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Comparing teacher resilience in primary schools in challenged contexts

by

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Submitted in partial fulfilment of the requirements for the degree

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(Educational Psychology)

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September, 2020

DECLARATION

I declare that the mini-dissertation, which I hereby submit for the degree MEd Educational Psychology at the University of Pretoria, is my own work and has not previously been submitted by me for a degree at this or any other tertiary institution.

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Zahné Bosch

3 September 2020

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ETHICAL CLEARANCE CERTIFICATE

UNIVERSITEIT VAN PRETORIA
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Faculty of Education

RESEARCH ETHICS COMMITTEE

CLEARANCE CERTIFICATE	**CLEARANCE NUMBER:**	EP 06/11/01 Versveld 19-001
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- Compliance with approved research protocol,
- No significant changes,
- Informed consent/assent,
- Adverse experience or undue risk,
- Registered title, and
- Data storage requirements.

ETHICS STATEMENT

The author, whose name appears on the title page of this mini-dissertation, has obtained, for the research described in this work, the applicable research ethics approval. The author declares that she has observed the ethical standards required in terms of the University of Pretoria's *Code of ethics for researchers and the Policy guidelines for responsible research.*

ACKNOWLEDGEMENTS

ABSTRACT

The purpose of this comparative secondary analysis study was to contribute knowledge on teacher resilience in spaces of high social disadvantage by employing Sense of Coherence as theoretical framework. The study purposively sampled extant data from the Isithebe study, which included conveniently sampled teachers (n = 36) from six purposively sampled peri-urban primary schools characterised by adversity. The extant data (completed Teacher Resilience Questionnaires) were analysed and compared with the objective to investigate how well the underlying variable structure of the Teacher Resilience Questionnaire holds in the setting of the present study. A further objective was to analyse Teacher Resilience Questionnaires to compare teacher resilience traits that can act as either protective resources or risk factors.

Data were analysed using SPSS by computing descriptive, reliability and inferential statistics. The results indicated that the underlying variable structure of the Teacher Resilience Questionnaire holds up well in the setting of South African, peri-urban primary schools in challenged contexts, except for the Teacher Emotion scale. There were no significant differences in teacher resilience between the six schools or between the two age groups. Results further indicated that perceived teacher resilience of teachers in peri-urban primary schools in challenged contexts was high. Specific traits which seem to act as internal protective resources for the teachers in spaces where structural disparity abounds as well as contextual resources were identified. These teacher protective resources are comparative to other resources found in other parts of the world. However, unlike other countries, protective resources contributed equally to high teacher resilience.

Key words: Teacher resilience, Teacher Resilience Questionnaire, Sense of Coherence, socio-economic disadvantage, Global South, peri-urban primary schools, protective resources, risk factors, contextual resources

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LETTER FROM THE LANGUAGE EDITOR

Edit declaration

I, Wilna Swart, solemnly declare that between July and August 2020 I completed the professional language-edit of Ms Zahné Bosch's Master's degree titled 'Comparing teacher resilience in primary schools in challenged contexts'.

Ms Bosch received the edited chapters in tracked mode to enable her to accept/reject editorial amendments at her discretion. Each chapter was submitted to Ms Bosch accompanied by separate comprehensive general and text-specific editorial comments, notes and recommendations.

As is standard practice, Ms Bosch was cordially reminded that avoiding plagiarism remained her responsibility as it falls outside the editor's remit.

I wish Ms Bosch everything of the very best in this extremely important academic endeavour and trust that she will flourish as educational psychologist.

Professional
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ACRONYMS AND ABBREVIATIONS

ACE .... Advanced Certificate of Education

ANOVA .... Analysis of variance

BA .... Bachelor of Arts

BEd .... Bachelor of Education

BRiTE .... Building Resilience in Teacher Education

CFI .... Comparative Fit Index

CI .... Confidence Interval

CSR .... Centre for the Study of Resilience

DBE .... Department of Basic Education

ENTRÉE .... ENhancing Teacher REsilience in Europe

H_0 .... Null Hypothesis

H_1 .... Alternative Hypothesis

JPTD .... Junior Phase Teaching Diploma

M .... Median

N .... Sample Size

OECD .... Organisation for Economic Co-operation and
Development

SD .... Standard Deviation

SOC .... Sense of Coherence

SPSS .... Statistical Package for the Social Sciences

SPTD .... Senior Phase Teaching Diploma

TALIS .... Teaching and Learning International Survey

TeachEff .... Teacher Efficacy

TR-Emot .... Teacher Emotion

TR-Mot .... Teacher Motivation

TR-Prof .... Teacher Professionalism

TR-Soc .... Teacher Sense of Coherence

UP .... University of Pretoria

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CHAPTER 1
INTRODUCTION AND CONTEXT OF STUDY

1.1. INTRODUCTION AND RATIONALE

Globalisation and post-colonialism has resulted in inherent challenges in Global South countries, including marginalisation and structural disparity, which influence the development of these countries significantly. Education systems have been required to change and adapt to global forces, having far-reaching consequences for schools and teachers. Teachers are required to evolve in accordance with the changes in the teaching profession, necessitating acquiring new skills to teach at their best. In order for teachers to maintain their teaching ability, a resilience response is required when faced with these and other challenges inherent in the profession. Current literature defines teacher resilience as the ability to employ protective resources (Beltman, Mansfield, & Price, 2011), as well as coping strategies (Mansfield, Beltman, Broadley, & Weatherby-Fell, 2016) when faced with hardships as these would enable them to remain in the teaching profession (Ebersöhn, 2014).

It has become increasingly important to understand the influence of global and local economies on education since employment possibilities and the requirements of training systems are shaped interchangeably (Majhanovich, 2016). Furthermore, the force of globalisation has dramatically altered the way schools are conceived, where they are expected to imitate the efficiency, marketing and competition of private business (Smyth, Dow, Hattam, Reid, & Shacklock, 2005). Due to the decentralisation of funding and resources in many countries, education systems have become increasingly complex and the school's performance accountability is valued over teacher commitment and teaching quality (Gu, 2018). Therefore, the purposes of schools are shifting dramatically from educative to economic obligations and teachers are expected to follow the ideological directives of the business sector (Smyth et al., 2005).

The dominant neoliberal discourse essentially prescribes accountability and performance and contributes to a disregard for teacher capability (Gu, 2014). The dynamic knowledge economy distinctive to globalisation, in association with changing curriculum reforms, has resulted in teachers' having an increased workload (Gu, 2014). Amplified global competition has meant that governments started emphasising measurable outcomes through the use of performance management systems, school

inspections as well as external examinations (Gu & Day, 2013). To achieve transformation, schools are therefore continually expected to remain up to date with policy changes (Ebersöhn & Loots, 2017).

Countries in the Global South are characterised by historical colonial occupation, recent political democratisation, present contextual inequalities and struggles against poverty (Montiel, 2018). South Africa's infrastructure was moulded by its colonial history (Coovadia, Jewkes, Barron, Sanders, & McIntyre, 2009), the outcome being ever-increasing inequalities in living standards and more and more fragmented service delivery (Dados & Connell, 2012). This structural inequality, exacerbating severe poverty levels (Ebersöhn, 2014; Ebersöhn & Loots, 2017), has a significant impact on the effectiveness of South African teachers. In the Southern African context it has become paramount to investigate how teachers are able to resile despite such difficulties. As a result, research that focuses on teacher resilience has escalated (Ebersöhn, 2012, 2014; Ebersöhn & Loots, 2017).

Teacher accountability in South Africa is governed by Resolution 8 of 2003 of the Education Labour Relations Council, which introduced the Integrated Quality Management System (IQMS) (Shalem & Hoadley, 2009). Accordingly, teachers' daily work is regulated by quarterly work schedules, curriculum management systems as well as formal assessment tasks (Shalem & Hoadley, 2009). Furthermore, South Africa is struggling to provide quality education (Spaull, 2013), and most public schools in South Africa being positioned in poor, underdeveloped, rural communities where socio-economic challenges have a direct influence on teachers' commitment and quality of teaching plays a major role (Mansfield, Ebersöhn, Beltman, & Loots, 2018). Wright (2012) argues that South African schools experience challenges such as economic disparity, migration and being influenced by traditional leaders, especially in rural and challenged contexts (as cited in Coetzee, Ebersöhn, Ferreira, & Moen, 2015). In addition to these challenges, teachers are forced to work in the confines of an inadequate structure, suffer poor service delivery and haphazard policy implementation (Ebersöhn & Loots, 2017).

Schools mostly represent the medium of preparing children for participation and fulfilling certain roles in society (Masten, 2014). Accordingly, the safe space provided by schools can represent a secure base for children in challenging contexts (Masten, 2014). However, in South Africa a situation has arisen in which, due to the existing constraints, teachers are unable to provide the protective space in schools that

learners so desperately need (Bhana et al., 2006, as cited in Ebersöhn & Loots, 2017). To many teachers their classrooms have started to signify a space of struggle and pressure (Day, 2012). Challenges, increased workloads and a crisis of professional identity have caused teachers to view their ability through the lens of public scrutiny (Day, 2012).

Teacher burnout is not unique to the South African context (Coetzee et al., 2015) as high teacher attrition rates have become an international problem (Hong, 2012; Mansfield et al., 2016). However, Hurst and Rust (1990) argue that important additional concerns, including poverty and declining societal status, have a negative impact on teachers in developing countries such as South Africa (as cited in Coetzee et al., 2015). Teachers are thus faced with adverse working conditions that are evidently persistent and ever-increasing (Ebersöhn, 2014). However, to maintain high teaching quality in a changing world remains difficult (Gu, 2018). Teachers and schools are therefore required to become optimistic, fortified and most importantly, resilient (Gu, 2018). Therefore, since many teachers' lives are exposed to unpredictability, developing teacher resilience has become a necessity (Gu & Day, 2013).

The present study formed part of the Isithebe study, Centre for the Study of Resilience (CSR), University of Pretoria[1]. The study analysed baseline data derived from the Isithebe study, namely the completed Teacher Resilience Scales[2]. This study seeks to compare the teacher resilience traits of teachers at six primary schools in challenged contexts in the Global South as a way to contribute to knowledge on teacher resilience in spaces where structural disparity prevail.

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[1] The Isithebe study is a school-based intervention, a research study on social connectedness as a pathway to teacher resilience with teachers (n = 38; M = 2; F = 36) at six primary schools in socio-economically challenged contexts in the Eastern Cape.
[2] The Teacher Resilience Questionnaire consists of selected items from existing scales extracted from ENTRÉE (Peixoto, Wosnitza, Pipa, Morgan & Cefai, 2018), BRiTE (Mansfield, Beltman, Broadley & Weatherby-Fell, 2015), an assets-based model (Morgan, 2011), as well as contextual teacher resilience items (Coetzee, 2013). The questionnaire uses a Likert-type scale to measure teacher resilience and respondents are asked to rate the relevance of each item in terms of their career as a teacher on a scale from one to seven.
See Appendix A for an example of the Teacher Resilience Questionnaire.

1.2. BACKGROUND OF THE PRESENT STUDY

1.2.1. Isithebe study

With the view to inform knowledge on the teacher resilience of primary school teachers, the present study purposively sampled Teacher Resilience Questionnaires (Appendix A) from the Isithebe baseline data set, comparing both qualitative and quantitative baseline data. Conveniently sampled teachers (Male = 2; Female = 36) generated Isithebe data at purposively sampled primary schools (n = 6) in the Nelson Mandela Bay Metropole, Eastern Cape. Criteria for the convenient inclusion of teachers from the six sampled schools were their availability and willingness to participate, English proficiency as well as providing informed consent (See Appendix B). Criteria for the exclusion of teachers were those being unavailable, unwilling or not proficient in English.

The inclusion criteria for purposively sampling schools in the Isithebe study were peri-urban primary schools located within a challenged educational context in the Global South arena (indicated by the socio-economic class and quantiles of the school), while the exclusion criteria were secondary schools in rural and middle- and high-income environments. For the purpose of the present study the term 'challenged contexts' denotes school spaces with a differential economic and social change, resulting in major inequalities in living standard and access to resources (Dados & Connell, 2012), as indicated by the quintiles of schools.

The Education Series II: Focus on schooling in Eastern Cape (StatsSA, 2013) reported that 47,5% of households were living below the upper-bound poverty line and as such had the second-highest poverty levels of all the provinces in South Africa (StatsSA, 2013). In addition to this, the report constructed a learning environment deprivation index to indicate the number of learners considered to be deprived in the Eastern Cape (StatsSA, 2013). The index included: access to school infrastructure (including libraries and laboratories); basic services available at the school (water and electricity); presence of overcrowding (learner-classroom and learner-teacher ratios); availability of subjects and extracurricular activities; age of learners; and participation of parents in the business of the school (StatsSA, 2013). The report concluded that 19% of the nearly 601 000 learners in the foundation phase, and 31% of approximately 380 000 learners in the intermediate phase were considered to be deprived (StatsSA, 2013). The report furthermore indicated that only 19% of schools in the Eastern Cape have computer laboratories while only 33% of these schools have access to the

internet (StatsSA, 2013). The Department of Basic Education (DBE) (in the *Eastern Cape Annual Report 2015/16 Financial Year*) identified that high attrition rates among teachers and the poor supply of teachers in 'strategic gateway subjects' represented a major challenge to the province (Department of Education Eastern Cape, 2016, p. 29).

The Nelson Mandela Bay Metropole is indicative of a challenged context in the Global South milieu, therefore allowing a study on social connectedness and teacher resilience. This particular metropole has nevertheless reported an increase in overall human development (Eastern Cape Socio Economic Consultative Council, 2017). The Human Development Index measures three aspects of human development, namely healthy life, knowledge and living standard (Eastern Cape Socio Economic Consultative Council, 2017). The index provides a value between 0 and 1, where 1 denotes a high level of development (Eastern Cape Socio Economic Consultative Council, 2017). The Nelson Mandela Bay Metropole had an increase from below 0.6 in 2006 to 0.681 in 2016 (Eastern Cape Socio Economic Consultative Council, 2017). The population education level has also shown an increase, as is evident from the increase in number of people with matric or having completed higher education (Eastern Cape Socio Economic Consultative Council, 2017). In contrast, the Nelson Mandela Bay Municipality's Integrated Development Plan (2016) indicated that there is a strong prevalence of poverty and inequality in the area, as indicated by factors such as unemployment and low household income. In 2016, the Nelson Mandela Bay Metropolitan Municipality housed 1.26 million people, which constituted 2.3% of the country's total population (Eastern Cape Socio Economic Consultative Council, 2017). The young, working-age (25- to 44-year old) individuals represented the largest portion of the population (Eastern Cape Socio Economic Consultative Council, 2017). Yet, there was an increase in the total number of unemployed people between 2006 and 2016 and the Nelson Mandela Bay Metropole had 25.08% of the total number of unemployed people in the Eastern Cape (StatsSA, 2017). In 2016, the estimated percentage of households that were living on R30 000 or less per annum reached 16.40% (Eastern Cape Socio Economic Consultative Council, 2017). When applying the upper poverty line definition, the number of people living in poverty also increased over the 10 year period from 552 000 in 2006 to 640 000 in 2016 (Eastern Cape Socio Economic Consultative Council, 2017).

According to the South African Schools Act (Act No. 84 of 1996), the Minister of Education determines the funding provided to public schools based on a quintile ranking system (where quintiles 1 to 3 schools are declared no-fee-paying schools). No-fee-paying schools are usually situated in contexts characterised by disadvantaged socio-economic classes, which are determined by level of education and household income (Darin-Mattsson, Fors, & Kåreholt, 2017; South African Schools Act, Act No. 84 of 1996). Disadvantaged socio-economic classes have access to fewer resources and opportunities, while risks are more prevalent and the development of human capital is restricted as a result of resource constraints (Ebersöhn, 2016). As previously mentioned, the Nelson Mandela Bay Metropole is characterised by the prevalence of unemployment and low household incomes (Eastern Cape Socio Economic Consultative Council, 2017).

1.2.2. Description of the Isithebe sample

As indicated in Table 1.1, primary schools included in the existing Isithebe data set are classified by the DBE (2018) as quintile 3 schools, indicating that no school fees may be charged in accordance with the norms and standards of funding provided in the South African Schools Act (Act No. 84 of 1996). The six primary schools in the present study are identified as public schools in an urban area (Nelson Mandela Bay Metropole), with high learner-to-teacher ratios, as indicated in the annual *Government Gazette* published by the DBE (2018). Table 1.1 furnishes details of the characteristics of the six primary schools (where the quintiles of the schools served as indicator of these schools being socio-economically challenged contexts) (DBE, 2018).

Table 1.1: Characteristics of primary schools included in the Isithebe sample (DBE, 2018)

School	Sector	Quintile	Urban or rural	Total learners	Total educators	Learner: Teacher ratio
1	Public	3	Urban	796	22	36,2:1
2	Public	3	Urban	645	19	33,9:1
3	Public	3	Urban	977	26	37,6:1
4	Public	3	Urban	1489	39	38,2:1
5	Public	3	Urban	1416	36	39,3:1

School	Sector	Quintile	Urban or rural	Total learners	Total educators	Learner: Teacher ratio
6	Public	3	Urban	1061	27	39,3:1

Isithebe baseline data include demographic information[3] regarding participants' gender, age, home language, grade and subject taught, as well as the length of their teaching career. Table 1.2 provides the composition of the demographic information of the participants (peri-urban primary school teachers) in the data set.

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[3] See Appendix C.

Table 1.2: Demographic characteristics of teachers included in the Isithebe sample

Primary school	Teacher	Gender	Age	Home language	Teacher qualifications	Grade teaching	Subjects teaching	Teaching duration	Total teachers per school
1	1	F	58	IsiXhosa and English	Senior Phase Teaching Diploma (SPTD); Remedial Education; Educational Psychology	Grade 7	English, Social Science and Technology	More than 24 years	6
	2	F	50	IsiXhosa	Junior Phase Teaching Diploma (JPTD); Remedial Education; Bachelor of Education (BEd)	Grade 4	IsiXhosa	Between 15 and 24 years	
	3	F	57	IsiXhosa	BEd Honours	Grade 3	IsiXhosa, Maths, English, Life Skills	More than 27 years	
	4	F	50	IsiXhosa	BEd Intermediate Phase	Grade 3	IsiXhosa, Maths, English, Life Skills	Between 15 and 24 years	
	5	F		(No further biographical information available)					
	6	F							
2	7	F	53	IsiXhosa	JPTD; BEd Honours	Grade 3	IsiXhosa, Maths, English, Life Skills	Between 15 and 24 years	5
	8	F	43	IsiXhosa	Early Childhood Development	Grade R	(No information available)	(No information available)	
	9	F	53	IsiXhosa	JPTD; BEd	Grades 4–7	English, Social Science	More than 24 years	

Primary school	Teacher	Gender	Age	Home language	Teacher qualifications	Grade teaching	Subjects teaching	Teaching duration	Total teachers per school
	10	F	48	(No information available)	JPTD	Grade 1	Foundation Phase subjects	Less than 15 years	
	11	F	50	IsiXhosa	JPTD; BEd Honours	Grade 3	IsiXhosa, Maths, English, Life Skills	Between 15 and 24 years	
3	12	F	38	IsiXhosa	NQF level 4	Grade R	IsiXhosa, Maths, Life Skills	Less than 15 years	5
	13	F	54	IsiXhosa	JPTD	Grade 2	All Junior Phase subjects	Between 15 and 24 years	
	14	M	50	IsiXhosa	Senior Teachers Diploma; Advanced Certificate of Education (ACE); BEd Honours	Grade 7	Maths and Natural Science	More than 28 years	
	15	F	49	IsiXhosa	Foundation Phase Diploma; BEd	Grade 1	IsiXhosa, English, Maths, Life Skills	Between 15 and 24 years	
	16	M	31	IsiXhosa	BEd of Arts and Culture	Grades 4–7	IsiXhosa, Economic Management Sciences and Creative Arts	Less than 15 years	
4	17	F	45	IsiXhosa	Senior Primary Education Diploma	Grade 4	Natural Science and IsiXhosa	Less than 15 years	8

Primary school	Teacher	Gender	Age	Home language	Teacher qualifications	Grade teaching	Subjects teaching	Teaching duration	Total teachers per school
	18	F	47	IsiXhosa	JPTD; ACE, Life Orientation	Grade 3	IsiXhosa, English, Maths, Life Skills	Less than 15 years	
	19	F	53	IsiXhosa	Diploma	Grade 2	IsiXhosa, English, Maths, Life Skills	More than 24 years	
	20	F	(No information available)	IsiXhosa	JPTD	Grade 3	All Foundation Phase subjects	More than 24 years	
	21	F	54	IsiXhosa	JPTD; Bachelor of Arts (BA); Honours	Grade 6	Life Skills and Social Sciences	More than 24 years	
	22	F	53	IsiXhosa	JPTD	Grade 1	IsiXhosa, English, Maths, Life Skills	Less than 15 years	
	23	F	60	IsiXhosa	JPTD; Remedial Education	Grade 2	All JP subjects	More than 24 years	
	24	F	60	IsiXhosa	JPTD; Remedial Education	Grade 4	Social Science and Life Skills	More than 24 years	
5	25	F	49	IsiXhosa	Junior Primary	Grade 1	All Foundation Phase subjects	Less than 15 years	2

Primary school	Teacher	Gender	Age	Home language	Teacher qualifications	Grade teaching	Subjects teaching	Teaching duration	Total teachers per school
	26	F	47	IsiXhosa	BA Honours in Education	Grade 2	All subjects	Between 15 and 24 years	
6	27	F	55	IsiXhosa	Diploma in Education	Grades 4 & 5	English	Less than 15 years	12
	28	F	52	IsiXhosa	SED; ACE	Grade 4-6	Life Skills	Less than 15 years	
	29	F	63	IsiXhosa	BEd	Grade 7	English, Economic & Management Sciences	More than 24 years	
	30	F	46	IsiXhosa	NQF level 2; NQF level 4	Grade 12	All subjects	Less than 15 years	
	31	F	46	IsiXhosa	JPTD; Remedial	Grade 1	IsiXhosa, Maths and Life Skills	Between 15 and 24 years	
	32	F	53	IsiXhosa	JPTD	Grade 3	All Foundation Phase subjects	Less than 15 years	
	33	F	54	IsiXhosa	JPTD	Grade 2	All Foundation Phase subjects	Less than 15 years	
	34	F	52	IsiXhosa	Teacher's Diploma – Junior Phase; Foundation Phase	Grade 3	All Foundation Phase subjects	Less than 15 years	
	35	F	55	IsiXhosa	Diploma ACE (Life Orientation)	Grades 4 & 5	Natural Science and Technology	Less than 15 years	

Primary school	Teacher	Gender	Age	Home language	Teacher qualifications	Grade teaching	Subjects teaching	Teaching duration	Total teachers per school
	36	F	23	IsiXhosa and English	BEd Foundation Phase	Grade 3	All Foundation Phase subjects	Less than 15 years	
	37	F	47	IsiXhosa	Early Childhood Development	Grade R	Maths, life skills and English	Less than 15 years	
	38	F	33	IsiXhosa	Early Childhood Development	Grade R	Language, Life Skills, Numeracy	Less than 15 years	
								Total teachers in data set	**38**

1.2.3. Purposive sampling in the present study: Teacher Resilience Questionnaires from the existing Isithebe baseline dataset

The choice of purposive sampling as a sampling technique was informed by the resources available as well as the context of the study (Laher & Botha, 2012). The quantitative Teacher Resilience Questionnaire data, derived from the Isithebe baseline data set was available for purposive sampling. The existing data was therefore readily available through the ongoing partnership in the broader research project and was furthermore characteristic of the population relevant to this study (Durrheim & Painter, 2014). Thus, the specific research purpose of the present study (Maree & Pietersen, 2016a), magnified the suitability of purposive sampling as sampling method. Previous research and the research expertise of the supervisors enabled the researcher to select a sample from the data set (Laher & Botha, 2012). Purposive sampling was efficient and more realistic to employ for the present study as it saved the time and effort to find specific data on the teacher resilience of peri-urban primary school teachers in challenged contexts (Laher & Botha, 2012).

