wellbeing:

Wellbeing is conceptualized and theorized as consisting of eudaimonic and hedonic perspectives, which interact synergistically with one another. Optimal levels of wellbeing occur when an individual maintains a balance between these two perspectives (Heintzelman, 2018).

## **Research outline**

This mini-dissertation is submitted in partial fulfillment of the requirements for completion of the Master of Arts degree in Positive Psychology and is submitted in the form of a manuscript, as stipulated in the 2018 version of the General Academic Rules (A4.1.1.1.4 and A4.4.2.9) of the North-West University. A brief outline of the chapters contained in this mini-dissertation is provided below.

### **Chapter 1: Background to the study**

Chapter 1 provides a detailed overview of the study. This overview includes a brief literature review, clarifying conceptual and contextual aspects forming the scientific foundation of this mini-dissertation. Furthermore, the overview conveys the problem statement and rationale of this study that has given rise to the review questions, as well as the consequential aim and objectives of this study. An accurate description of the scientific study design and methodology follows. The study design and research methodology will be discussed comprehensively in the manuscript. Chapter 1 also demonstrates that the researcher considered and adhered to all applicable ethical aspects pertaining to this study.

### **Chapter 2: Manuscript in article format**

Chapter 2 offers a systematic review of positive psychology interventions (PPIs) in middle childhood. The manuscript, entitled: Educational resilience: A systematic review of positive psychology interventions in middle childhood, adhering to the author guidelines of the *Journal of Research in Childhood Education*, will be submitted for possible publication.

### **Chapter 3: Conclusion, limitations, future recommendations, research brief, and reflection**

Chapter 3 concludes the mini-dissertation by providing a summary of the principal research findings, followed by study limitations and recommendations for future research, related to the main findings of this study. Chapter 3 will also deliver a research brief, for the

purpose of distribution to various stakeholders in order to disseminate the research findings in a concise, clear and visually engaging format. To conclude the final chapter, the researcher will share a reflection on the entire research process.

### **Author and co-author contributions**

This research study was planned and implemented by four researchers from the Africa Unit for Transdisciplinary Health Research (AUTHeR) at North-West University's Potchefstroom Campus. These researchers' expert knowledge, skills, and efforts were combined and contributed to different aspects of the research process. The researchers acted in the following capacities.


- Mrs A. Botha                      Mrs Botha, the post-graduate Master of Arts in Positive Psychology student was responsible for developing the research proposal and conducting the research processes, following the rigorous ten-step systematic review process developed by Boland, Cherry and Dickson (2017), and writing up the mini-dissertation. The student acted as the primary reviewer in the systematic review process and first author of the manuscript.
- Ms K. Smit                         Ms Smit acted in the capacity of supervisor and critical reviewer throughout the entire research process, an expert in the research methodology, the third reviewer solving all discrepancies occurring throughout the systematic review process, as well as second author of the manuscript.
- Mrs T. Sayed                      Mrs Sayed took on the role of co-supervisor, critical reviewer of the study, expert in the field of positive psychology, the secondary reviewer in the systematic review process and third author of the manuscript.

Dr L. van Biljon      Dr van Biljon also served as co-supervisor, critical reviewer of the study and professional expert in clinical psychology. She acted as the fourth author of the manuscript.

The following section contains author and co-author declarations; it serves as an official statement confirming the contributions made to the study and manuscript by each researcher. The authors hereby grant permission that the mini-dissertation and manuscript entitled *Educational resilience: A systematic review of positive psychology interventions in middle childhood* may be submitted for the purposes of a mini-dissertation.

### **Declaration and permission by co-authors**

The undersigned co-authors hereby declare that this mini-dissertation submitted by the student, Adèle Botha, complies with the requirements of the Master of Arts degree in Positive Psychology of the North-West University, Potchefstroom Campus. We hereby grant permission that the manuscript may be published as part of this mini-dissertation.

  
\_\_\_\_\_

Ms K. Smit

  
\_\_\_\_\_

Mrs T Sayed

  
\_\_\_\_\_

Dr L van Biljon

### **Declaration by author**

I, Adèle Botha, hereby declare that this mini-dissertation, entitled *Educational resilience: A systematic review of positive psychology interventions in middle childhood*, contains my work. All academic sources used and quoted in this mini-dissertation during the process of preparation have been rightfully acknowledged through the applicable documents. I also certify that this mini-dissertation has not been submitted previously for any form of assessment at any other institution/university/faculty/entity.

  
\_\_\_\_\_

Mrs A Botha

## **Executive summary**

### **Title: Educational resilience: A systematic review of positive psychology interventions in middle childhood**

#### **Problem statement**

Positive mental health has become increasingly significant, as mental illness became the leading cause of disability around the world. This necessitates earlier pro-active interventions to promote positive mental health and minimize the possibility of mental disease. Building the necessary psychosocial, emotional and resilience skills especially during middle childhood has proven to significantly reduce depression and increase psychosocial wellbeing (Reivich, Gillham, Chaplin & Seligman, 2013). A gap was identified in the literature. The researchers could not find a single source combining conclusions from various studies across multiple disciplines, explicitly focusing on positive psychology interventions (PPIs) that contribute to educational resilience (ER) in middle childhood.

#### **Study aim**

This study aimed to explore and identify literature findings of existing PPIs that contribute to fostering ER in middle childhood. Additionally, the findings were evaluated against the backdrop of Kümpfer's (1999) resilience model, revised by Hassim (2016), and discussed against the organismic integration theory (OIT), a sub-theory of the self-determination theory (SDT) (Ryan and Deci, 2000).

#### **Study design and method**

The researchers made use of the Setting, Perspective, Intervention, Comparison, and Evaluation (SPICE) acronym to define the inclusion and exclusion criteria of electronic sources, throughout the review process. The preliminary selection yielded 803 sources. After eliminating two duplicates, a further 641 sources were excluded based on titles and abstracts, containing age ranges outside of middle childhood, and clinical aspects defined in the exclusion criteria. Furthermore, 148 articles were excluded for containing both the aforesaid

inclusion - and exclusion criteria with inseparable data, and focusing on positive psychology (PP) scales validity and reliability unrelated to this study's objectives. The researchers critically appraised 12 eligible sources for possible biases and excluded two. One study purposefully selected participants exhibiting predetermined characteristics, while the other study did not contain pre- and post-intervention measurements. Data from the 10 remaining studies included in this systematic review were extracted into data tables. Thematic synthesis was applied to identify prominent themes stemming from the data.

### **Results and discussion**

Results from this **systematic review (SR)** indicated that PPIs constructively contribute to the development of ER constituents in middle childhood. Prolonged exposure to such interventions has furthermore lead to sustainable enhancements of a learner's internal protective resilience repertoire. Learners need exposure to adversities in a supportive, positive environment, wherein they can fundamentally develop positive and constructive self-regulation and cognitive, emotional, social and behavioral skills. Partaking in PPIs containing amongst other gratitude, mindfulness, critical and innovative thinking, and social and emotional learning enhancement aspects, demonstrated significant enhancement on ER cultivation in middle childhood. The internal protective areas displaying the most prominent enhancement through PPI participation was the emotional, cognitive and behavioral domains, followed by motivation. A confident link exists between middle childhood motivational developmental aspects and the OIT – when a learner's ability and need for autonomous, self-regulated behavior increases, providing an excellent opportunity to cultivate internal motivation.

### **Conclusion and recommendations**

Middle childhood learners undergo remarkable developmental strides in the complex development of meta-cognition in the association of continuous integration and regulation of internal and external stimuli, signifying an ideal opportunity to foster positive ER repertoires

in learners. ER increases in accordance with learners' ability to effectively influence and manage their environment, implying that PPIs contribute to equipping learners with fundamental ER skills. This SR accentuates the need to study ER development in middle childhood in tandem with additional developmental aspects to encompassing a holistic approach.

## **Chapter 1: Background to the study**

### **Orientation to Chapter 1**

Chapter 1 provides a detailed overview of the study and serves as proof of scientific approval from the Unit for Transdisciplinary Health Research (AUTHeR) Scientific Committee (ASC), as well as ethical clearance from the Health Research Ethics Committee (HREC) of the Faculty of Health Sciences (FHS) of the North-West University (NWU). The researcher commences with Chapter 1 by providing the scientifically approved research proposal. In this proposal, the researcher commences with a brief literature review describing the background to the study, followed by the clarification of all critical, conceptual and contextual aspects of this study. As part of the background, the researcher discusses resilience, the organismic integration theory (OIT), self-determination theory (SDT), educational resilience (ER), middle childhood, positive psychology (PP) and PP interventions (PPIs).

The proposal continues with the problem statement and rationale for the study, containing the specific aim and objectives. The proposal further provides a comprehensive description of the research methodology, while the manuscript will only contain a summarized version thereof. Addenda originally submitted as part of the proposal for approval is provided as part of the addenda, which can be found at the end of the mini-dissertation. Chapter 1 continues with the final ethics approval letter, verifying that the researcher considered and adhered to ethical aspects relating to the study. The full ethics application send to the HREC of the FHS of the NWU can be found in Addendum A.

## Scientifically approved research proposal



Cover page for research proposal			
School	The Africa Unit for Transdisciplinary Health Research (AUTHeR)		
Discipline	Positive Psychology		
<b>Student</b>			
Surname	Botha		
Name/initials	Adèle (A)		
Cell phone number	+27 82 800 9800		
Skype address	n/a		
Degree	Master of Arts in Positive Psychology		
Date of first registration for the <b>above-mentioned degree</b>	2015		
Student number	11986417		
Title of mini-dissertation	Educational resilience: A systematic review of positive psychology interventions in middle childhood.		
Supervisor	Ms Karlien Smit		
Co-supervisors	Mrs Tasleem Sayed Dr Lizanle van Biljon		
Number of times of submission of this protocol (Mark were applicable)	1 <sup>st</sup>	X	
	2 <sup>nd</sup>		
	3 <sup>rd</sup>		
Does this project fall under a greater umbrella project?		Yes	
		No	X
If yes, ethical number of the umbrella project	n/a		
Title of the umbrella project	n/a		
Leader of the umbrella project	n/a		
Specific aims of the umbrella project <b>whereby this study links</b>	n/a		
Will new data be collected?		Yes	

	<b>Systematic Review</b>	No	<b>X</b>
Names of <b>small group panel</b> within the school/unit that approved this research protocol (before being sent to AUTHeR)	1	<b>Prof Marie Wissing</b>	
	2	<b>Dr Lusilda Schutte</b>	
	3	<b>Mrs Christelle Liversage</b>	
	4	<b>Mrs Amanda Cromhout</b>	
	5	<b>Ms Amori du Plessis</b>	
Date of approval by the above-mentioned panel	<b>23 July 2018</b>		
Names of AUTHeR <b>Scientific Committee</b> within the school/unit that approved this research protocol [before being sent to the Health Research Ethics Committee (HREC) of the Faculty of Health Sciences of the North-West University (NWU)]	1	<b>Prof Lanthé Kruger</b>	
	2	<b>Dr Nicole Claasen</b>	
	3	<b>Prof Daleen van der Merwe</b>	
Date of approval by the above-mentioned panel.	<b>12 September 2018</b>		
<b>HREC – Ethics committee</b> approval date.	<b>23 October 2018</b>		

**Title: Educational resilience: A systematic review of positive psychology interventions in middle childhood.**

Keywords: *educational resilience, resilience, positive psychology interventions, middle childhood, self-determination, primary school children.*

**Background to the study**

Positive mental health is crucial to ensure effective functioning in personal and societal domains and is necessary to enhance levels of wellbeing across such domains (Ryff, 2017). According to the World Health Organization (WHO, 2014), mental health refers to a state of wellbeing, reaching a level of existence on which individuals can recognize their potential, can cope with everyday stressors of life, and function successfully and effectively, while constructively contributing to their communities. Mental illness, in the form of autism spectrum disorders, depression, attention-deficit/hyperactivity disorder and anxiety disorders, among others is currently considered one the leading causes of disability amongst children worldwide (Bennett, Negley, Wells, & Connolly, 2016; Erskine et al., 2017; Fatori, Bordin, Curto, & de Paula, 2013; Jane-Llopis et al., 2011). This alarming reality necessitates the promotion of positive mental health and the prevention of mental disease (Frauenholtz, Mendenhall, & Moon, 2017; Petersen, Bhana, & Swartz, 2012; Waddell, McEwan, Peters, Hua, & Garland, 2007). It is therefore essential to understand what the concept of optimal mental health entails. Mental health is more than the mere absence of mental illness and can be enhanced regardless of a diagnosis of mental illness, as suggested by Keyes' two continua model of subjective mental health or flourishing on one end of the axis and subjective mental illness or languishing on the other (Keyes, 2002; 2005; 2007; Seow et al., 2016).

A state of optimal mental health (also known as flourishing/thriving) implies that a balance is maintained between the eudaimonic and hedonic perspectives of wellbeing

(McMahan, Dixon, & King, 2013; Wong, 2011), in which most favorable levels of social and psychological functioning coalesce with high levels of subjective wellbeing (Keyes, 2002, 2007). The two traditional perspectives on wellbeing, namely eudaimonic and hedonic wellbeing, encompass the fundamental aspects of the WHO (2014) definition of mental health (Deci & Ryan, 2008; McMahan et al., 2013; Waterman, 1993). Aspects of mental health include subjective wellbeing, perceived self-efficacy, autonomy, competence, intergenerational dependence and recognition of the ability to realize one's intellectual and emotional potential (Department of Mental Health and Substance Dependence Non-communicable Diseases and Mental Health, 2003). Researchers in the field of mental health has paid due attention to how individuals cope with stressors and adversities, consequently leading to a myriad of publications on psychological, social, and behavioral research supporting the development of positive mental health (Masten & Barnes, 2018; Ungar, 2015).

In order to cultivate positive mental health and enhanced quality of life, it is critical to intervene as early as possible and promote positive youth development, through continuous education and support during early and middle childhood (Bennett et al, 2016; Blum, 1998). Early development and pro-active preventative measures, enhancing positive mental health, can protect individuals against risk factors, through positive adaptation and the cultivation of efficient coping mechanisms, which play a vital role in fostering resilience or “bouncing back” from adversity (Srivastava, 2011). Multiple studies concluded that childhood adversities, traumatic experiences and the formation of inappropriate or false perceptions and destructive coping mechanisms during middle childhood (Fagundes, Glaser, & Kiecolt-Glaser, 2013; Hughes, Lowey, Quigg, & Bellis, 2016) can affect the individual negatively in adulthood, with extensive destructive consequences for the economy and society (Anderson et al., 2003; Hughes, et al., 2016). Research further shown that teaching children the necessary social, emotional, acceptance and resilience-building skills lead to a significant reduction in

depression rates, as well as an increased sense of wellbeing (Burckhardt, Manicavasagar, Batterham, & Hadzi-Pavlovic, 2016; Weissberg, Kumpfer, & Seligman, 2003).

Resilience in an educational context is referred to as educational resilience (ER). Enhanced ER correlates significantly with academic success and future career success, contributing to positive mental health (Francois & Overstreet, 2010). Upon perusal of various studies, a definite gap was identified, since no current literature exists that combines the findings from various studies across multiple disciplines, with an explicit focus on PPIs, enhancing ER in middle childhood. In the following section the concept of personal resilience and the adaptation thereof in educational context are discussed.

### **Resilience**

Resilience refers to an ever-evolving, dynamic process, occurring between relational, intrinsic, extrinsic, and environmental factors, which involves self-determination, self-regulation and courage to manage stressors successfully, which leads to coping, through effective problem-solving and active engagement in the process, while receiving support and encouragement from significant others (Goldstein & Brooks, 2013; Maddi, 2002; Masten & Cicchetti, 2016; Worsley, 2014). Consequently, a psychological resilience repertoire gradually develops through a repetitive pattern of successful situational appraisal and action, leading to positive adaptation and constructive outcomes, and assists the individual in transforming stressors and potential adversities into opportunities for personal growth (Bouwer, 2014; Chmitorz et al., 2018; Connor & Davidson, 2003; Leipold & Greve, 2009; Maddi, 2005; Prince-Embury, 2014).

Synonyms for resilience often used in scientific literature are “psychological resilience”, “hardiness”, “grit”, “cognitive/psychological flexibility”, or “psychological adaptation” (Chmitorz et al., 2018; Duckworth, 2016; Polk & Schoendorff, 2014; Schultze-

Lutter et al., 2016). According to Wright, Masten, and Narayan (2013), resilience research developed over a period of four decades, in the following four significant focus areas:

- Firstly, resilience research originated to generate a conceptual resilience definition and methodology, while focusing on individual resilience, in the form of positive adaptation and protective factors, in the context of various adversities and risk factors.
- Secondly, resilience research began to investigate possible influential risk and protective factors, stemming from the individual's dynamic developmental and ecological systems. Researchers started to explore the significance of transactional processes that occur between the individual, various systems influencing individual development, and contexts of development, while still focusing on positive adaptation, amid exposure to adverse events.
- The third area of research focused on the development and implementation of interventions, to cultivate and develop resilience with sustainable results.
- The fourth area only emerged recently and highlighted the focus of this study. Current researchers increased their span, placing the focus on comprehending and integrating resilience factors in various transactional processes, developmental processes, and contexts, across meta-analytical, multi-dimensional and multidisciplinary levels.

According to Shean (2015), six prominent theorists can be identified in the field of youth resilience, namely Norman Garmezy (Garmezy, 1991b), Suniya Luthar (Luthar, Cicchetti, & Bronwyn, 2000), Ann Masten (Masten, 2001, 2014, 2018; Masten & Coatsworth, 1998), Michael Rutter (Rutter, 2013), Michael Ungar (Ungar, 2004, 2015; Ungar, Ghazinour, & Richter, 2013) and Emmy Werner (1990). These theorists agree that the concept of resilience encompasses two aspects; (a) an individual is exposed to a significant stressor of adversity and (b) demonstrates positive adaptation (Masten, 2018; Shean, 2015). Ungar (2004) was the only theorist incorporating cultural and contextual factors into his definition of resilience.

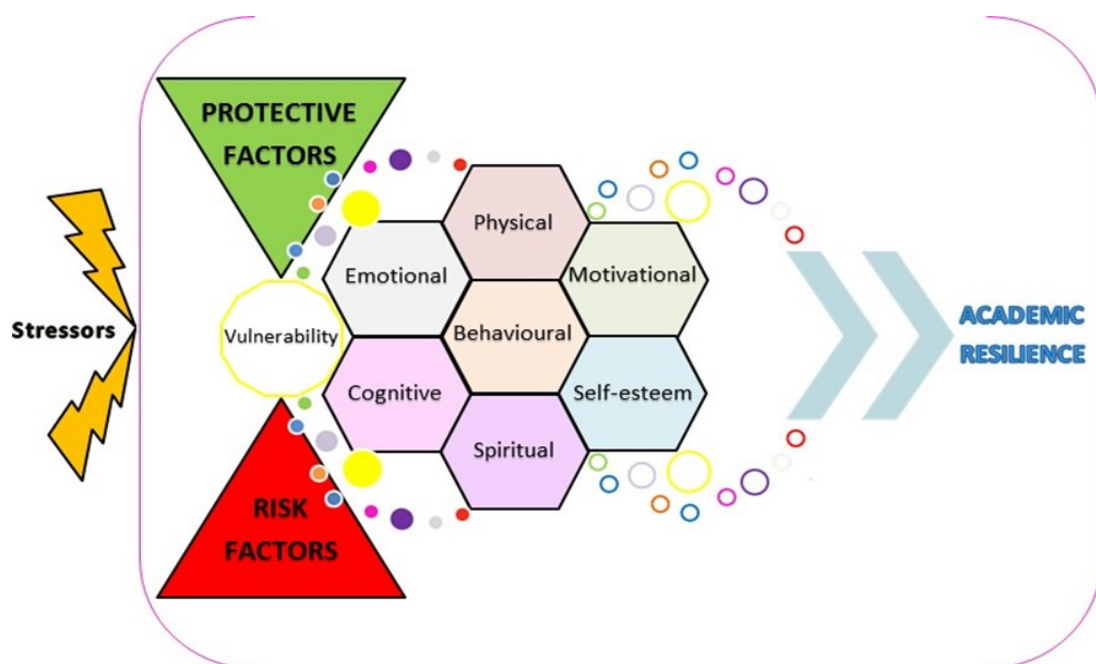
Furthermore, they agree on the existence of risk and protective factors and indicate that some factors can be classified as either a risk or a protective factor, depending on the individual's frequency of exposure to risks, circumstantial and contextual aspects (Shean, 2015). In accordance with recent research findings, all of the aforementioned theorists agree that exposure to cumulative risks have detrimental effects on an individual's developmental trajectories and mental health (Gheshlagh et al., 2017; Lupien, Juster, Raymond, & Marin, 2018; Osório, Probert, Jones, Young, & Robbins, 2017; Shean, 2015).

Research findings further suggest that resilience is a trait that needs to be cultivated and developed during childhood, which occurs as the outcome of rich, fulfilling and diverse life experiences (Blum, 1998; Chmitorz et al., 2018; Maddi, 2002; Shean, 2015). The theorists above agree on conceptualizing protective factors in three dimensions, namely individual, social and environmental (Rojas, 2015; Shean, 2015; Ungar, 2004).

This strong theoretical foundation supports the framework of Kümpfer's (1999) resilience model that encompasses three main types of resilience processes in the life of the child, namely the child's internal strengths, the family or interpersonal dynamics, and the environment or community context of stressors. Kümpfer's (1999) resilience model proposes that parent-child transactional processes are of importance in promoting resilience in children while mediating external and internal risk factors. Based on this theory, a child's internal strengths may include attributes such as cognitive ability, autonomy, self-regulation, social, emotional, and relational skills, effective coping tactics (Chmitorz et al., 2018). Kümpfer's framework indicates that these intrinsic protective factors, in combination with extrinsic protective factors (see internal and external strengths contributing to ER), act as a buffer against possible environmental stressors while fostering a resilient outcome (Kümpfer, 1999). Environmental risk factors include among others chronic mental or physical illness, unsupportive family, negative or low maternal affect, abuse, low socioeconomic status,

violence and crime (Southwick, Bonanno, Masten, Panter-Brick, & Yehuda, 2014; Thomas et al., 2016; Ungar, 2015). Hassim (2016) adapted Kümpfer's (1999) initial resilience framework to include motivational and self-esteem aspects. These supplementary areas were found to enhance student academic resilience significantly, leading to academic success (Hassim, 2016).

Research on resilience has infiltrated not only the field of psychology (Masten, 2001; Masten & Cicchetti, 2016; Tol, Song, & Jordans, 2013), but expanded across multidisciplinary boundaries, influencing several research fields, including education (Adler, 2017; Fletcher & Sarkar, 2013; Pan & Yi, 2011; Shellman & Hill, 2017). The resilience model of Kümpfer (1999), as adapted in the resilience framework of Hassim (2016), illustrated in Figure 1 below, in combination with the OIT, a sub-theory of the SDT formulated by Ryan and Deci (2000), will form the conative framework for this study.





*Figure 1:* Resilience framework (adapted by Hassim, 2016)

### **Self-determination theory**

The OIT, a sub-theory of the SDT, differentiates between intrinsic and extrinsic motivation (Ryan & Deci, 2000; Deci & Ryan, 2004). This multifaceted theory is associated

with positive measures of wellbeing and individual development, and originates from the idea of the existence of an innate self-actualizing motivation, driving people to discover and interact with their environment, while simultaneously building their knowledge and skills repertoires (Fineburg, 2009; Véronneau, Koestner, & Abela, 2005). According to Deci, Vallerand, Pelletier, and Ryan (1991), self-determination fulfills a vital role in the educational setting, where individuals are primarily intrinsically motivated to perform enjoyable tasks, from which they can receive some form of personal gain. Research findings indicate that the process of organismic integration enables individuals to move away from external or even a-motivation (see Table 1 below), through the development of personal autonomy. As a result, such individuals develop the ability to become intrinsically motivated, to enjoy even a mundane or routine task, when they can relate to the task and internalize/introject it as being significant and essential, as in the example of studying (Fineburg, 2009; Streb, Keis, Lau, Hille, & Spitzer, 2015).

Table 1: *Types of motivation according to the SDT (adapted from Ryan and Deci, 2000).*

<i>Type of Regulation</i>	<i>A-motivation</i>	<i>External Regulation</i>	<i>Introjected Regulation</i>	<i>Identified Regulation</i>	<i>Integrated Regulation</i>	<i>Intrinsic Regulation</i>
<b>Motivational intensity</b>	Low	High	High	High	High	High
<b>Motivational force</b>	Discouragement & helplessness	Expectations, rewards, & punishment	Guilt, shame, & self-worth contingencies	Personal valuation & relevance	Harmonious & coherent commitment	Enjoyment, pleasure, & interest
<b>Internalization</b>	No	No	Partial	Almost full	Full	Not required
<b>Underlying feelings</b>	Futility & apathy	Stress & pressure	Stress & pressure	Volition & freedom	Volition & freedom	Volition & freedom
<b>Locus of causality</b>	Impersonal	External	External	Internal	Internal	Internal
<b>Type of motivation</b>	A-motivation	Extrinsic	Extrinsic	Extrinsic	Extrinsic	Intrinsic
		 <b>Controlled Motivation</b>		 <b>Autonomous Motivation</b>		

In the next section, the researcher will elaborate on the concept of ER, as the focus of this study.

### **Educational resilience**

Current literature tends to use academic resilience and ER as synonyms. In this study, both items are therefore included. Academic/educational resilience by definition refers to remarkable academic success, overall life success, and cognitive performance, despite disadvantaged backgrounds and exposure to external stressors and adversities (Kuldass, Hashim, & Ismail, 2015; Wang et al., 1994). According to Banatao (2011) and Hawkins, Catalano and Miller (1992), a subdivision is made in the risk and resilience theory between the specificist approach (focusing on the internal and external risk factors that prohibit resilience), and the generalist approach (focusing on cultivating internal strengths and external protective factors to foster resilience in children). Researchers found that some children seemed to be equipped to deal effectively with various life adversities, without developing permanent emotional and/or psychological impairment (Hornor, 2017; Kuldass et al., 2015). Although some children become more resilient after facing hardships, studies clearly indicate that prolonged exposure to cumulative stressors and adversity may have a severely damaging effect on the brain, cognitive, and neuro-development, resulting in lifelong psychological impairment (Ellis, Bianchi, Griskevicius, & Frankenhuis, 2017; Gach, Ip, Sameroff, & Olson, 2018; Lupien et al., 2018; Nurius, Green, Logan-Greene, & Borja, 2015).

Multiple studies concluded that a child's ability to self-regulate behavior, negative affect, attention, and motivation in a structured educational environment forms the foundation for relational wellbeing, and when coalesced with critical and creative thinking skills, significantly contributes to successful school adaptation, increased autonomy and enhanced academic performance (Miller et al., 2018; Mills et al., 2018; Neuenschwander, Röthlisberger, Cimeli, & Roebbers, 2012). According to Neuenschwander et al. (2012), a child is usually able

to self-regulate from the age of five; however, they need to refine and master this newly discovered skill, from the ages of six to 12 years, thereafter, self-regulatory development seems to stabilize (Neuenschwander et al. 2012). A child's ability to adapt successfully to his or her educational setting and achieve academic resilience largely depends on the child's repertoire of internal and external protective assets and resources (Thomas et al., 2016; Worsley, 2014).