It is important to take into account that purposive sampling is vulnerable to researcher bias (Sharma, 2017; Tongco, 2007), the results are not representative (Acharya, Prakash, Saxena, & Nigam, 2013), and only generalizable to the population studied (Tongco, 2007). As such there is consequently no basis for estimating the amount of potential error that could occur during sampling (Miller, 2003). However, purposive sampling allows for the reliable representation of a population if the selection was based on representativity (O'Leary, 2017). It can be assumed that the results will only be generalizable to the population studied (peri-urban primary school teachers in challenged contexts) or populations in similar settings. However, since the aim of the Isithebe study was to investigate the teacher resilience of peri-urban primary school teachers in challenged contexts, these factors are aligned with the research focus of the present study. The present study nevertheless endeavoured to address these concerns by investigating additional information on the characteristics of the population through the use of survey-type resources.

The Teacher Resilience Questionnaire includes items from existing scales generated from the *FIT-Choice scale* (Watt & Richardson, 2007), the *ENTRÉE Project* (Peixoto et al., 2018), the *BRiTE project* (Mansfield et al., 2015), the asset-based model designed by Morgan (2011), as well as contextual teacher resilience items (Coetzee, 2013).

The Teacher Resilience Questionnaire investigates the self-perceptions of ability and subjective, intrinsic values (Watt & Richardson, 2007) and beliefs, skills or strategies teachers use to cope within challenging situations (Peixoto et al., 2018). Accordingly, the focus of the questionnaire is on internal, protective resources, as teacher practice shows some variation in resilience strategies throughout the span of their careers, during which teachers act as agents in choosing adaptive strategies to overcome hardships (Castro, Kelly, & Shih, 2010).

With regard to the FIT-Choice Scale, Watt and Richardson (2007) found that *teacher motivation* research lacked a sufficient theoretical model to guide their research. In response they operationalised a scale to assess motivation in teaching as a career choice. They employed an expectancy value motivation model to guide their investigation, incorporating themes identified in literature to contextualise the FIT-Choice Scale (Watt & Richardson, 2007, 2008; Watt et al., 2012). A validation study was furthermore conducted on Australian pre-service teachers and this scale was even further validated in various international contexts, including Norway, Germany and Ghana (Salifu, Alagbela, & Gyamfi Ofori, 2018; Watt & Richardson, 2007, 2008; Watt et al., 2012).

ENTRÉE (ENhancing Teacher REsilience in Europe) (Peixoto et al., 2018) sought to provide learning opportunities and resources in order to empower and *build teacher capacity* in Europe. The theoretical framework guiding the project specifically focused on the effect of *teacher professionalism, motivation* as well as *social and emotional resources* on teacher resilience.

BRiTE (Building Resilience in TEachers) (Mansfield et al., 2015) acknowledges the increasing demands on teachers and the subsequent effect it has on teacher quality. In response, the project focused on building the resilience of pre-service teachers through online modules (Mansfield et al., 2015). The project was guided by a framework that highlighted the importance of *personal resources, contextual resources, strategies and outcomes* for teacher resilience (Mansfield et al., 2015).

The Teacher Resilience Questionnaire includes seven scales as sourced from the aforementioned projects. The scales focused on the domains of *teacher professionalism* (TR-Prof), *teacher emotion* (TR-Emot), *teacher motivation* (TR-Mot), *teacher sense of coherence* (TR-Soc) (Peixoto et al., 2018; Watt & Richardson, 2007, 2008; Watt et al., 2012), and *contextual items* (Coetzee, 2013). Responses to the statements in each of the domains are recorded on a seven point Likert scale (ranging

from 1 = Do not agree at all to 7 = Strongly agree). Other domains include *teacher resilience* (Resilience)[4] and *teacher efficacy* (TeachEff), which assessed respondents' confidence to manage or recover from challenges (Morgan, 2011). Respondents were also asked to indicate their confidence on a Likert-type scale (ranging from 1 = Absolutely not confident to 7 = Strongly confident) (Morgan, 2011).

1.3.   PURPOSE AND OBJECTIVES OF THE STUDY

The purpose of the study was to compare social entities across a variety of categories in order to determine similarities or variances (Mills, Van de Bunt, & De Bruijn, 2006) and in doing so contribute new knowledge of and gain insight into teacher resilience. The present study therefore statistically analysed electronically captured baseline questionnaire derived data on teacher resilience to investigate how well the underlying variable structure of the questionnaire hold in the setting of South African peri-urban primary schools in challenged contexts.

The present study furthermore aimed to compare the resilience of peri-urban primary school teachers in and across schools in challenged contexts. In order to facilitate this comparison, the study compared teacher resilience across schools and age. According to Beltman et al. (2011), teacher resilience is a relatively new research area and to gain a full understanding of the concept requires investigating the complex relationship between the risk factors and protective resources evident in the profession. Although literature describes teacher resilience as process-oriented, all teachers practice a variety of resilience strategies over the span of their careers (Castro et al., 2010). Teachers are known to act as agents in choosing adaptive strategies to overcome hardships (Castro et al., 2010). Therefore, the present study focused on **describing contextual resources and investigating traits that can act as either protective resources or risk factors which support or inhibit teacher capacity to resile** indicated in the Teacher Resilience Questionnaire.

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[4] Operationalised as confidence in teacher capacity to resile.

1.4. RESEARCH QUESTIONS

1.4.1. Primary research question

How can insight into teacher resilience of peri-urban primary school teachers in schools in challenged contexts (statistically compared in-case and across-case) inform teacher resilience knowledge?

1.4.2. Secondary research questions

The following secondary research questions served to guide and assist in answering the primary research question:

- How well does the underlying variable structure of the Teacher Resilience Questionnaire hold in the setting of South African peri-urban primary schools in challenged contexts?
- How does teacher resilience compare across (a) schools and (b) age in-case and across-case in peri-urban primary school teachers in challenged contexts?

1.5. HYPOTHESES

Lopez, Valenzuela, Nussbaum, and Tsai (2015) state that a good hypothesis should be testable, exact and informed by the aims of the research. The quantitative hypotheses under consideration for study are as follows (Christensen, Johnson, & Turner, 2014; Pietersen & Maree, 2016c):

H_0: Internal consistency of one or more scales on the Teacher Resilience Questionnaire in the setting of South African peri-urban primary schools in challenged contexts is low.

H_1: Internal consistency of one or more scales on the Teacher Resilience Questionnaire in the setting of South African peri-urban primary schools in challenged contexts is high.

The null hypothesis indicates that the internal consistency of one or more scales on the Teacher Resilience Questionnaire in the setting of South African peri-urban primary schools in challenged contexts is low. The alternative hypothesis should align with what is expected by the research and refute the null hypothesis (Lopez et al., 2015). Therefore the alternative hypothesis states internal consistency of one or more

scales on the Teacher Resilience Questionnaire in the setting of South African peri-urban primary schools in challenged contexts is high.

H$_0$: There is no statistically significant difference in teacher resilience between the schools.
H$_1$: There is a statistically significant difference in teacher resilience between the schools.

H$_0$: There is no statistically significant difference in teacher resilience between age groups.
H$_1$: There is a statistically significant difference in teacher resilience between the age groups.

For the comparative analysis of two groups, e.g. two age groups, the non-parametric Mann-Whitney test is used. If the p-value is less than 0,05, the null hypothesis is rejected and there is a statistically significant difference between the genders. On the other hand, if the p-value is greater than 0,05, the null hypothesis is not rejected and there is no statistically significant difference between the genders. For the comparative analysis of three or more groups, e.g. the schools, the non-parametric Kruskal-Wallis test is used. If the p-value is less than 0,05, the null hypothesis is rejected and there is a statistically significant difference between the schools. On the other hand, if the p-value is greater than 0,05, the null hypothesis is not rejected and there is no statistically significant difference between the schools.

1.6. CONCEPT CLARIFICATION
1.6.1. Comparing in-case and across-case
Mills et al. (2006) define comparative studies as a process of comparing social systems, both quantitatively and qualitatively, across a variety of categories, with the purpose of searching for similarities or variances. In the present study, the term 'comparing in-case and across-case' specifically referred to the quantitative understanding of teacher resilience of teachers both within and across peri-urban primary schools in challenged contexts.

1.6.2. Statistically

'Statistically' denotes the use of certain methods to describe and interpret information (Salkind, 2011). For the purpose of this study 'statistically' referred to techniques employed in order to describe, interpret and compare quantitative teacher reports on teacher resilience from six peri-urban primary schools in challenged contexts.

1.6.3. Teacher Resilience

'Teacher resilience' is described as the ability to remain committed to the teaching profession when faced with adverse conditions associated with the education sector (Ebersöhn, 2014) by utilising protective resources (Beltman et al., 2011), personal resources, as well as coping strategies (Mansfield et al., 2016) in order to resile in adverse education conditions. *In the present study 'teacher resilience' refers to teacher capacity (in this study referring to traits) of peri-urban primary school teachers to resile (in challenged contexts).* Teacher resilience was indicated in measures (see Footnote 2) as teacher professionalism, teacher emotion, teacher motivation, teacher sense of coherence, teacher efficacy, contextual factors and teacher resilience[5].

1.6.4. Teachers in Primary Schools

A teacher refers to an individual who conveys information by assisting, intervening and directing learners in the learning process (Fraser, 2006). In South Africa, schools are classified based on a variety of factors such as ownership, size and level of schooling available. However, the term 'primary schools' refers to a classification based on sub-sectors and specifically refers to education from Grades R to 7 (DBE, 2009). In the present study, the term 'teachers in primary schools' specifically referred to 38 teachers at six peri-urban primary schools in the Eastern Cape.

1.6.5. Schools in challenged contexts

The schools that are identified as being 'schools in challenged contexts' can be conceptualised as 'inherited structural disparities' (Ebersöhn & Loots, 2017) that act as barriers (Ebersöhn, 2017) or adversities in the life of an individual. Although such contexts occur worldwide, the focus of place in this study is on South Africa as a country outside of Europe and North America, and instead as part of the Global South

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[5] Operationalised as confidence in teacher capacity to resile.

(Dados & Connell, 2012). Global South countries share a history of colonial occupation (Montiel, 2018) and as a result had to adapt to marginalisation, inequalities in living standard and access to resources (Dados & Connell, 2012). For the purpose of the present study, 'schools in challenged contexts' referred to schools in lower socio-economic class neighbourhoods in the Nelson Mandela Bay Metropole, Eastern Cape, where teachers faced environmental difficulties such as poverty, disorganised service delivery and an overall lack of resources and support. The South African Schools Act (Act No. 84 of 1996) provides for schools in socio-economically disadvantaged contexts by classifying these schools as no-fee-paying schools by means of a quintile ranking system (in which quintiles 1 to 3 schools are declared no-fee-paying schools). The six peri-urban primary schools in the data set were classified as quintile 3 schools. The quintiles of the schools as well as socio-economic class of the area were identified as indicators of challenged contexts. In addition, the quintiles were used to sample the schools from the existing Isithebe data set.

1.7. PARADIGMATIC LENSES: THEORETICAL FRAMEWORK, EPISTEMOLOGY AND RESEARCH METHODOLOGY

1.7.1. Theoretical framework: Sense of Coherence Theory

Antonovsky's Sense of Coherence Theory (1979) was employed as a theoretical framework to guide the present study. Antonovsky (1979) viewed individuals as heterostatic and not homeostatic, meaning he was faced with the question of why some people continue to flourish in the face of severe hardships while others flounder (Eriksson & Lindström, 2006). In response, Antonovsky (1979) analysed both quantitative and qualitative data (Almedom, 2005) to form his Sense of Coherence (SOC) theoretical model and to explain the interaction between flourishing and feeling life's stresses (Antonovsky & Sagy, 1986). SOC is defined as a:

> … global orientation that expresses the extent to which one has a pervasive, enduring, though dynamic, feeling of confidence that one's internal and external environment are predictable and that there is a high probability that things will work out as well as can reasonably be expected (Antonovsky, 1979, p.132).

In forming his theory, Antonovsky (1979) allowed access to interdisciplinary dialogue as other researchers had also built upon the construct of his SOC in their own research on resistance to stress, including the field of resilience (Almedom, 2005). Both

resilience and the SOC investigate an individual's ability to deem daily stressors as comprehensible and manageable (Schnyder, Büchi, Sensky, & Klaghofer, 2000) in order to achieve positive outcomes (Masten, 2001). Therefore, resilience and SOC are both process-oriented (Beltman et al., 2011) and investigate how individuals are capable of succeeding in the face of adversities (Ebersöhn, 2014; Schnyder et al., 2000) to overcome challenges (Castro et al., 2010; Ebersöhn, 2017). Accordingly, protective resources and risk factors form part of this process (Beltman et al., 2011). Risk factors refer to threats and stressors that pose a substantial threat to an individual's development (Masten, 2001). Although SOC defines protective resources as 'generalised resistance resources' (GRR) (Almedom, 2005, p. 256), both SOC and resilience define them as assets (Masten, 2001), which enable an individual to manage and adapt to environmental challenges (Almedom, 2005; Ebersöhn, 2014) and thus enable the teachers to achieve better outcomes (Masten, 2001).

Based on SOC, teachers evaluate their adverse conditions based on its comprehensibility, manageability and meaningfulness (Antonovsky & Sourani, 1988). When teacher environments are perceived as predictable and manageable, teachers have the motivation to confront the problems, utilising their internal resources to address these stressors or threats (Antonovsky & Sourani, 1988; Masten, 2001).

The SOC theoretical framework was considered suitable for the present study as it is characteristically flexible, allowing individuals to select the coping behaviours and resources that they deem appropriate, thus allowing for situational and cultural variance (Antonovsky & Sourani, 1988). In addition, it is not limited to specific life areas and as such it postulates a worldview of coping behaviour (Antonovsky & Sourani, 1988). Therefore, it is applicable to this study since it provided a lens through which to investigate teacher resilience in schools and across schools in challenged contexts. Aligned with the Teacher Resilience Questionnaire's conceptualisation of teacher resilience as a trait, Antonovsky (1979) developed SOC as a trait which forms part of a person's development (Feldt, Leskinen, Kinnunen, & Ruoppila, 2003) and may thus imply that SOC is subjective about an individual's development. However, multiple studies have indicated that SOC does not remain stable over time (Eriksson & Lindström, 2005; Feldt et al., 2003). As a result, this limitation was addressed by viewing SOC as a dynamic life perspective that may fluctuate with an individual's life events (Feldt et al., 2003). Another limitation related to the trait perspective, is that people with a low SOC might be stigmatised as they are viewed only in terms of their

challenging contexts (Eriksson & Lindström, 2005). This limitation was addressed in the present study by not focusing on the risk factors but rather on those internal protective resources available to teachers in challenged contexts (Eriksson & Lindström, 2005). As a result, SOC was utilised to understand how peri-urban primary school teachers comprehended, managed and found meaning in challenged contexts, while also recognising those resources which allowed them to overcome adversities.

1.7.2. Epistemology: Post-positivism

A post-positivist paradigm (viewed as an extension to positivism) was employed as it is fundamentally deterministic (Creswell & Creswell, 2018); it investigates causal laws that are perceivable when scientific methods are applied (Krauss, 2005). As such, post-positivism is regarded as an empirical concept (Krauss, 2005), whereby a statement is only meaningful if it can be scientifically tested and verified (Paley, 2008). Essentially, this paradigm was utilised to provide empirically reliable data and explanations (Tuli, 2010) of teacher resilience. Based on the results of studies in this regard, this paradigm predicts reality (Krauss, 2005) by investigating the underlying laws governing it (Tuli, 2010).

The present study aimed to investigate and analyse teacher resilience in peri-urban primary schools by using data from reliable and valid baseline questionnaires. Thus, the present study aligned with the aims of the post-positivistic approach of 'developing numeric measures of observations and studying the behaviour of individuals' (Creswell & Creswell, 2018, p. 36). The advantage of following this paradigm was the high standards of rigour the present study adopted during the research process (Scotland, 2012) as well as producing explicit evidence to support conclusions (Ryan, 2006). In addition, the findings generated through this paradigm were essentially systematic, comparative and based on the description of a small data set.

Post-positivism works on the assumption that social events are governed by law-like realities and seeks to describe and predict these social phenomena (Tuli, 2010). This paradigm postulates that investigation of an objective reality is based on observation and measurement, although Ryan (2006) maintains that this objectivity does not necessarily represent facts as it lacks context. The researcher must therefore attempt to remain as objective as possible during the research process (Creswell & Creswell, 2018), while scrutinising their own subjective assumptions regarding

conclusions made (Ryan, 2006). Consequently, it was necessary to remain cognisant of the lenses (by way of assumptions) about conclusions drawn from the results (Ryan, 2006) and subsequent limitations of objectivity (Ramlo & Newman, 2011). The present study aimed to adopt a distanced view in order to gain a fuller perspective of the data (Ryan, 2006) by taking into account the nature of reality and what appears to resemble reality (De Vos, Strydom, Fouché, & Delport, 2011).

It is, however, important to consider the challenges and limitations associated with post-positivism. It is possible that incorrect statistical tests may be applied during data analysis, for example employing parametric statistical techniques where data are not normally distributed (Scotland, 2012). It was therefore necessary to investigate the characteristics of the data set in order to find the correct statistical techniques to use. The nature of post-positivism, leaving it open to generalisation, may have led to exclusion of respondents' intentionality and may thus have resulted in a limited understanding of their perspectives (Scotland, 2012). Researchers may as a consequence have used their research as a reason not to act (Scotland, 2012). However, the present study endeavoured to overcome failure to take action by adopting a reflexive stance and critically considering assumptions regarding the context of the data set while also adopting a flexible approach to the research process (Ryan, 2006). Accordingly, the present study used reflexivity (Carcary, 2009; Ryan, 2006) by keeping a researcher journal (Nieuwenhuis, 2016; Rodgers, 2008). In order to assist with reflexive thinking (Carcary, 2009), an audit trail was utilised which provided a detailed account of the research process that was followed as well as the decisions made (Nieuwenhuis, 2016). According to O'Leary (2017), it is necessary for research to be auditable, since the reproduction of findings may not be possible in context-specific research. The present study therefore aimed to employ a transparent explanation of the research process followed.

1.7.3. Research Methodology: Quantitative research

A quantitative methodological approach was followed by using existing data relating to quantitative teacher resilience. Tuli (2010) posits that the guiding paradigm of a study informs the selection of a research methodology. Therefore, the present study adopted a post-positivistic paradigm. Post-positivism is mostly associated with quantitative studies since it utilises measures such as fixed instruments or psychological questionnaires (Krauss, 2005), in order to investigate numerical data

and test quantifiable hypotheses (Creswell & Creswell, 2018). Quantitative studies therefore postulate an orientation towards research, which is consistent with the post-positivist paradigm (Tuli, 2010).

The choice of methodology for the present study was informed by the purpose of the study and its ability to address the research questions (Ridenour & Newman, 2008) and enlighten the researcher as well as the audience (Creswell & Creswell, 2018). Quantitative studies allowed examination of the relationship between teacher resilience variables and constructs of the Teacher Resilience Questionnaire. By analysing the nature of teacher resilience through the use of statistical procedures, the present study aimed to address the relevant research questions (Creswell & Creswell, 2018), in so doing aligning with both the aim and process of a quantitative methodological research approach.

Creswell and Creswell (2018) proposes that this methodology has many advantages. These advantages include allowing the replication of findings, being better able to protect against researcher bias and serving as control for alternative theories (Creswell & Creswell, 2018). However, a potential limitation is that rich data such as personal meaning to participants are usually sacrificed (Ridenour & Newman, 2008). Quantitative research does not necessarily allow for detailed descriptions of individual cases (Ryan, 2006). In addition, due to the distanced view adopted by the researcher during quantitative analysis, important research skills such as the ability to interpret and find meaning might not have been developed (Terre Blanche, Kelly, & Durrheim, 2014).

1.8. BRIEF OVERVIEW OF RESEARCH DESIGN

This is an introduction to secondary data analysis, which is depicted in Figure 1.1, as a detailed discussion of the research design utilised in the present study is provided in Chapter 3. The methodological approaches as well as research problem of the present study guided the choice of research design (Creswell & Creswell, 2018). Secondary data analysis, defined as analysis of previously collected data (Johnston, 2014), was therefore convenient to employ as a research design since quantitative teacher resilience data from the Isithebe baseline data set were analysed and compared. The present study did not have any part in the research design or data collection of the initial study and information regarding research decisions was therefore collected through contact with the primary researchers. In addition to this, a

comprehensive literature review was done and information moreover obtained from survey resources, which served to enhance understanding of the data set.

1.9. SUMMARY OF PARADIGMATIC LENSES, QUALITY CRITERIA AND ETHICAL CONSIDERATIONS

Figure 1.1 provides an overview of the study. Completed Teacher Resilience Questionnaires (n = 38; Males = 2; Females = 36) from conveniently sampled teachers in purposively selected peri-urban primary schools were used to inform this overview. Figure 1.1 illustrates that a comparison of Teacher Resilience Questionnaires took place to address the purpose, objectives, and research questions of the study. The paradigms employed in the present study are also indicated in Figure 1.1 and discussed in Section 1.7 of this chapter. Antonovsky's SOC theory (1979) as a theoretical framework guided the present study as regards to how peri-urban primary school teachers are able to resile in challenged contexts. Post-positivism was selected as a paradigmatic lens since the high standards of rigour permitted a fuller, more objective perspective of the data whilst still taking into consideration possible researcher influence (Ryan, 2006). A quantitative methodological approach was followed as it allowed the investigation of teacher resilience variables by testing quantifiable hypotheses. Secondary data analysis as research design further directed the study in comparing extant data on teacher resilience (see Chapter 3 for a detailed discussion). Descriptive and inferential statistical techniques were employed to analyse the data. In order to provide credible and reliable research, the present study ensured that standards relating to rigour (O'Leary, 2017), and ethical standards and requirements were adhered to.

Figure 1.1: Overview of the study

The flowchart contains the following elements:

Isithebe study baseline data on Teacher Resilience from conveniently sampled teachers at six purposively selected peri-urban primary schools in socio-economically challenged contexts in the Eastern Cape. Purposively selected completed Teacher Resilience Questionnaires (n = 38; Male = 2; Female = 36).

Purpose of study

Compare Teacher Resilience Questionnaires to inform knowledge on how teachers are able to resile despite adversities and continue their commitment to the profession.

How can insight into teacher resilience of peri-urban primary school teachers in schools in challenged contexts (compared in-case and across-case statistically) inform teacher resilience knowledge?

Objectives

- Investigate how well the under underlying variable structure of the Teacher Resilience Questionnaire hold up the setting of South African primary schools in challenged contexts
- Compare teacher resilience across schools and age.

- *How well does the underlying variable structure of the Teacher Resilience Questionnaire hold in the setting of South African peri-urban primary schools in challenged contexts?*
- *How does teacher resilience compare across (a) schools and (b) age in-case and across-case in peri-urban primary school teachers in challenged contexts?*

Paradigms

Theoretical: Antonovsky's Sense of Coherence Theory (1979)

Epistemology: Post-positivism

Research methodology: Quantitative

Research design: Secondary Data Analysis

- Descriptive statistical techniques
- Inferential statistical techniques

The study adhered to the ethical considerations in the approved Isithebe protocol.[6] Additional consideration was given to issues of informed consent and confidentiality associated with secondary data by establishing ethical access to participant data.

Data sampling: Purposive sampling

Data Analysis

Ethical considerations

Standards of rigour

Objectivity	Awareness of researcher influences on the process and thus the limited capacity of objectivity was considered and addressed (Ramlo & Newman, 2011; Ryan, 2006).
Validity and reliability	Watt and Richardson (2007) established validity and reliability of the questionnaire during development of the FIT-Choice scale.
Generalizability	Results are generalizable to primary school teachers in similarly challenged contexts as purposive sampling was employed.
Reproducibility	Reproduction of findings may not be possible as the present study is context-specific and auditability therefore had to be proved (O'Leary, 2017).

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[6] Ethics reference number: EP 06/11/01 Versveld 19-001

1.10. CHAPTER OUTLINE

1.10.1. Chapter 1: Introduction and context of the study

Chapter 1 provides an introduction by contextualising the rationale, purpose and objectives of the study. Research questions, hypotheses and key concepts are discussed in order to direct the reader's understanding, while paradigmatic decision-making is summarised in terms of their suitability for the conclusion of the chapter.

1.10.2. Chapter 2: Literature review

Chapter 2 provides an appraisal of current literature regarding teacher resilience as well as a discussion of the conceptual framework underpinning the present study. The literature is contextualised by reviewing challenged contexts as characterised in a Global South milieu, and explains how it contributes to the understanding of teacher resilience. Furthermore, the present knowledge gaps in literature are identified, and the chapter includes a discussion of possible contributions by the present study.

1.10.3. Chapter 3: Research methodology

Chapter 3 depicts the research process and subsequent methodological frameworks applicable to the present study. As a result, the research design elements, chosen research design and data analysis process employed to test hypotheses are presented and justified. To ensure that credible research is produced, the ethical considerations and standards of rigour applicable and maintained in the research process are described.

1.10.4. Chapter 4: Results of the study

In Chapter 4 the results obtained are presented and discussed in terms of descriptive, reliability and inferential statistical measures. The understanding and interpretation of results are guided by the literature considered in Chapter 2 and the theoretical framework employed in the study.

1.10.5. Chapter 5: Conclusions and recommendations

In Chapter 5, the study is concluded by virtue of attempting to address the research questions posed in Chapter 1. This is facilitated through addressing and explaining the results of the study by utilising the literature review and theoretical framework of the

study. In conclusion, the limitations and strengths of the study were discussed and recommendations for further research made.

1.11. CONCLUSION

The purpose of Chapter 1 was to introduce the present study by detailing the outline of the research conducted. Furthermore, in order to provide for the contextualisation of the present study an overview of the background of the Isithebe baseline data set was included. Chapter 2 investigates teacher resilience and how it can be nurtured in challenged contexts by appraising and discussing current literature. As such, in Chapter 2 the present study is grounded in existing literature by exploring the relevant knowledge base on teacher resilience while integrating the theoretical framework as a guide.

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CHAPTER 2
LITERATURE REVIEW

2.1. INTRODUCTION

Chapter 1 provided an outline of the present study by discussing its purpose, objectives, research questions as well as hypotheses. Furthermore, the chapter provided the contextual background of the study, clarified key concepts and introduced and discussed the paradigmatic lenses.

This chapter explored literature related to the objective of this study, namely reviewing existing knowledge on teacher resilience in challenged contexts. To this end a discussion of globalisation, postcolonialism and the Global South is included in order to contextualise the current body of knowledge on teacher resilience. Due consideration was given to the effects of these phenomena on education systems. Subsequently, the necessity of teacher resilience in challenged contexts were explored. Emphasis was placed on the process involving teacher resilience by providing a detailed discussion of risk factors and protective resources, especially evidence of the internal protective resources teachers mobilise to resile. Lastly, the conceptual framework of the study was explained.

2.2. POSTCOLONIALISM, GLOBALISATION AND THE GLOBAL SOUTH

2.2.1. Introduction

In order to understand the necessity of teacher resilience in challenged contexts, it is important to explore the factors contributing to and affecting teachers' ability to resile. The effects of globalisation as well as challenges inherent to a postcolonial, Global South context greatly influence education systems and therefore also teachers. Lastly, a Global South context is characterised by enduring and persistent challenges such as marginalisation and structural disparity, which further exacerbate the adversities inherent in the teaching profession.

2.2.2. Postcolonialism

Postcolonialism refers to a prolonged process of disentanglement, which resulted in some countries still being caught up in the colonialist aftermath (Tikly & Bond, 2013). As a consequence, the colonial past of countries are still reflected in the composition of current societies (Young, 2016). Colonialism refers to the expansion of Europe over

the past few centuries by means of cultural exploitation (Ashcroft, Griffiths, & Tiffin, 2007) including histories of slavery, neglect and forced migration (Young, 2016). The process of colonialisation is both specific and problematic, since the globalised imperial power forced different societies down the same economic route (Young, 2016). This resulted in a global economic order primarily developed and dominated by these colonial powers (Young, 2016). Accordingly, an unequal economic, cultural and social power hierarchy was established (Ashcroft et al., 2007; Young, 2016). Neo-colonialism suggests ex-colonial powers as well as emerging superpowers continue to play a decisive role in the culture and economies of previously colonialized countries after they had achieved political independence (Ashcroft et al., 2007). This state denotes the struggle of developing economies under the pressure of globalisation to gain an independent economic and political identity (Ashcroft et al., 2007). Many consider globalisation as a continuation of colonial exploitation (Ashcroft et al., 2007).

A postcolonial view of education essentially focuses on the continued influence of a European colonial history on present education systems, especially with regard to issues of race, culture, and language (Tikly, 2001). This is due to explicit power structures that in these postcolonial societies, even in a period of democracy, still being visible, and therefore unequal resource distribution continues to favour minority groups (Ebersöhn et al., 2018). Moreover, education has become a mechanism through which global forces influence postcolonial countries and its citizens (Tikly, 2001). Native knowledge systems have been uprooted, disrupted and silenced in colonial education (Ebersöhn, 2019; Tikly & Bond, 2013), a practice that extends to postcolonial education and still favours English as the language of instruction (Ebersöhn, 2019). As a consequence, learners have to learn in an unfamiliar language, while teachers are underprepared to teach and support learners in a language other than their home language (Ebersöhn, 2019). Accordingly, this disparity propagates the suppression of indigenous knowledge systems as well as perpetuates the unequal resource distribution in postcolonial countries, a situation that can be ascribed to globalisation (Ebersöhn, 2019).

2.2.3. Globalisation and the Global South

Globalisation is the comprehensive and central discourse of a period which reflects an integrated global economic system unequal in scale and magnitude (Mooney & Evans, 2007). Individuals and local communities are influenced by this worldwide economic

system as a result of this integration (Ashcroft et al., 2007). This phenomenon includes education since globalisation 'works both on and through education policy' (Tikly, 2001, p. 155). Globalisation represents a diverse and complex issue that can be construed in a variety of ways depending on the particular discourse (Christie, 2008). Ibrahim (2013) and Christie (2008) agree that globalisation involves the movement of people, ideas, products and images across borders at a faster pace and in a higher volume. As a result, the migration of populations, the impact of environmental issues and the advancement of technology have all increased (Tikly, 2001). Tikly (2001) therefore contends that globalisation is not a single economic condition but rather a process that is reflected in interactions across political, military, economic and cultural structures.

The interaction between economic domains specifically has as outcome of an environment where the economy drives states to make decisions favouring the promotion of consistent prices for products as well as interest rates (Ibrahim, 2013). Globalisation thus equals a global economy, in which the integration of national economies (Ibrahim, 2013) and a global interconnectedness dominates (Tikly, 2001). This nurtures a global village or community mentality (Christie, 2008). Globalisation is thus characterised by a single (capitalist) economy operating worldwide, driven by new, developing technology and brings about social and cultural changes as cultural ideas are available in different contexts and are therefore easily interchangeable (Christie, 2008).

Global political, social and economic changes (Mansfield et al., 2018) have a significant impact on the education system of any country. Therefore, the effects of globalisation on education are extensive owing to the importance of education (Majhanovich, 2016). The prioritisation of education in countries is an outcome of its importance for national economic survival in a highly competitive global climate (Majhanovich, 2016). Furthermore, in a country with an emerging economy, such as South Africa (Ebersöhn, 2019), education has a powerful impact on the economic development of the country (Jackson, Rothmann, & Van de Vijver, 2006). Therefore, investing in education, economic growth and consequent productivity may reduce societal inequality (Mansfield et al., 2018).

Globalisation as a consequence of technological advancement and the laws of economics (De Jong, 2010) triggered a process that influenced everyone and brought about in far-reaching change (Christie, 2008). The hegemonic nature of

globalisation gave way to an illusion, portraying global economic growth as the universal remedy for the world's issues (Lopez, 2007) and that greater happiness will accrue from a neoliberal free market system (Ashcroft et al., 2007). However, a neoliberal economy increasingly benefits the richest (Ashcroft et al., 2007) while the working poor are increasingly marginalised and have to contend with lower wages and growing unemployment (Lopez, 2007). Globalisation, therefore produced uneven outcomes between and within countries (Christie, 2008).

Due to the growing chasm in and between countries, the belief in a global village is strongly contested, giving rise to the Global North and Global South debate as an alternative to globalisation (De Jong, 2010). Accordingly, the Global South emerged as a concept denoting 'pockets of poverty' as well as inequality worldwide while the Global North represented contexts of privilege (Trefzer, Jackson, McKee, & Dellinger, 2014, p. 4). The Global South mostly refers to countries where a profound history of colonialism and current inequality exists (Latin America, Asia, Africa, and Oceania) (Dados & Connell, 2012; Montiel, 2018) and where colonial underdevelopment is prevalent (Dunn, 2020). In and of itself, Global South denotes a unifying term and symbolic designation applied mostly to the low-income and marginalised, both politically and culturally (Dados & Connell, 2012; Grovogui, 2011) in Global South societies. The Global North and Global South divide does not necessarily signify literal geographic separation and these regions are sometimes interwoven and even at times found within one another (Dirlik, 2007; Trefzer et al., 2014).

Tikly (2001) argues that it is insufficient merely to focus on education systems without taking into consideration the context in which it is embedded. Saavedra and Salazar Pérez (2018) urges an interrogation of how Global North views are entrenched in Global South education programmes. From a Global South perspective, it is possible to engage with decolonised forms of knowledge (Sparke, 2007), yet education has become the vehicle for driving the globalisation of English and other Global North languages (Tikly, 2001), as the performance of education as well as upward social mobility of indigenous people are compromised (Ebersöhn, 2019). Thus, the knowledge production in and views of the Global South are mostly marginalised in favour of their Global North counterparts (Saavedra & Salazar Pérez, 2018). The severe inequality present in Global South countries such as South Africa demands an investigation into the negatively skewed resource distribution and how, despite these contexts, pathways to resilience are established (Ebersöhn, 2019).

2.2.4. Structural disparity and marginalisation in the Global South

South Africa, situated in the Global South, is regarded as one of the most unequal countries in the world (Francis & Webster, 2019; McKeever, 2017; World Bank, 2012), where many live in poverty, economic growth has stagnated and unemployment rates continue to rise (Francis & Webster, 2019). Transforming postcolonial societies is characterised by manifold and enduring structural disparities and disruptions, including inequality, disproportionate service distribution and poverty due to societal structures (Ebersöhn, 2016, 2017). Structural forces (including the social and economic) maintain the inequality of postcolonial societies like South Africa (Francis & Webster, 2019). Due to globalisation and postcolonialism, this structural inequality results in a power play that supports disparate resource distribution and the marginalisation of indigenous people. (Ebersöhn, 2019). Accordingly, due to past inequality and a negatively biased resource supply, indigenous people continue to experience challenges in accessing education opportunities, employment and health services (Ebersöhn, 2019; Moletsane, 2012). In cases where policy provides for access to these services, indigenous people do not enjoy equality as a result of prevailing 'historic privilege' (Ebersöhn, 2019, p. 74).

In a country such as South Africa, inequality and poverty are closely intertwined (Francis & Webster, 2019), while educational inequality magnifies other forms of social disparity present in societies (McKeever, 2017). Access to education remains a challenge for many South Africans, meaning that various discrepancies and poor educational attainment are still predominantly present (Eloff, 2015). South Africa's education system records an uneven, sporadic development (McKeever, 2017), where structural disparity influences the daily lives of teachers (Ebersöhn, 2014). Societal stressors such as poverty, violence, health-related problems and infrastructure leads to cumulative and chronic stressors, which many teachers face today (Ebersöhn, 2014).

According to the Human Rights and Equal Opportunity Commission (2000), adversities teachers face may have a negative impact on already disadvantaged learners. As a result, teacher education programmes aim to equip quality teachers who maintain their motivation and commitment to their profession with obtaining qualifications (Mansfield et al., 2016). As learners in challenged contexts are already experiencing adverse contexts, teacher resilience has far-reaching implications and

where it fails may negatively influence the learners' academic performance (Day, Edwards, Griffiths, & Gu, 2011). As a result of the demanding nature of the profession, teachers require resilience in order to deliver their best work over time (Gu & Day, 2013) and it is therefore of paramount importance to investigate resilience in this context. Moreover, it becomes essential to investigate those teachers who are experiencing the same unpropitious conditions, but choose to remain in the profession and do not experience these risk factors as adverse (Day et al., 2011; Williams, 2003, as cited in Castro et al., 2010).

2.3.   TEACHER RESILIENCE IN CHALLENGED CONTEXTS

2.3.1. Introduction

As previously discussed, the context in which teachers work greatly influence their teaching ability and quality. Challenged contexts require adaptive responses from teachers in order that they stay committed to the profession, provide quality instruction and enjoy job satisfaction. Accordingly, to understand this adaptive response, it is necessary to explore the conceptualisation of resilience in general and teacher resilience specifically. When investigating current teacher resilience knowledge, it is important to include a discussion regarding the risk factors and protective resources involved in processes relating to resilience.

2.3.2. Resilience

Some scholars view resilience (or resiliency) as a characteristic or trait (Masten, 2018). Although originally conceptualised in child development research, findings captured in the literature agree that it is a dynamic process (Beltman et al., 2011; Ebersöhn, 2014; Strümpfer, 2013), which includes adaptive responses (Ebersöhn, 2014, 2017) in adverse conditions (Day et al., 2011; Ebersöhn, 2017; Strümpfer, 2013) to achieve positive outcomes (Ebersöhn, 2017; Castro et al., 2010). The shift in resilience research resulted in a decrease in the individual as primary focus and a move towards understanding the relevance of the individual's context (Ainsworth & Oldfield, 2019; Ungar, 2012). As such the individual's social and physical ecology is accentuated (Ungar, 2012). Masten (2014, p. 10) defines resilience as 'the capacity of a dynamic system to adapt successfully to disturbances that threaten system function, viability and development'. Accordingly, resilience does not represent a single or stable state but rather a process across and between systems that is characterised by dynamic

interactions (Masten, 2018). Furthermore, resilience is viewed as both the capacity as well as outcome of an individual's successful adaptation to risk (Gu, 2014).

According to Rutter (2012), resilience and other concepts of coping are closely related, but resilience, in contrast to these concepts, emphasises an active process and takes into account the social context of an individual and their influences. Central to this conceptualisation of resilience is the importance of how the multiple levels of a system interact and influence the system's development (Masten, 2018). Moreover, due to the interconnectedness of systems, the capacity to adapt is dynamic and change can be introduced across different domains of functioning (Masten, 2018). Therefore, resilience represents a shared characteristic of an individual and their context (Ungar, 2012).

Resilience signifies both the capacity to navigate towards resources as well as the capacity to negotiate these resources in culturally meaningful ways (Ungar, 2012). This dual process is significant as it highlights how individuals can take advantage of and influence opportunities and through this process demonstrate resilience (Ungar, 2012). Furthermore, resilience requires the presence of potential exposure to risk (Ungar, 2012). Resilience is therefore only viewed as significant when the individual is confronted with adverse environments (Ebersöhn, 2014). Accordingly, it is viewed as a complex interplay between protective resources (Beltman et al., 2011) when individuals are experiencing hardship. While resilience includes an agency component, the individual's context must be able to provide and make resources available in ways that are culturally useful to the individual (Ungar, 2012).

2.3.3. The necessity of teacher resilience in challenged contexts

The socio-economic and political contexts in which teachers work are important to consider since they influence a country's ability to retain and develop committed teachers (Gu, 2014). This not being the case is mainly due to a lack of resources or financial inducements (Gu, 2014). Therefore, it is important to understand the lived experiences of teachers as resilience is determined through the interaction of the individual with their external environment (Gu & Day, 2007). A teacher's milieu moreover provides the resources (in resource-constrained environments) which they can draw from in their adaptive response to risks (Ebersöhn, 2019). In the South African context, with its emerging economy and being in the process of continuing socio-political transformation, teachers frequently experience challenging working

conditions due to deprivation and poor service distribution (Ebersöhn, 2014). This often results in either an apathetic acceptance of working conditions due to limited alternative options or in teacher resilience (Ebersöhn, 2014).

Various disciplines have defined resilience differently, although there is a common thread running through each discipline (Gu, 2018). This represents a dynamic process, which can be nurtured or promoted, by means of a positive response to an existing condition in the presence of a risk and is situated within a system (Gu, 2018). Johnson et al. (2012) postulates that teachers today face more complex and adverse situations due to the shifting social and political context (as cited in Le Cornu, 2013). Borg (1990) states that teachers in Britain experience their profession as highly stressful (as cited in Jackson et al., 2006), while other researchers indicate similar concerns in other countries (Lee & Bang, 2011, as cited in Coetzee et al., 2015; Pietarinen et al., 2013, as cited in Coetzee et al., 2015). Owing to this phenomenon an international interest in teacher resilience exists. The growing resilience research in multiple disciplines has prepared a conceptual base for research on teacher resilience (Gu, 2018). Literature indicates that researchers agree that teacher resilience is a process that requires teachers to utilise protective resources (Beltman et al., 2011), personal resources as well as coping strategies (Mansfield et al., 2016) in order to thrive in adverse conditions.

The teaching profession is embedded in a context with inherent uncertainties and challenges that influence teachers' ability to 'teach and teach well over time' (Gu, 2018 p. 24). Le Cornu (2013) posits that the current global context necessitates research on teacher resilience, especially early career teacher resilience. When considering the contexts in which teachers work, teacher resilience can be classified as an ability, a process and outcome (Mansfield et al., 2015). The complexity of a construct such as resilience requires various conceptualisations in order to address its ambiguous nature. Various methodologies have been employed to investigate teacher resilience and therefore the theoretical basis and scope of the construct has varied (Beltman et al., 2011).

The last decade has seen a significant body of research dedicated to teacher resilience (Gu, 2018). Beltman et al. (2011) postulate that teacher resilience is a relatively new research area and to gain a full understanding of the concept requires investigating the complex relationship between the risk factors and protective resources evident in the teaching profession. When this research is compared to the

work on resilience in children, it is clear that the teacher resilience knowledge base is still in its infancy (Gu, 2018). Considering the social and physical contexts influencing resilience in both children and teachers, it is evident that there are two differences (Gu, 2018). Firstly, the everyday capacity of teachers to remain in the profession, to manage challenges in the world of work, is in direct contrast to the presupposition of risk that induces resilience in children (Gu, 2018). Secondly, teachers' vocational values influence their resilience, while children's values differ considerably (Gu, 2018).

For understanding teacher resilience, it is crucial to employ a 'process-oriented, development-contextual perspective' (Gu, 2018, p. 23) to investigate how teachers' contexts necessitate their practicing a variety of coping strategies by acting as agents when choosing which adaptive strategies to use in order to overcome hardships (Castro et al., 2010). This lens allows researchers to contextualise teachers' world of work and therefore increases the understanding of the extent to which the professional world influences their capacity to resile (Gu, 2018).

Teacher resilience represents a dynamic process which allows teachers to remain committed to the profession in their everyday world of work and represents a construct beyond merely 'bouncing back' (Gu, 2014, p. 505). Accordingly, the work that teachers do in classrooms are driven by specific morals and beliefs; policy-related issues and working conditions may therefore have a severe impact on their ability to remain committed to the profession (Gu, 2018).

Resilient teachers are thus viewed as those who maintain their commitment to the profession by enduring in the face of an ever changing education sector (Ebersöhn, 2014). To maintain good teaching quality and remain committed to the profession over a period of time is not easy (Gu, 2014; Gu & Day, 2013). Since teachers who are able to teach well and remain in the profession positively influence learners' educational outcomes, teacher resilience is an increasingly important field of study. According to Mansfield, Beltman, Price and McConney (2012), it is insufficient to investigate why teachers leave the profession without also understanding why others choose to stay. Therefore it is necessary to investigate why teachers remain committed as well as determine the factors that enable them to stay in the profession (Gu, 2014).

2.3.4. Risk factors and teacher resilience

It is essential, in challenged contexts, to look at the processes that enable resilience and the protective resources and risk factors that form part of the processes. It is important to note that risks have to be deemed significant and relevant by teachers through considering contextual familiarity which includes physical, social, spiritual and cultural capital (Ebersöhn, 2014). Therefore, a particular risk factor might be deemed to be a challenge if there is a dissonance between the risk factor and the available protective resources (Ebersöhn, 2014).

Risk factors can be classified as either internal or external and are evaluated based on teachers' awareness of their environment (Ebersöhn, 2014). External risk factors include structural adversities that affect South African teachers, such as learners who are cognitively underprepared or whose homes do not function as a secondary site of acquisition, unclear and changing curriculums, as well as the inability of school management to mediate administrative tasks demanding teachers' time (Collie & Martin, 2016; Shalem & Hoadley, 2009).

Poverty represents another major external risk factor for South African teachers as the effects of financial constraints are experienced by many while growing up and later in life (Coetzee et al., 2015). Poverty therefore represents a cumulative and chronic risk, requiring teachers to adapt endlessly to a series of linked occurrences and then to respond to these risks (Ebersöhn, 2014). The financial compensation most receive is not even enough to enable them to achieve a comfortable livelihood (Coetzee et al., 2015). Accordingly, in the South African context many teachers face challenges relating to gaining access to health services, low-income for families, insufficient supply of textbooks at schools, as well as limited health and safety at schools due to poor service delivery (Ebersöhn & Loots, 2017).

Other external risk factors include adverse working conditions (Ebersöhn, 2014; Onwu & Stoffels, 2005) such as racism, violence, teacher strikes, and shortage of skilled personal as well as parents' being illiterate and learners who are demotivated (Coetzee et al., 2015). These risk factors and others therefore tax South African teachers' ability to remain committed to the profession (Jackson et al., 2006). Antisocial behaviour such as learner boycotts and misbehaviour places additional demands on teachers as it makes it more difficult for them to manage their classrooms and this consequently affects their belief in their own self-efficacy (Galea, 2018; Gibbs & Miller, 2014).