### **Internal and external strengths contributing to educational resilience**

Internal and external strengths, also known as protective, promotive or resiliency factors, include among others good parenting, healthy bio-psychosocial development, culture, environment, relational wellbeing resulting in task accomplishment, self-determination, healthy attachment and self-regulation (Lopez, Pedrotti, & Snyder, 2015; Uhlhaas et al., 2017). One of the primary components of internal strengths is the attainment of cumulative competence that provides a robust positive repertoire on which individuals can build and develop as a tool for enhancing psychological resilience (Bouwer, 2014; Hill & Hart, 2017; Masten, Cutuli, Herbers, & Reed, 2009). Hefferon and Boniwell (2011) identified positive reframing, participating in physical activity, and experiencing positive affect, a reliable social support system, optimism and the use of innate, authentic strengths as important protective factors that contribute to human resilience.

A resilient child's internal protective strengths include, among others, internal locus of control, success and goal-orientation, clear objectives, optimism, high self-esteem, high regard for self and others' autonomy, being contemplative, social competence, and effective problem-solving skills (Dimitropoulou & Leontopoulou, 2017; Ellis et al., 2017; Stewart, Sun, Patterson, Lemerle, & Hardie, 2004). External and environmental protective factors consist of aspects such as relational wellbeing, structured educational support programs, faith and/or spirituality, active participation in a variety of extra-curricular activities, stability, a support structure, routine, love, nurturing, and acceptance in the child's family and extended family

life, resulting in social cohesion (Downey, 2018; Feinstein, Driving-Hawk, & Baartman, 2009; Randolph, Fraser, & Orthner, 2004).

### **Middle childhood**

Middle childhood refers to the developmental period during which children transition from pre-school to primary school and roughly covers the period between the ages of five and 12 (Grotberg, 1996). It is necessary to adopt a developmental perspective in understanding that this developmental phase is a sensitive and critical stage in psychosocial development during which a child's perceptions/cognitive appraisals, experiences and positive, constructive adaptation/coping play a significant role in determining future social, emotional, and personality development (Kaplan, Pelcovitz, & Labruna, 1999). The school context becomes increasingly more significant than the child's family and becomes the realm in which children develop critical competencies across the physical, social, cognitive and emotional domains of human development (Thomson et al., 2018).

During this stage, children develop resilience through various intrinsic and extrinsic protective factors. Intrinsic factors comprise personal assets such as critical thinking, problem-solving, self-conceptualization, social skills, self-regulation, autonomy, independence, insight, and understanding of more complex emotions in themselves and others, being attentive to others' perceptions, self-esteem, and self-efficacy (Carr, 2004; Marais, 2010; Werner, 1990). Extrinsic factors, driven by the inherent need for belonging, consist primarily of healthy and positive peer relationships in their social environment, where children learn the importance of social regulation and management while cultivating their social support network outside the family context (Baumeister & Leary, 1995; Nelemans, Hale, Branje, Meeus, & Rudolph, 2017). The earlier secure attachment formed with parents and significant others largely influences success and relational wellbeing in later life, as children draw from earlier fundamental social skills that they obtained in their family context (Carr, 2004). Unsuccessful psychosocial

development, maladaptive or insufficient protective factors, in conjunction with continuous exposure to adversities and stressors during middle childhood, were positively correlated with adverse effects of the development of poor cognitive adaptation, psychopathology and mental health difficulties in later life as a result of impaired brain and neurological development (Pechtel & Pizzagalli, 2011; Shoshani & Slone, 2013). Although children may be born with the trait characteristic and a predisposition to resilience, this skill and process must continually be developed and practiced in various interactions between children and their social and physical environment (Ungar et al., 2013). It is of the utmost importance to equip children with the necessary skills and internal protective factors in the process of facilitating resilience development, as a preventative and countermeasure against the lasting debilitating effects of adverse negative life events and stressors (Lupien et al., 2018).

The researcher selected middle childhood for this study for various reasons. Firstly, middle childhood represents a critical developmental stage and acts as a primary determining factor for an individual's future health risks, which include mental health impairments (Anselmi et al., 2008; Buchanan, Flouri, & Ten Brinke, 2002; Petersen, 2010). Research pertaining to PPIs and PP constructs used in interventions to increase psychological wellbeing and promote mental health, which positively correlates with academic resilience in middle childhood, is scarce and seldom focuses solely on the child (Pan & Yi, 2011; Petersen, 2010; Pezent, 2011; Shogren, Lopez, Wehmeyer, Little, & Pressgrove, 2006). The success of PPIs in promoting resilience in children is evident in literature; however, research that combines the findings with an explicit focus on PPIs, enhancing ER in middle childhood, drawing from various disciplines, and explicitly promoting autonomy through effective and successful management of stressors, is needed (Greenberg et al., 2003; Jennings, Frank, Snowberg, Coccia, & Greenberg, 2013).

## **Positive Psychology**

PP refers to the scientific study of human thriving, through the application of methodologies such as the study of strengths and characteristics that enable individuals, society and organizations to flourish and ultimately enhance optimal functioning and wellbeing (Gable & Haidt, 2005; Linley & Joseph, 2012; Sheldon & King, 2001). The original aim of PP was to revive the positive aspects of human nature, positive individual traits and civic virtues within the discipline of psychology (Seligman & Csikszentmihalyi, 2014). The all-encompassing goal of PP is to understand, cultivate and advance the essential aspects of making life worth living for all individuals, and is more than a mere dichotomous argument of positive against pathological psychology (Wong, 2011). After all, it is evident that adverse negative events and aspects are unavoidable, although one can manage them effectively to become a beneficial factor in psychological wellbeing (Wong, 2016).

For this study the researcher chose to use the proposed balanced model (Wong & Roy, 2018) of second-wave PP (PP 2.0), in order to include a more holistic approach, which includes both positive and negative aspects of life and development that contribute to the cultivation of resilient individuals (Wong, 2016). According to Wong and Roy (2018), PP 2.0 provides a foundation for the development of optimally functioning, morally good individuals and institutions amid recurrent adversities, forming part of people's daily lives, through the integration of numerous psychological research projects, concepts, and fields correlating with resilience, meaning and purpose, character strengths and wellbeing. On an individual level, PP 2.0 includes both the light and dark side of life, while it strives to increase eudaimonic experiences and teaches the individual to manage adversities more effectively, resulting in increased sustainable wellbeing and decreased mental disorders (Wong & Roy, 2018). On a societal level, the PP 2.0 movement includes the goal of positive social engineering, through the cultivation of good citizenship, the advancement of meaning and purpose, while actively

engaging in the transformation of negatives (Wong & Roy, 2018). In doing so, it will significantly influence and constructively complement the field of mental health and wellbeing to enhance the understanding of, and establish global mental health across cultural and international borders (Patel & Prince, 2010).

Earlier scientists and health care providers expressed their concerns about starting therapeutic and preventative interventions only once psychological health problems arose (Cowen & Work, 1988; Garmezy, 1991a; Wolff & Wolff, 1995). Research emphasizes the importance of promoting resilience and skillful competence in various adverse events, which consequently cultivate and enhance psychological wellbeing during childhood (Ellis et al., 2017; Holmes, Yoon, Berg, Cage, & Perzynski, 2018; Taylor et al., 2017; Weissberg, Caplan, & Harwood, 1991).

### **Positive psychology interventions contributing to fostering educational resilience in middle childhood**

Shortly after Martin Seligman's inauguration as president of the American Psychological Association in 1998, the PP movement started gaining momentum and has since influenced the use of PPIs in enhancing positive development (Seligman, 1998; Seligman & Csikszentmihalyi, 2014; Seligman, Ernst, Gillham, Reivich, & Linkins, 2009). PPIs aim to promote positive experiences, emotions, personality, and social interactions in people's everyday lives while enhancing among others resilience (Seligman, Rashid, & Parks, 2006). According to Parks and Biswas-Diener (2013), developing PPIs should follow four basic guidelines:

- Develop an individual as a primary goal, through the cultivation and fostering of positive constructs (such as meaning, resilience, mindfulness) through goal-directed behavior.

- The outcome of the intervention has to be effective in contributing to the cultivation and fostering of intended PP constructs and empirically supported.
- Empirical evidence must support the use of correctly identified PP constructs, their specified outcomes, and the intended intervention's positive effect on the target group.
- The intervention and associated activities must be person-activity fit and positively correlate with positive, constructive individual development and wellbeing.

Studies have documented various types of PPIs, such as gratitude interventions (Wood, Froh, & Geraghty, 2010), acts of kindness (Lyubomirsky, Sheldon, & Schkade, 2005), optimism interventions (Lyubomirsky, Dickerhoof, Boehm, & Sheldon, 2011), and mindfulness interventions (Shapiro, Oman, Thoresen, Plante, & Flinders, 2008), which have been shown to enhance positive emotions and wellbeing. Regardless of the recent advancements in applied PP in the educational arena, no studies currently exist that combine the findings of such studies conducted on middle childhood samples, in the form of a systematic review (SR). Acknowledgment of the early psychological, social and emotional development of children has recently become a significant and crucial factor in education and child development (Allan, Allan, Lerner, Farrington, & Lonigan, 2015; Bennett et al., 2016). This can be seen in the amount of studies being conducted on the cultivation and maintenance of various PP constructs, in the form of PPIs with children as the selected research population (Burckhardt et al., 2016; Dawood, 2014; Kwok, Gu, & Kit, 2014; Shoshani & Steinmetz, 2014). For this study, the various PPIs that currently exist globally, fostering ER in middle childhood, will be reviewed. Although various forms of resilience exist, this study will only focus on PP concepts that encompass ER factors, as set out in the definition and contained in the adapted resilience framework (Hassim, 2016), and the OIT, a sub-theory of the SDT (Ryan and Deci, 2000).

### **Problem statement and rationale for the present study**

For the purpose of this study, the researchers will conduct a SR of literature, to explore the various existing PPIs, which can be associated with fostering ER in middle childhood. This study will, therefore, provide a comprehensive review of existing PPIs and their association with ER in middle childhood. The findings obtained from eligible studies will be evaluated against a conative framework, using Kümpfer's (1999) resilience model as adapted by Hassim (2016), together with the OIT sub-theory of the SDT (Ryan and Deci, 2000). Through the consolidation and evaluation of existing empirical evidence, from various fields of disciplines, for this specific developmental stage, the study findings will contribute to building the multidisciplinary knowledge foundation of developing and fostering ER in middle childhood. After reviewing numerous articles, it became evident that many studies focusing on PPIs that cultivate and foster ER in high school and university students exist, as well as sufficient literature reviews combining the findings of such studies. However, studies combining PPIs that foster ER, conducted on middle childhood samples, are needed. A systematic literature review will enable the researchers to provide clear, concise and consolidated evidence of available literature, currently fragmented across multiple disciplines, which will consequently facilitate future research in this field of study. With the overarching focus on fostering various aspects contributing to ER during middle childhood, this study may serve as a foundational advancement in research, especially in the realms of positive development and positive educational.

### **Review question**

What currently existing PPIs contribute to fostering educational resilience in middle childhood?

### **Aim and objectives**

This study aims to explore and identify PPIs that contribute to fostering ER in middle childhood.

The specific objectives of this systematic literature review are the following:

- Primarily, to explore and identify PPIs that contribute to fostering ER in middle childhood, by conducting a SR of existing and available literature.
- Secondly, to evaluate the findings of each included PPI against the backdrop of the framework of Kümpfer's (1999) model of resilience as adapted by Hassim (2016) and the OIT, a sub-theory of the SDT (Ryan and Deci, 2000).

### **Study design and method**

The researchers will conduct a SR, through integrative synthesis, using a deductive approach. A deductive approach is best suited for this study, as the reviewers will embark upon this research with a clear conceptual framework in mind, which may include a model, a theory, or a typology. This process involves the use of current theories, concepts, and models to select, extract, define, and combine data from a multitude of studies (Boland et al., 2017). The researchers have identified Kümpfer's (1999) resilience model as adapted by Hassim (2016), together with the OIT, a sub-theory of the SDT, developed by Ryan and Deci (2000), which will form a conative framework against which the results will be discussed in this study.

A SR detect, assess, and summarize the evidence of all relevant studies, through which comprehensive findings become accessible to all relevant stakeholders. In contrast with one study on its own, the combination of a multitude of studies provides a more accurate and consistent estimation of the success and relevance of study selection and inclusion (Boland et al., 2017). The researchers will conduct this SR in strict accordance with a scientific proposal, based on specific, predetermined and replicable methods (Dray et al., 2017; Tol, Song, &

Jordans, 2013). To ensure the establishment of inter-rater reliability, at least two researchers in the capacity of reviewers will conduct the entire SR process independently (Uman, 2011). The co-supervisor, Mrs Tasleem Sayed, was identified as the second reviewer. Ms Karlien Smit (supervisor) will act as the third reviewer, dissolving all discrepancies between the first two reviewers. This SR will be conducted according to the 10-step process roadmap, described by Boland et al. (2017), which will be followed meticulously to ensure quality and consistency.

### **Step 1: Planning the review**

Before commencing the review process, the researcher will conduct thorough discussions and meticulous planning of the review and will go through a structured framework of a SR proposal under the guidance of the supervisors. The researchers and supervisors will then discuss the way forward, set goals according to an agreed timeline and continue to perform scoping searches and to identify the review question (Boland et al., 2017).

### **Step 2: Perform scoping searches, identify the review question and write the protocol**

The second stage involves an extensive search of currently available studies and evidence from relevant published literature, as well as so-called “grey literature” to ensure all relevant evidence is included (Boland et al., 2017). Research registers and databases are searched electronically, whereas library reference lists often require manual searches (Boland et al., 2017). In this step, the researchers formulate a review question and develop an appropriate title for the review (Uman, 2011). Clear, specific and concise formulation of a review question is a characteristic of a SR and is essential for reviews of theories. The review question should be designed to contribute beneficially and effectively to the needs of end users (Petticrew & Robersts, 2006). The proposed review question is: What existing PPIs contribute to fostering ER in middle childhood? The review question guides the review title. The preliminary title for the review is; Educational resilience: A systematic review of positive

psychology interventions in middle childhood. After completion of this step, the researchers will commence with their literature search.

### **Step 3: Literature search**

This step aims to identify relevant literature, which can be used as background literature in defining and refining the review question (Boland et al., 2017). The researcher will conduct the final searches (see Figure 2 for search strategy) for suitable literature relevant to this review after obtaining approval has from the AUTHeR Scientific Committee (ASC) and the Health Research Ethics Committee (HREC) of the Faculty of Health Sciences (FHS) of the NWU. After that, the researcher will define the inclusion and exclusion criteria.

### **Step 4: Defining of the inclusion and exclusion criteria**

There are various ways of defining inclusion and exclusion criteria. The Cochrane acronym, PICO (population, intervention, comparator, outcomes), or the variation including the study design and setting, PICOSS may be used in a SR of quantitative data, assessing effectiveness (Boland et al., 2017). Alternatives for qualitative research are SPICE, the acronym referring to Setting, Perspective, Intervention, Comparison, and Evaluation (Boland et al., 2017; Wildridge & Bell, 2002), and SPIDER, the acronym for sample, phenomenon of interest, design, evaluation, and research type (Boland et al., 2017; Cooke, Smith, & Booth, 2012; Davies, 2011). The researchers will use the SPICE acronym to define inclusion and exclusion criteria for this study before screening titles and abstracts accordingly. The reason for the selection of SPICE is that we will not specify criteria according to design.

Table 2: *Criteria for considering studies for this review*

<b>S (Setting)</b>	What is the context of the question? The research evidence should reflect the context - the research findings may not be transferable.	The setting will include <b>any context</b> in which interventions to foster ER in <b>middle childhood</b> are conducted.
<b>P (Perspective)</b>	Who are the users, potential participants, or stakeholders of the service?	The participants involved in this study will be <b>children of middle childhood</b> between the ages of five and 12 years.
<b>I (Intervention)</b>	What is presented to participants, potential participants, or stakeholders?	Studies to be included in this research review will be <b>interrelated to ER correlating with PPIs.</b>
<b>C (Comparison)</b>	Do alternatives exist, which might uphold the status quo and change nothing?	<b>None.</b>
<b>E (Evaluation)</b>	What measurement will determine the intervention's success? In other words, what are the results?	The objectives of this study are to explore and identify: Interventions that contribute to fostering ER in middle childhood. <ul style="list-style-type: none"> <li>▪ Each intervention will then be evaluated based on the framework of Kümpfer's model of resilience and the OIT, a sub-theory of the SDT, to identify PP constructs in PPIs.</li> </ul>

### Step 5: Screen titles and abstracts according to inclusion and exclusion criteria

The types of studies analyzed for this review will include all studies fostering ER in middle childhood. Seligman announced the emergence of PP in his 1998 American Psychological Association presidential inauguration speech (Seligman, 1998). Therefore, this SR will include, primary studies published between 1 January 1998 and 31 August 2018 as well as PPIs with a strong focus on constructs fostering ER in middle childhood.

**Types of participants to be included:** Participants for the selection of the studies will include middle childhood children between the ages of five and 12 years who are participating in PPIs that contribute to fostering ER.

**Primary outcome measures to be included:** The study will explore and identify PPIs that contribute to fostering ER in middle childhood, using a SR of existing and available literature.

**Secondary outcome measures to be included:** The researchers will evaluate the findings of PPIs against the backdrop of Kümpfer's (1999) model of resilience as adapted by Hassim (2016), and the OIT, a sub-theory of the SDT (Ryan & Deci, 2002; Deci & Ryan, 2004).

The inclusion and exclusion criteria are as follows:

#### **Inclusion criteria**

- All studies, of any language, exploring educational or academic resilience.
- Studies that investigate PPIs, without specific limitations to the context. The reason for this inclusion of limitless contextual parameters is to ensure that PPIs in non-educational settings, such as after-school programs, holiday programs, or any other, can also be included.
- Studies that include middle childhood participants, between the ages of five and 12 years. (If studies include children in middle childhood and other developmental stages, the studies will still be eligible for inclusion; however, the focus of the review will only be on aspects with regards to middle childhood.)
- Studies published between 1998 (since the official inception of PP in the scientific research realm was 1998) and 31 August 2018.

#### **Exclusion criteria**

- Studies that include high-school students, university students, and pre-school children (ages 0 – 4), because of various discrepancies in bio-psycho-social developmental phases.
- All studies preceding 1998, since PP as a scientific field only entered the research arena in 1998.
- Studies that include children with clinical, mental or developmental impairments.

## Step 6: Development of the search strategy and location of relevant studies

It is essential to formulate an exhaustive list of key terms, relating to each component of SPICE, in order to identify all relevant studies for the review (Boland et al., 2017; Davies, 2011). Bibliographical databases mostly enable researchers to be more precise when conducting more advanced and multifaceted searches. The researchers will make use of Boolean operators in cases where searches need to be limited, and search parameters require a description (Boland et al., 2017).

**Search methods for the identification of studies:** The preliminary selection criteria will be applied comprehensively against the pre-identified selection criteria, to ensure the inclusion of as many relevant studies as possible.

**Electronic searches:** The researchers will conduct literature searches, using the applicable databases available on the NWU library's website. The researchers propose the inclusion of the following databases relevant to this SR: PsycArticles, PsycINFO, Medline, and Education Resource Information Centre (ERIC), Teacher References Centre and Academic Search Premier; accessed through EBSCOhost. In accordance with the primary research outcome, the aforementioned databases yielded studies of significance, and are therefore proposed for inclusion. The effectiveness of the search will be enhanced by applying MeSH and keywords (when applicable). The preliminary search strategy is provided in Figure 2.

Level 1: "Educational resilience" OR "academic resilience" OR resilien\* OR grit\* OR hardiness OR thrive\* OR "individual strength+" OR "internal strength+" AND Level 2: "positive psychology intervention+" OR "positive psychology program\*" OR "positive intervention+" OR intervention+ OR "positive psychology" OR psychofortology OR salutogenesis AND Level 3: gratitude OR "self-regulat\*" OR "post-traumatic growth" OR mindful\* OR flourish\* OR autonomy OR "self-esteem" OR meaning OR optimism OR motivat\* OR "self-mastery" OR "social learning" OR "emotional learning" OR "positive relation\*" OR "psychological adaptation" OR "cognitive adaptation" OR "positive refram\*" OR "positive adaptation" AND Level 4: "middle childhood" OR "age 6-12" OR "age 5-11" OR "school age" OR "primary school" OR "elementary school" OR "pre-teen" OR "pre-adolescence" OR tween+

*Figure 2: Search strategy*

**Searching other resources:** The researchers will work through the reference lists of review studies (identified during electronic searches) in order to detect possibly overlooked studies.

### Step 7: Selection of eligible studies

During this step, the researchers will conduct searches to screen and select titles and abstracts of possibly relevant studies. The researchers will discard studies of which the titles and abstracts are found to be of no relevance to the review question, while studies with possibly relevant titles and abstracts will be downloaded and stored in full text (Boland et al., 2017).

**Data collection and analysis:** Preferred Reporting Items for a SR and Meta-Analysis (PRISMA) consists of a 27-item checklist and a four-phase flow diagram and can be used to enhance the reliability and quality of a SR and meta-analyses constructively (Moher et al., 2015). The PRISMA flow diagram (Figure 3 below), will be used and adapted to demonstrate the data selection process (Moher et al., 2015).

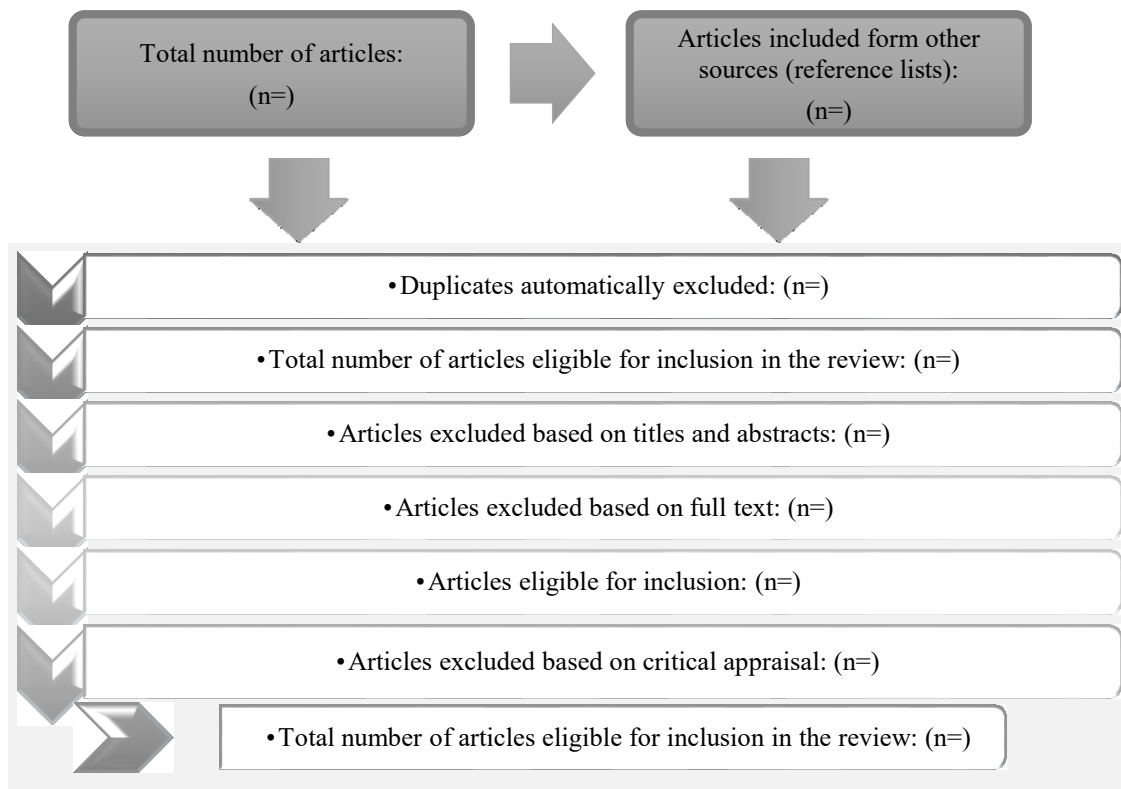


Figure 3: PRISMA flow diagram (as adapted from Moher et al., 2015)

**Extracting data from eligible studies:** When a study does not meet the identified inclusion criteria, the researchers will exclude such a study from the research (Boland et al., 2017). For practical organizational purposes, the researchers will compile a spreadsheet containing eligible extracted data, which will ease future data extraction and reference (Uman, 2011). The researchers will develop a data extraction tool based on the Meta-Analysis of Statistics Assessment and Review Instrument (MAStARI) data extraction tool (refer to Addendum B) and the Narrative, Opinion and Text Assessment, and Review (NOTARI) data extraction tool (refer to Addendum C) by the Joanna Briggs Institute (2011).

**Data extraction, synthesis, and management:** The researchers will use spreadsheets in the Microsoft Excel program for the independent data extraction process, synthesis and selection of data, as well as the organization thereof. Data discrepancies during data collection will be resolved through collective researcher accord (Uman, 2011). In the event that resolution is inconclusive for any reason, the researchers will consult an experienced third party to mediate the process (Uman, 2011). Concerning management, storing, archiving and obliteration of data, the researchers will follow the guidelines as determined by AUTHeR's standard operating procedure and NWU policy guidelines. Electronic copies of data will continually be backed up and stored on the computers of the researchers and all supervisors (during the research process), to ensure prevention of data loss, and to create a traceable trail of the entire research process for future verification and referencing. Upon completion of the study, all data (hard copies, backups, and electronic copies) will be safely stored in agreement to the AUTHeR guidelines with the supervisor (Ms K. Smit) of the study. Thereafter, the student and co-supervisors will delete the electronic copies from their computers. Hard copy data will be destroyed after seven years, as determined by the data management guidelines of the NWU.

**Dealing with missing data:** If data from selected studies are missing, inaccessible, or written in languages other than Afrikaans or English, the researchers will attempt to obtain the data by contacting the authors. When the researchers cannot obtain an Afrikaans or English translation or the particular author does not respond within the reasonably proposed timeframe, such studies will be excluded from this review.

### **Step 8: Quality assessment through critical appraisal**

At this stage of the review process, the researchers will have selected the full set of relevant studies to include in the review. The quality of every full-text paper included will then be examined and critically evaluated to ensure methodological quality, according to the general critical appraisal guides and design-based quality assessment checklists (Khan, Kunz, Kleijnen, & Antes, 2003). The researchers will make use of The Effective Public Health Practice Project (EPHPP) tool (Evans, Lasen, & Tsey, 2015) (refer to Addendum D) and the Critical Appraisal Skills Program (CASP) tool (CASP, 2018) (refer to Addendum E) to assess whether the studies included were designed, conducted, and reported on reliably, so that they can be regarded as appropriate to provide significant answers to the review question and objectives (Boland et al., 2017).

**Assessment of risk of bias in studies included:** Cochrane Collaboration's risk of bias (refer to Addendum F) tool, adapted by Hassim (2016), will be used to evaluate the methodological quality of studies included. The researchers, working independently, will determine possible risks of bias (high/low/unclear) in the studies included.

### **Step 9: Analysis and synthesis**

This SR of literature will not include a meta-analysis or a meta-synthesis. The researchers will apply thematic synthesis, as suggested by Thomas and Harden (2008), to identify prominent themes stemming from the data.

### **Step 10: Integrating and reporting on data analysis findings**

The final stage of the SR allows researchers to report on their findings, provide clarity on decisions made in the process and explain how it might have affected the findings (Boland et al., 2017). The findings of this review written up for possible publication. The 27-item PRISMA checklist will be used as a guideline to draft the SR article (Moher, Liberati, Tetzlaff, & Altman, 2009.)