Ebersöhn (2014) reports that maladaptation occurs when teachers feel isolated and that their attempts to promote resilience go unappreciated. In addition to this, educational reforms (Flores, 2018), a lack of support and resources (Castro et al., 2010; Coetzee et al., 2015; Jackson et al., 2006) as well as unmanageable workloads (Castro et al., 2010; Ebersöhn, 2014; Onwu & Stoffels, 2005) further compromise teachers' self-efficacy (Setlhare, Wood, & Meyer, 2017) and their ability to adapt positively to everyday challenges. There is growing concern internationally regarding teachers' workload as this leads to increasing teacher stress and burnout (Chisholm et al., 2005). The workload experienced by teachers are increasing due to large class size, expanded roles, increased assessment and curriculum demands, as well as more administrative responsibilities (Chisholm et al., 2005). The increased workload is further compounded by organisational challenges at schools (Castro et al., 2010) which result in teacher stress, exert an influence on their job satisfaction and their ability to meet learners' needs (Chisholm et al., 2005), which influences teacher identity development (Low, Lim, Ch'ng, & Goh, 2011).

Internal risk factors include teachers' lack of sufficient professional competence, the absences of motivation and a lack of commitment (Jackson et al., 2006; Mansfield et al., 2016), which affect their confidence in their ability to teach (Bobek, 2002). Other internal risk factors relate to staff and learner relations (Castro et al., 2010; Coetzee et al., 2015; Onwu & Stoffels, 2005) as well as the failure to experience personal fulfilment (Ebersöhn, 2014; Jackson & Rothmann, 2005; Mansfield et al., 2016). Jackson and Rothmann (2005) found that teachers considering resignation are more likely to feel exhausted and to be cynical, treating learners as objects; younger teachers become disillusioned and older teachers question their contribution to the profession. It is therefore significant to note that teaching quality as well as the ability to model resilient behaviour to learners are negatively influenced by teacher burnout (Day et al., 2011).

2.3.5. Protective resources and teacher resilience

In order for teachers to remain committed, there is a collective need for resilience as well as job satisfaction (Arnup & Bowles, 2016). The availability of resources or capital, such as spiritual, social and cultural, feeds into the resilience process (Ebersöhn, 2014; Papatraianou, Strangeways, Beltman, & Schuberg Barnes, 2018). Resilience includes teachers' adaptation to risks, with a focus on individual characteristics,

strategies and the use of available protective resources, where it is assumed that teachers are able to identify, navigate and access these resources to manage adversity (Ebersöhn, 2014). The interplay between contextual and individual factors are therefore believed to help with shaping teacher well-being (Hobson & Maxwell, 2017).

Similar to the risk factors, protective resources can be temporally, situationally and inter-personally diverse (Beltman et al., 2011), and at the same time categorised as individual or contextual in nature (Ebersöhn, 2014). This is important to note since changes in internal as well as external working conditions influence a teacher's ability to resile (Day, 2012). Individual characteristics refer to intrinsic motivation (Lobeck, 2018), a sense of humour, whose function is to release emotions (Bobek, 2002), as well as emotional commitment to the profession, conceptualised as an inner calling, a strong sense of professional identity and a sense of efficacy (Gu & Day, 2007).

Since the interaction between a teacher's sense of efficacy and professional identity contributes to the teacher resilience process (Gu & Day, 2007), teachers' ability to resile is closely related to their sense of professional identity, commitment as well as confidence and the school's ability to support them (Gu, 2018). Pearce and Morrison (2011) argue that it is essential to understand how teachers incorporate their own beliefs regarding their profession in order to author their identity. Teachers' social and professional identities greatly influence their ability to respond effectively to contextual demands (Smit & Fritz, 2008). Furthermore, teachers' well-being and sense of purpose are closely related to their professional identity, which allows them to draw upon and deploy resources in the face of challenging conditions (Day, 2012). Importantly, it is teachers' working environment and not necessarily their education or level of qualifications that contributes more to a teacher's professional identity, which magnifies the importance of a teacher's working environment (Smit & Fritz, 2008).

Nurturing and nourishing teacher resilience, however, is not only the individual's responsibility (Gu, 2018). School culture and leadership (Ainsworth & Oldfield, 2019; Johnson et al., 2014) have been identified as important external protective resources for teachers. The importance of school leadership and management is highlighted in the school's ability to create a school culture that sustains and nurtures teachers' capacities (Gu, 2018). Without organisational support, teachers may find it difficult to face everyday challenges, therefore to resile in the face of numerous risks (Day, 2012). Furthermore, having career successes and having those successes recognised

reinforces and acknowledges the efforts of teachers (Bobek, 2002). In addition, the role of administrative support as well as the parental support of teachers' efforts is emphasised (Bobek, 2002). Moreover, mentor programmes (Beltman et al., 2011) or induction related activities (Papatraianou & Le Cornu, 2014), personal fulfilment in a learning community (Nieto, 2003, as cited in Gu & Day, 2013), having opportunities for development, and manageable workloads (Hobson & Maxwell, 2017) all act as contextual incentives to sustain teachers (Gu & Day, 2013).

What features most prominently in literature is the importance of contextual resources such as spiritual practices (Hartwick & Kang, 2013) and an external support system constituting friends and community resources in teacher resilience (Castro et al., 2010). This is due to teachers' feeling most confident when they are able to sustain and be sustained by relationships (Le Cornu, 2013) and teacher resilience is inherently a relational process (Gu, 2018). Gu (2014) identified three types of relationship that are important to teachers, namely teacher-leader, teacher-teacher, and teacher-learner relationships. The significance of relationships is highlighted by Bobek (2002) who postulates that teachers find value in relationships where the challenges of teaching are understood and the value of teachers is reinforced.

Jordan (2006) posits in his Model of Relational Resilience that all psychological growth occurs in the context of relationships (as cited in Le Cornu, 2013). In addition, neuroscientists (Goleman, 2007, as cited in Gu & Day, 2013) found that in the social brain there is a biological basis for social connection, which shows the importance of relationships in positive self-development. However, merely having relationships does not imply adaptive support, although through relationships teachers are able to access pathways to resilience (Ebersöhn, 2019). Ebersöhn (2014) suggests that teachers are able to share available resources in a collaborative buffer strategy to provide more time to teach and deal with challenges as well as counter the strenuous effects of structural disparity (Ebersöhn, 2019). Accordingly, professional networks allow and advocate help-seeking behaviour in order to attain emotional and intellectual resources, information, social allies and buffers, create new resources (Castro et al., 2010) and achieve a sense of belonging (Gu & Day, 2013).

2.4. CONCEPTUAL FRAMEWORK
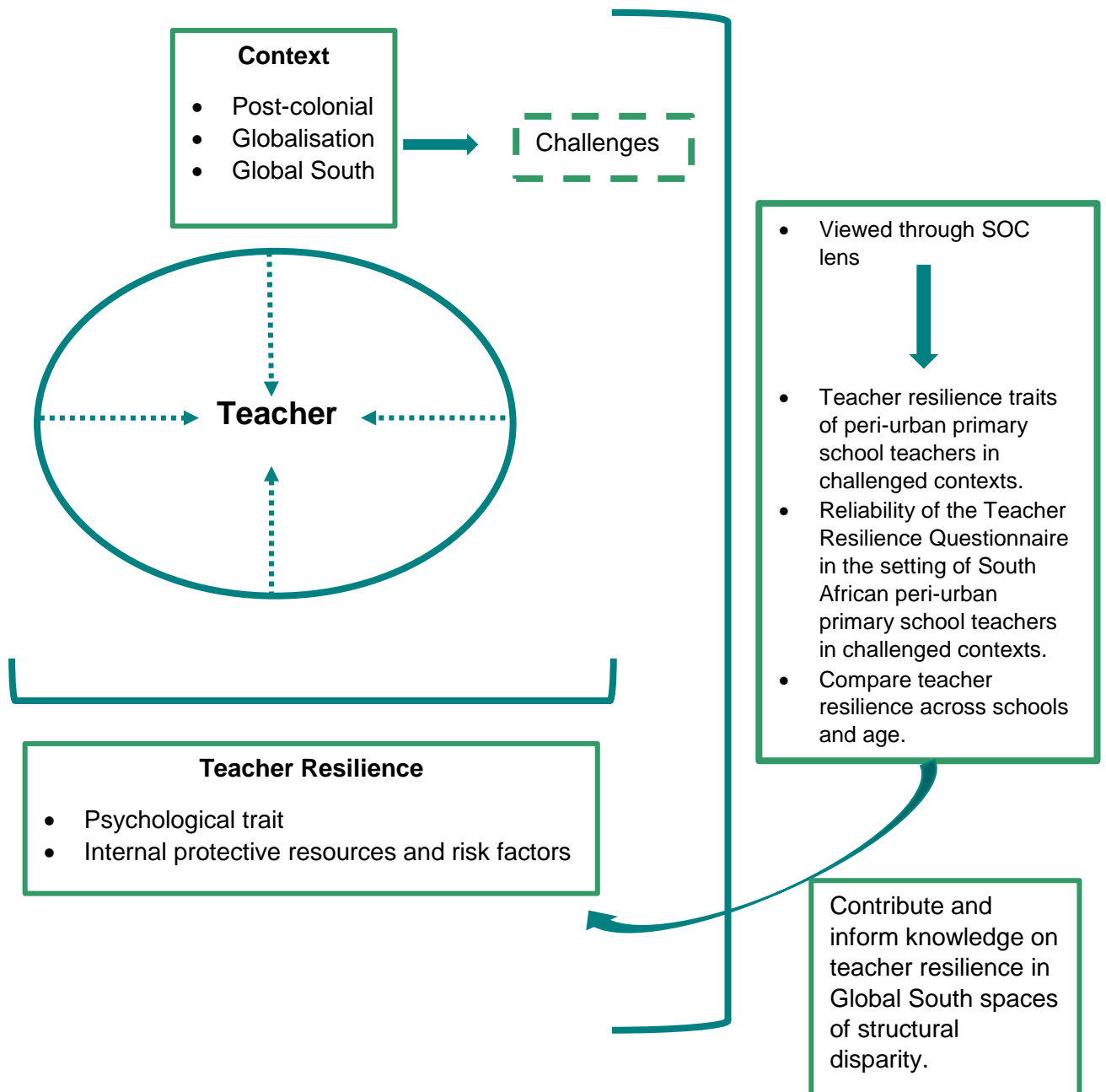
Figure 2.1: Conceptual framework of the present study

Figure 2.1 provides an illustration of the conceptual framework used in the present study. It is evident from existing knowledge, as discussed in this chapter that teachers in a Global South space such as South Africa find themselves in a context in which the challenges prevalent in the teaching profession prevail, but that they have protective resources (including internal traits) that they can draw on to enable positive adaptation to risks. Teachers are situated in a context of globalisation and postcolonialism, where the effects of a global economic community have an impact on them. This is due to the effect that economic, social and political changes have on a country's education system (Majhanovich, 2016; Mansfield et al., 2018).

Inherent in a Global South, postcolonial country such as South Africa, is the unequal resource distribution as well as marginalisation of indigenous knowledge systems, which influence teachers through policy implementation and service delivery (Ebersöhn & Loots, 2017; Ebersöhn, 2019). Teachers in South Africa are therefore caught up in a challenged educational milieu, as characterised by increasingly complex education systems, amplified performance accountability (Gu, 2018) as well as entrenched structural inequalities (Ebersöhn & Loots, 2017).

The challenged context in which teachers are required to work and produce quality education necessitates a resilience-enabling response in order to face and overcome adversity. In order to adapt to these challenges, teachers appraise adverse situations by employing the lenses of comprehensibility, manageability, and meaningfulness (Antonovsky & Sourani, 1988).

Existing resilience knowledge emphasise the importance of both the social context and individual influences in the resilience process (Rutter, 2012). In addition to this, current research highlights the importance of understanding the context of the individual (Ungar, 2012). Therefore, teacher resilience can be considered from a contextual, multi-dimensional perspective or as a psychological construct or trait (Gu & Day, 2007; Pretsch, Flunger, & Schmitt, 2012).

In addition, teacher resilience can include individual (internal) or contextual protective resources or risk factors (Ebersöhn, 2014). As a psychological construct, teacher resilience focuses on personal resources and coping mechanisms (Pretsch et al., 2012). The present study focused on teacher resilience as a psychological trait, with SOC as paradigmatic lens, and investigated the internal protective resources available to teachers as well as the internal risk factors they faced.

The present study analysed the Teacher Resilience Questionnaire to investigate how well the underlying variable structure of the Teacher Resilience Questionnaire holds in the setting of peri-urban primary schools in challenged contexts. Furthermore, the present study compared, across schools and age, traits that could act as protective resources or risk factors of teachers in peri-urban primary schools in spaces of extreme challenge in South Africa.

2.5. CONCLUSION

Chapter 2 provided an exploration of the relevant literature regarding teacher resilience in challenged contexts. The chapter commenced with a review of the effects of globalisation and postcolonial factors on education systems. This included the inherent structural challenges and marginalisation associated with Global South countries, with a specific focus on South Africa. Subsequently, this discussion focused on the influences associated with the aforementioned phenomena on the education system and as a result on teachers. Specific attention was paid to the effects of a challenged context on teachers and how these effects necessitated the process of teacher resilience. Included in this discussion was a detailed exploration of risk factors and protective resources. The chapter was concluded with a discussion on the conceptual framework employed in the present study.

In Chapter 3, the research process and methodological frameworks associated with the present study are discussed. This includes a discussion of the research design elements, the chosen research design and data analysis strategies employed in order to test the hypotheses of the present study. Finally, the ethical considerations and standards of rigour pertinent to the study are discussed in detail.

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CHAPTER 3
RESEARCH METHODOLOGY

3.1.   INTRODUCTION

The purpose of Chapter 3 is to describe and substantiate methodological decisions made during the research process. Since the methodological design of a study acts as a framework, it is important to describe the decision-making process culminating in the methodological decisions (O'Leary, 2017). Therefore, the research design and, secondary data analysis methods followed, are presented and discussed in this chapter. Further discussion topics include the domains of the Teacher Resilience Questionnaire, ethical considerations and standards of rigour maintained throughout the aforementioned process to ensure that credible research takes place. Figure 3.1 provides a summary outline of the chapter.

Research Design Elements

Research Design:
Secondary data analysis from baseline Isithebe data set.

Domains of the *Teacher Resilience Questionnaire*

Data Analysis:
- Descriptive Statistics
- Inferential Statistics
- Non-parametric statistical techniques

Ethical considerations and standards of rigour
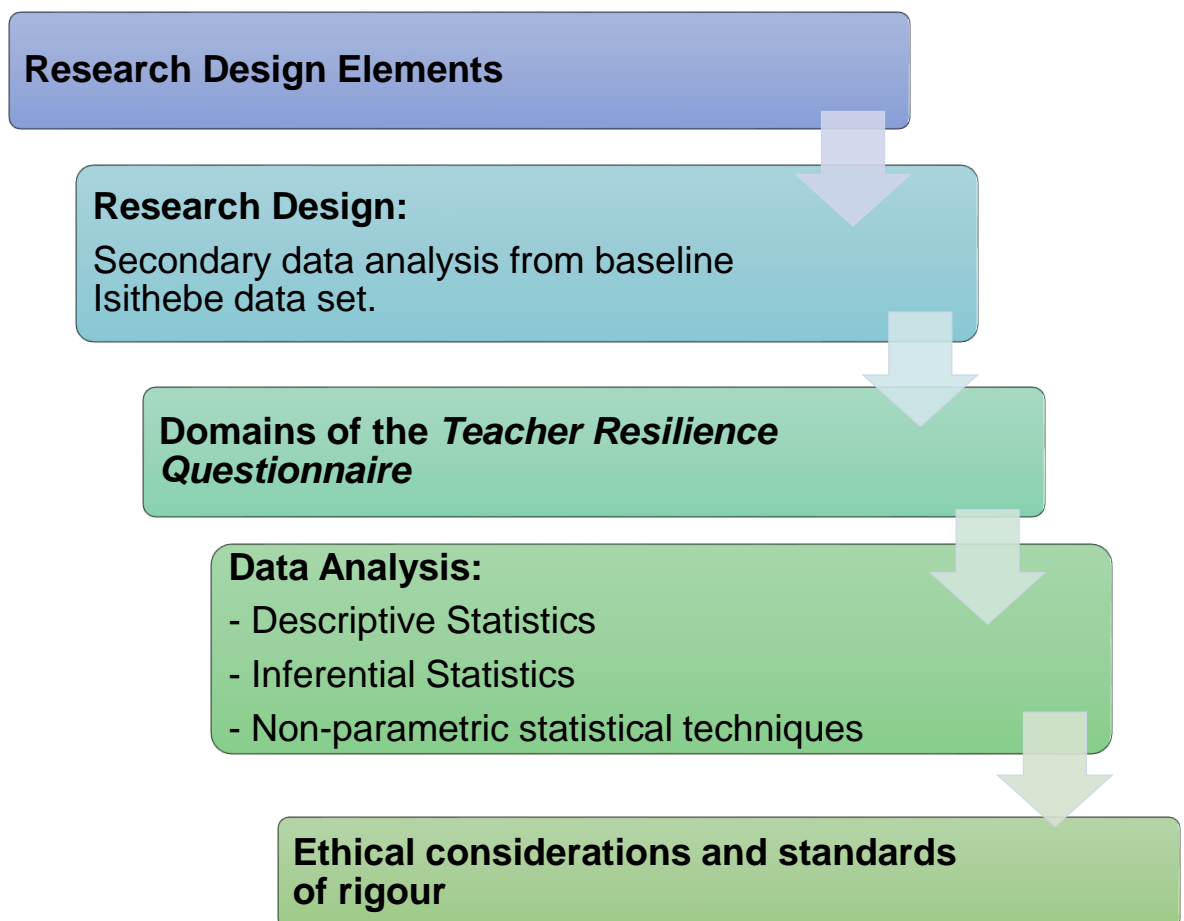
Figure 3.1: Outline of Chapter 3

3.1. RESEARCH DESIGN ELEMENTS

Saunders and Tosey (2013) state that research decisions such as the choice of research design and research techniques to be employed should be considered in relation to other research design elements.

Research design elements to be considered in the present study relates to the research philosophy of and the choice of methodological choice for the study (Saunders & Tosey, 2013). The research philosophy of the present study is post-positivism, and the study followed a quantitative research methodology. Both elements are discussed in Chapter 1 (see Sections 1.7.2. and 1.7.3.). The next research design element refers to the approach to theory development (Saunders & Tosey, 2013). The present study employed a deductive approach to theory development, which is characterised as working from a general to a more specific orientation as well as using data to test hypotheses (Saunders, Lewis, & Thornhill, 2016). Since the present study follows a quantitative research methodology, with a focus on hypothesis-testing, the deductive approach is highlighted as the most suitable (Saunders et al., 2016).

The element that follows refers to the strategies employed, as Saunders and Tosey (2013) recommended. In the present study, these specific research strategies relate to secondary data analysis research design which is discussed in this chapter (see Section 3.3.). Moreover, Saunders and Tosey (2013) postulate the importance of determining the time horizon of a study. The present study is cross-sectional since the focus is on a specific phenomenon (teacher resilience) and is undertaken at a specific time (Saunders et al., 2016). The Isithebe baseline data (namely completed Teacher Resilience Questionnaires) were collected in September 2018 and were recently analysed for the present study.

The final element of the research design refers to the data collection process as well as data analysis techniques employed (Saunders & Tosey, 2013). Considering that the present study followed a secondary data analysis research design, the discussion of the research design does not include the data collection process (Andrews, Higgins, Andrews, & Lalor, 2012; Greenhoot & Dowsett, 2012). However, the sampling process was detailed in Chapter 1 (see Section 1.2.3.). The data analysis techniques employed in the present study are set out in Section 3.5 of this chapter.

3.2.   RESEARCH DESIGN: SECONDARY DATA ANALYSIS

3.2.1. Introduction

Johnston (2014, p. 619) defined secondary data analysis as analysing data which were collected for 'another primary purpose(s)' in this case an intervention research study called Isithebe. The present study therefore followed a secondary data analysis research design as it involved analysis and comparison of extant data on teacher resilience. The distinguishing factor prevalent in this research design was the researcher's distanced relationship with the research data (Greenhoot & Dowsett, 2012). The present study did not form part of the primary research study, which includes the original research design (Gray, 2019), recruitment of participants (Andrews et al., 2012), and data collection (Andrews et al., 2012; Greenhoot & Dowsett, 2012).

Secondary data analysis acted as a design for the present study by explaining how the research was executed, research questions addressed, and valid conclusions drawn (Durrheim, 2014). The selection of research design for this study was informed by the methodological approaches and nature of the research problem posed in the present study (Creswell & Creswell, 2018). The present study employed a quantitative methodology as the re-analysis of data frequently takes place in quantitative studies (MacInnes, 2017). Secondary data analysis as research design was therefore deemed appropriate. This decision was accomplished when the researcher decided to capitalise on the available empirical data, while employing theoretical as well as conceptual expertise to address the research questions (Johnston, 2014). Greenhoot and Dowsett (2012) posit that secondary data analysis aim to replicate, verify or extend previous research findings. Johnston (2014) states that secondary data analysis as a research design requires a systematic process in order to provide an alternative perspective of extant data. The purpose of the present study is to achieve comparison, therefore it adopted a comparative quantitative approach with the aim of addressing a new research question as well as provide further contributions to research on teacher resilience.

3.2.2. Advantages of secondary data analysis

Secondary data analysis of quantitative data is orientated towards undertaking hypothesis-testing (Cheng & Phillips, 2014). This was therefore a suitable research design for the present study, in which extant baseline data was re-used in order to test

new hypotheses (McInnes, 2017). Alternative methods, analysis techniques and perspectives were employed that might possibly not have been available during the primary research study (Cheng & Phillips, 2014). As a result, this research design allowed opportunities for knowledge of teacher resilience to be further defined and developed (Long-Sutehall, Sque, & Addington-Hall, 2010). Moreover, the extant data set as well as survey sources such as StatsSA meant that extensive data (Grady, Cummings & Hulley, 2013) were available while allowing flexibility in the analysis as the data were utilised in a variety of ways (Johnston, 2014).

Secondary data analysis enabled application in a variety of settings, such as to achieve validation of research instruments or to investigate additional constructs not included in the original research (Clarke & Cossette, 2000). Furthermore, the present study promoted collaborative research (Greenhoot & Dowsett, 2012) as the primary research study relied on high-quality data collected by experienced researchers (Sautter, 2014). Consequently, secondary data analysis allowed for the valuable opportunity to learn from more experienced scholars (Andrews et al., 2012) and to access a wide scope of data (McInnes, 2017). Accordingly, secondary data analysis allowed maximisation of the data (McInnes, 2017) produced by the primary research study, reducing the risk and burden placed on research participants (Doolan, 2017) and thus extending the wealth of knowledge of teacher resilience collected (Clarke & Cossette, 2000).

3.2.3. Disadvantages of secondary data analysis

It is important to take note of the potential limitations and challenges associated with the secondary data analysis research design. Most prominent is that the secondary researcher does not have any inside information on the data collection process or how the data was potentially affected (Greenhoot & Dowsett, 2012; Johnston, 2014), which might have limited the understanding of the study (Gray, 2019). Therefore, the loss of essential contextual information which might have been present during data analysis (Cheng & Phillips, 2014), might have influenced the understanding of the contextual information and its subsequent influence on the data set (Irwin & Winterton, 2011). However, the aim of the quantitative methodology employed in the present study was to provide an objective and systematic perspective of the relevant numerical data (Maree & Pietersen, 2016b). Fewer contextual constraints on the data may therefore be advantageous as secondary data analysis liberated the data from the conditions in

which they were produced (Chabaud & Germain, 2006), thus allowing for greater objectivity.