### **Ethical considerations**

This study will not make use of any human participants, and consequently, the SR poses minimal risk. The validity and reliability of the data will be ensured by following the specific steps outlined in this proposal to ensure rigorous methodology of a SR (discussed above), as described by Boland et al. (2017), and Uman (2011). Trustworthiness will be ensured by the combined expertise of the supervisors and the student. The supervisor was trained internationally in 2013 in evidence-based nutrition at the Institute of Tropical Medicine, Antwerp, Belgium, which involved training in conducting a SR of literature and meta-analysis. The primary co-supervisor completed a SR for her master's study in PP. She was also thoroughly trained by the supervisor of this study. The secondary co-supervisor holds a PhD in clinical psychology and has supervised other students in the field of PP. The student will receive training and continuous input from the supervisors on how to conduct a SR (see Addendum G for applicable narrative CVs). Supporting documentation with regards to ethical consideration are included in the study proposal (refer to final ASC and HREC approval letters in the following section).

### **Structure of mini-dissertation**

This mini-dissertation will be written up in a manuscript format as stipulated by the NWU Academic guidelines (Manual for Master's and Doctoral Studies, May 2016).

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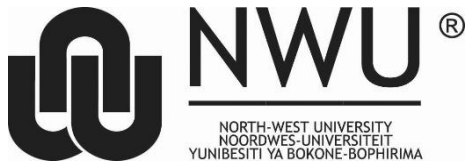
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## Final HREC of the FHS and ASC of the NWU approval letters

### Health Research Ethics Committee (HREC) of the Faculty of Health Sciences (FHS) of the North West University (NWU) approval letter



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**Health Sciences Ethics Office for Research,  
Training and Support**

**Health Research Ethics Committee (HREC)**  
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Email: [Wayne.Towers@nwu.ac.za](mailto:Wayne.Towers@nwu.ac.za)

23 October 2018

Dear Ms Smit

### **APPROVAL OF YOUR APPLICATION BY THE HEALTH RESEARCH ETHICS COMMITTEE (HREC) OF THE FACULTY OF HEALTH SCIENCE**

**Ethics number: NWU-00111-18-S1**

Kindly use the ethics reference number provided above in all future correspondence or documents submitted to the administrative assistant of the Health Research Ethics Committee (HREC) secretariat.

**Study title: Educational resilience: A systematic review of Positive Psychology Interventions in middle childhood**

**Study leader: Ms K**

**Smit Student: Mrs A**

**Botha - 11986417**

**Application type: Systematic review**

**Risk level: Minimal (monitoring report required annually)**

**Expiry date: 31 October 2019 (monitoring report is due at the end of October annually until completion)**

You are kindly informed that after review by the HREC, Faculty of Health Sciences, North-West University, your ethics approval application has been successful and was determined to fulfil all requirements for approval. Your study is approved for a year and may commence from 23/10/2018.

Continuation of the study is dependent on receipt of the annual (or as otherwise stipulated) monitoring report and the concomitant issuing of a letter of continuation. A monitoring report should be submitted two months prior to the reporting dates as indicated i.e. annually for minimal risk studies, six-monthly for medium risk studies and three-monthly for high risk studies, to ensure timely renewal of the study. A final report must be provided at completion of the study or the HREC, Faculty of Health Sciences must be notified if the study is temporarily suspended or terminated. The monitoring report template is obtainable from the Faculty of Health Sciences Ethics Office for Research, Training and Support at [Ethics-HRECMonitoring@nwu.ac.za](mailto:Ethics-HRECMonitoring@nwu.ac.za). Annually, a number of studies may be randomly selected for an internal audit.

The HREC, Faculty of Health Sciences requires immediate reporting of any aspects that warrants a change of ethical approval. Any amendments, extensions or other modifications to the proposal or other associated documentation must be submitted to the HREC, Faculty of Health Sciences prior to implementing these changes. These requests should be submitted to [Ethics-HRECAppl@nwu.ac.za](mailto:Ethics-HRECAppl@nwu.ac.za) with a cover letter with a specific subject title indicating, "Amendment request: NWU-XXXXX-XX-XX". The letter should include the title of the approved study, the names of the researchers involved, the nature of the amendment/s being made (indicating what changes have been made as well as where they have been made), which documents have been attached and any further explanation to clarify the amendment request being submitted. The amendments made should be indicated in **yellow highlight** in the amended documents. The *e-mail*, to which you attach the documents that you send, should have a *specific subject line* indicating that it is an amendment request e.g. "Amendment request: NWU-XXXXX-XX-XX". This e-mail should indicate the nature of the amendment. This submission will be handled via the expedited process.

Any adverse/unexpected/unforeseen events or incidents must be reported on either an adverse event report form or incident report form to [Ethics-HRECIncident-SAE@nwu.ac.za](mailto:Ethics-HRECIncident-SAE@nwu.ac.za). The *e-mail*, to which you attach the documents that you send, should have a specific subject line indicating that it is a notification of a serious adverse event or incident in a specific project e.g. "SAE/Incident notification: NWU-XXXXX-XX-XX". Please note that the HREC, Faculty of Health Sciences has the prerogative and authority to ask further questions, seek additional information, require further modification or monitor the conduct of your research or the informed consent process.

The HREC, Faculty of Health Sciences complies with the South African National Health Act 61 (2003), the Regulations on Research with Human Participants (2014), the Ethics in Health Research: Principles, Structures and Processes (2015), the Belmont Report and the Declaration of Helsinki (2013).

We wish you the best as you conduct your research. If you have any questions or need further assistance, please contact the Faculty of Health Sciences Ethics Office for Research, Training and Support at [Ethics- HRECAppl@nwu.ac.za](mailto:Ethics-HRECAppl@nwu.ac.za).

Yours sincerely

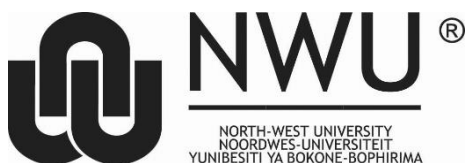


Prof Wayne Towers  
HREC Chairperson



Prof Minrie Greeff  
Ethics Office Head

## AUTHeR Scientific Committee approval letter



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21 September 2018

## AUTHeR SCIENTIFIC COMMITTEE APPROVAL LETTER

Dear Chairperson and members of the HREC Committee

Please find herewith the approval letter to acknowledge that the below mentioned study underwent critical quality review by members of the AUTHeR Scientific Committee and has been granted approval for review by the HREC:

Title	Educational resilience: A systematic review of Positive Psychology Interventions in middle childhood.
Student Name/Researcher	Ms Adèle Botha
Supervisor	Ms Karlien Smit
Co-supervisor	Ms Tasleem Sayed
Date of the meeting	13 September 2018
Reviewers	Profs Lanthé Kruger and Daleen van der Merwe and Dr Nicole Claasen
Final date of approval	21 September 2018

Signature of the chairperson

Date: 21/09/2018

Signature of the Director

Date: 21/09/2018

### **Closing of chapter 1**

Chapter 1 provided an overview of preparatory work done before the researcher conducted the SR. Chapter 1 provided proof of the scientifically and ethically approved research proposal by the HREC of the NWU on 23 October 2018 and the ASC of the NWU on 12 September 2018, respectively. In the next chapter, the researcher will present the SR findings in the format of a manuscript, which will be submitted for possible publication to the *Journal of Research in Childhood Education* upon completion of this degree.

## **Chapter 2: Manuscript in article format**

### **Orientation to Chapter 2**

Chapter 2 presents a systematic review of positive psychology interventions (PPIs) in middle childhood. This manuscript, entitled: Educational resilience: A systematic review of positive psychology interventions in middle childhood was compiled in preparation for the *Journal of Research in Childhood Education*, and written according to the author guidelines (refer to Addendum H). However, for the purpose of this mini-dissertation and the examination thereof, the pages are slightly more than specified by this journal. The researchers will now be referred to as reviewers throughout the manuscript.

Research article in manuscript format (Refer to Addendum H for author guidelines)

# **Educational resilience: A systematic review of positive psychology interventions in middle childhood**

**Adèle Botha, Karlien Smit,**

**Tasleem Sayed, and Lizanlé van Biljon**

## Abstract

Researchers agree that childhood signifies a period of rapid biopsychosocial growth, which forms the foundational framework from which adults draw information to regulate the multitude of aspects of their daily lives. Various studies confirmed the beneficial relationship between interventions based on positive psychology principles and biopsychosocial wellbeing, extending among others to educational resilience, academic achievement, and future personal success. However, the literature on positive psychology interventions in middle childhood contributing to enhanced educational resilience is fragmented across multiple disciplines. The authors of this manuscript aimed at consolidating these fragmented research findings in a systematic review, by means of identifying and exploring existing positive psychology interventions contributing to educational resilience in middle childhood. Findings from 10 selected studies were evaluated against the backdrop of Kümpfer's (1999) model of resilience (as adapted by Hassim, 2016), and the organismic integration theory, a sub-theory of the self-determination theory (Ryan and Deci, 2000). Results indicated that positive psychology interventions are successful in enhancing aspects fostering educational resilience in middle childhood. Developmental components were identified that have strong links to the fundamental need to set the stage for learners to develop self-regulation and intrinsic motivation, as described in the organismic integration theory during middle childhood.

**Keywords:** *Educational resilience, positive psychology interventions, positive youth development, middle childhood (5-12 yrs.), self-determination*

*Corresponding Author:*

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## **Educational resilience: A systematic review of positive psychology interventions in middle childhood**

### **Introduction**

Educational resilience (ER) is an ever-evolving, multidimensional, and dynamic process that relates to a learner's ability to regulate and manage internal, external, environmental, and social factors successfully, leading to resilience in the educational context (Jowkar, Kojuri, Kohoulat, & Hayat, 2014; Masten & Barnes, 2018; Ungar, Ghazinour, & Richter, 2013). ER by definition is positively associated with academic achievement, as well as future personal success and accomplishment, regardless of the possible interference of external risk factors and adversities (Kuldas, Hashim, & Ismail, 2015; Wang, Haertel, & Walberg, 1994). Hassim (2016), using an adaptation of Kümpfer's (1999) resilience model, suggested that ER in university students is fostered through the interplay of stressors and risk factors, as well as internal and external protective factors at a learner's disposal. The findings of Hassim (2016) were affirmed in middle childhood by Agnafors et al. (2017), who stressed the significance of biopsychosocial elements in developing ER. Rutter (2013) also supported this notion and highlighted that ER can only be fostered through moderated exposure to manageable stressors or adversities, and not through avoiding these.

Daily adversities and exposure to stress provide opportunities for personal growth and development throughout middle childhood. These opportunities contribute to the cultivation of critical skills such as effective decision-making, creative problem-solving, environmental mastery, and self-regulation, which have been found to enhance ER (Bouwer, 2014; Chmitorz et al., 2018; Frankenhuis & De Weerth, 2013; Masten, 2001). Conversely, contrasting and devastating biopsychosocial developmental impairments may occur in response to constant and prolonged

exposure to stressors or adversities, leaving learners helpless against their circumstances and their environment; resulting in maladaptive coping efforts (Fagundes, Glaser, & Kiecolt-Glaser, 2013; Gach, Ip, Sameroff, & Olson, 2018). It is therefore important to intervene pro-actively and implement preventative measures to assist learners in successful coping with adversities.

Positive psychology interventions (PPIs) implemented in middle childhood have been found to counteract the above-mentioned adversities by assisting learners to cultivate and develop effective coping strategies and mechanisms that contribute to ER (Srivastava, 2011). In order to understand the role of PPIs in fostering ER in middle childhood fully, the interplay between the various constituents of ER in a middle childhood educational and biopsychosocial developmental context needs further research (Bowes & Jaffee, 2013).

Middle childhood, from the age of five to 12 years, largely earmarks a period of cognitive development during which areas of emotional regulation, social behavior, and metacognition mature (Del Giudice, 2014). However, children of these ages can only effectively deploy and master metacognitive skills, such as self-regulation, self-determination, engagement, critical and creative thinking, and positive adaptation, in an appropriate and stimulating environment (Goldstein & Brooks, 2013; Maddi, 2002; Masten & Cicchetti, 2016). Researchers suggest that schools provide such a stimulating environment, creating a perfect platform for the implementation of PPIs contributing to ER in middle childhood (Harpin, Rossi, Kim & Swanson, 2016; Rutter, 2013; Tough, 2016).

From the literature above, it becomes evident that ER in middle childhood entails both internal and external protective factors encompassing aspects of the cognitive, social, environmental, behavioral, and emotional spheres of development. One prominent theme, underscoring the manageable facets of ER cultivation during middle childhood, is the learners'

ability to self-regulate their internal protective factors effectively, in relation to influential external factors in their social and environmental spheres (Rutter, 2013). According to Deci, Ryan and Williams (1996), the ability to self-regulate emotion, behavior, and motivation lies at the core of effective self-determination. Once learners become aware of the beneficial contribution to positive autonomous development, they master the ability to internalize extrinsically motivating factors and transform these into intrinsically motivating factors.

The above process of transformation is described by the organismic integration theory (OIT) of Ryan and Deci (2000) and Deci and Ryan (2004), which states that learners with extrinsically motivated academic success can transform their motivation to become intrinsically driven, i.e. the learner strives for academic success owing to an autonomous decision or internal drive rather than external fear or rewards. Consequently, the successful transformation of this motivational direction may contribute significantly to learners' ability to exhibit ER and flourish in their educational environment (Kustka-McLaughlin, 2017; Steinhoff & Buchmann, 2017; Taylor et al., 2014). Intrinsically motivated behavior can withstand adverse circumstances better (McGeown, St Clair-Thompson, & Clough, 2016; Rojas, 2015). Internal motivational tendencies and sustained behavioral regulation result in increased ER, which is likely to extend beyond the formative years of middle childhood (Gottfried, Flemming & Gottfried, 2001; Gottfried, Nylund-Gibson, Morovati, Gottfried, & Gonzalez, 2017; Ruiz-Roman, Juarez & Molina, 2019).

### **Rationale**

Literature on PPIs fostering ER in middle childhood is fragmented across multiple disciplines, which include among others psychology (Holmes et al., 2018), neurology (Chmitorz et al., 2018; Neuenschwander, Röthlisberger, Cimeli, & Roebbers, 2012), education (Dray, et al., 2017; McGeown et al., 2016), and social work (Pan & Yi, 2011; Ruiz-Román et al., 2019), with

limited links to positive psychology (PP). The reviewers could not allocate one single source consolidating the findings of such studies. For this reason, the reviewers set out to fill this identified gap.

### **Aim**

The reviewers conducting this systematic review specifically sought to identify literature in which ER was fostered in middle childhood learners, from a PP perspective. Furthermore, the findings of the studies that were included were evaluated according to Kümpfer's (1999) resilience model as adapted by Hassim (2016), together with the OIT, a sub-theory of the self-determination theory (SDT) developed by Ryan and Deci (2000).

### **Methodology**

The rigorous methodology described by Boland, Cherry & Dickson (2017), was applied in this systematic review. Two independent reviewers followed an identical research process, strengthening inter-rater reliability. Reviewers resolved initial discrepancies during consensus meetings with a third and fourth reviewer, eventually resolving any remaining discrepancies. In compliance with the minimum set of items for reporting on a systematic review, the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines were followed (see Figure 3).

The review process commenced with broad scoping searches. Thereafter, pre-defined inclusion and exclusion criteria were developed using the SPICE (Setting, Perspective, Intervention, Comparison, Evaluation) acronym as proposed by Boland et al. (2017) and Wildridge and Bell (2002). Refer to Table 1 for the inclusion and exclusion criteria.

Table 1: *Pre-defined inclusion and exclusion criteria*

<b>Inclusion criteria - All studies:</b>	<b>Exclusion criteria – All studies:</b>
- of any language, exploring educational or academic resilience.	- including high-school students, university students, and children younger than five years.
- investigating PPIs in any context.	- preceding the year 1998 (inception of the positive psychology discipline).
- including middle childhood participants, between the ages of five and 12.	- including children with clinical, psychological, or developmental impairments.
- published between January 1998 and 31 August 2018.	

Next, the search strategy was developed in PsycINFO and adapted for use in PsycArticles, Medline, Education Resources Information Center (ERIC), Teacher Reference Center (TRC), and Academic Search Premier, accessed during a final electronic search via EBSCOhost on 31 August 2018. Refer to Figure 1 for the comprehensive search strategy.

("Educational resilience" OR "academic resilience" OR resilien\* OR grit\* OR hardiness OR thrive\* OR "individual strength+" OR "internal strength+") AND ("positive psychology intervention+" OR "positive psychology program\*" OR "positive intervention+" OR intervention+ OR "positive psychology" OR psychofortology OR salutogenesis) AND (gratitude OR "self-regulat\*" OR "post-traumatic growth" OR mindful\* OR flourish\* OR autonomy OR "self-esteem" OR meaning OR optimism OR motivat\* OR "self-mastery" OR "social learning" OR "emotional learning" OR "positive relation\*" OR "psychological adaptation" OR "cognitive adaptation" OR "positive refram\*" OR "positive adaptation") AND ("middle childhood" OR "age 6-12" OR "age 5-11" OR "school age" OR "primary school" OR "elementary school" OR "pre-teen" OR "pre-adolescence" OR tween+)

*Figure 1: Search strategy*

## Results

The PRISMA flow diagram below (Figure 2) provides a complete summary of the entire screening and selection process of electronic sources.

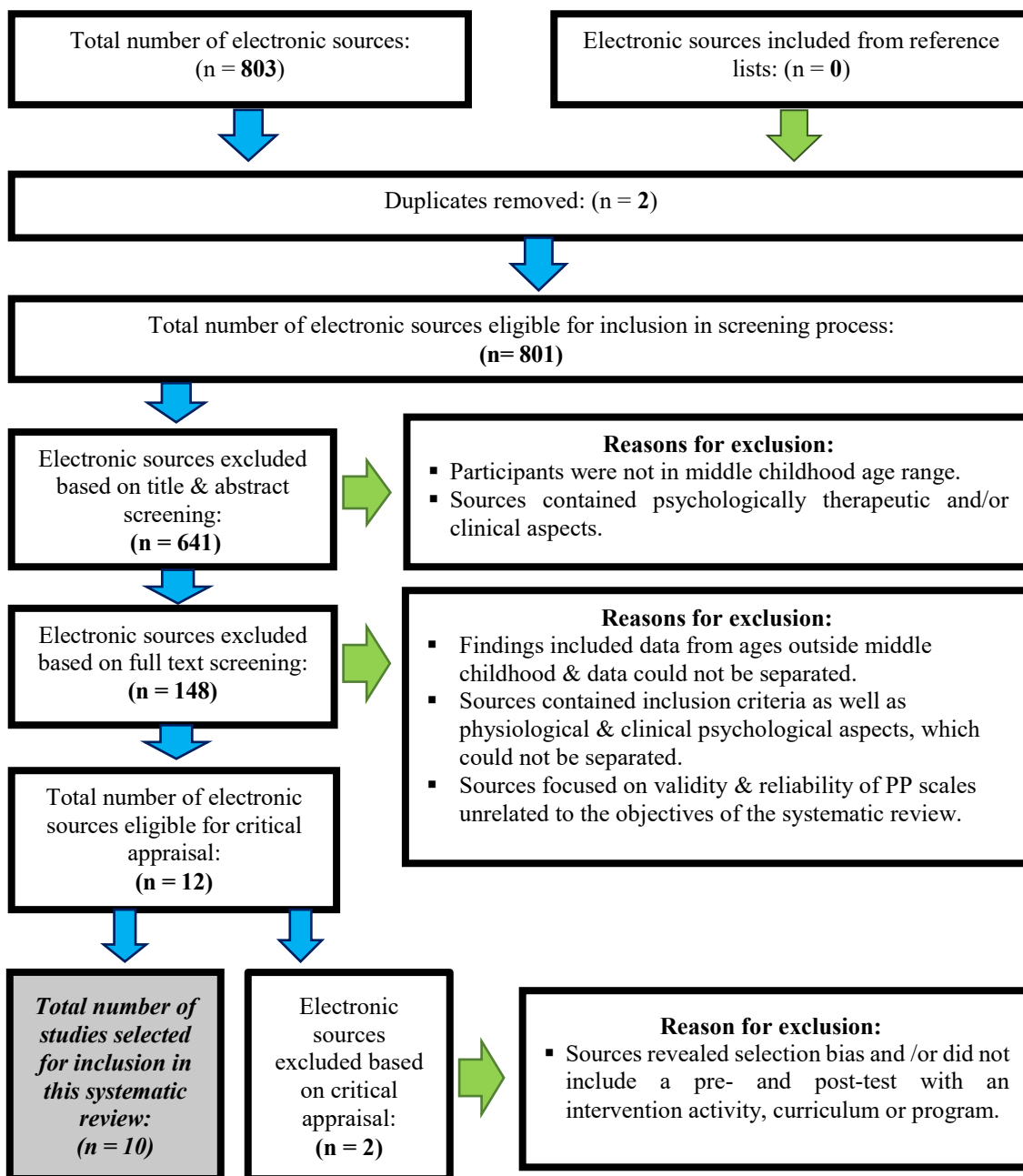


Figure 2: PRISMA flow diagram (as adapted from Moher et al., 2015)

From the initial 803 electronic sources identified, the reviewers removed two duplicates, after which 641 sources were discarded based on title and abstract screening. A further 148 sources were excluded after full-text sources were scrutinized against strict inclusion and exclusion criteria (see Table 1). Reasons for exclusion are provided in Figure 2. The reviewers critically appraised the remaining 12 sources for methodological quality and ethical soundness (Brownlee, *et al.* 2013), using the Critical Skills Appraisal Skills Program (CASP) tool (CASP, 2018) for qualitative studies, and The Effective Public Health Practice Project (EPHPP) tool for quantitative studies. In addition, sources were evaluated for possible risk of bias (refer to Table 2), using the Cochrane Collaboration Risk of Bias tool as adapted by Hassim (2016). Two sources were discarded after critical appraisal and risk of bias assessment (Suldo, Savage, & Mercer, 2014; Whiting, Kendall, & Wills, 2013), the reasons for exclusion are documented in Figure 2. From the remaining 10 studies selected for inclusion in this systematic review, risk of bias included among others bias due to relatively small sample sizes (refer to Table 3 for sample sizes) and the possibility of teacher bias, where the teacher was either not fully committed to the PPI (Ferne & Cubeddu, 2016), or where teacher bias was reported as a limitation (Mouratidis, Vansteenkiste, Sideridis, & Lens, 2011).

Table 2: Risk of bias summary of eligible sources – using an adapted version of the Cochrane Collaboration Risk of Bias tool (Hassim, 2016).

Electronic sources by author & date	Brown et al. (2012)	Femie & Cubeddu (2016)	Froh et al. (2014)	Gargari et al. (2018)	Harpin et al. (2016)	Lee, Kim & Lee (2018)	Mouratidis et al. (2011)	Owens & Patterson (2013)	Schonert-Reichl et al. (2015)	Tunari et al. (2017)	Suldo, Savage & Mercer (2013)	Whiting et al. (2013)
<b>Selection bias</b>												
<i>(Bias in the participant selection process. Taking into account the sampling size &amp; sampling method.)</i>	+	+	-	-	+	+	-	+	-	-	+	+
<b>Attrition bias</b>												
<i>(Completeness of outcome data.)</i>	-	-	-	-	-	-	-	-	-	-	-	+
<b>Reporting bias</b>												
<i>(Selective reporting in the sense of significant &amp; non-significant results.)</i>	-	-	-	-	-	-	-	-	-	-	+	+
<b>Other sources of bias</b>												
<i>(Interviewer / researcher / interviewee bias)</i>	-	+	-	-	+	-	+	-	-	-	-	-
<b>Key</b>												
Low risk – Possible bias unlikely to alter results seriously.	-											
High risk - Possible bias raising some doubt about the results.	+											
Unclear risk – Possible bias seriously weakening confidence in the result.	?											

Following the risk of bias assessment, the NOTARI and MASTARI tools, developed by The Joanna Briggs Institution (2014), were used to extract data from the 10 remaining studies. All study characteristics, relevant to the aim of this systematic review, were extracted and summarized in Table 3, followed by the main findings and conclusions of studies included in Table 4. Thematic synthesis, as suggested by Thomas and Harden (2008), was applied to identify prominent themes that stemmed from the studies included (Nicholson, Murphy, Larkin, Normand, & Guerin, 2016). The concurrent themes identified were collectively grouped and discussed against the backdrop of Kümpher's (1999) resilience model as adapted by Hassim (2016), and the OIT (Ryan & Deci, 2000).

Table 3: *Study characteristics*

	Author	Title of article	Year	Study approach and design	Country	Data collection and analysis methods	Sample size	Participant age and/or grade*
1	Brown, Powell & Clark	Working on what works: working with teachers to improve classroom behavior & relationships.	2012	<ul style="list-style-type: none"> <li>▪ Multi-method design.</li> <li>▪ Only treatment group.</li> <li>▪ Baseline, post-intervention &amp; three-month follow-up data collection.</li> </ul>	Aberdeen - United Kingdom	<ul style="list-style-type: none"> <li>▪ Thematic analysis.</li> <li>▪ Semi-structured interviews.</li> <li>▪ Adapted target monitoring &amp; evaluation (TME).</li> <li>▪ Solution-focused Linkert scale.</li> <li>▪ Continuous classroom observations conducted by the class teacher.</li> </ul>	25	*Middle childhood (Five to six years old)
2	Fernie & Cubeddu	WOWW: a solution orientated approach to enhance classroom relationships & behavior within a primary three class.	2016	<ul style="list-style-type: none"> <li>▪ Mixed method study design.</li> <li>▪ Treatment vs control group.</li> <li>▪ Pre- and post-intervention measures.</li> </ul>	Scotland - United Kingdom	<ul style="list-style-type: none"> <li>▪ Thematic analysis.</li> <li>▪ WOWW class scale.</li> <li>▪ WOWW pupil rating scale.</li> <li>▪ Teacher evaluation questionnaire included evaluation of peer relationships, patience, positive peer interaction, reciprocal respect, collaborative participation &amp; teacher confidence.</li> <li>▪ Child focus group</li> </ul>	24	*Middle childhood (Seven to eight years old)
3	Froh, Bono, Jinyan Fan, Emmons, Henderson, Harris, Leggio & Wood	Nice thinking! An educational intervention that teaches children to think gratefully.	2014	<ul style="list-style-type: none"> <li>▪ Quasi-experimental design.</li> <li>▪ Two separate studies containing different participants – 2<sup>nd</sup> study containing identical treatment vs control group protocol &amp; measurement but with the prolonged application.</li> </ul>	New York – United States	<ul style="list-style-type: none"> <li>▪ Descriptive statistics.</li> <li>▪ Benefit-appraisal vignettes followed by tailored questions concerning the respective benefactor &amp; situation.</li> <li>▪ Gratitude Adjective Checklist (GAC).</li> <li>▪ The Positive &amp; Negative Affect Scale for Children (PANAS-C).</li> <li>▪ Brief Multidimensional Students' Life Satisfaction Scale.</li> <li>▪ Behavioral measure of gratitude.</li> </ul>	210	*Middle childhood (Eight to 11 years old)

\* Footnote: The reviewers conducting this study indicated the ages and/or grades of participants exactly as provided by the original sources.