It should, nevertheless, be taken into account that the data used in the present study might not represent the original data set as information is vulnerable to loss or damage (Gray, 2019). As a result, specific information pertaining to the present study's research questions may not have been included (Cheng & Phillips, 2014). It was, therefore, necessary to 'read between the lines' in order to understand the data set (Boslaugh, 2007, p. 5). The present study required collecting information regarding response rates, inclusion and exclusion criteria relating to the sampling pool as well as any other decisions that might have had an impact on the primary research design (Doolan, 2017). In addition, the extant data set was linked with other sources of information in order to provide multiple perspectives regarding the research focus with a view to supplementing omitted information (Smith et al., 2011). Thus, conducting a thorough literature review and investigating the sample characteristics through survey resources such as StatsSA ensured that a more comprehensive understanding of the data set was gained.

An additional area giving concern was that the data might not be suitable for all the research questions (Greenhoot & Dowsett, 2012), as variables and construct categories might have been defined differently (Gray, 2019) in the original research design. However, secondary data analysis does not permit the collection of additional data to address the gaps resulting from differentially defined variables in the primary research study. As a result, it was necessary to consider the purpose of the original research in order to understand the influences that characterised the data and the context of the primary research study (Gray, 2019). Furthermore, researchers may be prone to selecting data to fit their research questions (Johnston, 2014) when following a secondary data analysis research design. To address this limitation, the present study endeavoured to be transparent by detailing the methodological and ethical considerations (Long-Sutehall et al., 2010) as well as the conceptualising of research questions (Smit et al., 2011) to guide analysis of the data set.

3.3.   DOMAINS OF THE TEACHER RESILIENCE QUESTIONNAIRE

As discussed in Chapter 1, the Teacher Resilience Questionnaire (see Appendix A) includes items from various scales (Coetzee, 2013; Peixoto et al., 2018; Watt & Richardson, 2007), in which respondents indicated their agreement to a statement on

a seven-point Likert scale (ranging from 1 = Do not agree at all to 7 = Strongly agree) or specified their confidence in a specific ability (ranging from 1 = Absolutely not confident to 7 = Strongly confident) (Morgan, 2011). This questionnaire draws from the domains of teacher professionalism (TR-Prof), teacher emotion (TR-Emot), teacher motivation (TR-Mot), teacher sense of coherence (TR-Soc), resilience, teacher efficacy (TeachEff) (Peixoto etal., 2018; Watt & Richardson, 2007), and contextual items (Coetzee, 2013).

The domain of **teacher professionalism** (TR-Prof) investigates teachers' ability to set and define professional goals as well as their skills pertaining to organisation, time management and those that are central to the teaching profession (Peixoto et al., 2018). In addition, aspects such as teacher commitment and flexibility are also included in the TR-Prof domain (Peixoto et al., 2018). Essential to teacher resilience are any aspects related to **teacher emotion** (TR-Emot). These include, among others, humour, enjoyment, emotional regulation as well as competence in social and emotional spheres (Peixoto et al., 2018).

The primary motivations driving teachers to teach, along with aspects such as optimism, intrinsic motivation and enthusiasm are measured by the domain of **teacher motivation** (TR-Mot) (Peixoto et al., 2018; Watt & Richardson, 2007). Other features of this domain include persistence, confidence and positivity (Peixoto et al., 2018; Watt & Richardson, 2007). **Teacher sense of coherence** (TR-Soc) investigates the behavioural dispositions (such as coping strategies) teachers employ in order to understand and manage challenging situations so that satisfying, acceptable or manageable outcomes may be achieved (Peixoto et al., 2018).

The questionnaire includes two efficacy domains, namely **self-efficacy** (denoted in the measure as Resilience) and **teacher efficacy** (TeachEff). Self-efficacy is regarded as a significant component of resilience and can be described as an interactive process (Peixoto et al., 2018). It relates to a teacher's ability to bounce back when faced with challenges as well as the strategies employed in order to adapt to demanding situations (Morgan, 2011; Peixoto et al., 2018). As teachers face and overcome various difficult situations, their self-efficacy is enhanced (Peixoto et al., 2018). Teacher efficacy evaluates the abilities required in the teaching profession and teacher beliefs as well as evaluations regarding their own behaviour (Morgan, 2011; Peixoto et al., 2018).

The Teacher Resilience Questionnaire investigates teachers' self-perceptions of their abilities in addition to their subjective intrinsic beliefs and values they hold (Watt & Richardson, 2007). Furthermore, the questionnaire focuses on the skills or strategies teachers use in facing adverse situations (Peixoto et al., 2018). Although the focus is on internal protective resources, the Contextual scale was added to the questionnaire to measure any indications of contextual adversity and resources. Furthermore, in order to understand teacher resilience, it is imperative to understand the interactive process that occurs between contextual factors and teacher characteristics as well as the manner in which contextual factors contribute to sustaining teacher resilience (Peixoto et al., 2018). The Teacher Resilience Questionnaire moreover includes items that are relevant to the South African education context in its contextual domain. Contextual items are based on evidence from a study with South African teachers in schools characterised by social deprivation (Coetzee et al., 2015). The contextual items naturally focus on contextual challenges although these include contextual protective resources (both inside and outside the school) available to teachers in order to adapt and overcome challenges. The questionnaire measures the extent of school or governmental leadership support teachers receive and how family members and colleagues support and encourage teachers (Coetzee, 2013). Factors important to sustaining teachers in their professions, which are included in the contextual items are, for example, empathy for imparting hope to learners, employing problem-solving strategies to achieve a sense of accomplishment, and spiritual support (Coetzee, 2013).

3.4. DATA ANALYSIS

3.4.1. Introduction

A reliability analysis was conducted using the Cronbach alpha statistic to determine whether the underlying variable structure of the Teacher Resilience Questionnaire holds up well in the setting of South African peri-urban primary school teachers in challenged contexts. Descriptive statistics, such as the median and mode, and inferential statistics, such as the non-parametric Kruskal-Wallis and Mann-Whitney tests, were employed to address the research questions and test hypotheses as discussed in Chapter 1.

3.4.2. Internal consistency of the instrument

This section is focused on establishing the reliability of the Teacher Resilience Questionnaire, as used in the current South African study and for the purposes of responding to the secondary research question, as discussed in Chapter 1. The present study aimed to investigate the internal consistency of the Teacher Resilience Questionnaire among South African peri-urban primary school teachers in challenged contexts. The Cronbach alpha is the most commonly used measure to determine internal consistency (Christensen et al., 2014) and indicates how strongly items of a measure are correlated with each other (Pietersen & Maree, 2016b). A higher correlation between items will be indicated by an alpha coefficient close to one (Pietersen & Maree, 2016c) and the value of a coefficient alpha should be 0,7 or higher (Christensen et al., 2014). Since the Teacher Resilience Questionnaire is multidimensional (consisting of seven scales), Cronbach alpha values were computed and reported in respect of each of the scales in the questionnaire (Christensen et al., 2014).

3.4.3. Descriptive Statistics

Descriptive statistics were employed to describe (Christensen et al., 2014), organise and summarise (Pietersen & Maree, 2016b) the data set in order to make sense of it in a manageable way (Mentz & Botha, 2012). Both the median and mode as measures of central tendency were deemed appropriate for the present study since the data is ordinal in nature (O'Leary, 2017). The mode refers to the most frequently occurring value, while the median refers to the value falling in the middle of the data distribution (Pietersen & Maree, 2016b).

Descriptive statistics allowed for the description of the data set by using a single score as well as summarising information both graphically and numerically (Mentz & Botha, 2012), making key characteristics of the data understandable to the readers of the present research study (Christensen et al., 2014). However, descriptive statistics did not allow further inferences or conclusions to be drawn from the data set and thus provided limited information (Christensen et al., 2014). As a result, inferential statistics were employed to address this concern as well as allow assumptions to be made from the data set to the broader populations.

3.4.4. Non-parametric Statistics

The data analysis decision depended on the research design of the study and the type of data used (López et al., 2015). In order to determine which statistical methods to employ, sample size and distribution of variables needed to be considered (Pietersen & Maree, 2016c). Thus, the statistical test used required reflecting the nature of the present study's data set (López et al., 2015) and certain population characteristics had to be taken into account (Pietersen & Maree, 2016c). Power comparisons are dependent on the data conforming to specific population assumptions (Gibbons & Chakraborti, 2010). In this case these included the normal distribution of the population (Mentz & Botha, 2012), the sample size as well as the type of measurement scale used (Corder & Foreman, 2014). The scales in the Teacher Resilience Questionnaire consisted of an average value for all the items in each specific scale, and therefore, normality tests had to be conducted. The Shapiro-Wilk test was employed for the assessment of normality, which compares the scores in the study's sample to a normally distributed set of scores with a similar mean and standard deviation (Ghasemi & Zahediasl, 2012). The Shapiro-Wilk test provides a better power than other normality tests and, as such, was deemed suitable for the present study (Ghasemi & Zahediasl, 2012).

The present study expected the data not to be normally distributed due to the small sample size (n = 38). Accordingly, the appropriateness of employing non-parametric tests was highlighted.

Non-parametric statistics are argued to be approximately or as powerful as parametric methods (Gibbons & Chakraborti, 2010). In addition to the aforementioned, non-parametric statistics allowed limited assumptions regarding the format of the data and, as a result, it was more appropriate to use than parametric tests, especially considering the sample size of the present study (Gibbons & Chakraborti, 2010). Non-parametric statistics were also expedient to use as it permitted selecting from interchangeable statistical methods (Gibbons & Chakraborti, 2010). Accordingly, the generality, as well as the power of these methods, increased the wide scope of usefulness of non-parametric statistics (Gibbons & Chakraborti, 2010). López et al. (2015) postulate that non-parametric statistics are specially designed for ordinal and nominal-level data and perceived as appropriate for smaller sample sizes. Since the present study contained nominal, ordinal and continuous data, the researcher utilised a small sample set (n = 38) and focused on hypothesis testing, therefore the suitability

of non-parametric statistical techniques was exemplified , allowing as it does for data to be described and conclusions to be drawn.

3.4.5. Inferential Statistics

Inferential statistics allow population inferences or conclusions to be made based on data from the sample (Christensen et al., 2014; Mentz & Botha, 2012; Pietersen & Maree, 2016c). Therefore, inferential statistics were beneficial since the objective was to establish population parameters and assisted with setting and testing hypotheses (Mentz & Botha, 2012). As a result this allowed the present study to move beyond the data set to infer the characteristics of the population (Christensen et al., 2014). Although non-probability sampling was employed in the present study, it can be argued that results were comparative to a similar setting (peri-urban primary school teachers in challenged contexts) and based on the description of a small data set.

3.4.5.1.   Kruskal-Wallis Test

The Kruskal-Wallis test is used to test for statistically significant differences between three or more independent groups (Salkind, 2011). Since there were six schools, the comparisons between the schools were made using this test. The Kruskal-Wallis test is suitable when data is non-symmetrically distributed, does not assume normality and performance depend on the ranks of the measurement observations (Van Heck, 2012). This non-parametric statistical test is used with small sample sizes and when a normal distribution of the variables in the population cannot be assumed (Pietersen & Maree, 2016a). The Kruskal-Wallis test is the non-parametric alternative to a parametric one-way analysis of variance (ANOVA) test, where the population medians are compared (Kruskal-Wallis) rather than the population means (ANOVA) (Gibbons & Chakraborti, 2010). As a result, the null hypothesis and alternative hypothesis are stated in the following format (Christensen et al., 2014; Pietersen & Maree, 2016a):

H_0: M1 = M2 = M3 = M4 = M5 = M6
H_1: Not all six medians are equal

Another way to represent the hypothesis is as follows:

H₀: The six medians do not differ statistically significantly from each other
H₁: At least one median differs statistically significantly from the rest

3.4.5.2.   Mann-Whitney Test

The Mann-Whitney test is used to test for a statistically significant difference between two independent groups. The Mann-Whitney test was employed in the present study to determine the statistically significant difference in teacher resilience between the two age groups (younger than 50 years of age and over 50 years of age). This non-parametric statistical test is suitable when the sample size of a study is small, and when it cannot be assumed that a variable is normally distributed (Pietersen & Maree, 2016a). The Mann-Whitney test is the non-parametric alternative to the parametric t-test for independent samples (Corder & Former, 2014), when the medians between two groups are compared (Mann-Whitney) as opposed to the means (independent samples t-test) (Pietersen & Maree, 2016a). Accordingly, the null hypothesis and alternative hypothesis are stated in terms of the median (Pietersen & Maree, 2016a):

H₀: M1 = M2
H₁: M1 ≠ M2

Another way to represent the hypothesis is as follows:

H₀: The two medians do not differ statistically significantly from each other
H₁: At least one median differs statistically significantly from the other

3.5.   ETHICAL CONSIDERATIONS

3.5.1. Professional research, confidentiality and privacy

In the present study, the researcher endeavoured to conduct rigorous research with the aim of producing justifiable and feasible answers to the research questions (Wassenaar, 2014) as well as declare any bias which may have influenced conclusions drawn from the results (Tongco, 2007). A reflexive (Carcary, 2009), flexible point of view was employed by using an audit trail so that a detailed account of the research process, decisions (Nieuwenhuis, 2016) and assumptions were

provided (Ryan, 2006). Therefore, the present study ensured that all the research was auditable (O'Leary, 2017).

Although there was no contact with the participants during the initial data collection phase, participants in the study nonetheless still had the right to anonymity, confidentiality (Ogletree & Kawulich, 2012), and autonomy as well as to be treated with respect (Wassenaar, 2014). The researcher took care to protect the identity of participants in the data set (McAuley, 2003) by assigning an identification code to each participant prior to data analysis. Anonymity as such was of paramount importance during data analysis, and it was necessary to ensure that the data were not represented in a manner that may have contributed to the identification of participants or schools. It was important to give due consideration to the laws that govern research (O'Leary, 2017), which were furthermore also applicable to the present study. The provisions of the Health Professions Act (Act 56 of 2006) relevant to professional research, confidentiality and privacy were observed and adhered to in the present study. As a result, due process was followed to protect the anonymity and privacy of participants in the data set.

3.5.2. Secondary data analysis as research design and informed consent

It is important in any research study to give due consideration to potential harm to respondents and issues of informed consent (Law, 2005). As a secondary data analysis research design was followed, additional considerations regarding informed consent and confidentiality had to be taken into account. Law (2005) states that informed consent should be obtained for a specific purpose and not only for the research conducted. However, with secondary data analysis, it was important to establish access to the data (Grinyer, 2009). Since it is not always possible to obtain informed consent for the unanticipated use of data (Law, 2005), the secondary researcher may be in danger of accessing confidential participant information without their consent (Devine, 2003). Even where the primary researcher is able to maintain the anonymity of the data, this may interfere with the secondary researcher's ability to use and analyse the data set accurately (Law, 2005).

Grinyer (2009) and Hox and Boeije (2005) propose that confidentiality and consent should extend to future use of the data in order to address the discrepancy between consent received by the primary researcher and the secondary researcher's access to the data. As a result, consent should represent an ongoing process, where

participants are informed of the possible future use of the data (Grinyer, 2009) generated in the present study. By addressing these ethical considerations, secondary data analysis in the present study provided an opportunity to benefit communities and showed respect for human dignity since it lessened the burden of data collection on research participants (Law, 2005).

3.5.3. Institutional approval and ethics clearance

The present study had the binding and statutory responsibility to conduct professional research that complied with the ethical rules of the University of Pretoria (Committee for research ethics and integrity, 2007). In accordance with these guidelines, and as prescribed by the Health Professions Act (2006), data analysis was conducted only upon receiving the written approval of the aforementioned Ethics Committee (Wassenaar, 2014). Moreover, it was essential to remain cognisant of the stipulations of the Ethics Committee of the UP in order to remain in agreement with the clearance provided for the purpose of the present study (Committee for research ethics and integrity, 2007).

3.6. STANDARDS OF RIGOUR

3.6.1. Introduction

A post-positivistic approach was followed in the present study by using numeric measures in order to observe and study the behaviour of individuals (Creswell & Creswell, 2018). Durrheim and Painter (2014) postulate that the measurement of behaviour is fundamental to social sciences research as it allows for the conversion of abstract phenomena into quantifiable variables. Muijs (2004) agrees that the correct operationalisation of the constructs of measurement instruments is crucial to research. As a result, it is essential for research to provide evidence of the reliability and validity of the instrument used (López et al., 2015), since it will contribute to the overall quality of the research process (Mentz & Botha, 2012). O'Leary (2017) states that the researcher should take certain additional measures into consideration in order to provide credible research that may contribute valuable knowledge, including objectivity, generalisability and reproducibility. The following sections provide an overview of the important aspects that were considered for purposes of this study's credibility.

3.6.2. Objectivity

Objectivity in research refers to independence from personal subjectivities (O'Leary, 2017). The epistemology of the present study dictated that the investigation of teacher resilience should be objective and based on observations and measurements (Creswell & Creswell, 2018). This objectivity nevertheless also allows for the consideration of context (Ryan, 2006). Throughout the research process, it was necessary to remain aware of the researcher's influence on the process and thus the limited measure of objectivity (Ramlo & Newman, 2011). In the present study, objectivity could only be approximated (De Vos et al., 2011) and, as a consequence, the researcher endeavoured to assume a learning role (Ryan, 2006).

3.6.3. Validity and Reliability

This section details how reliability and validity issues of the Teacher Resilience Questionnaire were addressed by the originators and developers of the questionnaire in the international studies for which it was used. The Teacher Resilience Questionnaires utilised in the present study included items from existing scales, the *FIT-Choice scale* (Watt & Richardson, 2007), *ENTRÉE* (Peixoto et al., 2018), *BRiTE* (Mansfield et al., 2015), an assets-based model (Morgan, 2011), as well as contextual items (Coetzee, 2013) that used a Likert-type scale to measure teacher resilience.

As secondary data analysis was conducted, the reliability and validity of the Teacher Resilience Questionnaire employed in the primary research study was essential to establis. Validity refers to the extent to which an instrument measures what it intends to measure (Maree & Pietersen, 2016) and how well it measures it (Foxcroft & Roodt, 2013). In order to establish its validity, it was important to determine whether the Teacher Resilience Questionnaire provided an acceptable operationalisation of teacher resilience and if it was suitable for the purpose of the study (Durrheim & Painter, 2014). Since validity is an essential aspect of educational research (Muijs, 2004), it is important to reference the validity study of the measurement used (López et al., 2015). The validity of the questionnaire was established by Watt and Richardson (2007) during the development of the *FIT-Choice scale*. The developmental study provided and established good evidence for construct validity across two independent samples.

Reliability refers to the consistency or dependability of a measure (Foxcroft & Roodt, 2013) and the extent to which the same results are obtained if the study is

repeated using the same sample (Durrheim & Painter, 2014). Since the reliability of an instrument influences the findings as well as the conclusions of a research study (Muijs, 2004), it was important to establish a reliability index for all the subscales (López et al., 2015) of the Teacher Resilience Questionnaire. Cronbach's alpha is a formula frequently employed to establish the reliability of measures which utilises multiple response categories (Foxcroft & Roodt, 2013). The Cronbach alpha is a measure of the internal consistency of an instrument (such as the Teacher Resilience Questionnaire). Cronbach values above 0,7 are acceptable (Field, 2018) and indicate that an instrument is reliable. According to Watt and Richardson (2007), the *FIT-Choice scale* demonstrated acceptable internal consistencies, as established by the Cronbach's alpha which range from 0,90 to 0,97). In addition to this, Peixoto et al. (2018) computed a comparative fit index (CFI) for measures applicable to *ENTRÉE* which reported a CFI ranging from 0,935 to 0,999. An acceptable reliability coefficient was confirmed by Cronbach's alpha, ranging between 0,67 and 0,91 (Peixoto et al., 2018). Lastly, Morgan's asset-based model (2011), which included the scales *teacher resilience* and *teacher efficacy* reported appropriate reliability coefficients for these scales, namely 0,91 and 0,88, respectively.

3.6.4. Generalisability

Generalisability, also known as external validity, indicates whether inferences made from results can be extended to other and across populations (Christensen et al., 2014). Purposive sampling was employed in the present study and, as a result, it is assumed that the results obtained and conclusions drawn will be comparative to peri-urban primary school teachers in a similar setting (challenged contexts). However, the results of the present study cannot be generalised due to the small sample size. In addition, considered through the lens of a post-positivistic paradigm, comparisons to similar settings might furthermore have limited the full understanding of the data and the intentionality of the participants (Scotland, 2012). As such, a reflexive and flexible approach was employed by critically evaluating all conclusions (Ryan, 2006).

3.6.5. Reproducibility

If results can be verified through the replication of a research process, the study will be regarded as reproducible (O'Leary, 2017). Since the present study is a context-specific research study, reproduction of the findings may not be possible and therefore

had to be auditable (O'Leary, 2017). The present study endeavoured to provide transparent explanations of the research process followed through establishing an audit trail. This enabled the provision of a detailed account of the research process followed as well as the decisions consequently made (Nieuwenhuis, 2016).

3.7.   CONCLUSION

The intent of Chapter 3 was to establish the methodological decision-making process applied in the present study to produce ethical and rigorous research. The research design elements, and the research design employed in the present study were furthermore detailed. Accordingly, the researcher described secondary data analysis as research design, weighed up the advantages and disadvantages and justified it as being an appropriate research design. The different domains of the measure used in the present study (Teacher Resilience Questionnaire) were described and discussed. This discussion was followed by an exposition of the data analysis techniques employed in the present study. The internal consistency of the measure, the use of non-parametric techniques as well as descriptive and inferential techniques were discussed. Inferential statistical tests utilised in the present study included the Kruskal-Wallis and Mann-Whitney tests. The chapter concluded with an exploration of ethical considerations as well as the standards of rigour applicable to the present study. In Chapter 4, the results obtained from descriptive and inferential statistical measures are presented and discussed.

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CHAPTER 4
RESULTS OF THE STUDY

4.1. INTRODUCTION

In Chapter 3, the methodological process followed in the present study was described and discussed. The chapter included an explanation why of secondary data analysis as research design was appropriate, and of the research methodology and strategies included in the present study. Chapter 3 moreover contained a discussion of the choice of statistical techniques and deliberation of the standards of rigour and ethical considerations were deliberated.

In this chapter, the results obtained through quantitative data analysis are presented and comprehensively described. The research questions and hypotheses, as introduced in Chapter 1, are presented in this chapter in summaries and in tabulated format. A reliability analysis was also conducted and included here to assess the reliability of the questions in a challenged South African context.

4.2. RESULTS OF THE STUDY

In this section, an overview is provided of the results obtained through quantitative analysis of the data derived from the Teacher Resilience Questionnaire. The quantitative data were analysed by using the Statistical Package for the Social Sciences version 26 (SPSS 26) and includes both descriptive and inferential statistics. A 5% (α = 0,05) level of significance was used for all statistical analysis.

As discussed in Chapter 1, the Isithebe baseline data set included conveniently sampled teachers (Male = 2; Female = 36) at purposively sampled peri-urban primary schools (n = 6). Accordingly, at baseline, the Isithebe data set consisted of 38 conveniently sampled teachers. After data cleaning, there were 36 valid completed Teacher Resilience Questionnaires, which were used for statistical analysis. However, only 34 of the 36 participants indicated their age.