Table 3: *Study characteristics (cont.)*

	Author	Title of article	Year	Study approach and design	Country	Data collection and analysis methods	Sample size	Participant age and/or grade*
4	Gargari, Ahrari, Azar & Mirnasab	The effect of social-emotional learning program on Saqqez's fifth-graders male students' psychological competencies & school satisfaction.	2018	<ul style="list-style-type: none"> <li>▪ Quasi-experimental design.</li> <li>▪ Experimental vs control group.</li> <li>▪ Pre- and post-intervention measurement.</li> </ul>	Saqqez – Iran	<ul style="list-style-type: none"> <li>▪ MANCOVA &amp; ANCOVA analysis.</li> <li>▪ Social-Emotional Questionnaire (SEQ).</li> <li>▪ Huebner's Multidimensional Life Satisfaction Survey (MLSS).</li> </ul>	67	*Middle childhood ( <i>Fifth grade</i> )
5	Harpin, Rossi, Kim & Swanson	Behavioral impacts of a mindfulness pilot intervention for elementary school learners.	2016	<ul style="list-style-type: none"> <li>▪ Mixed method design.</li> <li>▪ Intervention vs control group measures.</li> <li>▪ Pre- and post-intervention measures.</li> </ul>	Colorado, Denver – United States	<ul style="list-style-type: none"> <li>▪ Univariate summary, descriptive statistics &amp; thematic analysis.</li> <li>▪ The Fast-track Teacher Social Competence Survey (FTSC).</li> <li>▪ The Child Assent Mindfulness Measurement Survey (CMM).</li> <li>▪ The Mindful Schools Survey.</li> </ul>	36	*Middle childhood ( <i>Fourth grade</i> )
6	Lee, Kim & Lee	The children's optimism & humor training program in South Korea.	2018	<ul style="list-style-type: none"> <li>▪ Quantitative design.</li> <li>▪ Experimental vs control group.</li> <li>▪ Pre- and post-intervention measures.</li> </ul>	South Korea – East Asia	<ul style="list-style-type: none"> <li>▪ ANCOVA analysis.</li> <li>▪ A revised questionnaire measuring adaptability in school (QMAS).</li> <li>▪ Children's attributional style questionnaire (CASQ).</li> <li>▪ Children's humor style questionnaire (CHSQ).</li> </ul>	46	*Middle childhood ( <i>Sixth grade</i> )

\* Footnote: The reviewers conducting this study indicated the ages and/or grades of participants exactly as provided by the original sources.

Table 3: *Study characteristics (cont.)*

	Author	Title of article	Year	Study approach and design	Country	Data collection and analysis methods	Sample size	Participant age and/or grade*
7	Mouratidis, Vansteenkiste, Sideridis & Lens	Vitality and interest–enjoyment as a function of class-to-class variation in need-supportive teaching & pupils' autonomous motivation.	2011	<ul style="list-style-type: none"> <li>▪ Quasi-experimental design.</li> <li>▪ Two short-term studies measuring autonomy &amp; relatedness in experimentally manipulated environments.</li> <li>▪ Treatment vs control group.</li> <li>▪ Pre- and post-intervention measures.</li> </ul>	Northern Greece - Europe	<ul style="list-style-type: none"> <li>▪ Descriptive statistics.</li> <li>▪ Adapted Intrinsic Motivation Inventory subscale.</li> <li>▪ Seven items adapted from the Subjective Vitality Scale.</li> <li>▪ Adapted Academic Self-Regulation Questionnaire.</li> <li>▪ Sports &amp; Learning Climate Questionnaire.</li> </ul>	138	*Middle childhood ( <i>Fifth &amp; Sixth-grade learners</i> )
8	Owens & Patterson	Positive psychological interventions for children: A comparison of gratitude & best-possible-self approaches.	2013	<ul style="list-style-type: none"> <li>▪ Mixed method design.</li> <li>▪ Three participant groups – gratitude intervention group, best-possible-self intervention group &amp; control group.</li> </ul>	United States	<ul style="list-style-type: none"> <li>▪ MANOVA analysis.</li> <li>▪ Children recorded their gratitude and best possible self, by means of drawings.</li> <li>▪ Positive and negative affect scale (PANAS).</li> <li>▪ Adapted Brief Multidimensional Students' Life Satisfaction Scale (BMSLSS).</li> <li>▪ Global subscale of the Perceived Competence Scale for Children.</li> </ul>	62	*Middle childhood ( <i>Five to 11 years old</i> )

\* Footnote: The reviewers conducting this study indicated the ages and/or grades of participants exactly as provided by the original sources.

Table 3: *Study characteristics (cont.)*

	Author	Title of article	Year	Study approach and design	Country	Data collection and analysis methods	Sample size	Participant age and/or grade*
9	Schonert-Reichl, Oberle, Lawlor, Abbott, Thomson, Oberlander & Diamond	Enhancing cognitive & social-emotional development through a simple-to-administer mindfulness-based school program for elementary school children: A randomized controlled trial.	2015	<ul style="list-style-type: none"> <li>▪ A randomized controlled trial study, with meta-analysis.</li> <li>▪ Treatment vs control group.</li> <li>▪ Pre- and post-intervention measures.</li> </ul>	Canada	<ul style="list-style-type: none"> <li>▪ MANCOVA followed by ANOVA analysis.</li> <li>▪ Behavioral assessment of executive functioning.</li> <li>▪ Biological testing salivary cortisol levels.</li> <li>▪ Child self-report measures.</li> <li>▪ Demographic information.</li> <li>▪ Empathy &amp; perspective taking via the Interpersonal Reactivity Index (RI).</li> <li>▪ Optimism - via Resilience Inventory.</li> <li>▪ Emotional control with RI subscale.</li> <li>▪ School self-concept via subscale from Marsh's Self-Description Questionnaire (SDQ).</li> <li>▪ Depressive symptoms via Seattle Personality Questionnaire for children.</li> <li>▪ Mindful Attention Awareness Scale adapted for children (MAAS-C).</li> <li>▪ Social Goals Questionnaire.</li> <li>▪ Peer-report Measures.</li> </ul>	99	*Middle childhood (Nine to 12 years old)
10	Tunariu, Tribe, Frings & Albery	The iNEAR program: An existential positive psychology intervention for resilience & emotional wellbeing.	2017	<ul style="list-style-type: none"> <li>▪ Quantitative design.</li> <li>▪ Treatment vs control group.</li> <li>▪ Pre- and post-intervention measures.</li> </ul>	United Kingdom	<ul style="list-style-type: none"> <li>▪ ANCOVA analysis.</li> <li>▪ The following aspects were measured however, measuring instruments were not mentioned: <ul style="list-style-type: none"> <li>- Wellbeing.</li> <li>- Intolerance to uncertainty.</li> <li>- Environmental mastery.</li> <li>- Positive relations with others.</li> <li>- Openness to diversity &amp; challenge.</li> </ul> </li> </ul>	354	*Middle childhood (11-12 years old)

\* Footnote: The reviewers conducting this study indicated the ages and/or grades of participants exactly as provided by the original sources.

### **Summary of study characteristics**

As shown in Table 3, the final pool of eligible studies consisted of one multi-method study (containing qualitative and quantitative data), six quantitative studies and three studies with a mixed methodology. All studies included indicated a PP-related intervention, activity or program with both a pre- and post-test measurement. The period during which the studies were published varied between 2011 and 2018 and was not specific to a single country or cultural group – resulting in an international representation of findings. Sample sizes differed significantly and ranged between 24 and 354 participants. Studies were all conducted in an educational context, with middle childhood (five to 12 years of age) learners as participants.

### **Summary of main findings and conclusions**

The main findings and author conclusions of each study that was included are tabulated in Table 4 below. From Table 4 it can be seen that PPIs, such as critical and creative thinking, gratitude-, mindfulness-, need-supportive teaching, and best-possible-self interventions increase ER significantly during middle childhood. PPIs enhancing the cultivation of ER in middle childhood learners include social and emotional learning programs, existential PPI programs, mindfulness-based education, as well as optimism and humor training programs. Findings from studies included also indicated that PPIs have a positive impact on the internal and/or external domains of participating learners. The majority of studies established that PPIs positively enhance various developmental domains contributing to ER development in middle childhood. These domains were all related to PP constructs and included personal, social and environmental aspects.

Table 4: *Main findings and conclusions*

	<b>Author</b>	<b>Main objectives of the study</b>	<b>Intervention / Program</b>	<b>Duration of intervention</b>	<b>Main findings</b>	<b>Author's conclusion</b>
1	Brown, Powell & Clark (2012)	<ul style="list-style-type: none"> <li>▪ To improve pupil behavior &amp; class relationships, through collaborative participation in a solution-focused intervention.</li> <li>▪ Pupils set three targets to reach at the end of the intervention: To               <ul style="list-style-type: none"> <li>▪ be polite</li> <li>▪ put a hand up</li> <li>▪ be helpful.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>▪ Working on what works (WOWW) intervention using a solution-focused approach.</li> </ul>	<ul style="list-style-type: none"> <li>▪ 10 weeks.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Findings indicated positive outcomes concerning pupil behavior, relational wellbeing &amp; enhancement of reciprocal respect in relationships.</li> <li>▪ Factors identified to contribute to positive outcomes included:               <ul style="list-style-type: none"> <li>- Pupil ownership.</li> <li>- Enjoyment of pupils.</li> <li>- Classroom collaboration.</li> <li>- Target setting (shared goal setting).</li> </ul> </li> <li>▪ Post-intervention – pupils were able to identify the strengths within their class as well as aspects needing improvement.</li> <li>▪ Positive change was maintained at 12-week follow-up post-intervention.</li> </ul>	<ul style="list-style-type: none"> <li>▪ The WOWW approach positively enhanced pupil behavior &amp; relational wellbeing of all pupils in the primary one &amp; two classes.</li> <li>▪ Collaborative participation between teachers &amp; educational psychologists may be an effective change catalyst for change when conducting WOWW interventions.</li> </ul>
2	Fernie & Cubeddu (2016)	<ul style="list-style-type: none"> <li>▪ To manage disruptive classroom behavior. The main aim was to manage everyday classroom problems in an ordinary classroom environment, through the application of a solution-focused PPI.</li> </ul>	<ul style="list-style-type: none"> <li>▪ An abbreviated version of WOWW intervention.</li> </ul>	<ul style="list-style-type: none"> <li>▪ The intervention was administered twice weekly over a period of three weeks.</li> </ul>	<ul style="list-style-type: none"> <li>▪ The intervention improved the behaviors &amp; relational wellbeing of pupils through the collaborative participation of pupils &amp; teacher.</li> <li>▪ Thematic analysis revealed the following prominent themes:               <ul style="list-style-type: none"> <li>- Developing skills (collaborative working, listening &amp; mimicking one another's positive behavior).</li> <li>- Children's motivation (WOWW scale had a positive impact on motivation, best work &amp; behavior, increased effort to achieve).</li> <li>- Class improvement (good whole class strategy, the class needed assistance, children saw improvement).</li> <li>- Learners enjoyed the intervention (had fun, enjoyed coaches &amp; feedback, felt respected).</li> </ul> </li> <li>▪ Children's ability to listen to a speaker &amp; work cooperatively with peers increased.</li> </ul>	<ul style="list-style-type: none"> <li>▪ The WOWW approach is one of the most inclusive ways of managing classroom behaviors &amp; relationships.</li> <li>▪ This approach emphasized &amp; highlighted the existing strengths &amp; positive behaviors within the classroom – indicating the importance of using a solution-focused approach to enhance learning &amp; behavior constructively.</li> <li>▪ The intervention increased teachers' ability to focus on positive rather than negative behaviors.</li> </ul>

Table 4: *Main findings and conclusions (cont.)*

	<b>Author</b>	<b>Main objectives of the study</b>	<b>Intervention / Program</b>	<b>Duration of intervention</b>	<b>Main findings</b>	<b>Author's conclusion</b>
3	Froh, Bono, Jinyan Fan; Emmons, Henderson, Harris, Leggio & Wood (2014)	<ul style="list-style-type: none"> <li>▪ To determine whether grateful thinking can be taught to children. If so, whether sensitizing children to the beneficial social exchange nuances would cultivate their feelings of gratitude.</li> <li>▪ To examine whether teaching benefit appraisal could foster gratitude in middle childhood when the maturation of gratitude ought to be sufficiently developed.</li> </ul>	Gratitude interventions. <ul style="list-style-type: none"> <li>▪ Study one applied a benefit-appraisal curriculum.</li> <li>▪ Study two comprised exactly the same curriculum as study one.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Study one's activities took place daily over a one-week period.</li> <li>▪ Study two took place over a five-week period &amp; results were measured across a five-month period.</li> </ul>	<ul style="list-style-type: none"> <li>▪ The results of study one's intervention group showed an increase in grateful mood, gratitude &amp; benefit appraisal, such as grateful thinking.</li> <li>▪ Results from the intervention group in study two showed significant increases in gratitude, positive affect, grateful thinking &amp; life satisfaction, with a decrease in negative affect.</li> <li>▪ Children from eight to 11 years old experiencing assistance or beneficial acts from a benefactor exhibited an increase in grateful cognitive processing consequently increasing gratitude &amp; subjective wellbeing as shown in the results of both studies.</li> <li>▪ Both studies indicated that a link exists between increased gratitude, grateful response, and overall positive affect at 20-week follow-up measurement.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Acknowledgment of beneficial acts from benefactors increases relational wellbeing &amp; physical wellbeing.</li> <li>▪ Grateful thoughts &amp; attitudes may assist in the cultivation of a supportive school climate while enhancing student school engagement.</li> <li>▪ Education facilitating cognitive processing towards increasing gratitude should be fostered in children from the earliest possible age.</li> </ul>
4	Gargari, Ahrari, Azar & Mirnasab (2018)	<ul style="list-style-type: none"> <li>▪ To explore Social-Emotional Learning (SEL) program effects on elementary school childrens' satisfaction with school &amp; the five inter-related psychosocial competencies suggested by CASEL:</li> </ul> <ol style="list-style-type: none"> <li>1) Self-awareness.</li> <li>2) Self-regulation.</li> <li>3) Social awareness.</li> <li>4) Relationship skills.</li> <li>5) Responsible decision-making.</li> </ol>	<ul style="list-style-type: none"> <li>▪ SEL program.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Presented for one school year.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Significant increases in self-awareness &amp; self-regulation.</li> <li>▪ No significant differences in social awareness, social relationships &amp; responsible decision-making.</li> <li>▪ Increased satisfaction with school.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Learners' psychosocial skills &amp; school satisfaction can be improved through this intervention.</li> <li>▪ Counselors &amp; educators are advised to develop SEL skills through the integration thereof with classroom activities, leading to improved mental health, holistic child development &amp; student wellbeing.</li> </ul>

Table 4: *Main findings and conclusions (cont.)*

	<b>Author</b>	<b>Main objectives of the study</b>	<b>Intervention / Program</b>	<b>Duration of intervention</b>	<b>Main findings</b>	<b>Author's conclusion</b>
5	Harpin, Rossi, Kim & Swanson (2016)	<ul style="list-style-type: none"> <li>▪ To examine the impact of a mindfulness curriculum on elementary learners' prosocial classroom behaviors, emotional regulation &amp; academic competence.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Mindfulness intervention.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Delivered daily, over 10 weeks.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Learners in the treatment group reported an increase in positive classroom behavior, emotional regulation &amp; perceived academic achievement after receiving mindfulness instruction.</li> <li>▪ Increased emotional &amp; behavior regulation &amp; increased ability to cope with personal stress.</li> <li>▪ No difference between groups on the CAMM scale measuring the child's awareness of their internal experiences. The child acts with awareness &amp; non-judgmentally accepts internal experiences.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Mindfulness among youth may be an essential aspect of a healthy developmental framework &amp; may contribute to resiliency.</li> <li>▪ No differences were found in student-reported mindfulness measures.</li> <li>▪ Positive classroom behavior extending beyond the individuals in the intervention group was reported.</li> <li>▪ Incorporation of mindfulness in schools is advised.</li> </ul>
6	Lee, Kim & Lee (2018)	<ul style="list-style-type: none"> <li>▪ To develop a program, training learners' cognitive adaptability to use humor &amp; optimism as a means to enhance their mental wellbeing.</li> <li>▪ To serve as a preliminary trial application of the OHTP to a representative RCT of Korean school children, prior to empirical validation.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Optimism &amp; humor training program (OHTP).</li> </ul>	<ul style="list-style-type: none"> <li>▪ Delivered over eight weeks.</li> </ul>	<ul style="list-style-type: none"> <li>▪ The OHTP program participant group results showed an increase in adaptability in school, due to increased optimistic thinking (shown to increase personal resilience &amp; perceived happiness) &amp; adaptive or positive use of humor (moved away from using self-defeating humor).</li> </ul>	<ul style="list-style-type: none"> <li>▪ The results indicate that children who participated in the OHTP showed an increase in optimism, use of adaptive humor &amp; more adaptability in school.</li> </ul>

Table 4: *Main findings and conclusions (cont.)*

	<b>Author</b>	<b>Main objectives of the study</b>	<b>Intervention / Program</b>	<b>Duration of intervention</b>	<b>Main findings</b>	<b>Author's conclusion</b>
7	Mouratidis, Vansteenkiste, Sideridis & Lens (2011)	<ul style="list-style-type: none"> <li>▪ To investigate whether optimally motivating learning environments might counter the tendency of a-motivation or whether motivating environments might yield beneficial effects for optimal internal motivation.</li> <li>▪ Secondly to examine whether individual &amp; environmental characteristics might influence interest-enjoyment &amp; subjective vitality.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Need-supportive teaching intervention to enhance self-determination aspects in children.</li> </ul>	<ul style="list-style-type: none"> <li>▪ All three teachers delivered two class hours of need-supportive teaching style &amp; two regular teaching style class hours.</li> <li>▪ The third teacher delivered a fifth regular teaching style class.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Subtle changes in teachers' practices such as providing pupils with choices &amp; alternatives, &amp; allowing them to exercise in more intimate small groups, can facilitate interest– enjoyment &amp; vitality</li> <li>▪ There was a positive correlation between interest-enjoyment &amp; vitality.</li> <li>▪ Teaching styles variations lead to different motivational outcomes from class to class.</li> <li>▪ Autonomous motivation accounted for a small variance in daily interest–enjoyment but none on vitality between group measures.</li> <li>▪ An interactive effect of motivational environment &amp; pupils' relative autonomous motivation on perceived need support &amp; interest–enjoyment had a marginal effect on subjective vitality.</li> <li>▪ The provision of need support teaching resulted in a stronger effect on vitality &amp; interest–enjoyment in already highly autonomous functioning individuals, who might be more aware of emotions &amp; basic needs.</li> </ul>	<ul style="list-style-type: none"> <li>▪ All learners benefitted, either directly or indirectly, from a need-supportive teaching style, characterized by the provision of choice, the opportunity to apply initiative &amp; the promotion of social cooperation.</li> </ul>
8	Owens & Patterson (2013)	<ul style="list-style-type: none"> <li>▪ To examine the effects of gratitude &amp; best-possible-self interventions in elementary school-aged children's positive &amp; negative affect, life satisfaction &amp; self-esteem.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Gratitude &amp; best-possible-self intervention.</li> <li>▪ The intervention comprised mostly of drawing activities according to varied themes of gratitude (activities, pets, family, friends, etc.) &amp; drawings of the best possible future selves.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Gratitude &amp; best-possible-self intervention took place once per week &amp; varied between four to six weeks owing to time limitations imposed by some sites.</li> </ul>	<ul style="list-style-type: none"> <li>▪ The best-possible-self intervention group showed a significant enhancement of general self-esteem.</li> <li>▪ No changes observed in life satisfaction &amp; affect.</li> <li>▪ Although no changes were observed in gratitude levels, researchers concluded that children are cognitively able to experience &amp; express gratitude from as young as five years of age.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Drawing is proven to be an effective strategy for measuring gratitude in children.</li> <li>▪ The incorporation of social/relational components along with drawing may increase the efficiency of gratitude interventions in middle childhood.</li> </ul>

Table 4: *Main findings and conclusions (cont.)*

	<b>Author</b>	<b>Main objectives of the study</b>	<b>Intervention / Program</b>	<b>Duration of intervention</b>	<b>Main findings</b>	<b>Author's conclusion</b>
9	Schonert-Reichl, Oberle, Lawlor, Abbott, Thomson, Oberlander & Diamond (2015)	<ul style="list-style-type: none"> <li>▪ To test whether the SEL program incorporating mindfulness would lead to enhanced executive functioning (EF), stress regulation, social-emotional competence &amp; educational achievement in fourth- &amp; fifth-grade children.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Mindfulness-based education - (SEL) program, consisting of 12 lessons.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Lessons were taught for approximately 40-50 min, once a week over a period of one year.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Significant enhancement in EF, subjective wellbeing, as well as self- &amp; peer-reported prosocial behavior.</li> <li>▪ Significant improvement in EF tasks requiring self-regulation, working memory &amp; cognitive flexibility.</li> <li>▪ Increased self-regulation enhanced emotional regulation &amp; decreased aggression.</li> </ul>	<ul style="list-style-type: none"> <li>▪ The results of this investigation address a lacuna in the scientific literature &amp; indicate that SEL interventions are positively promising in identifying strategies not only to ameliorate children's problems but also to cultivate their wellbeing &amp; thriving.</li> <li>▪ Exposing children to mindfulness attention training in combination with practical opportunities to practice optimism, gratitude, perspective-taking, &amp; kindness skills, not only improves EF, but also significantly enhances their social &amp; emotional competence &amp; wellbeing in the educational context.</li> </ul>
10	Tunariu, Tribe, Frings & Albery (2017)	<ul style="list-style-type: none"> <li>▪ To evaluate the effectiveness of iNEAR, a resilience &amp; wellbeing program containing classroom-based activities, designed to facilitate the fostering of positive identities through skills acquisition, leading to personal development &amp; flourishing.</li> </ul>	<ul style="list-style-type: none"> <li>▪ iNEAR program - an existential PPI, consisting out of seven, self-contained lesson plans addressing four core domains: <ul style="list-style-type: none"> <li>- Positive identity.</li> <li>- Emotional intelligence &amp; relational competence.</li> <li>- Perceptions, ideological flexibility, social justice.</li> </ul> </li> <li>▪ Uncertainty, existential ethics, growth &amp; wellbeing.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Lesson plans had a duration of one hour each, which amounted to seven hours of participation time.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Statistically significant increases were obtained in subjective wellbeing scores, environmental mastery &amp; relational wellbeing.</li> <li>▪ Ability to tolerate uncertainty &amp; ambiguity also increased in the treatment condition of participants.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Overall participation in the iNEAR intervention was found to be associated with reported increases in wellbeing, self-efficacy, relational wellbeing, openness to diversity. Provided participants with a psychological repertoire to manage &amp; tolerate uncertainty.</li> </ul>

Inherited and/or acquired personal skills and attributes such as personal autonomy, internal motivation, prosocial behavior, self-regulation, and personality types, which contribute to and facilitate the success of PPIs, should therefore be considered during evaluation (Clark, Durbin, Hicks, Iacono, & McGue, 2017; Mouratidis et al., 2011; Pitzer & Skinner, 2017). With specific reference to solution-focused interventions, it was determined that interest-enjoyment is positively correlated with increased vitality and prosocial behavior. As such, learner engagement in the educational context may be a catalyst for the development of intrinsic motivation, significantly contributing to ER (Jowkar et al., 2014; Oshri, Topple, & Carlson, 2017; Pitzer & Skinner, 2017).

PPIs have been proven to produce more sustainable positive outcomes when implemented over an extended period of time (Gargari, Ahrari, Azar, & Mirnasab, 2018; Schonert-Reichl et al., 2015; Ungar et al., 2013). From the selected pool of studies, several reported implementing the intervention over periods ranging between 10 weeks and one year. These studies substantiated lasting positive results and positive behavioral changes of learners within the classroom environment. In contrast, two studies that implemented the intervention for only two to four weeks showed little positive sustainable enhancement (Ferne & Cubeddu, 2016; Mouratidis et al., 2011). Hence, results indicate that PPIs should be implemented over a prolonged period in order to increase the effectiveness of positive behavioral changes.

Table 4 also highlights that the educational environment plays a crucial role in fostering ER. The importance of the teacher-learner relationship, classroom interactions, the teacher's attitude and feedback, as well as the support provided in class, were also emphasized in the results. The studies found that a positive, need-supportive and cooperative classroom climate facilitated and encouraged learner engagement (Mouratidis et al., 2011). In addition, a positive school environment and learner engagement increased learners' satisfaction with school and motivation to attend school. The support

provided by teachers' enhanced learner engagement and the development of inter-relational skills (e.g. collaborative working and listening abilities), leading to better academic performance and success (Flook, Repetti, & Ullman, 2005). Consequently, the findings suggest that a positive classroom environment facilitates academic success and is, therefore, a vital promoter of ER (Rutter, 2013). The findings also suggest the incorporation of ER skills in educational curricula to ensure that ER skills are cultivated and enhanced in middle childhood learners and contribute to a strong foundational ER repertoire and positive development.

Data extraction and analysis were followed by a thematic synthesis of data, discussed against the backdrop of Kümpfer's (1999) resilience model as adapted by Hassim (2016), and the OIT (Ryan & Deci, 2000) as can be seen in Table 5. Prominent themes were identified according to related PP constructs contributing to ER constituents.

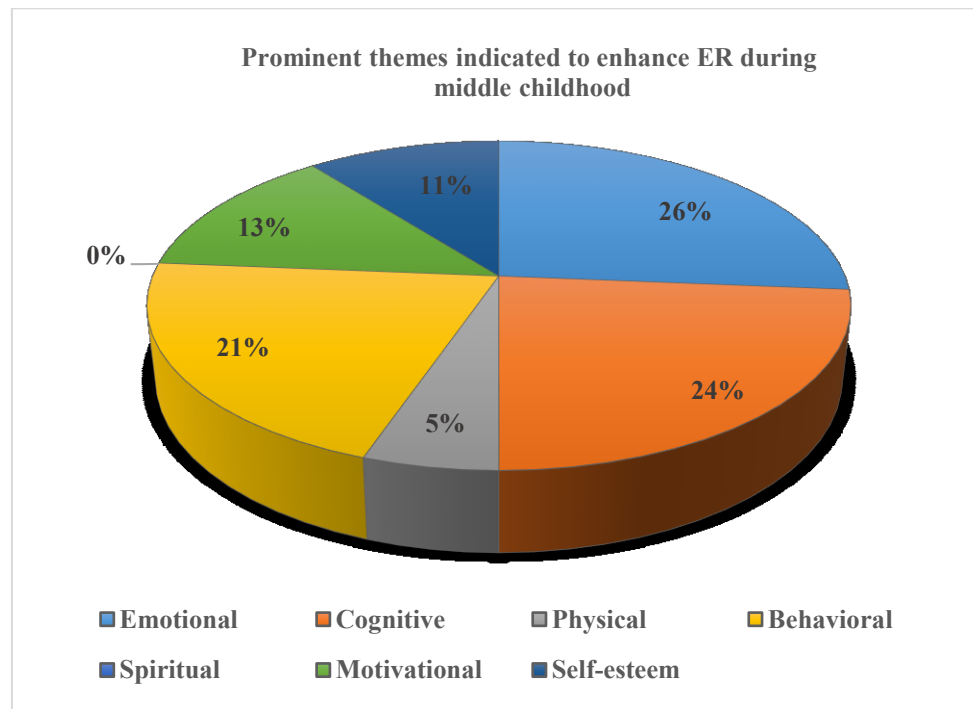
Table 5: *Internal protective factors found to contribute to fostering ER from the Kümpfer (1999) model of resilience as adapted by Hassim (2016).*

	<b>Emotional</b>	<b>Cognitive</b>	<b>Physical</b>	<b>Behavioral</b>	<b>Spiritual</b>	<b>Motivational</b>	<b>Self-esteem</b>
<b>Brown et al. (2012)</b>	<ul style="list-style-type: none"> <li>▪ Interest-enjoyment, increasing engagement.</li> <li>▪ Social awareness.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Intuitive &amp; creative thinking.</li> </ul>		<ul style="list-style-type: none"> <li>▪ Positive pupil behavior from social collaboration.</li> <li>▪ Enhanced reciprocal respect.</li> </ul>		<ul style="list-style-type: none"> <li>▪ Shared responsibility.</li> <li>▪ Group &amp; personal goal achievement.</li> </ul>	
<b>Fernie &amp; Cubeddu (2016)</b>	<ul style="list-style-type: none"> <li>▪ Interest enjoyment, increasing engagement.</li> <li>▪ Positive feedback = feeling respected.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Positive social adjustment.</li> <li>▪ Critical &amp; creative thinking.</li> </ul>		<ul style="list-style-type: none"> <li>▪ Improved social behavior through collaborative participation = positive social adjustment.</li> <li>▪ Increased relational wellbeing.</li> </ul>		<ul style="list-style-type: none"> <li>▪ Internalizing external beneficial behavior, increasing self-regulated internal motivation.</li> <li>▪ Solution-focused approach = enhanced competence &amp; environmental mastery.</li> </ul>	
<b>Froh et al. (2014)</b>	<ul style="list-style-type: none"> <li>▪ Increased gratitude in thoughts, experience &amp; feelings.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Increased benefit appraisal such as grateful thinking.</li> <li>▪ Self-awareness = enhanced satisfaction with life.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Acknowledgment of benefits in increased physical activity = increased vitality.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Supportive school climates = enhanced learner engagement.</li> </ul>		<ul style="list-style-type: none"> <li>▪ Internalizing external beneficial behavior, increasing self-regulated internal motivation = enhanced learner engagement.</li> </ul>	
<b>Gargari et al. (2018)</b>	<ul style="list-style-type: none"> <li>▪ Increased self-awareness &amp; self-regulation.</li> <li>▪ Increased satisfaction with school.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Increased self-awareness &amp; self-regulation.</li> </ul>		<ul style="list-style-type: none"> <li>▪ Significant increases in self-awareness &amp; self-regulation.</li> </ul>		<ul style="list-style-type: none"> <li>▪ Significant increases in self-awareness &amp; self-regulation.</li> <li>▪ Increased satisfaction with school.</li> </ul>	
<b>Harpin et al. (2016)</b>	<ul style="list-style-type: none"> <li>▪ Increased emotional regulation.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Increased self-regulation = increased the ability to cope with personal stress.</li> </ul>		<ul style="list-style-type: none"> <li>▪ Increased positive classroom behavior.</li> <li>▪ Increased behavioral regulation = positive resilient adaptation.</li> </ul>			<ul style="list-style-type: none"> <li>▪ Increased perceived academic achievement &amp; competence.</li> </ul>

Table 5: Internal protective factors found to contribute to fostering ER from the Kümpfer (1999) model of resilience as adapted by Hassim (2016) (cont.).