The purpose of the present study is to inform teacher resilience knowledge by statistically comparing teacher resilience data in-case and across-case. In addition to the aforementioned, the study aimed to compare teacher resilience across schools and age in-case and across-case. However, each of these groups had a small number of participants. The number of schools was (n = 2 for school 5) and for age (n = 17 for both above and under 50 years of age). Accordingly, only cross-case analysis could

be performed for comparisons regarding school and age. A gender comparison was not considered, since there was only one male in the sample of 36 (n = 36, Male = 1, Female = 35). Finally, the results may have been influenced by missing data, which might have been owing to participant non-response to statements or because not fully understood the statements.

4.2.1. Descriptive statistics

This section contains an exposition on descriptive statistics, which served to summarise and aid understanding of the important characteristics of the Isithebe teacher resilience baseline data (Christensen et al., 2014). Therefore, the following subsections provide a description of the sample in terms of schools, gender and age. A discussion on the normality of the data is also included as well as a description of the results obtained from the Teacher Resilience Questionnaire.

4.2.1.1. Description of the school sample

The present study included teachers from six peri-urban primary schools in socio-economically challenged contexts in the Eastern Cape. Table 4.1 provides the number of teachers from each of the six schools represented in the sample.

Table 4.1: Number of teachers per school

School	Number of Teachers	Percentage of sample
School 1	6	16,7%
School 2	5	13,9%
School 3	3	8,3%
School 4	8	22,2%
School 5	2	5,6%
School 6	12	33,3%
TOTAL	36	100%

It is evident from Table 4.1 that the number of participants at each school is relatively small and thus did not allow for in-case analysis. Accordingly, only across-case analyses were performed.

4.2.1.2. Description of the gender and age sample

At baseline, the Isithebe data set comprised 38 conveniently sampled teachers and included both male (n = 2) and female (n = 36) teachers. However, after data cleaning, only 36 valid completed Teacher Resilience Questionnaires were used for analysis and included male (n = 1) and female (n = 35) teachers. Furthermore, only 34 of the 36 participants indicated their age. Table 4.2 indicates the distribution of male and female teachers per school.

Table 4.2: Distribution of gender per school

School	Male	Female	Total
School 1	0	6	6
School 2	0	5	5
School 3	1	2	3
School 4	0	8	8
School 5	0	2	2
School 6	0	12	12
TOTAL	1	35	36

The distribution of gender in the sample is consistent with teacher gender composition in South Africa. According to the Organisation for Economic Co-operation and Development's (OECD) Teaching and Learning International Survey (TALIS) (OECD, 2018), 60% of teachers in South Africa are female.

Furthermore, the age distribution of the sample ranged from 23 to 63 years. Of the 36 completed questionnaires, only 34 participants indicated their age, as previously stated. Teachers' age were organised into two categories, namely 50 years of age and younger (n = 17) and older than 50 years of age (n = 17). Table 4.3 indicates the number of teachers in each of the two age categories for each of the six schools.

Table 4.3: Number of teachers in each age category per school

School	50 years of age and younger	Older than 50 years of age	Total
School 1	4	2	6
School 2	3	2	5
School 3	2	1	3
School 4	2	5	7
School 5	1	0	1
School 6	5	7	12
TOTAL	17	17	34

It is evident from Table 4.3 that the age distribution is equal across the two age categories. Results produced by TALIS (OECD, 2018) highlight that the average age of a teacher in South Africa is 43, while 32% of teachers are above 50 years old.

4.2.1.3. Tests of Normality

In order to determine whether parametric or non-parametric statistical tests should be used in the present study, the distribution of the data (Mentz & Botha, 2012) required investigation. Each scale in the Teacher Resilience Questionnaire consisted of an average value over all the questions pertaining to the specific scale. Accordingly, the variables were continuous and required normality tests. Table 4.4 provides the results of the normality tests conducted for each scale of the Teacher Resilience Questionnaire and Total Teacher Resilience.

Table 4.4: Results of normality tests

	Kolmogorov-Smirnov			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Teacher Professionalism (TR-Prof)	0,186	34	0,004	0,910	34	0,009
Teacher Emotion (TR- Emot)	0,174	34	0,010	0,936	34	0,047
Teacher Motivation (TR-Mot)	0,082	34	0,200	0,974	34	0,577
Teacher Sense of Coherence (TR-Soc)	0,101	34	0,200	0,971	34	0,502

Resilience	0,109	34	0,200	0,976	34	0,659
Teacher Efficacy (TeachEff)	0,080	34	0,200	0,971	34	0,496
Contextual	0,109	34	0,200	0,971	34	0,496
Total Teacher Resilience	0,141	34	0,084	0,970	34	0,453

From Table 4.4 it is evident that, based on the Shapiro-Wilk test, the p-values produced for Teacher Professionalism and Teacher Emotion scales are lower than the alpha level of 0,05 and thus the data relating to these domains are not normally distributed. The other domains of the Teacher Resilience Questionnaire and Total Teacher Resilience indicated p-values greater than 0,05, and, therefore, it can be concluded that relating to these domains, the data were normally distributed (McNeish, 2016). Since the sample size of the present study was small (n = 36), and some of the variables were not normally distributed (see Table 4.4), non-parametric statistical tests were deemed appropriate (Corder & Foreman, 2014).

4.2.1.4. Descriptive statistics of Teacher Resilience Questionnaire

As discussed in Chapter 3, the Teacher Resilience Questionnaire was employed to investigate teacher traits that can act as protective resources or risk factors constituting internal pathways which may support or inhibit teacher capacity to resile. A numerical value was assigned to participant responses (1 to 7), with

1 = Do not agree at all

2 = Disagree

3 = Slightly disagree

4 = Neutral

5 = Slightly agree

6 = Agree

7 = Strongly agree

for questions relating to the Teacher Professionalism, Teacher Emotion, Teacher Motivation, Teacher Sense of Coherence and Contextual scales; and

1 = Absolutely not confident

2 = Not confident

3 = Slightly unconfident

4 = Neutral

5 = Slightly confident

6 = Confident

7 = Strongly confident

for questions relating to Resilience and Teacher Efficacy scales. The data were ordinal in nature and were used to calculate participant attitudes to each specific statement. It was necessary to recode two negatively worded questions on the Contextual scale to ensure consistent scoring of all the questions. These two contextual questions were as follows:

- **Question 1:** *I did not want to become a teacher.*
- **Question 8:** *As a teacher, I will wait for government or officials to solve problems in schools.*

In order to understand the distribution of the data per question, the mean, median and mode for each question and the minimum, maximum and standard deviation (SD) were displayed in Tables 4.5 to 4.11. These results highlight the tendency of participants to make a certain choice in response to a specific statement. Note that, as a 7-point Likert scale was used, if the mean and median were above the midpoint of 4 (neutral), the participants tended to respond in agreement with the statement (as opposed to indicating disagreement with the statement).

Table 4.5: Descriptive statistics of the questions from the Teacher Professionalism (TR-Prof) scale

Questions	N	Mean	Median	Mode	SD	Minimum	Maximum
Question 1: At school, I can be flexible when situations change	36	5,69	6,00	6	0,951	4	7
Question 2: I can quickly adapt to new situations at school	34	5,50	6,00	6	0,961	2	7

Questions	N	Mean	Median	Mode	SD	Minimum	Maximum
Question 3: I am well organised in my school work	35	5,26	5,00	6	0,817	4	7
Question 4: I reflect on my teaching and learning to make future plans	35	5,26	5,00	6	1,010	3	7
Question 23: In my role as a teacher, I am a good communicator	34	5,91	6,00	6	0,900	4	7
Question 25: At work, I can view situations from other people's perspectives	34	5,44	5,50	6	0,927	4	7

Table 4.5 indicates that the median for questions from the **Teacher Professionalism** scale ranged between 5 (Slightly Agree) and 6 (Agree). Two questions indicated a median of 5 (Slightly Agree) and reflected the following statements:

- **Question 3:** *I am well organised in my school work*
- **Question 4:** *I reflect on my teaching and learning to make future plans*

Accordingly, the results of these two questions suggest that participants may not always engage in skills pertaining to organisation, planning and reflection, or fail to do so effectively, as there tends to be only a slight agreement with these statements. The mode for all the questions on the Teacher Professionalism scale was 6 (Agree), indicating that most participants agreed with the statements. Consequently, these results may point to high perceived teacher professionalism among the participants and suggest a commitment to the teaching profession as well as engagement with essential teaching skills (Peixoto et al., 2018).

Table 4.6: Descriptive statistics of the questions from the Teacher Emotion (TR-Emot) scale

Questions	N	Mean	Median	Mode	SD	Minimum	Maximum
Question 5: When something goes wrong at school, I don't take it too personally	35	5,57	6,00	6	1,037	4	7
Question 6: After reflection, I can usually find the funny side of challenging school situations	33	4,82	5,00	5	1,131	1	7
Question 7: When I feel upset or angry at school, I can manage to stay calm	35	5,83	6,00	5	0,857	4	7
Question 8: I balance my role as a teacher with other dimensions in my life	34	5,62	6,00	6	1,015	4	7

From Table 4.6, it is evident the median and mode for all the questions in the **Teacher Emotion** scale ranged between 5 (Slightly Agree) and 6 (Agree). Therefore, it can be concluded that the majority of the participants agreed with the questions related to teacher emotion which may indicate that the majority of participants were able to engage in aspects of emotional regulation and competence in the social and emotional domains (Peixoto et al., 2018).

When taking into consideration the minimum values for the questions, it is evident that the minimum for three of the questions was 4 (Neutral). The three questions were as follows:

- **Question 5:** *When something goes wrong at school, I don't take it too personally.*
- **Question 7:** *When I feel upset or angry at school, I can manage to stay calm.*
- **Question 8:** *I balance my role as a teacher with other dimensions in my life.*

This pattern (of choosing neutral as opposed to being in agreement with these statements) suggests that some of the participants may struggle with aspects of emotional regulation, including distancing themselves from negative emotions as well as balancing work and personal roles (Peixoto et al., 2018). However, question 6 indicated a minimum of 1 (Do not agree at all):

- **Question 6:** *After reflection, I can usually find the funny side of challenging school situations.*

After constructing a frequency table for this question (omitted here for conciseness), it is found that only one response was a 1 (Do not agree at all). This suggests that for one participant, it may be more difficult to engage in humour when facing challenging situations.

Table 4.7: Descriptive statistics of the questions from the Teacher Motivation (TR-Mot) scale

Questions	N	Mean	Median	Mode	SD	Minimum	Maximum
Question 9: I am generally optimistic at school	33	5,70	6,00	6	0,918	4	7
Question 10: At school, I focus on building my strengths more than focusing on my limitations	34	5,76	6,00	6	0,987	2	7
Question 11: When I make mistakes at school, I see these as learning opportunities	33	5,91	6,00	6	0,678	5	7
Question 12: In my role as a teacher, I set goals and work towards achieving them	35	5,51	5,00	5	0,887	4	7
Question 13: I have realistic expectations of myself as a teacher	34	5,71	6,00	6	0,906	4	7
Question 14: I believe that if I put my mind to something at school, I can be successful	34	6,09	6,00	6	0,753	5	7

Questions	N	Mean	Median	Mode	SD	Minimum	Maximum
Question 15: I am good at maintaining my motivation and enthusiasm when things get challenging at school	34	5,71	6,00	6	0,719	4	7
Question 16: I enjoy learning when I am at work	35	5,86	6,00	6	1,004	3	7
Question 17: I like challenges in my work	35	5,37	5,00	5[a]	1,060	3	7
Question 18: I am persistent in my work	34	5,71	6,00	6	0,938	4	7
Question 19: I believe that I have control over my work life	33	5,52	6,00	6	0,906	3	7
Question 20: It's important to me that I put in effort to do my job well	35	6,09	6,00	6	0,658	5	7

a. Multiple modes exist. The smallest value is shown

Table 4.7 indicates that the median and mode for all the questions on the **Teacher Motivation** scale ranged between 5 (Slightly Agree) and 6 (Agree). As such, the median and mode for the questions from the Teacher Motivation scale suggest high primary teaching motivations among the participants. The primary motivations driving teachers to teach and aspects such as optimism, intrinsic motivation and enthusiasm are measured by the **teacher motivation** domain (Peixoto et al., 2018; Watt & Richardson, 2007). Other features of this domain include persistence, confidence and positivity (Peixoto et al., 2018; Watt & Richardson, 2007). The median and mode for the Teacher Motivation scale may consequently suggest that most participants engaged in teaching with enthusiasm and in addition possess an internal motivation and an optimistic orientation (Peixoto et al., 2018; Watt & Richardson, 2007). Only two questions indicated a median and mode of 5 (Slightly agree), as indicated below:

- **Question 12:** *In my role as a teacher, I set goals and work towards achieving them.*
- **Question 17:** *I like challenges in my work.*

Accordingly, it can be concluded that most participants may not frequently engage in professional goal-setting or enjoy professional challenges, as they only slightly agreed with the statements. When investigating the minimum score, it can be seen that the lowest minimum is 2 (see Question 10), however, after constructing a frequency table for this question (omitted here for conciseness), it is found that only one response was a 2 (Disagree), so only one respondent disagreed with the statement that:

- **Question 10:** *At school, I focus on building my strengths more than focusing on my limitations.*

It's worth noting that the frequencies for 3 (Slightly disagree) and 4 (Neutral), were zero, so in total there was only one respondent that was in disagreement with this statement and all other respondents either slightly agreed, agreed or strongly agreed with the statement in Question 10.

Table 4.8: Descriptive statistics of the questions from the Teacher Sense of Coherence (TR-Soc) scale

Questions	N	Mean	Median	Mode	SD	Minimum	Maximum
Question 21: When I am unsure of something, I seek help from colleagues	34	6,03	6,00	6	0,717	5	7
Question 22: I am good at building relationships in new school environments	35	5,83	6,00	6	0,822	4	7
Question 24: In my work, I can look at a situation a number of ways to find a solution.	34	5,59	5,00	5	0,857	4	7
Question 26: When I am at work, I can generally resolve conflicts with others	35	5,57	5,00	5	0,884	4	7

The output capture in Table 4.8 clearly indicate the median and mode for all questions on the **Teacher Sense of Coherence** scale ranged between 5 (Slightly Agree) and 6

(Agree). As such, it can be concluded that most of the participants agreed with the following two questions:

- **Question 21:** *When I am unsure of something, I seek help from colleagues.*
- **Question 22:** *I am good at building relationships in new school environments.*

The mode and median indicated that most of participants mostly agreed with the following two questions:

- **Question 24:** *In my work, I can look at a situation a number of ways to find a solution.*
- **Question 26:** *When I am at work, I can generally resolve conflicts with others.*

The median and mode for these questions from the Teacher Sense of Coherence scale may point to a higher teacher sense of coherence amongst participants and suggest that they are able to manage challenging situations to achieve satisfying, acceptable or manageable outcomes (Peixoto et al., 2018).

Table 4.9: Descriptive statistics of the questions from the Resilience scale

Questions	N	Mean	Median	Mode	SD	Minimum	Maximum
Question 114: Getting over setbacks in school	31	4,94	5,00	5	0,814	3	6
Question 115: Bouncing back, when things upset me	33	5,06	5,00	5	1,248	2	7
Question 116: Carrying on with my school work when things go wrong	34	5,53	6,00	6	0,788	4	7
Question 117: Carrying on in school when events upset me	35	5,23	5,00	6	0,973	3	7
Question 118: Feeling certain that things will come right even if there are serious problems in school	35	5,63	6,00	6	0,843	3	7
Question 119: Managing negative events in school when I try	33	4,97	5,00	5	0,984	2	7

Questions	N	Mean	Median	Mode	SD	Minimum	Maximum
Question 120: Coping with most problems on any school day	34	5,29	5,00	5[a]	0,970	3	7
Question 121: Some negative things that have happened in school have made me better able to deal with problems	35	5,63	6,00	6	0,731	4	7
Question 122: Not getting disheartened even when children's circumstances make it difficult	34	5,29	5,00	6	0,871	3	7

a. Multiple modes exist. The smallest value is shown

Table 4.9 indicates that for questions on the **Resilience** scale, the median and mode for all questions ranged between 5 (Slightly Confident) and 6 (Confident). All the questions on this scale required of participants to indicate their confidence in handling or facing certain situations.

Since the Resilience scale measures participant self-efficacy, the median and mode indicate that most of the participants felt confident in their ability to bounce back after facing challenges as well as used strategies to adapt to these challenges (Morgan, 2011; Peixoto et al., 2018). Upon investigation of the minimum values, the lowest minimum value which reflects response option 2 (Not confident) was for Question 115 and Question 119, respectively. However, upon investigating the frequency tables (omitted here for conciseness), it is found that only 2 out of the 36 respondents selected this option for Question 115 and only 1 out of the 36 respondents selected this option for Question 119, indicating that only 2 participants did not feel confident with the statement in Question 115: *Bouncing back, when things upset me*, and only 1 participant did not feel confident with the statement Question 119: *Managing negative events in school when I try*.

Table 4.10: Descriptive statistics of the questions from the Teacher Efficacy (TeachEff) scale

Questions	N	Mean	Median	Mode	SD	Minimum	Maximum
Question 123: Teaching all the subjects on the curriculum effectively	33	5,36	5,00	5	1,025	3	7
Question 124: Explaining difficult material in ways that the children will understand it	33	5,64	6,00	5[a]	0,962	4	7
Question 125: Suggesting suitable examples when the children are having difficulty understanding	34	5,65	6,00	6	0,950	3	7
Question 126: Teaching in a way that my learners will remember important information	34	5,88	6,00	6	0,729	5	7
Question 127: Applying the new developments in the curriculum into my teaching	33	5,73	6,00	5	0,977	4	7
Question 128: Helping children focus on learning tasks and avoid distractions	34	5,68	6,00	6	0,976	3	7
Question 129: Managing inappropriate behaviour	33	5,30	5,00	5	1,075	2	7
Question 130: Encouraging learners to take responsibility for their behaviour	34	5,82	6,00	6	0,834	4	7
Question 131: Dealing with the diverse learning needs of the learners in my class	34	5,41	5,00	5	0,892	4	7
Question 132: Teaching learners positive behaviour	33	6,06	6,00	6	0,827	4	7
Question 133: Providing learners with clear specific behaviour expectations	34	5,79	6,00	6	0,946	4	7

Questions	N	Mean	Median	Mode	SD	Minimum	Maximum
Question 134: Communicating effectively with parents	34	5,68	6,00	6	1,036	3	7

a. Multiple modes exist. The smallest value is shown

The median and mode for questions on the **Teacher Efficacy** scale ranged between 5 (Slightly Confident) and 6 (Confident). This scale focuses on participant self-evaluation of teaching abilities and beliefs (Morgan, 2011; Peixoto et al., 2018). Accordingly, it can be concluded that most of the participants felt confident in their abilities related to the teaching profession as well as their self-belief as teachers.

Upon investigation of the minimum values, the lowest minimum value of 2 (Not confident) was for Question 129. However, upon investigating the frequency tables (omitted here for conciseness), it was found that only 1 out of the 36 respondents selected this option for Question 129, indicating that only 1 participant did not feel confident with the statement: *Managing inappropriate behaviour*.

Table 4.11: Descriptive statistics of the questions from the Contextual scale

Questions	N	Mean	Median	Mode	SD	Minimum	Maximum
Question 1: I did not want to become a teacher[b] **Question associated with reverse scoring: I wanted to become a teacher**	34	4,68	5,00	7	2,306	1	7
Question 2: I may get to love teaching in future	32	5,22	6,00	6	1,791	1	7
Question 3: Teachers have played a positive role in my life	34	6,09	6,50	7	1,190	2	7
Question 4: I want to be a teacher who instils hope in learners even in the face of many obstacles	34	6,32	7,00	7	0,878	4	7

Questions	N	Mean	Median	Mode	SD	Minimum	Maximum
Question 5: As a learner, I attended a school with many challenges and few resources	34	5,44	6,00	6	1,599	1	7
Question 6: I know how to teach in a school where there are many challenges and few resources	34	6,03	6,00	6	0,904	4	7
Question 7: As a teacher, I want to take initiative to solve problems in schools	34	5,62	6,00	6	1,045	3	7
Question 8: As a teacher, I will wait for government or officials to solve problems in schools[b] **Question associated with reverse scoring: As a teacher, I will not wait for government or officials to solve problems in schools**	33	5,36	6,00	7	1,966	1	7
Question 9: I will meet informally with other teachers to discuss ways to deal with challenges	33	5,03	5,00	5[a]	1,759	1	7
Question 10: I know that teachers have to teach in schools that face many, on-going challenges	34	5,47	5,50	5	1,308	1	7
Question 11: My spirituality/religion helps me to be a teacher	34	6,21	6,00	7	1,149	1	7

a.   Multiple modes exist. The smallest value is shown
b.   Questions 1 and 8 are not positively phrased (like the rest of the questions), and, accordingly, the responses were reverse-scored so that the mean, median, mode, etc. can be interpreted similarly to the rest of the items in the table.

As previously discussed, although the questionnaire focuses on internal protective resources, the **Contextual** scale provides an indication of the contextual resources and the adversity characteristic of the South African schooling context. Compared to other scales, the median and mode for all questions ranged between 5 (Slightly Agree) and 7 (Strongly Agree), as indicated in Table 4.11. The median and mode of these questions on the Contextual scale indicated that most of teachers wanted to become teachers and that past teacher role models had a positive influence on their lives. The median and mode also indicated spiritual or religious resources as well as the importance of instilling hope in their learners as a contextual protective resources.

Furthermore, the mode and median of the following two questions indicated that the participants grew up in challenged contexts and are currently able to adapt to contextual challenges in their schools:

- **Question 5:** *As a learner, I attended a school with many challenges and few resources.*
- **Question 6:** *I know how to teach in a school where there are many challenges and few resources.*

From the mode and median of the following two questions, it seems that although participants might face many challenges, they tended to take the initiative and not wait for government's support

- **Question 7:** *As a teacher, I want to take initiative to solve problems in schools.*
- **Question 8 (phrased positively):** *As a teacher, I will not wait for government or officials to solve problems in schools.*

Lastly, the participants seemed to be aware that teachers might need to work in challenging contexts and might reach out to other teachers in a support effort. Therefore, it can be concluded that participants frequently engaged with contextual adversity and employed contextual resources to face those challenges. When the minimum values in this scale were investigated, it was determined there were many questions with a minimum value of 1 (Do not agree at all). However, upon an investigation of the frequency tables (omitted here to conserve space), for most of the questions, this is just one or two (sometimes up to three) participants. The exception being at Question 1, where five respondents strongly agreed that they did not want to become a teacher.

Table 4.12: Descriptive statistics of the different scales of the Teacher Resilience Questionnaire

Scales	Number of Questions	N	Mean	Median	Mode	SD	Minimum	Maximum
Teacher Professionalism (TR-Prof)	6	36	5,49	5,75	6	0,706	3	7
Teacher Emotion (TR-Emot)	4	36	5,44	5,50	6	0,750	4	7

Scales	Number of Questions	N	Mean	Median	Mode	SD	Minimum	Maximum
Teacher Motivation (TR-Mot)	12	36	5,71	5,67	5[a]	0,574	5	7
Teacher Sense of Coherence (TR-Soc)	4	35	5,75	5,75	6[a]	0,589	5	7
Resilience	8	35	5,29	5,33	5[a]	0,622	4	7
Teacher Efficacy (TeachEff)	12	34	5,67	5,75	5[a]	0,647	4	7
Contextual	11	34	5,59	5,45	5	0,695	4	7
Total Teacher Resilience	57	36	5,48	5,60	3[a]	0,675	3	6

a. Multiple modes exist. The smallest value is shown

Table 4.12 indicates that participants mostly agree with the statements or indicated feeling confident in their responses to a question across the different scales, as illustrated by the median. Accordingly, the majority of participants selected either Agree or Strongly agree and indicated that they felt either Slightly Confident or Confident in their responses to the questions, as illustrated by the mode. Furthermore, these responses indicated that participants mostly felt confident to manage or recover from challenges as well as agreed with the actions or beliefs stated in questions measured by the Teacher Professionalism, Teacher Emotion, Teacher Motivation, Teacher Sense of Coherence, Resilience, Teacher Efficacy and Contextual scales. The median and mean for the Teacher Resilience Questionnaire are above the midpoint of 4 (*Neutral*) and as such indicate that the majority of participants tended to agree with the statements in the questionnaire.