	Emotional	Cognitive	Physical	Behavioral	Spiritual	Motivational	Self-esteem
<b>Lee, Kim, and Lee (2018)</b>	<ul style="list-style-type: none"> <li>Increased positive adaptability, due to increased optimistic thinking &amp; adaptive/positive usage of humor.</li> </ul>	<ul style="list-style-type: none"> <li>Increased self-regulated personal resilience, due to increased optimistic thinking.</li> </ul>		<ul style="list-style-type: none"> <li>Increased coping behavior through positive resilient adaptation.</li> </ul>			
<b>Mouratidis et al. (2011)</b>	<ul style="list-style-type: none"> <li>Increased choices &amp; alternatives executed in intimate groups may facilitate interest-enjoyment &amp; vitality.</li> <li>Need supported teaching increased self-awareness, vitality &amp; interest-enjoyment.</li> </ul>	<ul style="list-style-type: none"> <li>Opportunity to apply creative &amp; innovative thinking may facilitate interest-enjoyment &amp; vitality.</li> <li>Increased self-awareness &amp; autonomy.</li> </ul>	<ul style="list-style-type: none"> <li>A positive correlation exists between interest-enjoyment &amp; vitality.</li> </ul>				<ul style="list-style-type: none"> <li>Providing pupils with choices &amp; alternatives increased the perception of competence &amp; environmental mastery.</li> </ul>
<b>Owens and Patterson (2013)</b>	<ul style="list-style-type: none"> <li>Drawing social/relational components in gratitude interventions may increase intervention's efficiency in middle childhood.</li> </ul>						<ul style="list-style-type: none"> <li>The best-possible-self intervention resulted in significant enhancement of general self-esteem.</li> </ul>
<b>Schonert-Reichl et al. (2015)</b>	<ul style="list-style-type: none"> <li>Increased subjective wellbeing.</li> <li>Increased emotional- &amp; self-regulation.</li> </ul>	<ul style="list-style-type: none"> <li>Significant enhancement in executive functioning, cognitive-, emotional- &amp; self-regulation, &amp; cognitive flexibility.</li> </ul>		<ul style="list-style-type: none"> <li>Enhanced prosocial behavior.</li> </ul>		<ul style="list-style-type: none"> <li>Increased emotional-, behavioral- &amp; self-regulation.</li> </ul>	
<b>Tunariu et al. (2017)</b>	<ul style="list-style-type: none"> <li>Enhanced subjective wellbeing associated with increased experience of positive emotions.</li> </ul>	<ul style="list-style-type: none"> <li>Increased subjective wellbeing &amp; perceived environmental mastery.</li> </ul>		<ul style="list-style-type: none"> <li>Increased ability to tolerate uncertainty &amp; ambiguity.</li> </ul>			<ul style="list-style-type: none"> <li>Increased self-efficacy.</li> </ul>

Figure 3 illustrates the percentages of each PP construct related to Kümpfer's (1999) resilience model, as adapted by Hassim (2016), contributing to ER constituents.



*Figure 3:* Percentages of each PP construct related to Kümpfer's (1999) resilience model, as adapted by Hassim (2016).

Figure 4 continues to evaluate further concurrent findings against the OIT (Ryan and Deci, 2000), followed by a discussion of the evaluation. According to Ryan and Deci (2000), the SDT is a metatheory, encompassing six sub-theories. The SDT is based on the view that humans have a natural tendency to grow and develop themselves in constant interplay with their environments, while striving to meet their inherent psychological need for autonomy, competence, and relatedness. The organismic integration theory (OIT) is one of the sub-theories of the SDT, which focuses on the process through which individuals progress towards becoming intrinsically motivated people. This process entails constant and effective self-regulation and adaptation of the self, while using external motivating factors.

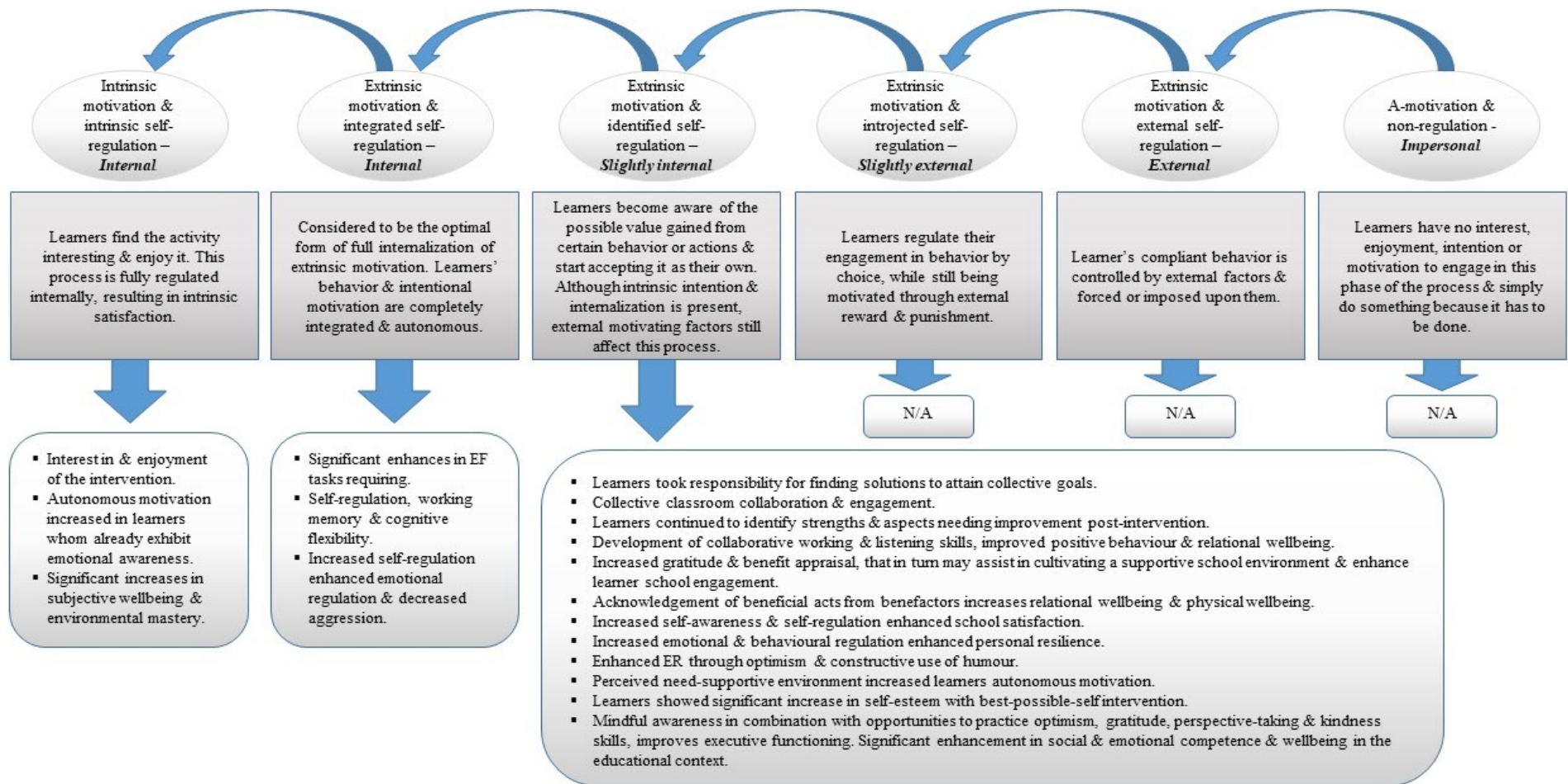


Figure 4: Concurrent themes identified in the process of organismic integration as a sub-theory of the self-determination theory (Ryan & Deci, 2000)

The OIT process of internalizing external motivating factors is presented as a continuum of internalization (containing several phases). During this continuum, individuals strive to become autonomous, intrinsically motivated and adaptive as they master their environment. The reviewers specifically chose the OIT (in combination with Kümpfer's [1999] resilience model as adapted by Hassim [2016]) as a framework for interpreting the results of the systematic review. The rationale behind this choice was that children in middle childhood start shifting their focus from the small family environment to a larger educational and social environment when they enter primary school. Middle childhood, therefore, has the potential to become the fundamental phase in which learners can commence their development along the OIT continuum. The reviewers grouped concurrent themes derived from the thematic synthesis of the main findings and evaluated these themes against the OIT (refer to Figure 4). From Figure 4 it becomes evident that PPIs primarily contribute to developing internalization skills in the extrinsic motivation and identified self-regulation phase. Secondly, and to a more limited extent than the aforementioned, the extrinsic motivation and integrated self-regulation phase also contributes to the development of these skills. Furthermore, PPIs provides children with the opportunity to experience the full extent of the empowerment of self-awareness and self-regulation. Vansteenkiste, Simons, Lens, Sheldon, and Deci, (2004) support the fact that intrinsic motivation needs to be developed in children as early as possible and have found that autonomously motivated learners are more engaged in school, obtain better academic results and work harder to obtain academic success.

### **Discussion**

Hassim (2016) identified seven domains of internal protective factors that contribute to fostering academic resilience in higher education students, and highlight factors contained in the emotional, cognitive, physical, behavioral, spiritual, motivational, and self-esteem domains. The current systematic review revealed that PPIs in middle childhood had a positive

impact on at least six of the domains identified by Hassim (2016), with the exception of the spiritual domain (refer to Figure 3). The studies included in this systematic review did not focus particularly on the spiritual developmental domain, which forms part of the abstract meta-cognition development during middle childhood. However, a recent study confirmed that research on the development of spirituality as an internal protective factor is scarce and that a definite gap exists in science to explore this matter further (Smith & Crosby, 2017). This systematic review indicated that the greatest impact of PPIs in middle childhood was made in the emotional, cognitive and behavioral components, in accordance with the biopsychosocial development of this age group (Clark et al., 2017; Del Giudice, 2014). In the section below, the concurrent themes contributing to ER in middle childhood, as identified in this systematic review are discussed in relation to the domains identified by Hassim's (2016) adapted resilience model.

The **emotional components** that contribute to fostering ER were increased through the participation in PPIs. Emotional components include positive affect (more frequent experiences of positive affect are linked to an increase in subjective wellbeing), learner engagement (through interest-enjoyment), positive and constructive self-regulation (which increased emotional regulation and decreased aggression), social awareness, a grateful mood, gratitude, life, and school satisfaction. Previous research findings support the fact that positive learner engagement results in an increased ability to cope effectively with adversity and has the tendency to apply greater emotional regulation and consequential self-regulation to solve problems and persist with challenging tasks, especially in an educational environment (Banatao, 2011; Oshri et al., 2017; Pitzer & Skinner, 2017). Furthermore, increased positive and/or optimistic thinking leads to an increase in positive adaptation and cognitive flexibility in adverse circumstances by replacing self-defeating humor with constructive use of humor. Findings in affective neuroscience supports the notion that positive and optimistic emotions

can be taught to learners, and highlight the fact that emotions fulfill a significant role in functional integration, while having a delicate yet universal impact on learner's thoughts and actions (Masten & Barnes, 2018; Pechtel & Lyons-Ruth, 2014; Scoffham & Barnes, 2011). It is also important to emphasize the necessity of negative emotional experiences in moderate brief periods, as these contribute to the development of grit, perseverance, a growth mindset, and the cultivation and development of resilience in children (Garland, Farb, Goldin, & Fredrickson, 2015; Linley & Joseph, 2004; Pagnini & Langer, 2015).

The **cognitive component** was affected positively by taking part in collaborative solution-focused PPIs, which displayed significant increases in critical and creative thinking, grateful thinking, and self-regulation, including aspects of self-awareness, behavioral regulation and emotional regulation, resulting in an increased ability to cope with personal stress, cognitive flexibility, and cognitive adaptability or increased personal resilience (Kluweschavon, Viola, Sanvicente-Vieira, Malloy-Diniz, & Grassi-Oliviera, 2017; Kuldass et al., 2015; Moreno, Shwayder, & Friedman, 2017). The findings indicate that a learner's meta-cognitive development and ability play a crucial role in fostering ER and is a conglomerated integration of aspects, encompassing many cognitively processed internal protective skills and abilities, resulting in positive adaptation (Bridgett et al., 2016; Fox & Riconscente, 2008; Kirby & Robinson, 2015). Executive functioning, working memory, and environmental mastery were also enhanced significantly, and is supported by earlier research findings (Miller et al., 2018; Neuenschwander et al., 2012; Rohrer-Baumgartner et al., 2014). According to Scoffham and Barnes (2011), the provision of an environment that offers ample prospects for increased positive experiences decreases the negative effects of adversities and negative genetic predisposition.

The impact of PPIs on the **physical components** were minimal and largely comprised of increased vitality, correlating positively with enhanced interest-enjoyment related to

activities. (Mouratidis et al., 2011; Wood et al., 2011). Learner's physical wellbeing was also found to positively increase with the acknowledgment of beneficial acts from benefactors.

PPIs have proven to have a positive impact on the **behavioral components** through the cultivation of positive classroom relations, increased behavioral regulation and consequently enhanced positive and constructive adaptability in adverse situations. Gafoor and Kottalil (2011) argued that behavioral skills, the ability to approach new goals, social competence, a positive response to others, social cohesion, and prosocial behavior enhances ER, specifically in the middle childhood developmental phase. It is also evident from the findings that self- and peer-reported pro-social behavior increased significantly, which consequently had a positive impact on school climate and learner engagement (Guo, Zhou, & Feng, 2018; Sheppard & Clibbens, 2015).

**Motivational components** were also influenced positively by PPI participation. Learner's motivation improved significantly in a positive school climate, especially when learners felt respected, while their inputs and personal contributions were valued in the process of sharing responsibility and goal attainment with their peers (De Vreede, Warner, & Pitter, 2014). Increased levels of self-regulation were also proven to lead to improved internal motivation. Literature supports the fact that positive coping mechanisms, learner commitment and engagement, perseverance and task orientation, achievement motivation, internal locus of control, and resourcefulness have a significant impact on the motivational components of ER (Cuskley, 2014; Gafoor & Kottalil, 2011; McGeown et al., 2016; Modrek & Kuhn, 2017).

**Self-esteem** was enhanced through participation in PPIs during which learners experienced perceived self-efficacy and competence in reaching their goals, which in turn resulted in higher levels of personal autonomy. Gafoor and Kottalil (2011) found that beliefs about the self, which includes among others self-esteem, self-awareness, autonomy, and perceived self-concept and efficacy contributed, to fostering ER in middle childhood. Learners

who perceive their input to be valuable and their opinions to be respected experience a sense of self-worth, coupled with the perception of effectively mastering new skills, increasing self-esteem as part of enhanced ER (Govindji & Linley, 2007; James, Bore, & Zito, 2012; Shoshani & Steinmetz, 2014).

When framing the above findings within the OIT, it became clear that all PPIs and their consequential findings indicated high autonomous functioning, intrinsic motivation and self-regulatory aspects of learner behavior. Children, in middle childhood, regulated their behavior in accordance with their positive externally motivated experience. Although external intervention served as a primary catalyst for self-regulated motivation and behavior, the outcome was based on the learners' integration of the personally and socially beneficial experience and value gained from participation in PPIs, which motivated them to engage in sustained action and behavior, fostering ER (Deci & Ryan, 2004; Ryan & Deci, 2000; Shogren, Lopez, Wehmeyer, Little, & Pressgrove, 2006; Vansteenkiste, Niemiec, & Soenens, 2010). Legault (2017) confirmed the fact that learners have a tendency to display greater persistence in sustaining their resilient behavior when they can perceive its value and understand its importance thereof.

In conclusion, the learners' internal protective factors interrelated with positive psychological attributes such as self-regulation, autonomy, and motivation, operating as intertwined internal mechanisms. When the interplay between these attributes are mastered, it may lead to the fundamental establishment of ER in middle childhood.

### **Strengths and limitations**

- For the purposes of this systematic review, the reviewers searched six relevant databases yielding applicable electronic sources. The reviewers acknowledge that limiting the searches to these six databases might have caused some important findings to be excluded from this review. The reviewers compensated for this possible limitation

by developing a broad search strategy with as many synonymous terminologies as possible.

- Since there are so many synonymous variations for the key terms pertaining to this systematic review, the possibility does exist that all variations might not have been included, leading to the possible exclusion of sources that could have contributed to the findings.
- PPIs contributing to the cultivation of ER in middle childhood participants are fragmented across multiple disciplines with existing interventions and programs utilizing PP aspects to foster ER in middle childhood, not necessarily classified under PP or linked to the discipline of PP. This could also have led to the possible exclusion of valuable sources.

### **Conclusion**

The purpose of this systematic review was to explore and identify existing PPIs that contribute to fostering ER in middle childhood learners, and to evaluate the results against the backdrop of Kümpfer's (1999) resilience model as adapted by Hassim (2016), and the OIT, a sub-theory of the SDT (Ryan and Deci, 2000). From the findings of this systematic review, it is evident that ER in middle childhood is a fascinating, intricate and multifaceted network of skills and resources applied during a myriad of situational, cognitive, psychological and emotional processes, in constant interplay with one another. ER is never a stagnant state or merely an outcome instead, it is a dynamic ever-evolving process that develops across an individual's lifespan. Middle childhood provides an excellent opportunity to cultivate and foster positive cognitive, emotional, behavioral, social, motivational, self-esteem and psychological skills to assist learners in building a fortified repertoire of internal protective factors to be able to withstand, cope, adapt positively and grow from any adversities. Findings further revealed that emotional intelligence, including all of its subcomponents (self-regulation,

self-awareness, social awareness, and social regulation), is strongly linked to intrinsically motivated and autonomous behavior as described by the OIT. It is evident that emotional intelligence and autonomously self-regulated behavior are prominent fields of fundamental development during middle childhood. Learners entering primary school discover a large, new, and complex social environment outside the initial family environment. It is during this important transitional period from toddler to pre-teen that they cultivate and develop their sense of “self”, how to function as an autonomous individual, and how this newly discovered “self” functions within their new environment. It is evident that existing models and theories cannot merely be adapted and applied in an attempt to address and explain the cultivation and development of ER in middle childhood. The findings of this systematic review indicated that while learning to manage and develop the self effectively and successfully in the midst of external and environmental factors, often threatening to disturb stability and harmony in their lives, children must constantly apply various self-regulatory skills to navigate through the difficulties of life. Furthermore, they need to master their self-regulatory skills with an inexperienced frame of reference obtained through perceiving their environment and situational circumstances, unfortunately leaving room for possible negative cognition errors or biases.

For this reason, learners need controlled exposure to manageable risks, adversities, and stressors in an optimal and supportive environment, which provides them with the necessary resources, skills, and opportunities to master the art of effective regulation and positive adaptation in the face of difficulties. Taking into consideration their psychological, social, emotional, cognitive, neurological, and physiological developmental aspects, children can only effectively start building a constructive and pragmatic resilience repertoire during middle childhood. There is also a prominent indication of a psychological wellbeing component being

embedded in internal protective factors. However, it is not yet classified as a stand-alone component fundamentally contributing to ER in middle childhood.

### **Recommendations on future work**

The findings from this systematic review indicate a need for further research in the field of developing ER in middle childhood. Research should attempt to standardize synonymously used terms in order to unify them under a specific umbrella classification, which will truly enable scientists to consolidate and utilize the wealth of scattered knowledge in the existing literature. The reviewers identified a need for a developmentally appropriate model of ER, encompassing multiple developmental facets during middle childhood. Such a model will greatly contribute to future scientific endeavors on this topic. Preventative interventions and programs, teaching middle childhood learners a comprehensive set of practical and age-appropriate skills are needed in an educational context. It is critical that ER is fostered during an age when cognitive, neurological, personal, emotional, behavioral, and autonomous motivational development is in an optimally susceptible phase to ensure positive youth development and growth. This will lay a solid biopsychosocial foundation for educationally resilient children in middle childhood. In addition, the development of emotionally intelligent and resilient children with a growth mindset will act as a pro-active measure in combatting mental disabilities around the globe, as these skills are proven to have a positive impact on the future success and flourishing of children.

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## **Chapter 3: Conclusion, limitations, future recommendations, research brief, and reflection**

### **Orientation to Chapter 3**

The final chapter of this mini-dissertation commences with the researcher's concluding discoveries derived from this study, followed by the acknowledgment of possible limitations, and concludes with recommendations for future research. Chapter 3 also presents a research brief highlighting the importance of pro-active positive psychological interventions (PPIs) to be applied in practice, as preventative measures to enhance educational resilience (ER) in middle childhood educational settings by qualified professionals. The researcher will finally conclude Chapter 3 with a reflection on her research journey and personal development brought about throughout this scientific endeavor.

### **Conclusion**

This systematic review (SR) included 10 studies referring to PPIs, across various disciplines, containing constituents with the possibility to enhance ER in middle childhood. Data derived from the SR was evaluated against Kümpfer's (1999) resilience model as adapted by Hassim (2016), and the organismic integration theory (OIT), a sub-theory of the self-determination theory (SDT), developed by Ryan and Deci (2000). In alignment with the aim of this study, science still seeks to understand why some children in middle childhood exhibit extreme measures of self-regulation and educational resilience, while others develop social, behavioral, emotional, and neurodevelopmental challenges, which have a negative impact on their academic achievement and optimal holistic development.

The above-mentioned challenges can be prevented through proper, pro-active and preventative intervention, without ignoring the role of possible genetic predisposition and other clinical, neurological, chemical or physiological factors that might contribute to the onset of mental conditions (Diener et al., 2017; Martin & Marsh, 2009; Masten, 2018). Literature showed that positive child development predicts beneficial outcomes in adulthood, irrespective

of among others their social and health status or educational level (Richards & Huppert, 2011). Throughout past decades some children managed to endure tremendous adversities, such as war, violence, crime, poverty, hunger, being orphaned, physical- and emotional abuse, and still managed to grow positively and constructively and ultimately change the outcome of their lives and the lives of many others (Bowes & Jaffee, 2013; Ungar, 2015).

An inspiring example of a resilient young lady is the inspirational Anne Frank, a victim of the Holocaust, during the 1930s and 1940s, who chose to remain positive. She displayed incredible resilience and perseverance as a young adolescent while experiencing extreme adversity. She constantly documented her life in her diary. This activity compares practically to some modern-day PPI activities, such as keeping a gratitude journal. In this SR and throughout literature it is clear that the formative years of people's lives can influence one's mental health significantly in a positive or negative manner, throughout their lifespan.

Mentally healthy and resilient children are continuously described as being able to master their environment using critical and creative thinking skills, while successfully developing their social and emotional intelligence skills through effective self-regulation (Belkin et al., 2017; Rutter, 2013). Increasing concern and awareness of the significance of mental health as a critical developmental component acted as a catalyst for global health stakeholders to initiate mental health policy and legislative initiatives in an attempt to manage rising mental health concerns, escalating exponentially year after year. A multitude of research findings support the fact that a sustainable increase in psychological wellbeing pilots the way to numerous consequential benefits related to psycho-social and emotional development, such as academic improvement, positive neurobiological enhancement, decreased anxiety, stress and depression, increased self-regulation, and a strengthened immune response. Paradoxically, adversities also have the potential to be an efficacious developmental tool, as they can act as a

catalyst for innovative and creative problem-solving while building resilience and maintaining a healthy growth mindset.

Internal and external strengths (also known as protective, promotive or resiliency factors) include among others factors such as good parenting, healthy biopsychosocial development, culture, environment, relational wellbeing, goal achievement, self-determination, healthy attachment, and self-regulation. Protective factors in resilient children originate in a combination of a strong interplay between internal, environmental and external resources. A resilient child's internal protective strengths include among others, internal locus of control, success and goal-orientated, clear objectives, optimism, high self-esteem, high regard for self and other's autonomy, being contemplative, having social competence, and effective problem-solving skills (Dray et al., 2017; Rutter, 2013; Stewart, Sun, Patterson, Lemerle, & Hardie, 2004). Children need to be taught from an early age that they are not merely bystanders in their lives or byproducts of external or environmental factors affecting their lives. The OIT plays an important role in cultivating resilient children. However, they need to master the skill of self-regulation first and understand that they are in fact interactive organisms, with the ability to manage the impact of environmental and external forces on their lives. The OIT and the mechanism at work behind it explain how an individual moves along the internalization continuum, and that this progression largely depends on the organism's (child or learner's) ability to self-regulate, in order to become an internally motivated, autonomously functioning individual. In addition to self-regulation, autonomous motivation is another facet found to be significant in fostering ER in learners and is an indicator of academic achievement and personal success.

Educational resilience, in turn, was found to be an intricately woven network composed of several ER-fostering constituents, such as physical, cognitive, emotional and psychological resilience. If these constituents beneficially contribute toward positive youth and educational

development, promoting educational resilience, then surely these aspects need to be incorporated in middle childhood education to ensure a fundamentally strong resilience repertoire. In the current school context, much attention is focused on the development of linguistic, mathematical, artistic, cultural, and athletic performance, which undoubtedly plays an integral part in social and emotional learning. However, the development of educational resilience as the integration of these complex sets of skills receives too little attention. The tendency described above might limit the possibility of optimal neurological, psycho-social, physical and emotional development of children, while simultaneously posing potential lifelong physical and psychological health concerns. It is evident that childhood adversities and traumatic experiences can lead to negative cognitive biases, inappropriate or false perceptions and destructive coping mechanisms (such as dissociative coping styles). The last mentioned could affect the individuals negatively across their lifespan and well into adulthood, when interventions and remedial approaches are far less effective, with significant unconstructive consequences for their families, society and the economy.

Based on the information above, the need to start developing social, emotional and psychological skills in children is undeniably crucial in ensuring that all children can develop to their highest potential, while creating an optimal environment and opportunities in which they can build a strong education resilience repertoire. The findings of this study are concurrent with previous studies concluding that social and emotional aspects fostering ER should be enhanced throughout middle childhood. From literature, it is clear that children are optimally susceptible to the cultivation of ER on a physiological-, cognitive-, neurological-, emotional- and psychological developmental level. Emotions are the primary driving force behind people's interpretations of their environment, thinking, feeling, behavior and motivation. Children cannot apply social and emotional intelligence aspects (such as self-awareness, self-regulation, social awareness, and social regulations) in order to apply positive cognitive

reframing, resulting in resilience and consequently educational resilience, when they do not exhibit the foundational resources to do so. The findings of this Master's study make a valuable contribution to the existing body of literature on middle childhood ER by combining scientific evidence from multiple disciplines on PPIs fostering ER in middle childhood.

### **Limitations of the study**

The reviewers continuously ensured throughout the research process that possible study limitations were kept to a minimum to ensure quality research. The SR was conducted within a specific scope as described in the pre-specified proposal included in Chapter 1. The researchers, however, acknowledge the following limitations:

- The reviewers sourced articles from six databases yielding the most viable articles available through EBSCOhost, which implied that databases that might also have contained valuable contributing articles could have been excluded.
- The reviewers spent a lot of time and effort on developing the search strategy to ensure that it included as many synonymous and interchangeably used keywords as possible. However, the possibility exists that not all synonyms were included in the final search strategy, which might have caused possible exclusion of studies containing such synonyms.
- PPIs that contribute towards ER cultivation in children (aged five to 12) are fragmented across various disciplines. Current interventions and programs making use of PP aspects in fostering ER in middle childhood are not always classified as a PPI per se, and not necessarily linked to the discipline of PP. This could have resulted in the probable exclusion of potentially viable sources.

### **Recommendations on future work**

Research opportunities in the field of the efficacy of PPIs during middle childhood are still ample. PPIs globally have proven to be a practical preventative approach resulting in a

multitude of psychosocial benefits, ultimately contributing to fostering ER. This study accentuates the need for adequately trained positive psychologists to assist current mental health care practitioners in enhancing psychosocial development and ER during middle childhood in educational contexts. The researchers further recommend that health governing bodies worldwide consider addressing the need for positive psychologists to assist in combating the escalating global mental illness challenges, through the early application of PPIs in middle childhood to ensure the fundamental development of mental toughness and resilience from as early as possible.

### **Research brief**

The aim of the research brief is primarily to accentuate the beneficial outcomes of the aforementioned structured interventions on learners' psychosocial development and consequently on ER.

## RESEARCH BRIEF

### Educational resilience:

#### A systematic review of positive psychology interventions in middle childhood

#### Educational Resilience (ER)

*A learner's ability to successfully regulate & manage internal, external, environmental & social factors, leading to resilience in an educational context.*  
(Masten, 2018)



*It is important to intervene pro-actively & implement early preventative measures to assist children in coping with adversities & have the opportunity to holistically develop to their fullest potential.*

- ER positively correlates with academic achievement, personal success & accomplishment (regardless of interference of external risk factors & adversities).
- ER is a fascinating, intricate & multifaceted network of skills & resources, in constant interplay with one another and applied during a myriad of situational, cognitive, psychological & emotional processes.
- ER is never a stagnant state or merely an outcome.
- ER is a dynamic ever-evolving process developing across an individual's lifespan.

Exposure to stress & adversity provide prospects for growth & development throughout middle childhood & contributes to fostering fundamental ER enhancing skills (e.g. environmental mastery, effective decision making, innovative & creative problem solving & self-regulation).

#### Aim

This study aimed to explore & identify existing positive psychology interventions (PPI's), contributing to ER in middle childhood. The findings of included studies were evaluated against the backdrop of Kümpfer's (1999) resilience model, as adapted by Hassim (2016), together with the organismic integration theory (OIT), a sub-theory of the self-determination theory (SDT), developed by Ryan & Deci (2000).

#### Rationale

Literature on PPI's fostering or enhancing ER in middle childhood is fragmented across various disciplines for e.g. psychology, neurology, education & social work, with limited links to positive psychology (PP). The reviewers could not allocate a single source consolidating the findings of such studies & thus set out to fill this existing gap.

#### Why incorporate PPI's in middle childhood to enhance ER?

Positive mental health has become increasingly significant since mental illness became the leading cause of disability around the world. This necessitates earlier pro-active interventions to promote positive mental health & minimize the possibility of mental disease. Building the necessary psychosocial, emotional & resilience skills has proven to significantly reduce depression & increase psychosocial wellbeing, especially when developed during middle childhood.

#### Methodology

A rigorous 10 step methodology was applied by two independent researchers, in accordance with an ethically approved research proposal. From an initial 803 electronic sources found, 10 articles were selected after risk of bias evaluation, matching the pre-determined inclusion & exclusion criteria of this study.



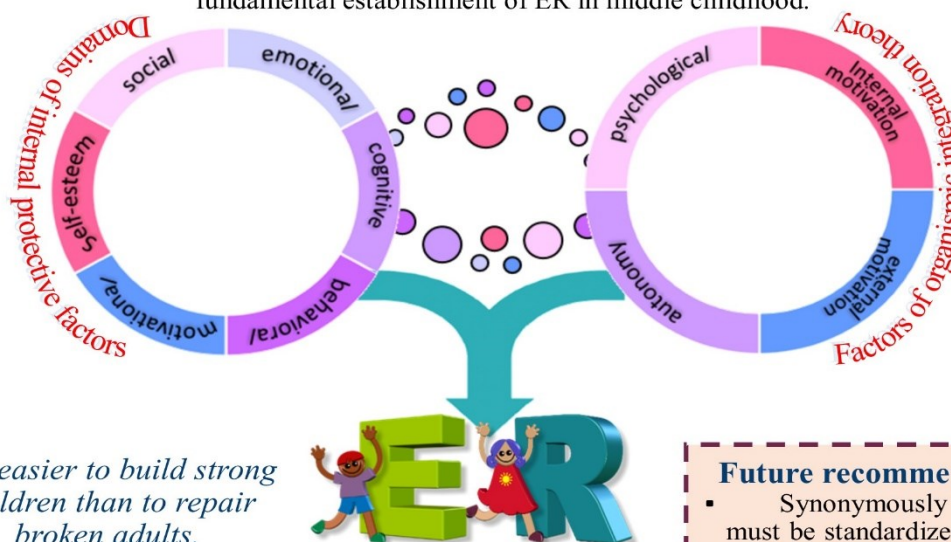
Adèle Botha, Karlien Smit,

Tasleem Sayed & Lizanlé v. Biljon

\*AUTHeR - 31 May 2019

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The model below illustrates how learners' internal protective factors interrelate with positive psychological attributes, such as self-regulation, autonomy & motivation, operating as intertwined internal mechanisms. When the interplay between these attributes are mastered, it may lead to the fundamental establishment of ER in middle childhood.



*It is easier to build strong children than to repair broken adults.*

~ Frederick Douglass ~

### Main findings

- Middle childhood is the perfect age to foster positive cognitive, emotional, behavioral, social, motivational, self-esteem & psychological skills, resulting in a fortified repertoire of internal protective factors that can be deployed to withstand, cope, positively adapt & grow from adversities.
- Learners must constantly apply various self-regulatory skills to navigate through the difficulties of life, while learning to manage & develop the self optimally in the midst of external & environmental factors, often threatening to disturb their stability & harmony.
- Learners primarily need to master the skill of self-regulation & understand that they are interactive organisms, with the ability to manage the impact from environmental & external forces on their lives.
- Learners need controlled exposure to manageable risks, adversities & stressors in an optimal, supportive environment, providing the necessary resources, skills & opportunities to master the art of effective regulation & positive adaptation during adversities.
- Social & emotional intelligence including all its sub-components (self-regulation, self-awareness, social awareness & social regulation) strongly link to intrinsically motivated & autonomous behaviour, as described by the OIT, which are indicators of academic achievement & personal success.
- Existing models & theories can not merely be adapted & applied in an attempt to address & explain the fostering of ER in middle childhood.

### Future recommendations

- Synonymously used terms must be standardized & unified under a specific umbrella classification.
- A need exists for a developmentally appropriate model of ER, encompassing the multiple developmental facets occurring in middle childhood.
- Preventative interventions & programs, teaching middle childhood learners a comprehensive set of practical & age-appropriate skills, are needed in educational contexts.
- It is critical to foster ER in middle childhood when cognitive, neurological, personal, emotional, behavioural & autonomous motivational development is at an optimally susceptible phase, ensuring a solid biopsychosocial foundation for educationally resilient learners.
- The development of emotionally intelligent & resilient children with growth mind-sets will act as a pro-active measure in combatting mental disabilities around the globe, as these skills are proven to positively impact on the future success & thriving of children.

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## Reflection

I now understand the use of a loaded 4x4 vehicle, rigged with camping gear, on the cover of the 2017 edition of Boland et al.'s book and their choice of comparing the decision to conduct a systematic review to embarking on an outback journey. Little did I realize at the time that my own systematic review on educational resilience in middle childhood would turn out more like participating in the Dakar rally, racing through dangerous unknown territories in rugged, uncharted and challenging terrains, equipped with only an outdated GPS and a long-distance fuel tank. My Positive Psychology (PP) journey started with a presentation I attended at the organization where I was employed, by a previous MAPP student. I have always firmly believed that there must be a way to assist people in navigating through the acute everyday challenges in the absence of chronic clinical and/or pathologically diagnosable aspects.

My first challenge arose from the fact that I was conditioned to jump to quick, pragmatic solutions and conclusions to solve problems as soon as possible, resulting in the highest efficacy, which suited the hasty corporate environment in which I had spent the past decade. There was little time for research, reading and examining all possible avenues before a decision had to be implemented, and decisions always had a predisposition for company-advancing cognitive biases. I soon learned that the academic and corporate realms operate on completely different levels. I have learned a lot from the PP assignments, which benefitted me both personally and professionally. My values in action (VIA) character strengths profile revealed that the process of scientific research actually suited my personality, as my top five strengths were identified to be judgment, perseverance, bravery, spirituality, and gratitude. In my opinion, this was the best combination anyone could ever wish for especially during my tough, somewhat unconventional journey throughout the process of completing every requirement to obtain this Master's degree. It was really difficult for me to convey the concepts and connections already perfectly formulated in my head. For some reason, I just could not speak

my mind in an academically and scientifically comprehensible manner. I struggled excessively just to start working on a project like everyone else. I literally had to run through the myriad outcome possibilities of every step mentally and continuously tried to predict the incorporation of each aspect by analyzing the process from the possible end to the beginning and vice versa. The challenges experienced throughout this process were very real and tortured me on a daily basis. Luckily I was teamed up with a study leader who understood me and taught me to become proficient in academic writing and the rigorous process of conducting a systematic review.

My fire became non-existent as I found myself sitting alone on what felt like a God-abandoned plain filled with the nothingness of failure and despair. Those times made me doubt my intellectual, emotional, physical, psychological, social and spiritual abilities, capabilities and resources, which forced me to become aware of, regulate and constructively adjust these components in my life throughout the process.

I realized “something” is causing a stumbling block in the completion of my degree. I decided to make an appointment with an expert who not only ended up assuring me that I was more than capable of completing this degree but also diagnosed me with a severe form of adult ADHD. Needless to say, with a small chemical intervention, a lot started to make sense. Shortly thereafter I realized I was actually applying the knowledge gained from my extensive reading and research in the field of resilience, subconsciously building my own fundamentally robust resilience repertoire. With this enlightenment, I entered a new phase of development. I now became an actively engaged, and developed the ability to self-regulate my emotions, thoughts, and actions from a place of internal motivation. The fire of God-given life purpose and meaning which was my primary initial driving force was re-ignited. This fueled my perseverance and resilience to keep moving forward, without giving up, and complete my journey.

Reflecting on the entire research process, I am extremely grateful for what I have learned. I have grown and developed tremendously and constructively in numerous scientific aspects. I am now able to make sense of large amounts of literature and for the first time in my life I am able to scientifically select, process, analyze, integrate, find, discuss and come to conclusions on scientific matters, by applying the systematic review process. On a personal note, I found a way to adapt my ADHD thought processes to ensure continuous quality and mentally note the strengths and limitations throughout these processes. I am proud to conclude that even though this process was one of the toughest mental and physical journeys I have ever had the privilege of embarking on, it was worth every step. I will forever be grateful!

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## Addenda

### Addendum A: Approved ethics health ethics application



NORTH-WEST UNIVERSITY  
YUNIBESITI YA BOKONE-BOPHIRIMA  
NOORDWES-UNIVERSITEIT

Faculty of Health Sciences Ethics Office for Research, Training, and Support

[health-sciences.nwu.ac.za/healthethics](http://health-sciences.nwu.ac.za/healthethics)

HREC Health Research Ethics Committee (REC-130913-037)

Ethics Application Form for a Systematic Review

HREC 01-03a, version Nov 2016

**CONFIDENTIAL!** This document contains confidential information that is intended exclusively for the applicant(s), the Health Research Ethics Committee (HREC) of the Faculty of Health Sciences of the North-West University and the designated reviewers. Should this document or parts thereof come into your possession in error, you are requested to return it to the HREC without delay or destroy it. Unauthorised possession, reading, studying, copying or distribution of this material, or any other form of abuse, is illegal and punishable.

NWU Ethics Number:  
(issued upon 1<sup>st</sup> submission)

NWU-00111-18-S1

#### Instructions and recommended path for the completion of your application:

- 1 The research proposal forms the base document that is evaluated in conjunction with this application form. This application form gives the researcher the opportunity to expand on specific ethical issues required for approval.
- 2 All applicants complete.
- 3 Ensure that a proposal that has been approved by an appropriate Scientific/Research Proposal Committee is attached to the application form as well as proof of its approval according to the standardised template.
- 4 Also attach an executive summary of the study.
- 5 Attach a 2-page narrative CV for each of the researchers involved in the study.
- 6 Liaise with the appropriate officials and colleagues mentioned. Complete and sign a printed copy.
- 7 Submit the scanned copies of the signed pages.
- 8 Include copies of proof of ethics training for all researchers involved in the study (not older than three years).
- 9 Submit the completed Ethics Application Form (with the attached documentation) via e-mail to [Ethics-HRECApply@nwu.ac.za](mailto:Ethics-HRECApply@nwu.ac.za).
- 10 All applicants must please ensure that all required finalised documents as indicated above are included with the application. **No additional attachments or version correction(s) will be accepted.** If this does occur and the application was incomplete then it will have to be resubmitted with all of the documents attached which could mean that the application may not be considered for the applicable meeting date.

NWU Ethics Number NWU-00111-18-S1			
<b>Campus:</b>	NWU Potchefstroom	<b>Faculty:</b>	Health Sciences
<b>Principle Investigator/Study Leader:</b>	Ms Karlien Smit	<b>Research entity:</b>	AUTHeR
<b>Study Title:</b>	Educational resilience: A systematic review of positive psychology interventions in middle childhood		

## 1 SECTION 1: STUDY IDENTIFICATION

Provide the necessary descriptions below to identify this study application:

### 1.1 Full, descriptive title of the study

Educational resilience: A systematic review of positive psychology interventions in middle childhood

### 1.2 Name of the Study Leader/Primary investigator **NB! Not the student's name**

Ms Karlien Smit

### 1.3 Name of the Student (if applicable)

Adèle Botha

### 1.4 Student number

11986417

### 1.5 Research entity e.g. AUTHeR

AUTHeR

### 1.6 Discipline e.g. Consumer sciences

Positive Psychology

### 1.7 Envisaged commencement and completion date of the study

*More information: Here you can indicate the expected commencement and ending dates of the study, which may be anything from a day to a few years. The full expected duration of the study must be filled in below. Even if the expected duration of the study is uncertain, you can still make an estimate here and report the progress with the annual report. Ensure that the commencement date is at least a few weeks after the date of the HREC meeting at which your application is to be reviewed. The HREC will only grant ethics approval for a one year period. If the study should take longer, a monitoring report requesting permission for continuation must be submitted to the HREC two months before the expiry of the study.*

Commencement Date	Completion Date
2015/01/01	2019/05/23

## SECTION 2: STUDY CLASSIFICATION

Complete every option of all the questions in this section. This section is used to classify your study and select suitable reviewers.

### 2.1 Name of Ethics Committee handling application

North-west University Health Research Ethics Committee

### 2.2 Dates of applications

Fill in below the date of the first submission and revised submission (*if applicable*) of this ethics application

Date of the first application	Date of revised application ( <i>if applicable</i> )
2018/09/25	N/A

### 2.3 Version number

Fill in the number of times this application has been submitted.

Version	1
---------	---

### 2.4 Estimated risk level

Please indicate the estimated risk level of the application for the community in general by using the risk level table indicated.

Estimated risk level of the results for the community in general	
No risk	<input type="checkbox"/>
Minimal risk	<input checked="" type="checkbox"/>
Medium risk	<input type="checkbox"/>

### 2.5 Context of the Study

Mark ALL options as “Yes” or “No” with X in the appropriate box – more than one option may be “Yes”.

Description	Yes	No	
Scientific Research	Study falls within a research entity	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Study falls outside a research entity	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Study includes postgraduate students (e.g. masters or doctorate)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Study includes contract work	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### 2.6 For this study, the following persons will be included in the study team:

Fill in the number concerned with ALL options. Ensure that the participant numbers in this table correspond with the individuals indicated in all relevant sections.

#### *More information*

*The study leader is generally viewed as the individual who takes the final responsibility for all aspects of the study e.g. study leader or principal investigator. The study supervisor is generally the individual responsible for the day-to-day research management of the study.*

Description		Number	
		Local	Foreign
Only for research studies	Study Leader (e.g. study leader/principle investigator)	2	1
	Co-workers (researchers of the North-West University)	0	0
	Co-workers (researchers outside the North-West University)	0	0
	Co-workers (postgraduate students of the North-West University)	0	0
	Assistants	0	0

Other members of the study team not mentioned above (specify)

Please note that we indicated that there is one foreign study leader. This study leader is Dr Lizanle van Biljon. She was employed at the NWU upon commencement of this study. She received an offer of employment in New Zealand and emigrated to NZ a month ago. We agreed that she will remain a co-study leader of this study, as she is still involved in NWU projects pertaining to post-graduate studies

I hereby declare that the above information in “Section 2: Study Classification” is complete and correct and that I did not withhold any information.

Yes	No
<input checked="" type="checkbox"/>	<input type="checkbox"/>

### 3 SECTION 3: DETAIL OF STUDY LEADER/PRINCIPAL INVESTIGATOR AND CO-WORKERS

#### 3.1 Details of Study Leader/Principle investigator

Name and details of the Study Leader/Principal Investigator.

*More information*

**NB!** Only NWU staff, or extraordinary professors in collaboration with staff of the North-West University, may register as Study Leaders. The “Study Leader” accepts the final, overall responsibility for the total study.

Surname	Full Names	Title
Smit	Karlien	Ms

NWU Campus	Faculty	Research entity/School
Potchefstroom	Health Sciences	AUTHeR

Position	University No.	Professional Registration (body & category)
Lecturer	12782475	N/A

Telephone			NWU-box or Postal Address
Work	Home	Cell	
018 299 2090	N/A	082 590 1225	500

**E-mail Address**

[Karlien.Smit@nwu.ac.za](mailto:Karlien.Smit@nwu.ac.za)

[PLEASE ATTACH THE TWO-PAGE NARRATIVE CV OF THE STUDY LEADER]

*More information*

**NB!** A 2-page CV in a narrative format, giving a brief overview of:

- a researcher’s qualifications
- career path to date
- specific research experience applicable to the present study (e.g. methodology or skills required)
- supervisory experience
- publication list (for the past 4 years)

### 3.2 Other Members of the Study Team

Names, qualifications, professional registration, and functions of all the other co-workers (researchers, postgraduate students in the case of a research study and assistants who form part of the study team) should be indicated. The information given in this table should correspond with the number of team members given in all relevant Sections (Add extra rows to the table if required.).

Name	Qualifications	Professional Registration	Association and/or Function
Dr Lizanle van Biljon	<ul style="list-style-type: none"> <li>PhD Psychology</li> </ul>	HPCSA Registration Number: PS 0115266	Co-study leader
Mrs Tasleem Sayed	<ul style="list-style-type: none"> <li>MA Positive Psychology</li> </ul>	N/A	Co-study leader
Adéle Botha	<ul style="list-style-type: none"> <li>Hons Kinderkinetics</li> <li>Hons Psychology</li> </ul>	N/A	Student

(Type one name per row, or type “none” if there is no other team member)

[PLEASE ATTACH A TWO-PAGE NARRATIVE CV FOR ALL THE MENTIONED RESEARCH TEAM MEMBERS IN THIS SECTION]

#### *More information*

***NB!*** A 2-page CV in a narrative format, giving a brief overview of:

- a researcher’s qualifications
- career path to date
- specific research experience applicable to the present study (e.g. methodology or skills required)
- supervisory experience
- publication list (for the past 4 years)

### 3.3 Conflict of Interests

Declare with full details any conflict of interests that any member of the study team might have.

#### *More information*

*Examples: financial, non-financial: intellectual, bias, overly optimistic promises of potential benefits, the role of the researcher/s, the desire of professional advancement, desire to make a scientific breakthrough, relationship with participants.*

Name of Researcher	Complete description of the conflict and how it will be managed
N/A	N/A

Note: Type one name per row, or type “Not applicable” if there is no member of the study team or professional supervisor with a conflict of interest. Add extra rows to the table, if required.

### 3.4 Collaborations (if applicable)

Declare with full details all collaboration agreements, e.g. with researchers or lecturers from another institution, national or international, who will be working on a defined section of the study.

*More information*

*Your local team may collaborate with a team from a different national institution in South Africa or internationally, and thereby incorporate and benefit from their expertise and/or facilities. Typically, in such cases, functions and responsibilities differ for certain parts of the study. These functions and responsibilities must be fully described.*

Name of Collaborator	National/International (Indicate which)	Full Description of functions and responsibilities
N/A	N/A	N/A

Note: Type one name per row, or type “Not applicable” if there are no contractors. Add extra rows to the table, if required.

## 4 SECTION 4: RESEARCH PROPOSAL AND SCIENTIFIC COMMITTEE APPROVAL

### 4.1 Research proposal

#### 4.1.1 Executive summary of the study

Provide an executive summary (150 words max) of the study in the following format:

1. brief problem statement (approx. 3 sentences)
2. aims and objectives of the study
3. study design and method.

**Title: Educational resilience: A systematic review of positive psychology interventions in middle childhood.**

**Problem statement:** Mental illness is currently the leading cause of disability worldwide, which necessitates the promotion of positive mental health, and the prevention of mental disease. Teaching the necessary social, emotional, acceptance, and resilience building skills to children, has proven to lead to a significant reduction in depression rates, and an increased sense of wellbeing. Positive youth development can be promoted through continuous education and support during early and middle childhood. A gap in current research was identified, since no literature exists that combines the findings from various studies across multiple disciplines, with an explicit focus on PPIs, enhancing educational resilience in middle childhood.

**The aim of the study:** The aim of this study is to explore and identify PPIs that contribute towards fostering educational resilience in middle childhood.

**Study design and method:** A systematic review will be conducted, through integrative synthesis, using a deductive approach.

#### 4.1.2 Proposal

Note: For each study, a descriptive proposal has to be submitted and is used as the main document for evaluation. The proposal should reflect the ethics of the research throughout. Attach a proposal approved by the Scientific/Proposal Committee of your research entity.

[ATTACH THE RESEARCH PROPOSAL]

#### 4.1.3 Scientific/Proposal Committee approval

Has this study been evaluated and approved by a Scientific/Proposal Committee? If “Yes”, provide details. If “No”, provide a reason. (Please mark with X in the relevant block and provide details if “Yes”)

*More information*

*The proposal needs to be approved by a Scientific/Proposal Committee before it will be reviewed by the HREC. The HREC relies on the expertise of a Scientific/Proposal committee regarding the evaluation of the scientific merit and design of the study.*

Yes	Details	
<input checked="" type="checkbox"/>	Name of formal Scientific/Proposal Committee:	AUTHeR Scientific Committee
	Title, initials, and surname of all the members of the Scientific/Proposal Committee present during the review.	Prof L. Kruger Prof D v.d. Merwe Dr N. Claasen
	Date of approval:	21 September 2018
No	Reason: <a href="#">Click here to enter text.</a>	
<input type="checkbox"/>		

#### 4.1.4 Letter confirming approval of the protocol

The HREC has to have proof of confirmation of approval by the Scientific/Proposal Committee.

[ATTACH CONFIRMATION OF APPROVAL OF THE STUDY PROPOSAL BY THE SCIENTIFIC/PROPOSAL COMMITTEE ON THE MANDATED TEMPLATE.]

Remember to save your document regularly as you complete it!

## 5 SECTION 5: ADDITIONALLY REQUIRED INFORMATION ABOUT ETHICAL IMPLICATIONS OF THE SYSTEMATIC REVIEW NOT PROVIDED IN THE PROPOSAL

Note: The information contained in this part is *additional* to what is contained in the proposal.

### 5.1 Please describe the study characteristics according to the PICOS (participants, interventions, comparisons, outcomes and study design) assessment:

*More information*

*The PICOS assessment highlights the core strategy and purpose of the systematic review to be undertaken by defining exactly the parameters to be followed. The “participants” aspect indicates the study populations that will be investigated i.e. which population groups will be included in the analysis? The “intervention” aspect highlights the specific therapeutic strategy that is being investigated e.g. a new medication or psychological intervention. The “comparisons” aspect defines the alternative therapeutic strategy that the intervention is being compared to, in order to determine if the intervention has greater efficacy e.g. the current standard of care or a placebo. The “outcomes” aspect refers to the actual variable that is being measured in the analysis to determine the efficacy of the intervention e.g. weight loss over time or reduced cholesterol levels. The “study design” aspect highlights the types of studies that are to be included in the systematic review e.g. randomised control trials or*

*epidemiological studies. For each aspect that is indicated in the table, please give an explanation for the choice of the specific aspect e.g. the black South African population is being investigated due to the increased probability of side-effects and non-efficacy of standard pharmaceutical agents in the treatment of hypertension in this population.*

Aspect	Decision	Explanation		
Participants	The participants involved in this study will be children of middle childhood between the ages of 5-12 years.	Please refer to the research proposal to Table 2 where the criteria for inclusion according to the SPICE acronym is provided. Find below the Table in smaller text.		
		<b>S (Setting)</b>	What is the context for the question? The research evidence should reflect the context - the research findings may not be transferable.	The setting will include <b>any context</b> in which interventions towards fostering educational resilience in <b>middle childhood</b> is conducted.
		<b>P (Perspective)</b>	Who are the users, potential participants, or stakeholders of the service?	The participants involved in this study will be <b>children of middle childhood</b> between the ages of 5-12 years.
		<b>I (Intervention)</b>	What is presented to participants, potential participants, or stakeholders?	Articles that will be included in this research review will be <b>interrelated to educational resilience correlating with PPIs.</b>
		<b>C (Comparator)</b>	Do alternatives exist, which might uphold the status quo and change nothing?	<b>None</b>

		<p><b>E (Evaluation)</b></p>	<p>What measurement will determine the intervention's success? In other words, what is the result?</p>	<p>The objectives of this study are to explore and identify:</p> <ul style="list-style-type: none"> <li>▪ Interventions, that contribute toward fostering educational resilience in middle childhood.</li> <li>▪ Each intervention will then be evaluated based on the framework of Kümpfer's model of resilience and the self-determination sub-theory of organismic integration (OIT) to identify elements of PPIs.</li> </ul>
Interventions	Articles that will be included in this research review will be interrelated to educational resilience correlating with PPIs.	Click here to enter text.		
Comparisons	N/A	Click here to enter text.		
Outcomes	The objectives of this study are to explore and identify: Interventions, that contribute toward fostering educational resilience in middle childhood. Each intervention will then be evaluated based on the framework of Kümpfer's model of resilience and the self-determination sub-theory of organismic integration (OIT) to identify elements of PPIs.	Click here to enter text.		
Study design	We will not limit for specific designs			

## 5.2 Rationale for the specific methodology of the review

A definite gap was identified since no current literature exists that combines the findings from various studies across multiple disciplines, with an explicit focus on PPIs, enhancing educational resilience in middle childhood. For the purpose of this study, the reviewers will conduct a systematic review of literature, to explore the various, existing PPIs, which can be associated with cultivating and fostering educational resilience in middle childhood. A systematic literature review will enable the reviewers to provide clear, concise, and consolidated evidence of available literature, currently fragmented, across multiple disciplines, which will consequently contribute towards future research in this field of study. The evaluation and assessment of eligible studies will be performed against a conative backdrop, using Kümpfer's (1999) resilience model as adapted by Hassim (2016), together with the organismic integration sub-theory of self-determination (Ryan and Deci, 2000). Through the consolidation and evaluation of existing empirical evidence, from various fields of disciplines, for this specific developmental stage, the study findings will contribute towards building the multidisciplinary knowledge foundation of cultivating and developing educational resilience in middle childhood. This study can serve as an important advancement in research, especially pertaining to positive development and educational realms.