4.2.2. Reliability of questionnaire within a challenged South African context

This section seeks to address the secondary research question:

- *How well does the underlying variable structure of the Teacher Resilience Questionnaire hold in the setting of South African peri-urban primary schools in challenged contexts?*

In order to address this research question, the study intended to conduct factor analysis. However, factor analysis could not be run owing to the small sample size. The minimum sample size requirement to conduct factor analysis has been a topic of debate in literature for many decades. A concise summary is provided by Zhao (2009) whose recommendations range from a minimum sample size (from 100 to 500) to a minimum number of cases per variable (from 2:1 to 20:1). However, recent literature advocate that the number of cases should exceed the number of variables by at least 5 to 1 (Howard, 2016). Thus, for a total number of 57 questions on the Teacher Resilience Questionnaire, one would need at least 2*57 = 114 cases (following the recommendation relating to number of cases per variables ratio of 2:1) or one would need at least 100 (following the recommendation of the minimum sample size). Since the sample size of the study is 36, *the sample size was too small for factor analysis to be conducted*.

As an alternative, Cronbach alpha values were calculated seeking evidence for the Teacher Resilience Questionnaire as a consistent measure. Note that, unlike factor analysis, the calculation of Cronbach's alpha does not depend on the sample size (Yurdugul, 2008), but instead is derived from the number of questions and the average correlation. Cronbach's alpha provides an indication of reliability, and evidence of a consistent measurement is advisable in the absence of other measures of validity. The following hypotheses were formulated and tested to address this research question:

- **Null hypothesis (H₀):** Internal consistency of scales in the Teacher Resilience Questionnaire in the setting of South African peri-urban primary schools in challenged contexts is low.
- **Alternative hypothesis (H₁):** Internal consistency of one or more scales in the Teacher Resilience Questionnaire in the setting of South African peri-urban primary schools in challenged contexts is high.

Bonett and Wright (2015), in the results of their study furnish comprehensive details on hypothesis-testing for Cronbach's alpha. In order to test the null hypothesis of H_0: $\rho = h$ where h is some specified value (typically $h = 0,7$), a three-step decision rule is followed based on the values of the lower limit and the upper limit of the 95%

confidence interval (95% CI) of the Cronbach alpha coefficients (Bonett & Wright, 2015):

Step 1: If the lower limit of the 95% CI is greater than h, then the null hypothesis is rejected for the alternative finding that $\rho > h$, i.e. if the lower limit is greater than 0,7, it can be concluded that the Cronbach alpha value is acceptable.

Step 2: If the upper limit of the 95% CI is less than h, then the null hypothesis is rejected for the alternative finding that $\rho < h$, i.e. if the upper limit is lower than 0,7, it can be concluded that the Cronbach alpha value is not acceptable.

Step 3: If neither of the abovementioned cases hold, in other words, if the lower limit of the 95%CI is not greater than 0,7 and the upper limit of the 95%CI is not less than 0,7, the results are inconclusive.

Many different aspects need to be taken into consideration in order to make a comprehensive decision whether an instrument (construct or scale) is reliable (i.e. whether the internal consistency is good). First, the most well-known decision, based on the Cronbach alpha value itself, should be considered. This rule states that Cronbach alpha values above are 0,7 deemed acceptable (Field, 2018). Secondly, the abovementioned three-step decision rule by Bonett and Wright (2015) should be considered. If neither of these recommendations indicate reliability, the recommendation by Briggs and Cheek (1986) who stated that homogeneity (i.e. internal consistency) occurs when the inter-item correlation is neither too low (below 0,1) nor too high (above 0,5) may be considered. A correlation lower than 0,1 shows that the questions will most likely not represent the complexity of the construct accurately, and a correlation above 0,5 shows that the questions on a construct tend to be redundant (Briggs & Cheek, 1986).

The Cronbach alpha coefficients, and their corresponding 95% CI for each factor, are shown in Table 4.19, ordered from the highest to the lowest value.

Table 4.13: Factors, corresponding Cronbach alpha coefficients and 95% confidence intervals

Factor	Cronbach alpha coefficients	95% Confidence intervals for Cronbach alpha	Number of questions
Teacher Efficacy (TeachEff)	0,893	(0,825; 0,943)	12
Teacher Motivation (TR-Mot)	0,838	(0,739; 0,911)	12
Resilience	0,832	(0,722; 0,910)	9
Teacher Professionalism (TR-Prof)	0,804	(0,679; 0,892)	6
Contextual	0,783	(0,649; 0,881)	11
Teacher Sense of Coherence (TR-Soc)	0,662 0,710[a]	(0,425; 0,817) (0,477; 0,842)[a]	4 3[a]
Teacher Emotion (TR-Emot)	0,636 0,692[b]	(0,376; 0,806) (0,446; 0,839)[b]	4 3[b]

a. Question 21 removed
b. Question 7 removed

Each of the factors is discussed in detail, starting with the factor with the highest Cronbach alpha coefficient of 0,893. The Cronbach alpha coefficients were considered along with the three-step decision rule, as devised by Bonett and Wright (2015), who considered the 95% CI values of Cronbach's alpha. In a case where all these values were inconclusive, the inter-item correlations were investigated, as suggested by Briggs and Cheek (1986). Subsequently, the reliability analysis performed in respect of Teacher Efficacy is indicated in Table 4.14.

Table 4.14: Reliability analysis for Teacher Efficacy (TeachEff)

Cronbach alpha coefficient	95% CI	Number of questions
0,893	(0,825; 0,943)	12
Item-total statistics		
Questions	**Corrected item-total correlation**	**Cronbach's alpha if question deleted**
Question 123: Teaching all the subjects on the curriculum effectively.	0,552	0,888
Question 124: Explaining difficult material in ways that the children will understand it.	0,613	0,884
Question 125: Suggesting suitable examples when the children are having difficulty understanding.	0,482	0,891
Question 126: Teaching in a way that my learners will remember important information.	0,766	0,879
Question 127: Applying the new developments in the curriculum into my teaching.	0,780	0,875
Question 128: Helping children focus on learning tasks and avoid distractions.	0,686	0,880
Question 129: Managing inappropriate behaviour.	0,410	0,897

Question 130: Encouraging learners to take responsibility for their behaviour.	0,776	0,877
Question 131: Dealing with the diverse learning needs of the learners in my class.	0,787	0,875
Question 132: Teaching learners positive behaviour.	0,663	0,882
Question 133: Providing learners with clear specific behaviour expectations.	0,605	0,885
Question 134: Communicating effectively with parents.	0,308	0,903

The content of Table 4.14 clearly indicate that both the Cronbach alpha coefficient and the lower limit of the 95% CI are above 0,7, concluding that the factor Teacher Efficacy is a reliable construct. The reliability analysis for the Teacher Motivation scale follows in tabular format accompanied by a brief summary.

Table 4.15: Reliability analysis for Teacher Motivation (TR-Mot)

Cronbach alpha coefficient	95% CI	Number of questions
0,838	(0,739; 0,911)	12
Item-total statistics		
Questions	**Corrected item-total correlation**	**Cronbach's alpha if question deleted**
Question 9: I am generally optimistic at school.	0,693	0,810

Question		
Question 10: At school I focus on building my strengths more than focusing on my limitations.	0,355	0,839
Question 11: When I make mistakes at school I see these as learning opportunities.	0,646	0,819
Question 12: In my role as a teacher I set goals and work towards achieving them.	0,640	0,815
Question 13: I have realistic expectations of myself as a teacher.	0,517	0,825
Question 14: I believe that if I put my mind to something at school I can be successful.	0,546	0,823
Question 15: I am good at maintaining my motivation and enthusiasm when things get challenging at school.	0,490	0,827
Question 16: I enjoy learning when I am at work.	0,338	0,840
Question 17: I like challenges in my work.	0,192	0,855
Question 18: I am persistent in my work.	0,748	0,804
Question 19: I believe that I have control over my work life.	0,439	0,830
Question 20: It's important to me that I put in effort to do my job well.	0,650	0,818

In Table 4.15 it is evident that both the Cronbach alpha coefficient and lower limit of the 95% CI are above 0,7, concluding that the factor the Teacher Motivation scale is a reliable construct. The reliability analysis of the Resilience scale follows.

Table 4.16: Reliability analysis for Resilience

Cronbach alpha coefficient	95% CI	Number of questions
0,832	(0,722; 0,910)	9
Item-total statistics		
Questions	Corrected item-total correlation	Cronbach's alpha if question deleted
Question 114: Getting over setbacks in school.	0,679	0,802
Question 115: Bouncing back, when things upset me.	0,414	0,842
Question 116: Carrying on with my school work when things go wrong.	0,491	0,820
Question 117: Carrying on in school when events upset me.	0,615	0,806
Question 118: Feeling certain that things will come right even if there are serious problems in school.	0,570	0,811
Question 119: Managing negative events in school when I try.	0,604	0,807
Question 120: Coping with most problems on any school day.	0,741	0,791
Question 121: Some negative things that have happened in school have made me better able to deal with problems.	0,140	0,847

	Corrected item-total correlation	Cronbach's alpha if question deleted
Question 122: Not getting disheartened even when children's circumstances make it difficult.	0,709	0,797

The output captured in Table 4.16 displayed that both the Cronbach alpha coefficient and lower limit of the 95% CI are above 0,7, concluding that the Resilience scale is a reliable construct. Next the reliability analysis for the Teacher Professionalism (TR-Prof) scale is discussed.

Table 4.17: Reliability analysis for Teacher Professionalism (TR-Prof)

Cronbach alpha coefficient	95% CI	Number of questions
0,804	(0,679; 0,892)	6
Item-total statistics		
Questions	**Corrected item-total correlation**	**Cronbach's alpha if question deleted**
Question 1: At school I can be flexible when situations change.	0,757	0,725
Question 2: I can quickly adapt to new situations at school.	0,509	0,785
Question 3: I am well organised in my school work.	0,503	0,786
Question 4: I reflect on my teaching and learning to make future plans.	0,574	0,771
Question 23: In my role as a teacher, I am a good communicator.	0,557	0,775

Question 25: At work I can view situations from other people's perspectives.	0,481	0,793

From Table 4.17 it is clear that the Cronbach alpha coefficient is above 0,7, which is acceptable. However, when investigating the lower limit and upper limit of the 95%CI, the results are inconclusive, since the lower limit of the 95%CI is not greater than 0,7, and the upper limit of the 95%CI is not less than 0,7. When considering the correlations, which, should ideally, be between 0,1 and 0,5, it is evident that not all correlations are between 0,1 and 0,5. However, those that do not fall within this range are all above 0,5, which merely indicates that the questions on this construct tend to be redundant and not necessarily that the construct is not reliable. Therefore, when taking all the reliability measures into consideration, it can be concluded that the Teacher Professionalism scale is a reliable construct. The reliability analysis for the Teacher Sense of Coherence (TR-Soc) scale is presented next.

Table 4.18: Reliability analysis for Teacher Sense of Coherence (TR-Soc)

Cronbach alpha coefficient	95% CI	Number of questions
0,662	(0,425; 0,817)	4
Item-total statistics		
Questions	**Corrected item-total correlation**	**Cronbach's alpha if question deleted**
Question 21: When I am unsure of something I seek help from colleagues.	0,238	0,710
Question 22: I am good at building relationships in new school environments.	0,431	0,603

Question 24: In my work I can look at a situation a number of ways to find a solution.	0,515	0,542
Question 26: When I am at work I can generally resolve conflicts with others.	0,604	0,468

In Table 4.18 it is clear that although the Cronbach alpha value is below 0,7, the Cronbach alpha value for the factor increases to 0,710 (which is acceptable) if one question (of the four questions for this factor), namely Question 21: *When I am unsure of something I seek help from colleagues*, is removed. Accordingly, Question 21 was removed, and the results are shown in Table 4.19.

Table 4.19: Reliability analysis for Teacher Sense of Coherence (TR-Soc) with one question removed

Cronbach alpha coefficient	95% CI	Number of questions
0,710	(0,477; 0,842)	3
Item-total statistics		
Questions	**Corrected item-total correlation**	**Cronbach's alpha if question deleted**
Question 22: I am good at building relationships in new school environments.	0,489	0,653
Question 24: In my work I can look at a situation a number of ways to find a solution.	0,481	0,663
Question 26: When I am at work I can generally resolve conflicts with others.	0,602	0,503

Table 4.19 shows that the Cronbach alpha coefficient is above 0,7, which is acceptable. However, when investigating the lower limit and upper limit of the 95% CI, the results are inconclusive, since the lower limit of the 95% CI is not greater than 0,7 and the upper limit of the 95% CI is not less than 0,7. When considering the correlations, which should ideally be between 0, 1 and 0, 5, it is clear that one of the correlations is not between 0,1 and 0,5. However, this specific correlation is above 0,5 which indicates that this question tends to be redundant and not necessarily that the construct is not reliable. Therefore, when taking all the reliability measures into consideration, it can be concluded that the Teacher Sense of Coherence (TR-Soc) scale is a reliable construct when one of the questions is removed. A discussion of the reliability analysis for the Teacher Emotion (TR-Emot) scale follows.

Table 4.20: Reliability analysis for Teacher Emotion (TR-Emot)

Cronbach alpha coefficient	95% CI	Number of questions
0,636	(0,376; 0,806)	4
Item-total statistics		
Questions	**Corrected item-total correlation**	**Cronbach's alpha if question deleted**
Question 5: When something goes wrong at school I don't take it too personally.	0,568	0,450
Question 6: After reflection, I can usually find the funny side of challenging school situations.	0,276	0,676
Question 7: When I feel upset or angry at school I can manage to stay calm.	0,200	0,692
Question 8: I balance my role as a teacher with other dimensions in my life.	0,678	0,359

From Table 4.20 it can be seen that although the Cronbach alpha value is below 0,7, the Cronbach alpha value for the factor increases to 0,692, which is very close to 0,7 if one question of the four questions for this factor is removed. This question is Question 7: *When I feel upset or angry at school I can manage to stay calm*. Accordingly, Question 7 was removed, and the results are shown in Table 4.21.

Table 4.21: Reliability analysis for Teacher Emotion (TR-Emot) with one question removed

Cronbach alpha coefficient	95% CI	Number of questions
0,692	(0,446; 0,839)	3
Item-total statistics		
Questions	Corrected item-total correlation	Cronbach's alpha if question deleted
Question 5: When something goes wrong at school I don't take it too personally.	0,606	0,472
Question 6: After reflection, I can usually find the funny side of challenging school situations.	0,348	0,804
Question 8: I balance my role as a teacher with other dimensions in my life.	0,594	0,490

It is clearly indicated in Table 4.21 that the Cronbach alpha coefficient is almost equal to the acceptable level of 0,7. When investigating the lower limit and upper limit of the 95%CI, the results are inconclusive since the lower limit of the 95% CI is not greater than 0,7, and the upper limit of the 95% CI is not less than 0,7. When considering the correlations, which should ideally be between 0,1 and 0,5, it is evident that two of the correlations are not within the 0,1 and 0,5 range. However, these correlations are

above 0,5 which merely indicate that these questions tend to be redundant and not necessarily that the construct is not reliable. Therefore the results captured in Table 4.21 indicate the Cronbach alpha value of this factor can be even further increased to 0,804 (which is acceptable since it is greater than 0,7) by removing another question, namely Question 6: *After reflection, I can usually find the funny side of challenging school situations*. Evidence presented for this factor should be investigated more thoroughly in a future study, in which possibilities such as removing Questions 6 and 7 and replacing them with questions that are more suitable to a challenged South African context might be given consideration.

In conclusion, it has been shown that all the factors are reliable, except for the Teacher Emotion scale, which was indicated as presenting possibilities in future research.

4.2.3. Results of Inferential Statistics

In this section, the results from the inferential statistical analysis are discussed. Inferential statistics allowed the present study to infer or draw conclusions based on the sample data (Christensen et al., 2014; Mentz & Botha, 2012; Pietersen & Maree, 2016c). Therefore, this section provides answers to the secondary research questions of this study relating to the comparison of teacher resilience across school and age.

4.2.3.1.   Teacher resilience compared across schools

This section sought to address the secondary research question:

- *How does teacher resilience compare across schools in peri-urban primary school teachers in challenged contexts?*

In order to address this research question, the following hypotheses were formulated and tested for statistical differences:

- **Null hypothesis (H_0):** There is no statistically significant difference in teacher resilience between the schools.
- **Alternative hypothesis (H_1):** There is a statistically significant difference in teacher resilience between the schools.

The non-parametric Kruskal-Wallis test was used to test for differences between the schools (see Table 4.22). As described in Chapter 3, this test is appropriate for comparing two or more independent groups (Salkind, 2011). The present study used a 5% level of significance and therefore the null hypothesis is rejected when the p-value is less than 0,05 indicating that there is a statistically significant difference in teacher resilience of teachers from different schools.

Table 4.22: Kruskal-Wallis test results (Schools)

Scales	Kruskal-Wallis	p-value
Teacher Professionalism (TR-Prof)	7,952	0,159
Teacher Emotion (TR- Emot)	6,751	0,240
Teacher Motivation (TR-Mot)	5,688	0,338
Teacher Sense of Coherence (TR-Soc)	8,613	0,126
Resilience	8,168	0,147
Teacher Efficacy (TeachEFF)	10,536	0,061
Contextual	6,059	0,301
Total Teacher Resilience	7,950	0,159

From the results included in Table 4.22 it is evident that the p-values for each scale of the Teacher Resilience Questionnaire and Total Teacher Resilience calculated were greater than 0,05. Accordingly, the null hypothesis cannot be rejected. As such, it can be concluded that there were *no statistically significant differences in measured teacher resilience across the six schools.*

4.2.3.2. Teacher resilience compared across age

This section seeks to address the secondary research question:

- *How does teacher resilience compare across age in peri-urban primary school teachers in challenged contexts?*

In order to address this research question, the following hypotheses were formulated and tested for statistical differences:

- **Null hypothesis (H0):** There is no statistically significant difference in teacher resilience between the two age groups.
- **Alternative hypothesis (H1):** There is a statistically significant difference in teacher resilience between the two age groups.

As discussed, the age of the participants was categorised as either 50 years of age and younger or older than 50 years of age. Therefore, the non-parametric Mann-Whitney test was deemed as appropriate since it allows for comparison between two independent groups (under 50 vs over 50). Table 4.23 provides the results of the Mann-Whitney test.

Table 4.23: Mann-Whitney test results (Age)

Scales	Mann-Whitney	p-value
Teacher Professionalism (TR-Prof)	113,000	0,274
Teacher Emotion (TR- Emot)	121,000	0,414
Teacher Motivation (TR-Mot)	106,000	0,184
Teacher Sense of Coherence (TR-Soc)	110,500	0,355
Resilience	130,000	0,829
Teacher Efficacy (TeachEFF)	108,000	0,460
Contextual	105,000	0,394
Total Teacher Resilience	114,000	0,293

As is evident from the results in Table 4.23, the p-values for each of the Teacher Resilience Questionnaire scales as well as Total Teacher Resilience were greater than 0,05. The null hypothesis could not be rejected and, therefore, it can be concluded that *there is no significant difference in measured teacher resilience between teachers 50 and younger or older than 50.*

4.3.   CONCLUSION

Considering the small sample size (n = 36) as well as the small number of participants in the school groups and age categories, it was not possible to conduct in-case

analysis. Although a cross-case analysis could be conducted for schools and age, this could not be done for gender, since there was only one male in the sample. Across-case analysis of teacher resilience compared across schools and age indicated no statistical differences between the different schools nor between the younger and older age groups. Since the inferential statistics did not show any statistically significant differences, the descriptive statistics were critically scrutinised for each specific question (see Tables 4.5 to 4.11) as well as for each scale, and calculated Total Teacher Resilience (see Table 4.12). The descriptive statistics indicated a high level of perceived internal teacher resilience among the peri-urban primary school teachers in the data set. Furthermore, the reliability results indicated that the factors of the Teacher Resilience Questionnaire are reliable, with exception of the Teacher Emotion scale in the setting of South African peri-urban primary schools in challenged contexts.

In Chapter 5, existing literature will be revisited in order to interpret the results of the present study. Accordingly, the researcher presented a discussion of existing knowledge as well as how existing literature supports or contradicts the results included. Furthermore, potential explanations for the results, the contribution to research as well as the limitations of the present study are included. Lastly, recommendations for future research, practice and training are formulated and presented.

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CHAPTER 5
FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1.   INTRODUCTION

The aim of this chapter is to provide an overview and summary of the content of presented in Chapters 1 to 4. This overview is followed by an interpretation of the results of the study against the background of existing literature. The primary and secondary research questions, as stated in Chapter 1, were addressed. Furthermore, the conceptual framework discussed in Chapter 2 was adapted to include the findings of the present study. The chapter was concluded with a discussion on the limitations of the present study as well as recommendations for future research, practice and training.

5.2.   OVERVIEW OF THE PREVIOUS CHAPTERS

Chapter 1

The introduction to the study contained a detailed rationale and outline for the study titled, *Comparing teacher resilience in primary schools in challenged contexts*. In order to provide an overview of the background relevant the Isithebe baseline data set, a contextualisation of the geographic location in which the study took place was included. This chapter detailed the sampling process as well as introduced the research questions and hypotheses which guided the study. Subsequently, key concepts were clarified, and the relevant paradigmatic lenses were described and discussed. A summative outline of the dissertation chapters concluded Chapter 1.

Chapter 2

This chapter aimed to provide relevant literature pertaining to teacher resilience in challenged contexts. In order to contextualise current literature on teacher resilience, a discussion of the effects of globalisation, postcolonialism and the Global South on teachers and education systems was included. This chapter further explored the necessity of a resilience response in challenging contexts by placing emphasis on the resilience process. This included a discussion of protective resources and risk factors with an emphasis on those internal protective resources available to teachers. The chapter was concluded with a discussion on the conceptual framework employed in the present study.

Chapter 3

This chapter provided an explanation of the research process followed and other methodological decisions. The research design elements of the present study were described, followed by a discussion on the chosen research design of the study. This included a description of secondary data analysis as research design and a discussion on its advantages and limitations. Subsequently, the domains of the Teacher Resilience Questionnaire as well as the data analysis methods employed in the present study were described. This chapter is concluded with an exploration of the relevant ethical considerations and standards of rigour applied to the present study.

Chapter 4

The results derived from quantitative data analysis were presented and described for the purpose of the present secondary study. Accordingly, this chapter referred to the research questions and hypotheses guiding the study. Descriptive and inferential statistics were employed to provide an understanding of teacher resilience of peri-urban primary school teachers in challenged contexts. Reliability statistics were used to investigate the underlying variable structure of the Teacher Resilience Questionnaire and to address the question of how well the underlying variable structure held up in the setting of South African peri-urban primary schools in challenged contexts.