As applicable to your study, with reference to available alternatives (if applicable), motivate your choice of the specific systematic review procedures/techniques/methods/approaches being undertaken to achieve your study's aims.

*More information: It must be clear to the evaluators that you have chosen a meaningful/best study design to achieve your study aims. Particularly where alternative review procedures/techniques/methods/approaches exist to what you used in the study, it is important to motivate your alternative choice.*

## 5.3 Search strategy

Please indicate the reasoning behind the specific search strategy being implemented with specific reference to the:

1. databases to be investigated,
2. motivation for the databases being used,
3. time period being investigated,
4. languages to be investigated,
5. specific search string to be used and
6. curation strategy to be implemented i.e. the manner in which objectivity will be ensured during the search phase.

### **Databases to be investigated**

The reviewers propose the inclusion of the following databases, relevant to this systematic review: PsycArticles, PsycINFO, Medline, and ERIC (Education Resource Information Centre), Teacher References Centre and Academic search premier, which will be accessed through EBSCOhost.

### **Motivation for including these databases**

The reviewers conducted preliminary scoping literature searches, utilizing the applicable databases, available on the NWU library's website. In accordance with the primary research

outcome, the aforementioned databases delivered articles of significance, and are therefore proposed for inclusion in the systematic review.

### **Time period being investigated**

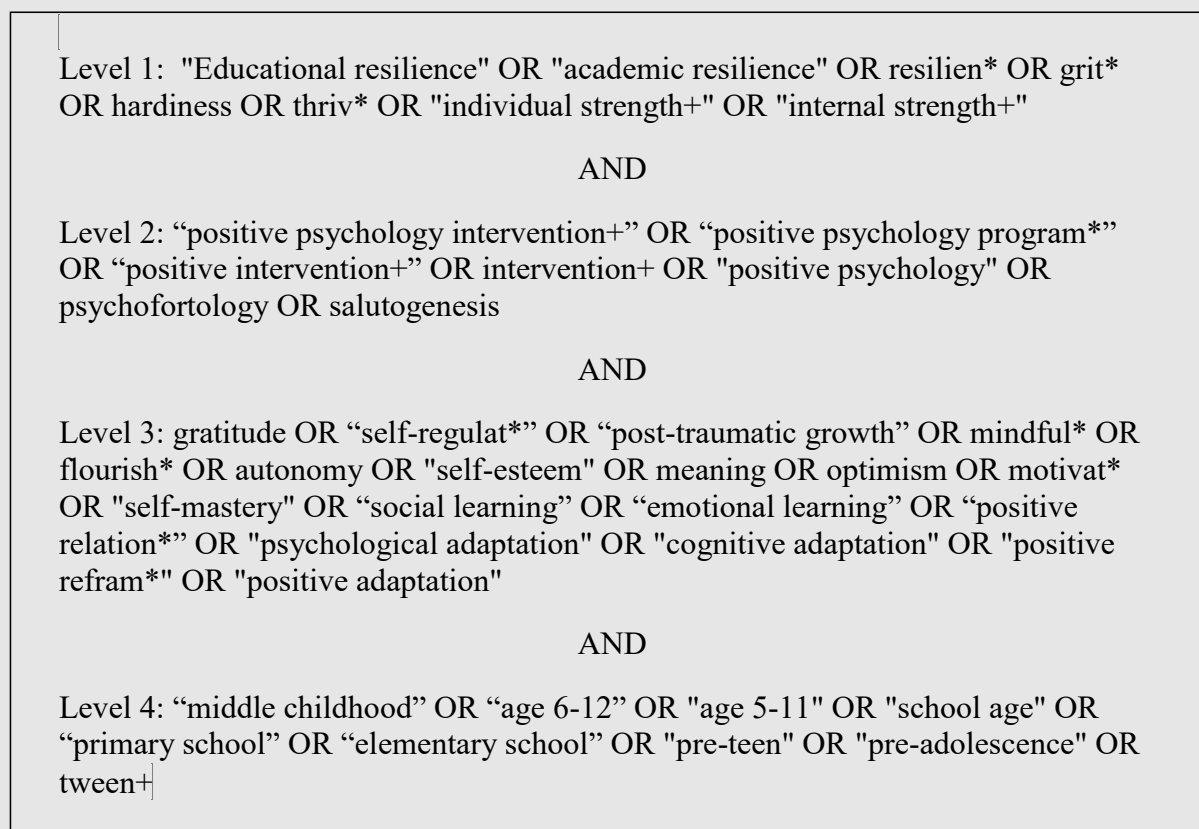
Articles published between 1998, since the official inception of PP in the scientific research realm, and 31 August 2018 (the researchers have decided unanimously on 31 August 2018 for the purpose of reaching consensus on a specific date, in order to start conducting preliminary searches).

### **Languages to be investigated**

No language limiters will be applied, in order to include as many studies as possible.

### **Specific search string to be used**

The effectiveness of the search will be enhanced, by applying both MeSH- and key terms where applicable. The preliminary developed search strategy is provided in Figure 2 below:



*Figure 2.* Search strategy

### **Curation strategy**

In order to ensure the establishment of inter-rater reliability, at least two reviewers will conduct the entire systematic review process independently (Uman, 2011). The independent reviewers will sort through the reference lists of eligible studies, included in the review to in order to identify relevant articles that might have been overlooked in the initial electronic searches. Cochrane (refer to Addendum F) reviews on educational resilience (if any) and PPIs in middle childhood will be screened and evaluated for eligible primary studies.

### Criteria for article selection

Describe in full which inclusion and exclusion criteria will be used to select the manuscripts to be included in the systematic review and motivate (justification).

#### *More information*

*Include also criteria for evaluating that the research undertaken in the manuscripts being chosen for review was ethical e.g. indication of ethics committee review, obtaining written informed consent, etc.*

<b>Inclusion criteria</b>	<b>Justification</b>
<ul style="list-style-type: none"> <li>- All studies exploring educational or academic resilience.</li> <li>- Studies that investigate PPIs, without specific limitation to context.</li> <li>- Studies that include middle childhood participants, between the ages of 5 and 12 years.</li> <li>- Articles published between 1998 and 31 August 2018.</li> </ul>	<ul style="list-style-type: none"> <li>- The main focus of the study</li> <li>- The reason for this inclusion of limitless contextual parameters is to ensure that PPIs in non-educational settings, such as after-school programs, holiday programs, etc., can also be included.</li> <li>- Focus group/participants</li> <li>- 1998 marks the official inception of PP in the scientific research realm</li> </ul>
<b>Exclusion criteria</b>	<b>Justification</b>
<ul style="list-style-type: none"> <li>▪ Studies that include high-school students, university students, and pre-school children (ages 0 – 4).</li> <li>▪ All articles preceding the year 1998 will be excluded from this systematic review.</li> <li>▪ Studies that include children with clinical, mental, or developmental impairments.</li> <li>▪ No language limiters will be applied.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Excluded due to the various discrepancies in biopsychosocial developmental phases.</li> <li>▪ PP as a scientific field only entered the research arena in 1998.</li> <li>▪ Due to the clinical framework that falls outside of PP's scope of practice.</li> <li>▪ To ensure inclusion of all possible articles regardless of language.</li> </ul>

### 5.5 Risk of bias and trustworthiness

Please explain the procedures that will be implemented in order to ensure that bias is limited in the process of the systematic review and that the articles and information sources being used for the review will be trustworthy. If a meta-analysis or meta-synthesis is being performed, please indicate the summary measures that will be used to evaluate inter-study bias.

The reviewers working independently will evaluate the methodological quality of included studies and determine possible risks of biases (high/low/unclear) using the Cochrane Collaboration's risk of biases (refer to Addendum F) tool, adapted by Hassim (2016). The validity, reliability, and trustworthiness of the data will be ensured by the reviewers following the rigorous methodological steps of the systematic review, in strict accordance with the attached scientific research proposal based on predetermined and replicable methods (Dray et al., 2017; Tol et al., 2013). In order to ensure the establishment of inter-rater reliability, at least two reviewers will. The combined expertise of the supervisor and co-supervisors will also

contribute to the validity, reliability, and trustworthiness of the review. Co-study leader, Mrs. Tasleem Sayed, was identified as the second reviewer for the systematic review process to ensure inter-rater reliability (Uman, 2011) with the student. The two reviewers will conduct the entire systematic review process independently (Uman, 2011). Ms Karlien Smit (supervisor) will act as the third reviewer, dissolving all discrepancies between the first two reviewers (Uman, 2011). The scientific research proposal was approved by a small panel of experts in PP as well.

## 5.6 Benefits for participants

Describe the potential *indirect* benefits that the study holds for the society at large or for the researchers and the organisations/institutions they are working for, through the knowledge gained.

### **Indirect benefits** for society at large or for the researchers/institution

Research on resilience has not only infiltrated the field of psychology (Masten, 2001; Masten & Cicchetti, 2016; Tol, Song, & Jordans, 2013), but expanded across multidisciplinary boundaries, influencing several research fields including education (Adler, 2017; Fletcher & Sarkar, 2013; Pan & Yi, 2011; Shellman & Hill, 2017). The success of PPIs in promoting resilience in children is clear in literature, however, research that combines the findings with an explicit focus on PPIs, enhancing educational resilience in middle childhood, drawing from various disciplines, and specifically promoting autonomy through effective and successful management of stressors, is needed (Greenberg et al., 2003; Jennings et al., 2013). This is the main driving force behind conducting this systematic review. The findings of this review will benefit the larger scientific community and hopefully, enable them with the necessary building blocks to initiate a program for enhancing educational resilience in middle childhood. The findings of this review will be sent for possible publication in an applicable academic journal. The 27-item PRISMA checklist will be used as a guideline to draft the systematic review article (Moher et al., 2009.)

## 5.7 Synthesis of results

Discuss the process by which the results will be determined from this analysis by highlighting the reasons for the use of the methodology indicated e.g. the use of a data synthesis table. If a meta-analysis or meta-synthesis is being performed, please indicate and justify the statistical procedures that will be implemented as well as the software to be used.

This systematic review of the literature will not include a meta-analysis or a meta-synthesis. Thematic synthesis of the included studies will be performed against a conative backdrop, using Kümpfer's (1999) resilience model as adapted by Hassim (2016), together with the organismic integration sub-theory of self-determination (Ryan and Deci, 2000). Through the consolidation and evaluation of existing empirical evidence, from various fields of disciplines, for this specific developmental stage, the study findings will contribute towards building the multidisciplinary knowledge foundation of cultivating and developing educational resilience in middle childhood.

## 5.8 Expertise, skills, and legal competencies

What expertise is needed to implement the systematic review? Do the study leader/researcher(s)/assistants/fieldworkers have at their disposal the necessary expertise to implement the techniques concerned? If not and as applicable, explain how the necessary training will be provided before the study commences.

<b>Study leader</b>	<b>Researchers/Assistants/Fieldworkers</b>
Karlien Smit (the supervisor) has been trained internationally in 2013 in evidence-based nutrition (ICEN) at the Institute of Tropical Medicine, Antwerp, Belgium – training in conducting a systematic review of literature and meta-analysis. (Addendum G for applicable narrative CV's in the proposal)	The secondary reviewer of this systematic review (Tasleem Sayed: co-supervisor completed a systematic review for her Master's study in Positive Psychology in 2016 and was thoroughly trained by Karlien Smit (acting as her supervisor).
	Dr Lizanle van Biljon (co-supervisor) holds a PhD in Clinical Psychology and has supervised other students in the field of PP. The student will be trained by the Supervisor and co-supervisor to master the systematic review methodology. (Addendum G for applicable narrative CV's in the proposal)

### 5.9 Monitoring of research

Describe how you as the researcher will monitor both the implementation and the progress of the research, compliance with the approved protocol, the management of ethics throughout the research process, as well as the need for amendments during the execution of the research study.

The student will receive training from the supervisor and co-supervisor before commencing with this study and guidance through the entire review process to monitor that the rigorous methodology of the systematic review is performed correctly. Regular mentoring, supervision and feedback discussions will be conducted between the supervisors, co-supervisors and the student. 6 monthly progress reports will be completed and the HREC annual monitoring reports will be completed.

## 6 SECTION 6: OTHER RESEARCH ETHICS EVALUATIONS

### 6.1 Evaluation by other Research Ethics Committees

Please complete this section if this study has been or will be reviewed by any other research ethics committees, for example with multi-institutional studies. Provide information about all research ethics committees involved in the evaluation and approval of this study.

<b>Name of Research Ethics Committee</b>	<b>Date of Approval / In process</b>	<b>Contact number or e-mail address of the research ethics committee</b>	<b>Approval no.</b>
N/A	N/A	N/A	N/A

## 7 SECTION 7: DECLARATIONS

Applications and declaration are filled in and signed by:

Sec 7a: Study Leader

Sec 7b: Research Director

The pages with declarations and signatures must be uploaded with this form.

[PLEASE UPLOAD ALL SIGNED DECLARATIONS]

## Health Research Ethics Application

<b>Study Leader</b> (Title, Initials, and Surname)	<b>Study Title</b>
Ms K Smit	Educational resilience: A systematic review of Positive Psychology Interventions in middle childhood.


<b>NWU Ethics Number</b>
NWU-00111-18-S1

### 7.1 Sec 7a: Study Leader

#### Application and Declarations by Study Leader

I, the undersigned, hereby apply for approval of the research study as described in the preceding proposal and declare that:

- 7.1.1 The information in this application is, to the best of my knowledge, correct and that no ethical codes will be violated with the study;
- 7.1.2 I will make sure that the study is managed ethically justifiably from start to finish;
- 7.1.3 I and all co-workers/assistants/field workers are appropriately qualified, capable and legally competent to implement the proposed studies/procedures/interventions;
- 7.1.4 I will not deviate from the approved proposal and that I understand approval for the study will be canceled if I deviate from the proposal without the approval of the Health Research Ethics Committee;
- 7.1.5 The study is scientifically justifiable;
- 7.1.6 I undertake to respect the intellectual property rights throughout and to avoid any form of plagiarism;
- 7.1.7 I will report annually to the Health Research Ethics Committee (or half-yearly as determined by the Health Research Ethics Committee) on the prescribed monitoring report concerning the progress of the study;
- 7.1.8 I will notify the Health Research Ethics Committee should the study be terminated.

Name (Title, Full Names & Surname)	Qualifications
Ms Karlien Smit	MSc Nutrition
	2018/09/25
Signature	Date

## NWU Ethics Application

Study Leader (Title, Initials, and Surname)	Study Title
Ms K Smit	Educational resilience: A systematic review of Positive Psychology Interventions in middle childhood.


NWU Ethics Number
NWU-00111-18-S1

**7.2 Sec 7b: Research Director**

I, the undersigned, hereby declare that the above study has been reviewed by a Scientific/Proposal Committee and may proceed to the Health Research Ethics Committee and that the Study Leader/Researcher has enough physical facilities, equipment and money at his/her disposal to implement and complete the study.

**7.2.1 Research Director:**

The director of the research entity signs here.

Name (Title, Full Names & Surname)	Qualifications
Prof. Petra Bester	PhD
	2018/09/25
Signature	Date

**Credits**

Compiled by the Faculty of Health Sciences Ethics Office for Research, Training, and Support

**Addendum B: MASTARI data extraction tool**

<b>MAStARI data extraction tool – Quantitative studies (Joanna Briggs Institute)</b>						
<b>Reviewer</b>			<b>Date</b>		<b>Record #</b>	
<b>Author(s)</b>						
<b>Year</b>			<b>Journal</b>			
<b>Method</b>	RTC	Retrospective	Quasi-RCT	Observational	Longitudinal	Other
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Participants</b>						
<b>Setting</b>						
<b>Population</b>						
<b>Sample size</b>						
<b>Interventions</b>						
<b>Author conclusions</b>						
<b>Reviewers conclusions</b>						
<b>Study results</b>						
Dichotomous	Outcome	Intervention (n, N)		Intervention (n, N)		
Continuous	Outcome	Intervention (n, N)		Intervention (n, N)		

### Addendum C: NOTARI data extraction tool

<b>NOTARI data extraction tool – Qualitative studies (Joanna Briggs Institute)</b>					
<b>Reviewer</b>		<b>Date</b>		<b>Record no.</b>	
<b>Author(s)</b>					
<b>Year</b>		<b>Journal</b>			
<b>Method</b>					
<b>Participants</b>					
<b>Setting</b>					
<b>Geographical</b>					
<b>Cultural</b>					
<b>Population</b>					
<b>Sample size</b>					
<b>Interventions</b>					
<b>Data analysis</b>					
<b>Author conclusions</b>					
<b>Reviewer comments</b>					

## Addendum D: The Effective Public Health Practice Project (EPHPP) tool

### QUALITY ASSESSMENT TOOL FOR QUANTITATIVE STUDIES COMPONENT RATINGS



#### A) SELECTION BIAS

**(01) Are the individuals selected to participate in the study likely to be representative of the target population?**

- 1 Very likely
- 2 Somewhat likely
- 3 Not likely
- 4 Can't tell

**(02) What percentage of selected individuals agreed to participate?**

- 1 80 - 100% agreement
- 2 60 - 79% agreement
- 3 less than 60% agreement
- 4 Not applicable
- 5 Can't tell

RATE THIS SECTION	STRONG	MODERATE	WEAK
See dictionary			

#### B) STUDY DESIGN

**Indicate the study design**

- 1 Randomized controlled trial
- 2 Controlled clinical trial
- 3 Cohort analytic (two group pre+ post)
- 4 Case-control
- 5 Cohort (one group pre + post (before and after))
- 6 Interrupted time series
- 7 Other specify
- 8 Can't tell

**Was the study described as randomized? If NO, go to Component C,**

No                      Yes

**If Yes, was the method of randomization described? (See dictionary)**

No                      Yes

**If Yes, was the method appropriate? (See dictionary)**

No                      Yes

RATE THIS SECTION	STRONG	MODERATE	WEAK
See dictionary			

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N. Evans et al., *A Systematic Review of Rural Development Research*, Springer Briefs in Public Health, DOI 10.1007/978-3-319-17284-2

**C) CONFOUNDERS****(01) Were there important differences between groups prior to the intervention?**

- 1 Yes
- 2 No
- 3 Can't tell

**The following are examples of confounders:**

- 1 Race
- 2 Sex
- 3 Marital status/family
- 4 Age
- 5 SES (income or class)
- 6 Education
- 7 Health status
- 8 Pre-intervention score on the outcome measure

**(02) If yes, indicate the percentage of relevant confounders that were controlled (either in the design (e.g. stratification, matching) or analysis)?**

- 1 80 - 100% (most)
- 2 60 - 79% (some)
- 3 Less than 60% (few or none)
- 4 Can't tell

---

RATE THIS SECTION	STRONG	MODERATE	WEAK
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See dictionary

**D) BLINDING****(01) Was (were) the outcome assessor(s) aware of the intervention or exposure status of participants?**

- 1 Yes
- 2 No
- 3 Can't tell

**(02) Were the study participants aware of the research question?**

- 1 Yes
- 2 No

Can't tell

---

RATE THIS SECTION	STRONG	MODERATE	WEAK
-------------------	--------	----------	------

See dictionary

**E) DATA COLLECTION METHODS****(01) Were data collection tools shown to be valid?**

- 1 Yes
- 2 No
- 3 Can't tell

**(02) Were data collection tools shown to be reliable?**

- 1 Yes
- 2 No
- 3 Can't tell

---

RATE THIS SECTION	STRONG	MODERATE	WEAK
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See dictionary

**F) WITHDRAWALS AND DROP-OUTS****(01) Were withdrawals and drop-outs reported in terms of numbers and/or reasons per group?**

- 1 Yes
- 2 No
- 3 Can't tell
- 4 Not Applicable (i.e. one time surveys or interviews)

**(02) Indicate the percentage of participants completing the study. If the percentage differs by groups, record the lowest).**

- 1 80 -100%
- 2 60 - 79%
- 3 less than 60%
- 4 Can't tell
- 5 Not Applicable (i.e. Retrospective case-control)

---

RATE THIS SECTION	STRONG	MODERATE	WEAK
See dictionary			

---

**(G) INTERVENTION INTEGRITY****01) What percentage of participants received the allocated intervention or exposure of interest?**

- 1 80-100%
- 2 60 · 79%
- 3 less than 60%
- 4 Can't tell

**02) Was the consistency of the intervention measured?**

- a. Yes
- b. No
- c. Can't tell

**03) Is it likely that subjects received an unintended intervention (contamination or co-intervention) that may influence the results?**

- a. Yes
- b. No
- c. Can't tell

**(H) ANALYSES****01) Indicate the unit of allocation (circle one)**

Community	Organization/institution
Practice/office	Individual

**02) Indicate the unit of analysis (circle one)**

Community	Organization/institution
Practice/office	Individual

**03) Are the statistical methods appropriate for the study design?**

- a. Yes
- b. No
- c. Can't tell

**04) Is the analysis performed by intervention allocation status (i.e. intention to treat) rather than the actual intervention received?**

- 1 Yes
- 2 No
- 3 Can't tell

## GLOBAL RATING

## COMPONENT RATINGS

Please transcribe the information from the gray boxes on pages 1-4 onto this page. Refer to the rating dictionary as indicated in the **global rating textbox** next to the component rating scale on how to rate this section.

A	SELECTION BIAS	STRONG	MODERATE	WEAK
B	STUDY DESIGN	STRONG	MODERATE	WEAK
C	CONFOUNDERS	STRONG	MODERATE	WEAK
D	BLINDING	STRONG	MODERATE	WEAK
E	DATA COLLECTION METHOD	STRONG	MODERATE	WEAK
F	WITHDRAWALS AND DROPOUTS	STRONG	MODERATE	WEAK

**GLOBAL RATING FOR THIS PAPER**

(Circle only one):

- **STRONG** = no WEAK ratings
- **MODERATE** = one WEAK rating
- **WEAK** = two or more WEAK ratings

With both reviewers discussing the ratings:

Is there a discrepancy between the two reviewers with respect to the components of A-F ratings?                      No                      Yes

If yes, indicate the reason for the discrepancy:

Oversight: \_\_\_\_\_

Differences in interpretation of criteria: \_\_\_\_\_

Differences in interpretation of study: \_\_\_\_\_

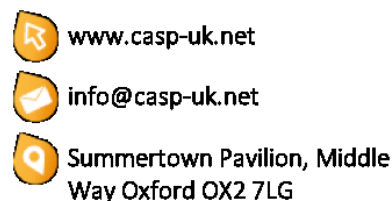
**Final decision of both reviewers (circle one):**

**STRONG**

**MODERATE**

**WEAK**

## Addendum E: Critical Appraisal Skills Program (CASP) tool



**CASP Checklist:** 10 questions to help you make sense of a **Qualitative** research

**How to use this appraisal tool:** Three broad issues need to be considered when appraising a qualitative study:

- ▶ Are the results of the study valid? (Section A)
- ▶ What are the results? (Section B)
- ▶ Will the results help locally? (Section C)

The 10 questions on the following pages are designed to help you think about these issues systematically. The first two questions are screening questions and can be answered quickly. If the answer to both is “yes”, it is worth proceeding with the remaining questions. There is some degree of overlap between the questions, you are asked to record a “yes”, “no” or “can’t tell” to most of the questions. A number of italicized prompts are given after each question. These are designed to remind you why the question is important. Record your reasons for your answers in the spaces provided.

**About:** These checklists were designed to be used as educational pedagogic tools, as part of a workshop setting, therefore we do not suggest a scoring system. The core CASP checklists (randomized controlled trial & systematic review) were based on JAMA 'Users' guides to the medical literature 1994 (adapted from Guyatt GH, Sackett DL, and Cook DJ), and piloted with health care practitioners.

For each new checklist, a group of experts was assembled to develop and pilot the checklist and the workshop format with which it would be used. Over the years overall adjustments have been made to the format, but a recent survey of checklist users reiterated that the basic format continues to be useful and appropriate.

**Referencing:** we recommend using the Harvard style citation, i.e.: *Critical Appraisal Skills Programme (2018). CASP (insert name of checklist i.e. Qualitative) Checklist. [online] Available at: URL. Accessed: Date Accessed.*

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[www.casp-uk.net](http://www.casp-uk.net)

Critical Appraisal Skills Programme (CASP) part of Oxford Centre for Triple Value Healthcare Ltd [www.casp-uk.net](http://www.casp-uk.net)

Paper for appraisal and reference:

Section A: Are the results valid?

1. Was there a clear statement of the aims of the research?	Yes	<input type="checkbox"/>	<b>HINT: Consider</b> <ul style="list-style-type: none"> <li>• What was the goal of the research?</li> <li>• Why it was thought important</li> <li>• Its relevance.</li> </ul>
	Can't Tell	<input type="checkbox"/>	
	No	<input type="checkbox"/>	

Comments:

2. Is a qualitative methodology appropriate?	Yes	<input type="checkbox"/>	<b>HINT: Consider</b> <ul style="list-style-type: none"> <li>• If the research seeks to interpret or illuminate the actions and/or subjective experiences of research participants?</li> <li>• Is qualitative research the right methodology for addressing the research goal?</li> </ul>
	Can't Tell	<input type="checkbox"/>	
	No	<input type="checkbox"/>	

Comments:

Is it worth continuing?

3. Was the research design appropriate to address the aims of the research?	Yes	<input type="checkbox"/>	<b>HINT: Consider</b> <ul style="list-style-type: none"> <li>• If the research has justified the research design (e.g. have they discussed how they decided which method to use)</li> </ul>
	Can't Tell	<input type="checkbox"/>	
	No	<input type="checkbox"/>	

Comments:

4. Was the recruitment strategy appropriate to the aims of the research?

Yes	<input type="checkbox"/>
Can't Tell	<input type="checkbox"/>
No	<input type="checkbox"/>

**HINT: Consider**

- If the researcher has explained how the participants were selected.
- If they explained why the participants they selected were the most appropriate to provide access to the type of knowledge sought by the study.
- If there are any discussions around recruitment (e.g. why some people chose not to take part)

Comments:

5. Was the data collected in a way that addressed the research issue?

Yes	<input type="checkbox"/>
Can't Tell	<input type="checkbox"/>
No	<input type="checkbox"/>

**HINT: Consider**

- If the setting for the data collection was justified.
- If it is clear how data were collected (e.g. focus group, semi-structured interview etc.).
- If the researcher has made the methods explicit (e.g. for interview method, is there an indication of how interviews are conducted, or did they use a topic guide)
- If the researcher has justified the methods chosen.
- If methods were modified during the study. If so, has the researcher explained how and why?
- If the form of data is clear (e.g. tape recordings, video material, notes etc.).
- If the researcher has discussed saturation of data.

Comments:

6. Has the relationship between researcher and participants been adequately considered?

Yes	<input type="checkbox"/>
Can't Tell	<input type="checkbox"/>
No	<input type="checkbox"/>

**HINT: Consider**

- If the researcher critically examined their own role, potential bias and influence during (a) formulation of the research questions (b) data collection, including sample recruitment and choice of location.
- How the researcher responded to events during the study and whether they considered the implications of any changes in the research design.

Comments:

Section B: What are the results?

7. Have ethical issues been taken into consideration?

Yes	<input type="checkbox"/>
Can't Tell	<input type="checkbox"/>
No	<input type="checkbox"/>

**HINT: Consider**

- If there are sufficient details of how the research was explained to participants for the reader to assess whether ethical standards were maintained.
- If the researcher has discussed issues raised by the study (e.g. issues around informed consent or confidentiality or how they have handled the effects of the study on the participants during and after the study)
- If approval has been sought from the ethics committee.

Comments:

8. Was the data analysis sufficiently rigorous?

Yes	<input type="checkbox"/>
Can't Tell	<input type="checkbox"/>
No	<input type="checkbox"/>

**HINT: Consider**

- If there is an in-depth description of the analysis process.
- If thematic analysis is used. If so, is it clear how the categories/themes were derived from the data?
- Whether the researcher explains how the data presented were selected from the original sample to demonstrate the analysis process.
- If sufficient data are presented to support the findings.
- To what extent contradictory data are taken into account.
- Whether the researcher critically examined their role, potential bias and influence during analysis and selection of data for presentation.

Comments:

9. Is there a clear statement of findings?

Yes	<input type="checkbox"/>
Can't Tell	<input type="checkbox"/>
No	<input type="checkbox"/>

**HINT: Consider**

- If the findings are explicit.
- If there is adequate discussion of the evidence both for and against the researcher's arguments.
- If the researcher has discussed the credibility of their findings (e.g. triangulation, respondent validation, more than one analyst)
- If the findings are discussed in relation to the original research question.

Comments:

## Section C: Will the results help locally?

10. How valuable is the research?	Yes	<input type="checkbox"/>	<p><b>HINT: Consider</b></p> <ul style="list-style-type: none"> <li>• If the researcher discusses the contribution the study makes to existing knowledge or understanding (e.g. do they consider the findings in relation to current practice or policy, or relevant research based literature.</li> <li>• If they identify new areas where research is necessary.</li> <li>• If the researchers have discussed whether or how the findings can be transferred to other populations or considered other ways the research may be used.</li> </ul>
	Can't Tell	<input type="checkbox"/>	
	No	<input type="checkbox"/>	
Comments:			

### Addendum F: Risk of bias tool

The Cochrane Collaboration's risk of bias tool, as adapted by Hassim (2016) for use in qualitative and quantitative will be applied.

Risk of bias	Article 1	Article 2	Article 3	Article 4	Article 5	Article 6
Selection bias (Bias in participant selection. Taking into account the sampling size and sampling method)						
Attrition bias (Completeness of outcome data)						
Reporting bias (Selective reporting in the sense of significant and non-significant results)						
Other sources of bias (Interviewer / researcher / interviewee bias)						
<b>Key</b>						
Low risk A possible bias that is unlikely to seriously alter the results						-
High risk A possible bias that raises some doubt about the results						+
Unclear risk A possible bias that seriously weakens confidence in the results.						?

## **Addendum G: Narrative CV's of research team**

### **NARRATIVE CURRICULUM VITAE: KARLIEN SMIT**

Karlien Smit obtained her BSc-degree (Nutrition and Human Movement Sciences) in 2007 at the North-West University (Potchefstroom Campus). While conducting her undergraduate studies she also obtained a short course in Sports massage at Wilders and Moss Biokinetics (Potchefstroom) and a short programme in Conference, exhibition and events management (with distinction) at Damlin (Pretoria) in 2006. Karlien Smit obtained her Honn-degree in Nutrition in 2008 and her MSc-degree in Nutrition in 2010 at the North-West University (Potchefstroom Campus). During her postgraduate studies, Karlien Smit presented her study findings at national and international conferences where she also attended master classes in Sports Nutrition and Dietary Assessment.

In 2010 Karlien Smit was appointed as a research assistant within the Africa Unit for Transdisciplinary Health Research (AUPH) under the supervision of Prof Minrie Greeff. During this year Karlien Smit gained further research experience working within the PURE and HIV STIGMA projects.

In 2011 and 2012 Karlien Smit was appointed as project manager in AUPH for the South African partnership within the SUNRAY project under the supervision of Prof. Annamarie Kruger. During this period Karlien Smit organized a national workshop for SAHACEF, a national MCM training workshop for SUNRAY and an international stakeholder workshop for SUNRAY. Karlien Smit also attended several SUNRAY consortium meetings during 2011 and 2012 and presented a symposium presentation on the findings from the SUNRAY project at an international conference on behalf of the SUNRAY consortium in 2012. She was also a co-author on several papers and project reports from SUNRAY. During 2011 Karlien Smit attended several workshops (Rapid evidence assessment, Multi-criteria mapping, and policy brief writing) in order to enhance her research skills. Karlien Smit was also a temporary lecturer within AUPH during 2011 and 2012.

In January 2013 Karlien Smit was permanently employed as Lecturer in AUPH on the Potchefstroom Campus of the North-West University. Karlien attended several national workshops during 2013 in order to further her knowledge in research methodology (Atlas.ti, Epidemiology, qualitative research, mixed methods, in-depth interviews, and focus groups). In February 2013 Karlien Smit also participated and successfully completed an International Course in Evidence-based Nutrition held at the Institute of Tropical Medicine, Antwerp, Belgium. She also presented a symposium presentation on the development and implementation of a novel nutrition intervention programme for primary school children (6 to 12 years) in South-Africa to address childhood obesity: The musical play, in May 2013 at the Annual Meeting of the International Society for Behavioral Nutrition and Physical Activity

(ISBNPA), Ghent, Belgium. During this conference, she also attended a master class in Planning Health Promotion Programs: Intervention Mapping. Since 2013 Karlien Smit also actively started working her way into Health Education research and presented at national and international conferences (IOUT, SoTL, SAAHE, AMEE).

In 2014 Karlien Smit attended an Academic Leadership Development for Higher Education Workshop, presented by Rhodes University. During this year Karlien Smit was also appointed as a member of the Health Research Ethics Committee (HREC) of the Faculty of Health Sciences of the North-West University. In order to bring herself up to date with the latest ethics regulations, she attended several ethics training workshops (NWU HREC training and Good Clinical Practices) and completed an online course in Medical ethics, law and human rights.

In 2015 and 2016 Karlien Smit became the principal investigator for a SoTL Funded project “Evaluation of existing teaching, learning and assessment strategies for large group transdisciplinary teaching” and an Innovators@work Funded project “Development, implementation and evaluation of online and off-line electronic study guides”. Karlien Smit was also involved within the HEAIDS project where she was responsible for leading 2 sub-projects within Health Sciences. As part of the skills development component of the HEAIDS project, Karlien Smit attended several workshops (Critical Diversity Literacy and Participatory Pedagogy) in order to enhance her skills as a lecturer and researcher. Karlien Smit disseminated the findings of the SoTL and Innovators@work funded projects as well as the HEAIDS sub-projects at several national conferences and she also authored on papers and project reports of the HEAIDS project since 2015 to 2017.

In 2017 Karlien Smit attended the 19<sup>th</sup> CDE Postgraduate Forum in Diabetes Management and completed a certificate in Health Education in Diabetes (CDE: 5 Day Advanced Course in Diabetes Care for Health Professionals). During 2017 she also attended several workshops (Qualitative data collection strategies and Generic qualitative data analysis strategies) in order to enhance her research skills. Karlien Smit has delivered 1 Master student as Supervisor and 2 Master students as Co-supervisor up to date. These students work was disseminated at the PHASA Conference and all three students’ articles are in process of submission for possible publication. She is currently Co-supervisor of 3 Masters’ student within the MHSc Transdisciplinary Health Promotion-degree.

**Published abstracts:**

Kruger, K., Kruger, A. & Wright, H. 2008. The use of physical activity and music in the transfer of knowledge on nutrition, a healthy lifestyle and the prevention of obesity. *South African Journal of Clinical Nutrition*, 21(3) (Suppl 1):221.

Kruger, K., Kruger, A. & Wright, H.H. 2009. The use of physical activity and music in the transfer of knowledge on nutrition, a healthy lifestyle and the prevention of childhood obesity. *Annals of Nutrition & Metabolism*, 55(S1):342.

Holdsworth, M., Kruger, A., Nago-Koukoubou, E., Mamiro, P., Smit, K., Garimoi, O., Kameli, Y., Lachat, C., Roberfroid, D. & Kolsteren, P. 2013. African stakeholder views of research options to improve nutritional status in sub-Saharan Africa. *Annals of nutrition and metabolism*, 63(1):p.967-967.

#### **Published articles:**

Van Royen, K., Lachat, C., Holdsworth, M., Smit, K., Kinabo, J., Roberfroid, D., Nago, E., Garimoi, O. & Kolsteren, P. 2013. How Can the Operating Environment for Nutrition Research Be Improved in Sub-Saharan Africa? The Views of African Researchers. *PLoS ONE* 8(6): e66355. doi:10.1371/journal.pone.0066355

Lachat C., Nago, E., Roberfroid, D., Holdsworth, M., Smit, K., Kinabo, J., Pinxten, W., Kruger, A. & Kolsteren, P. 2014. Developing a Sustainable Nutrition Research Agenda in Sub-Saharan Africa—Findings from the SUNRAY Project. *PloS Med* 11(1): e1001593. doi:10.1371/journal.pmed.1001593.

Holdsworth, M., Kruger, A., Nago-Koukoubou, E., Mamiro, P., Smit, K., Garimoi, O., Kameli, Y., Lachat, C., Roberfroid, D. & Kolsteren, P. 2015. African stakeholder views of research options to improve nutritional status in sub-Saharan Africa. *Health policy and planning*, 30(7):863-74.

Smit, K., Greeff, M., Kruger, I.M. & Kruger, A. 2016. Critical reflection on the integration of HIV into the health sciences curriculum. *South African journal of higher education*, 30(4): 20-36.

#### **Articles already submitted or in process of submission:**

Hassim, T., Smit, K. & Wissing, M. Academic resilience: A systematic review of protective factors for undergraduate students in higher education. *South African journal of higher education*

Malinga, T., Bester, P. & Smit, K. Most appropriate information communication technology for health education in HIV management in rural communities: A systematic review. *South African Medical Journal*.

De Beer, M., Bester, P. & Smit, K. When eLearning becomes compulsory: ICT adoption by student nurses. *Medical teacher*.

Smit, K., Van der Merwe, K., Bester, P. & Wood, L. An intersectoral approach to integrating HIV education into a multidisciplinary health module. *Africa Journal for AIDS Research*.

#### **Research and/or project reports**

Kruger, K. 2007. The development of a musical to implement the food based dietary guidelines amongst children. (Honours Mini-Dissertation)

Kruger, K. 2010. The use of a musical play in the transfer of knowledge on nutrition, a healthy lifestyle and the prevention of obesity. (MSc Dissertation)

- Kruger, K. & Harris, M. 2010. Compiled Musical Play for obesity prevention (for implementation within Primary Schools)
- Kruger, A. & Smit, K. 2012. Stakeholder views of policy options for research to improve nutritional status in South Africa: Findings from the SUNRAY project.
- Kruger, A. & Smit, K. 2012. Stakeholder views of policy options for research to improve nutritional status in Mozambique: Findings from the SUNRAY project.
- Holdsworth, M., Smit, K., Kameli, Y., Kruger, A. 2012. Research policy to improve nutritional status in Sub-Saharan Africa: Evaluating the options summary report of the EC-funded project to map the views of stakeholders involved in research- the sunray project.
- Nago, E., Amoussa, W., Kruger, A., Smit, K., Garimoi, C., Pepping, F., Kinabo, J., Mamiro, P., Persson, N., San Pedro, P., Cavero, T., Kameli, Y., Holdsworth, M., Lachat, C. & Kolsteren, P. 2012. Priorities for a sustainable nutrition research agenda for Africa in the years to come: Consultation document.
- Smit, K., Niesing, C.M. & Bester, P. LIFEPLAN®: Transforming curriculum and building capacity for HIV education through a holistic life skills manual for community members. HEAIDS HIV and AIDS in the curriculum project. Project report.
- Smit, K. & Van der Merwe, K. Capacitating lecturers to integrate HIV education by means of participatory pedagogy. HEAIDS HIV and AIDS in the curriculum project. Project report.

### National Conferences

YEAR	TITLE	NATURE OF PARTICIPATION	CONFERENCE	VENUE
28 Sept – 2 Oct, 2008	The use of physical activity and music in the transfer of knowledge on nutrition, a healthy lifestyle and the prevention of obesity	Poster presentation: (presenter)	22 <sup>nd</sup> Biennial Congress of the Nutrition Society of South Africa and the 10 <sup>th</sup> Biennial Congress of the Association for Dietetics in South Africa	Pretoria, South Africa
1 – 4 Oct, 2012	The SA Landscape – SUNRAY results.	Oral presentation (on behalf of the SUNRAY Consortium)	24 <sup>th</sup> Congress of the Nutrition Society of South Africa, 12 <sup>th</sup> Congress of the Association for Dietetics in South Africa and the 5 <sup>th</sup> Africa Nutrition Epidemiology Conference	Bloemfontein, South Africa
4 – 6 Nov, 2013	E-Fundi as facilitative tool towards effective handling of large group classes.	Oral presentation (presenter)	Conference for Excellence in Teaching and Innovative use of Technology (IOUT)	Potchefstroom, South Africa
19-21 Nov, 2013	Teaching a trans-disciplinary module in the Faculty of Health Sciences: how to develop healthy and helpful teaching and administrative practices.	Oral presentation (co-presenter with A.G. Herbst)	The Scholarship of Teaching and Learning Conference (SoTL)	Vanderbijl, South Africa
25-28 Jul, 2014	Understanding the world of health: development, implementation and evaluation of a compulsory module for 2 <sup>nd</sup> year students in the Faculty of Health Sciences at the North-West University.	Poster presentation (presenter)	National Conference of the South African Association of Health Educationalists (SAAHE)	Cape Town, South Africa

30-31 Oct, 2014	Implementing a blended learning strategy in a compulsory transdisciplinary health module for large classes: the implementation process	Oral presentation (co-presenter with CM Niesing)	The Scholarship of Teaching and Learning Conference (SoTL)	Mafikeng, South Africa
19 – 22 Sept 2016	A critical reflection on the integration of HIV into the health sciences curriculum	Poster presentation	Public Health Association of South Africa (PHASA) conference	East London, South Africa
9-11 Jun 2017	A critical reflection on the integration of HIV into the health sciences curriculum	Oral presentation	HEAIDS Youth conference	Durban, South Africa
9-11 Jun 2017	Capacitating lecturers to integrate HIV education by means of participatory pedagogy	Oral presentation	HEAIDS Youth conference	Durban, South Africa
9-11 Jun 2017	LIFEPLAN: Transforming curriculum and building capacity for HIV education in holistic life skills of illiterate communities	Poster presentation	HEAIDS Youth conference	Durban, South Africa
4-7 Sept 2017	Most appropriate information communication technology for health education in HIV management in rural communities: a systematic review	Poster presentation	Public Health Association of South Africa (PHASA) conference	Gauteng, South Africa

#### International Conferences

YEAR	TITLE	NATURE OF PARTICIPATION	CONFERENCE	VENUE
4-9 Oct, 2009	The use of physical activity and music in the transfer of knowledge on nutrition, a healthy lifestyle and the prevention of childhood obesity	Poster presentation (presenter)	19th International Congress of Nutrition	Bangkok, Thailand
22-25 May, 2013	Development and implementation of a novel nutrition intervention programme for primary school children (6 to 12 years) in South-Africa to address childhood obesity: The musical play	Oral symposium presentation (presenter)	Annual Meeting of the International Society for Behavioral Nutrition and Physical Activity (ISBNPA)	Ghent, Belgium
24 – 28 Aug, 2013	Contextualizing the world of health and health promotion for second year students: Lessons from the Faculty of Health Sciences at the North-West University (Potchefstroom Campus)	Poster presentation (co-author)	AMEE annual Conference	Prague
April, 2018		Poster presentation (co-author)	APPA	Potchefstroom, South Africa

## **NARRATIVE CURRICULUM VITAE: TASLEEM SAYED (2018/05/21)**

My name is Tasleem Sayed and I am a lecturer at the School of psychosocial health, Social Work. I studied at the North-West University, Potchefstroom Campus from 2005-2016, I obtained four degrees, a degree in social work, psychology (honors), a master's degree in Social work and recently a master's degree in Positive Psychology.

I joined the University as a junior lecturer in 2013 and I am involved with the second-, third-, and fourth-year students, I teach casework and practice management. I am also currently supervising six masters' students. I have also attended numerous workshops on research methods such as systematic reviews and qualitative research designs.

My interests revolve around student well-being and resilience, both my master's dissertations focused on resilience in a student environment. I am also interested in individual inherent strengths.

I have conducted a systematic review for my second master's study (2016) under the guidance of Mrs Karlien Smit. Currently, I am supervising three students (of the six) who are conducting systematic reviews.

The following are my publications:

- Hassim, T. & Herbst, A. (2015). Strengths-based interventions in trauma counseling in Herbst, A. & Reitsma, G. (Eds). 2015. Trauma counseling: principles and practice in South Africa today. Cape Town: Juta. (2015).
- Hassim, T., Strydom, C. & Strydom, H. 2013. Resilience in a group of first-year Psychosocial science students at the North-West University (Potchefstroom Campus).
- Visser, E., Herbst, A.G. & Hassim, T. 2010. Die benutting van lewenskaarte in maatskaplike groepwerk met adolessente pleegkinders. Social work practitioner researcher, 22(3):326-342 [<http://www.uj.ac.za/EN/Faculties/humanities/departments/socialwork/TheSocialWorkPractitionerResearcherJournal/Pages/home.aspx>]

## **NARRATIVE CURRICULUM VITAE: DR LIZANLE VAN BILJON (2018)**

Post-doctoral Research Fellow (AUTHeR)

North-West University (Potchefstroom Campus)

### **Education, qualifications, and career**

Lizanle van Biljon attained a BA degree with majors in Psychology, Communication, and Tourism from the North-West University (NWU), South Africa, in 2006. In 2007, she received an Honours degree in Psychology. She attained an MA in Research Psychology in 2009. From 2010, she worked as a research coordinator at Unit for Training and Service in the Behavioral Sciences (UNIBS), University of the Free State. She enrolled for a PhD in Psychology in 2010 and graduated in 2013 (NWU).

In 2014 she was selected for- and attained an MA in Clinical Psychology (cum laude). During 2015 and 2016, she served as Intern and Community Service Clinical Psychologist, respectively, at government-funded hospitals in the North-West Province. Since 2017, Lizanle is a post-doctoral research fellow at the Africa Unit for Trans-disciplinary Health Research (AUTHeR) where she is involved in various research projects. Lizanle also lectures research methodology on an ad-hoc basis at the Pearson Institute of Higher Education (Potchefstroom Campus).

### **Professional registration**

Lizanle has a dual registration at the Health Professions Council of South Africa as both a Research Psychologist (since 2011) and Clinical Psychologist (Since 2015).

HPCSA Registration Number: PS 0115266

### **Research**

Lizanle has a research focus in the field of gerontology. For her PhD, she explored older people's quality of life in residential care facilities. More recently her interest expanded to (intergenerational) relationship research. She has a preference for qualitative research and positive psychology is often her theoretical framework of choice.

### **Student supervision**

Lizanle has supervised four final year B.Psych students at the Pearson Institute of Higher Education. She has acted as critical reader for two masters' students in Research Psychology. She has also been a co-coder for two qualitative masters' studies. Currently, she is a co-supervisor of three students for the MA in Positive Psychology.

### **Output/Experience/Publications**

Lizanle has acted as an internal moderator (2016 and 2017) for theoretical modules of the MA/M.Sc. Research Psychology programme at the North-West University (Potchefstroom Campus). She has published eight articles in peer-reviewed journals. Lizanle has published one book chapter and three short articles (as part of conference proceedings). She currently has one article in review at peer-reviewed journals. She was the author of five international conference oral presentations and two poster presentations. Lizanle was co-organizer of the 2nd Annual Post-Doctoral Webinar at AUTHeR.

## **NARRATIVE CURRICULUM VITAE: ADELE BOTHA**

### **EDUCATION, QUALIFICATION, AND TRAINING HISTORY**

After matriculating in 1998, Adèle Botha commenced her studies at the North-West University, Potchefstroom Campus where she obtained a BA degree with majors in Human Movement Science and Psychology in 2001. In 2002, she completed her BA HONS degree in Kinderkinetics and obtained her BA HONS degree in Psychology in 2003. During her time as a student at the NWU she also completed courses in Level 1 & 2 Anthropometry International (Technician – Restricted Profile) (2000), the science of Swiss Ball Training (2002), Junior gymnastics coach (2002), Junior netball coach (2002), Child wellbeing (2003), Visual therapy for children in (2003). She also completed her Level 2 Sports trauma / First aid course and acted as examiner and moderator for undergraduate students while completing their level 1 & 2 Sport Trauma qualifications. Adele also acted as an ad hoc lecturer for undergraduate practical classes in human movement Ergo-metrics in (2002).

Adele entered the corporate realm as a human resource administrator in 2004 where after she was promoted to the human resource manager (HRM) after 6 months and was employed in HRM as well as operational and logistics management, and sales management positions, throughout her corporate career. During her employment as HRM, she developed and implemented various human resource, industrial relations, employee relations, and health and safety systems, policies, and procedures, and represented companies on CCMA level. She also acted as ad hoc lecturer in Occupational Health and Safety and Physiopathology, while being employed as HRM of the Potchefstroom Academy and SAAHST (2009 & 2010), until she entered the sales and marketing realm with Nestlé South Africa in 2010. In 2012, she was headhunted by Nestlé Infant nutrition to become their North West Province representative. During this time, she completed in-house courses on strategic business planning and management, as well as advance sales, negotiation, presentation, and training skills.

In 2013, a sudden unfortunate change in personal circumstances forced her to make a career change and she became the Services Manager of the Service Centre for the Elderly in Potchefstroom, managing all recreational, nursing and social work activities and personnel. Here she realized that her deeply found passion for her own and other children is worth more than all the riches in the world. She left the corporate realm and enrolled for a Master of Arts degree in Positive Psychology.

### **SUMMARY OF PROFESSIONAL EXPERIENCE AND KEY PERFORMANCE AREAS**

#### *Training / Skills Development / Workshops*

Corporate, personal and professional development training, workshops, researched, developed, compiled and presented but are not limited to:

- Psychofortology for individuals as well as in corporate settings.
- Emotional intelligence the biopsychosocial aspects.

- Self-determination and motivation (locus of control).
- Mindful awareness for optimal growth and flourishing.
- Managing burnout, depression, and demotivation in the workplace.
- Resilience, character strength (Values in action), and self-regulation.
- Potchefstroom Academy – Guest lecturer – Health professions and patient counseling.
- Nestlé Nutrition SA - Medical product training and presentations to Pediatricians, Neonatal, and Pediatric ward hospital staff, Pharmacists, General practitioners, students, and academic professionals.
- HR and IR operational training and development.
- Potchefstroom Academy - OHS Lecturer and acting Physiopathology Lecturer.
- NWU Potchefstroom – academic assistant, assistant lecturer in Ergo-metrics and first aid course assessor.

#### *Other & Charity involvement*

- Presented as a professional guest speaker at events hosted by Potchefstroom Women's Agricultural Union assembly and North West Mental Health.
- Provincial board member of North West Mental Health, in the position of Treasurer.
- Potch Mooi Rotary annual Dragon Boat race - organization and execution of cancer ceremony and racing team for cancer survivor participants.
- Invited to write bi-weekly articles for the Potchefstroom Herald concerning psychosocial-and relational wellbeing, flourishing, and personal development aspects.
- Currently working as a part-time private personal and business coach. Business clients include ALS Group - Head Office, ALS - Pretoria Branch, Mosaic, Potchefstroom Herald, Midstream Estates Pretoria Management team, Hinterland Potchefstroom.

#### **RESEARCH HISTORY**

Adele was involved in two quantitative research studies during her Honors in Kinderkinetics year. The one was a multidisciplinary study of which Professor A. Pienaar was the coordinator for Kinderkinetics. The second was for the purpose of a mini-dissertation in article form as pre-requisite for Hons Kinderkinetics, conducted by a team of 4 Honors students in 2002, with the title: The effect of a water activity program on the skill proficiency of a group of children with Down's syndrome.

## Addendum H: Author guidelines for the *Journal of Research in Childhood Education*

<https://www.tandfonline.com/action/authorSubmission?show=instructions&journalCode=ujrc20>



# Journal of Research in Childhood Education

## Instructions for authors

Thank you for choosing to submit your paper to us. These instructions will ensure we have everything required so your paper can move through peer review, production, and publication smoothly. Please take the time to read and follow them as closely as possible, as doing so will ensure your paper matches the journal's requirements. For general guidance on the publication process at Taylor & Francis please visit our [Author Services website](#).



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### About the Journal

*Journal of Research in Childhood Education* is an international, peer-reviewed journal publishing high-quality, original research. Please see the journal's [Aims & Scope](#) for information about its focus and peer-review policy. Please note that this journal only publishes manuscripts in English.

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- Should be written with the following elements in the following order: title page; abstract; keywords; main text introduction, literature review/theoretical framework, methods, results, discussion, conclusion; acknowledgments; declaration of interest statement; references; appendices (as appropriate); table(s) with caption(s) (on individual pages); figures; figure captions (as a list)
- Should contain an unstructured abstract of 200 words.
- Should contain between 1 and 6 **keywords**. Read [making your article more discoverable](#), including information on choosing a title and search engine optimization.

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**Addendum I: Language editing declaration****M.B. BRADLEY**

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**DECLARATION ON EDITING**

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Student: Ms A. Botha

Date: 2019/05/22

**Document submitted for editing**

Dissertation titled: Educational resilience: A systematic review of positive psychology interventions in middle childhood

The above dissertation was submitted to me for language editing. Editing of the text of chapters was completed on 22 May 2019.



M.B. BRADLEY (MA) - Language editor

---

## Addendum J: APA quality control declaration

PostGradSupport

Elsa Esterhuizen

[elsa.esterhuizen@gmail.com](mailto:elsa.esterhuizen@gmail.com)

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### QUALITY CONTROL: REFERENCING PROTOCOL

#### To whom it may concern

I, Elsa Maria Esterhuizen, hereby declare that the quality control of the referencing style according to the APA referencing guidelines adapted for NWU purposes, as used in the mini-dissertation submitted in partial fulfillment of the requirements for the degree *Master of Arts in Positive Psychology* at the North-West University

by

A Botha (1198641)

#### Educational resilience: A systematic review of positive psychology interventions in middle childhood

was conducted and completed on 28 May 2019.

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(B.A., UED., HLD., M.Ed. (Educational Technology))

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