5.3. INTERPRETING RESULTS AGAINST THE BACKGROUND OF EXISTING LITERATURE

5.3.1. Introduction

This section focuses on a discussion of the results derived from the present study in comparison with existing literature. This section reflected on the results, as presented in Chapter 4, in order to provide findings.

5.3.2. Results that support existing literature

5.3.2.1. Presence of high teacher resilience in challenged contexts

The present study found indications of high teacher resilience amongst participants in challenged contexts. In addition to this, teachers seemed to be able to identify and navigate towards internal protective resources. Similarly, Coetzee et al. (2015) found that teachers could identify resources even in the face of adversity, including an

unstable education system. Mansfield et al. (2018) highlighted the importance of internal protective resources for teacher resilience in two postcolonial, Global South contexts (South Africa and Australia). Furthermore, another South African study indicated that adversity required a resilience response and reported that teachers in the study were able to employ specific internal traits as a protective resource (Ebersöhn, 2014).

5.3.2.2. The importance of contextual resources on teacher resilience

The present study focused on the internal protective resources available to teachers. However, the Contextual scale was included to provide an indication of contextual resources available to South African teachers. The descriptive statistical results of the Contextual scale indicated that most of the *teachers rely on past role models and spiritual or religious resources* and *are motivated by hope that they can instil in students.*

This finding supports existing teacher resilience knowledge. Ainsworth and Oldfield (2019) similarly highlighted the important role which contextual factors played in the resilience process and furthermore indicated that contextual factors are just as important as individual factors. In addition, another study (Low et al., 2011) found that teachers indicated the important influence of past teacher role models as an intrinsic factor in choosing teaching as a vocation. Hartwick and Kang (2013) found in a study they conducted that the use of spiritual practices (such as the act of praying) might act as a protective resource against professional stress and, assist teachers with reflection and problem-solving. Galea (2018) investigated the resilience narratives of teachers, and reported one participant had indicated the importance of her own inner hope and the encouragement she could impart to her students.

5.3.2.3. The influence of teacher professionalism on teacher resilience

The present study found high teacher professionalism amongst participants which contributed to their teacher resilience. Specifically, teachers in this study indicated that teacher flexibility, adaptability, a strong commitment to the profession and involvement in teaching skills were internal protective resources that buoyed their teacher professionalism and enabled them to resile.

This above-mentioned finding supports existing teacher resilience knowledge. Flores (2018) also found that teachers' ability to resile are influenced by high indices

of professional values and teacher professionalism. Peixoto et al. (2018) found that teachers' ability to resile significantly correlated with their ability to employ flexibility in their profession. Papatraianou et al. (2018) found that teachers viewed flexibility as playing an integral role in their ability to cope. In another study Collie and Martin (2016) indicated that adaptability was a necessity for teachers to be able to respond effectively to the challenges associated with the teaching profession. Furthermore, Gu (2018) emphasised the importance of professional commitment to teacher resilience, while Lohbeck (2018) indicated that teaching commitment required high professional motivation. Hong (2012) found that teachers reporting experiencing enjoyment in engaging with teaching practices such as taking an interest in their subject and helping students to learn.

5.3.2.4. The influence of efficacy and self-efficacy on teacher resilience

The present study found that the strong indication of efficacy and self-efficacy amongst participants contributed to their teacher resilience. Gu and Day (2007) similarly found in their study that teacher sense of efficacy was a necessary contribution to their resilience as well as their effectiveness as teachers. Hong (2012) indicated that self-efficacy was an important factor with regard to resilience, as teachers' ability to remain committed to the profession. Setlhare et al. (2017) similarly found that teacher sense of self-efficacy contributed to teachers' adaptation to career challenges.

5.3.3. Results that contradict existing literature

5.3.3.1. Significant difference between schools

The present study found that there were no significant differences in teacher resilience across the six peri-urban primary schools in challenged contexts. Ebersöhn (2012) indicated that rural and urban schools responded differently to adversity. The adaptive differences were ascribed to varied proximal resources (Ebersöhn, 2012). Incongruities might be due to the present study including schools from the same peri-urban district, with similar demographic and socio-economic characteristics. Accordingly, the finding of no significant differences in teacher resilience across the schools is not surprising.

5.3.3.2. Significant differences in age

The present study found no significant difference in teacher resilience between the two age groups (50 years and younger and older than 50 years). In contrast, various studies (Castro et al., 2010; Gu & Day, 2007; Hong, 2012; Peixoto et al., 2018) indicated that an age difference matters for teacher resilience. Literature does not view resilience as a stable trait, but rather as a dynamic process which may fluctuate over time (Gu & Day, 2007). Peixoto et al. (2018) found that younger teachers might not necessarily face the demands of policy and increased accountability compared to older teachers. Hong (2012) reported on the high attrition rate amongst beginning teachers, while Castro et al. (2010) found that novice teachers employed certain resilience strategies.

The contradiction between the present study and existing literature may be due to the age range in the sample. Although the sample was distributed equally between the two age categories (n = 17 for both above and under 50), only one participant was under the age of 30.

5.4. ADDRESSING THE RESEARCH QUESTIONS AND HYPOTHESES

This section sought to address the research questions posed in Chapter 1 by addressing the secondary research questions first, followed by a discussion of the primary research question. The section concluded with a discussion on the formulated hypotheses.

5.4.1. Secondary research questions

5.4.1.2. How well does the underlying variable structure of the Teacher Resilience Questionnaire hold in the setting of South African peri-urban primary schools in challenged contexts?

The Teacher Resilience Questionnaire consists of items which were sourced from existing scales (Coetzee, 2013; Mansfield et al., 2015; Morgan, 2011; Peixoto et al., 2018; Watt & Richardson, 2007). The validation studies of each of these scales were discussed in Chapter 1, while the validity and reliability of the Teacher Resilience Questionnaire were described in Chapter 3. The questionnaire indicated acceptable validity (Watt & Richardson, 2007) and reliability in each of the validation studies (Morgan, 2011; Peixoto et al., 2018).

One objective of the present study was to investigate how well the underlying variable structure of the questionnaire held up in the setting of South African peri-urban primary schools in challenged contexts. In order to address this research question, Cronbach alpha values were computed and subsequently discussed in Chapter 4. The scales of Teacher Efficacy (0,893), Teacher Motivation (0,838), Resilience (0,832), Teacher Professionalism (0,804) as well as Contextual items (0,783) indicated Cronbach alpha values above 0,7. Although the Cronbach alpha value for the Teacher Sense of Coherence scale equalled 0,662, with all the items included, it could be improved by removing Question 21. The Cronbach alpha value of the Teacher Sense of Coherence scale increased to 0,710 when Question 21 was removed. The Cronbach alpha value of the Teacher Emotion scale equalled 0,363, although it could be improved by removing Question 7. The Cronbach alpha value of the Teacher Emotion scale increased to 0,692 when Question 7 was removed and was very close to 0,7. It can, therefore, be concluded that all factors of the Teacher Resilience Questionnaire are reliable, with the exception of the Teacher Emotion scale. *Therefore, the underlying variable structure of the Teacher Resilience Questionnaire holds up well in the setting of South African peri-urban primary schools in challenged contexts.*

5.4.1.3. How does teacher resilience compare across (a) schools and (b) age in-case and across-case in peri-urban primary school teachers in challenged contexts?

Due to the small number of participants in each group, cross-case analysis could be performed only for comparisons regarding school and age. The results of the present study determined no statistically significant difference across schools (p = 0,159) and age (p = 0,293). Accordingly, *there seems to be no difference in teacher resilience across schools, or age in peri-urban primary school teachers in challenged contexts.*

5.4.2. Primary research question

5.4.2.1. How can insight into teacher resilience of peri-urban primary school teachers in schools in challenged contexts (statistically compared in-case and across-case) inform teacher resilience knowledge?

This study aimed to contribute to the body of knowledge on teacher resilience by comparing teacher resilience traits of teachers in peri-urban primary schools in challenged contexts in the Global South. Accordingly, findings provide insight into

teacher resilience in settings where social deprivation and structural inequality abounds. The present study focused on the internal traits that could act as either protective resources or risk factors in the teacher resilience process and as such contributed to the relatively under-researched area of teacher resilience (Beltman et al., 2011). Although no statistically significant differences were for teacher resilience across school or age, descriptive statistics results provided information on the specific traits which seemed to act as protective resources for the teachers in spaces of high social disadvantage.

This study contributes to teacher resilience knowledge by identifying important internal protective traits teachers employ in challenged education settings. On the Teacher Professionalism scale teachers indicated *strong commitment* to the teaching profession and highlighted the importance of *teacher professional skills* such as planning, organisation and reflection (Peixoto et al., 2018). Furthermore, teachers also identified the ability to *regulate emotions as well as social* and *emotional competences* (Peixoto et al., 2018) as significant internal protective traits (as indicated by the Teacher Emotion scale). Teachers highlighted the importance of *enthusiasm, internal motivation* and *an optimistic orientation* (Peixoto et al., 2018; Watt & Richardson, 2007) as important internal protective traits (Teacher Motivation scale). The results derived from the Teacher Sense of Coherence scale suggested that teachers found *the ability to view challenges as manageable, comprehensible, and meaningful* can act as a strong internal protective resource (Peixoto et al., 2018). Teachers indicated (Resilience and Teacher Efficacy scales) *self-efficacy* as well as *self-belief in teaching abilities* (Morgan, 2011; Peixoto et al., 2018) as significant for teacher resilience.

The present study contributes to teacher resilience knowledge by describing contextual resources. On the Contextual scale teachers identified the influence of previous teacher role models and the importance of spiritual or religious resources to support teachers in resiling despite the chronic adversities characteristic of a severely socio-economically challenged context. Furthermore, results indicated that teachers were motivated by the hope and inspiration which they could model to students.

Teachers indicated high teacher resilience despite adversities. Results of the present study indicated high incidences of teacher professionalism, teacher emotion, teacher motivation, teacher sense of coherence, resilience, teacher self-efficacy, and contextual resources which contributed to high perceived teacher resilience amongst participants.

The present study contributed to teacher resilience knowledge by investigating the reliability of the Teacher Resilience Questionnaire in the setting of South African peri-urban primary school teachers in challenged contexts. The study found that the underlying variable structure of the questionnaire held up well in this context. However, the Teacher Emotion scale did not hold up well in the setting of South African peri-urban primary school teachers in challenged contexts. The reliability results thus open up possibilities to improve or replace some of the questions on the Teacher Emotion scale to render it better suited to a challenged South African context.

In order to indicate the contribution of the present study to the teacher resilience body of knowledge, the conceptual framework, as discussed in Chapter 2 (see Section 2.4), was adapted and depicted in Figure 5.1. The additional insights provided by the results of the study were included in the framework and provided information on the comparison of teacher resilience across schools and age. The identified internal and contextual protective resources were also added. The framework was furthermore adapted to indicate high teacher resilience of the teachers in challenged contexts. The present study established the reliability of the Teacher Resilience Questionnaire in the setting of South African peri-urban primary school teachers in challenged contexts. Accordingly, the framework was adapted to indicate the reliability findings of the study. Figure 5.1 provides the adapted conceptual framework.

Context
- Postcolonial
- Globalisation
- Global South

Challenges

Teacher

Teacher Resilience
- Psychological traits
- Internal protective resources and risk factors
- High Teacher Resilience

Internal protective resources
- Teacher professionalism, teacher emotion, motivation, SOC, resilience (efficacy), and self-efficacy.

Contextual protective resources
- Spiritual and religious resources, role models, ability to inspire learners.

- Identified internal and contextual protective resources enable teachers to view challenges of high social disadvantage in which they work as comprehensible, manageable and meaningful – supporting them to resile.

- Viewed through a SOC lens

- Teacher resilience traits of peri-urban primary school teachers in challenged contexts.
- Reliability of the Teacher Resilience Questionnaire in the setting of South African peri-urban, primary school teachers in challenged contexts.
- Compare teacher resilience across schools and age.

Contribute and inform knowledge on teacher resilience in Global South spaces of structural disparity.

Reliability of the Teacher Resilience Questionnaire

The Teacher Resilience Questionnaire is reliable (excluding Teacher Emotion scale) to use with teachers from peri-urban primary school in socio-economically challenged South African contexts.

Teacher resilience across schools

Across individual schools embedded within spaces of social deprivation, teacher resilience was high, with no significant difference.

Teacher resilience across age

Teachers above and under 50 showed no significant difference in resilience.

- Like their counterparts elsewhere in the world South African teachers at schools in challenged contexts (characteristic of a Global South peri-urban country) indicate their use of internal protective resources (teacher professionalism, teacher emotion, motivation, SOC, resilience (efficacy), and self-efficacy) to resile. Contextual resources also support teacher capacity to resile.
- Specifically IsiXhosa peri-urban primary school teachers draw on religious and spiritual resources, as well as past teacher role models and the possibility to inspire hope in learners.
- Unlike in other countries, all internal and contextual resources identified seem to contribute high teacher resilience, with no fluctuation in the importance of each respective resource.

Figure 5.1: Adapted conceptual framework of the present study

5.4.2.2. Conclusions with regard to the formulated hypotheses

As discussed in Chapter 1 (see Section 1.5), the formulated hypotheses for the present study were as follows:

- **H_0:** Internal consistency of one or more scales on the Teacher Resilience Questionnaire in the setting of South African peri-urban primary schools in challenged contexts is low.
- **H_1:** Internal consistency of one or more scales on the Teacher Resilience Questionnaire in the setting of South African peri-urban primary schools in challenged contexts is high.

The internal consistency of all the scales on the Teacher Resilience Questionnaire was high, except for the Teacher Emotion scale. Accordingly, *the null hypothesis is rejected and the alternative hypothesis is supported*. This conclusion is based on the results discussed in Chapter 4 (see Section 4.2.2).

- **H_0:** There is no statistically significant difference in teacher resilience between the schools.
- **H_1:** There is a statistically significant difference in teacher resilience between the schools.
- **H_0:** There is no statistically significant difference in teacher resilience between age groups.
- **H_1:** There is a statistically significant difference in teacher resilience between the age groups.

No overall difference in teacher resilience between each of the groups (of school and age) could be observed. There were no statistically significant differences between the groups (school and age) and therefore, *the null hypothesis could not be rejected*. This conclusion is based on the results, as discussed in Chapter 4 (see Section 4.2.3).

5.5. CHALLENGES AND LIMITATIONS OF THE STUDY

An identifiable limitation of the present study relates to the chosen research design, namely secondary data analysis. The present study was not engaged in the

recruitment of participants (Andrews et al., 2012) or the data collection process (Andrews, et al., 2012; Greenhoot & Dowsett, 2012) of the primary research study. Accordingly, the present study was limited by the research design in that obtaining additional data in order further to explore teacher resilience was impossible. In addition, limited knowledge of the data collection process resulted in an incomplete account of how the data might potentially have been influenced (Greenhoot & Dowsett, 2012; Johnston, 2014). As such, the present study was subject to missing data or participant non-response to statements without the option to understand essential additional contextual information (Cheng & Phillips, 2014) or the option to obtain more data.

The sampling procedures, as well as sample size of the present study, represented a further limitation. The use of non-probability sampling limited the generalisability of the study's results to the specific population studied and therefore limited its application to other populations (Acharya et al., 2013). As discussed in Chapter 3, the results of the present study may be comparative to similar settings (teachers in peri-urban primary schools in challenged contexts) and descriptions of a small data set. However, the small sample size of this study and, the small number of participants in the school and age groups did not lend itself to in-case analysis or generalisability. This may consequently have influenced the results of the present study apart from otherwise comprehensively addressing the research questions.

As stated in Chapter 1, the home language of participants was mainly IsiXhosa, and, as such, potential language difficulties in understanding the questionnaire items should be contemplated. This may have potentially influenced responses, resulting in non-response or affirming responses, as discussed in Chapter 4. In addition to this, indications of teacher resilience relied on the participants' self-perception.

5.6.   RECOMMENDATIONS

This section details the recommendations for future research, practice and training as it relates to teacher resilience in challenged contexts.

5.6.1. Future Research

Based on the results and conclusions of the present study, the following is recommended for possible future research:

- An investigation into the inconsistencies between findings of the present study and existing knowledge as discussed in this chapter.

- The present study focused on peri-urban primary schools in challenged contexts in the Eastern Cape. Future studies could be conducted with other primary or secondary schools in challenged contexts in provinces other than the Eastern Cape.

- Future researchers could seek to establish the reliability of the Teacher Resilience Questionnaire in settings other than South African peri-urban primary school teachers in challenged contexts.

- Future studies could seek to improve the Teacher Emotion scale in the setting of South African peri-urban primary school teachers in challenged contexts.

- Future researchers could seek further to investigate the Contextual scale by exploring the possibility of removing Questions 6 and 7 and replacing them with items that are more suitable to a challenged South African context.

- Further studies could be conducted with a larger and more representative sample to investigate in-case analysis of teacher resilience with regard to school and age in addition to drawing comparisons between genders.

- The present study focused on resilience as an internal trait. Future researchers could explore contextual factors and the resilience process of peri-urban primary school teachers in challenged contexts.

5.6.2. Practice

Mansfield et al. (2016) developed a framework for building teacher resilience in teacher education, and it is therefore argued that teacher resilience can be developed. Since the present study investigated internal protective traits, it is recommended that schools and educational psychologists implement interventions or training opportunities to assist teachers in the development of resilience. Accordingly, the present study urges school management as well as educational psychologists placed at schools to seek opportunities to promote internal protective resources. As a result, teachers can be supported to maintain their teaching quality and remain committed to the profession.

5.6.3. Training

Based on the present study, it is recommended that teacher training institutions should promote the development of internal protective resources. Furthermore, it is proposed that the training and education of teachers include knowledge of possible internal protective resources and how to identify and navigate towards those resources. It is also advised that the training of educational psychology students should include knowledge of how to support teacher resilience in schools and how educational psychologists might facilitate this process. Lastly, school management training should include ways in which school leadership may support teachers and promote the development of internal protective resources.

5.7.   CONCLUSION

This chapter provided an overview of the chapters in the present study and compared the results of the study with findings from existing literature. This was followed by addressing the research questions and hypotheses, as provided in Chapter 1. Furthermore, the conceptual framework employed in the present study was adapted and presented. The chapter was concluded by a discussion of the limitations of the present study as well as recommendations for further research, practice and training.

The present study contributed to teacher resilience knowledge by exploring teacher resilience of peri-urban primary school teachers in challenged contexts. Questionnaire data on teacher resilience were analysed, and traits that act as protective resources were identified. Furthermore, the present study investigated the internal consistency of the Teacher Resilience Questionnaire in the setting of South African peri-urban primary schools in challenged contexts. The results of this study were discussed and described in order to contribute to the existing body of knowledge relating to teacher resilience of teachers in a challenged postcolonial Global South space.

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APPENDICES

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APPENDIX A: TEACHER RESILIENCE QUESTIONNAIRE

DATE:	
NAME AND SURNAME:	
STUDENT NUMBER:	
AGE:	GENDER:
UP PROGRAMME ENROLLED FOR:	
LIST OF LANGUAGES YOU ARE FLUENT IN:	

		Source	Scale	Item	Please choose your answer by circling the appropriate box ranging from: 1 = *Do not agree at all* to 7 = *Strongly agree*						
				The following statements express different views about teaching. Read each sentence and choose the option that better reflects your opinion, by checking the table below							
core	1	CM	TR-Prof	At school I can be flexible when situations change	1	2	3	4	5	6	7
core	2	CM	TR-Prof	I can quickly adapt to new situations at school	1	2	3	4	5	6	7
core	3	CM	TR-Prof	I am well organised in my school work	1	2	3	4	5	6	7
core	4	CM	TR-Prof	I reflect on my teaching and learning to make future plans	1	2	3	4	5	6	7
core	5	CM	TR-Emot	When something goes wrong at school I don't take it too personally	1	2	3	4	5	6	7
core	6	CM	TR-Emot	After reflection, I can usually find the funny side of challenging school situations	1	2	3	4	5	6	7
core	7	CM	TR-Emot	When I feel upset or angry at school I can manage to stay calm	1	2	3	4	5	6	7
core	8	CM	TR-Emot	I balance my role as a teacher with other dimensions in my life	1	2	3	4	5	6	7
core	9	CM	TR-Mot	I am generally optimistic at school	1	2	3	4	5	6	7
core	10	CM	TR-Mot	At school I focus on building my strengths more than focusing on my limitations	1	2	3	4	5	6	7
core	11	CM	TR-Mot	When I make mistakes at school I see these as learning opportunities	1	2	3	4	5	6	7
core	12	CM	TR-Mot	In my role as a teacher I set goals and work towards achieving them	1	2	3	4	5	6	7
core	13	CM	TR-Mot	I have realistic expectations of myself as a teacher	1	2	3	4	5	6	7
core	14	CM	TR-Mot	I believe that if I put my mind to something at school I can be successful	1	2	3	4	5	6	7
core	15	CM	TR-Mot	I am good at maintaining my motivation and enthusiasm when things get challenging at school	1	2	3	4	5	6	7

core	16	CM	TR-Mot	I enjoy learning when I am at work	1	2	3	4	5	6	7
core	17	CM	TR-Mot	I like challenges in my work	1	2	3	4	5	6	7
core	18	CM	TR-Mot	I am persistent in my work	1	2	3	4	5	6	7
core	19	CM	TR-Mot	I believe that I have control over my work life	1	2	3	4	5	6	7
core	20	CM	TR-Mot	It's important to me that I put in effort to do my job well	1	2	3	4	5	6	7
core	21	CM	TR-Soc	When I am unsure of something I seek help from colleagues	1	2	3	4	5	6	7
core	22	CM	TR-Soc	I am good at building relationships in new school environments	1	2	3	4	5	6	7
core	23	CM	TR-Prof	In my role as a teacher, i am a good communicator	1	2	3	4	5	6	7
core	24	CM	TR-Soc	in my work I can look at a situation a number of ways to find a solution	1	2	3	4	5	6	7
core	25	CM	TR-Prof	At work I can view situations from other people's perspectives	1	2	3	4	5	6	7
core	26	CM	TR-Soc	When I am at work I can generally resolve conflicts with others	1	2	3	4	5	6	7
		Source	**Scale**	**Item**	**Please choose your answer by circling the appropriate box ranging from: 1 = _Absolutely not Confident_ to 7 = _Strongly Confident_**						
		The following statements express different views about teaching. Read each sentence and choose the option that better reflects your opinion, by checking the table below									
core	114	MM	Resilience	Getting over setbacks in school	1	2	3	4	5	6	7
core	115	MM	Resilience	Bouncing back, when things upset me	1	2	3	4	5	6	7
core	116	MM	Resilience	Carrying on with my school work when things go wrong	1	2	3	4	5	6	7
core	117	MM	Resilience	Carrying on in school when events upset me	1	2	3	4	5	6	7
core	118	MM	Resilience	Feeling certain that things will come right even if there are serious problems in school.	1	2	3	4	5	6	7
core	119	MM	Resilience	Managing negative events in school when I try	1	2	3	4	5	6	7
core	120	MM	Resilience	Coping with most problems on any school day	1	2	3	4	5	6	7
core	121	MM	Resilience	Some negative things that have happened in school have made me better able to deal with problems	1	2	3	4	5	6	7
core	122	MM	Resilience	Not getting disheartend even when children's circumstances make it difficult.	1	2	3	4	5	6	7
core	123	MM	TeachEff	Teaching all the subjects on the curriculum effectively	1	2	3	4	5	6	7

core	124	MM	TeachEff	Explaining difficult material in ways that the children will understand it	1	2	3	4	5	6	7
core	125	MM	TeachEff	Suggesting suitable examples when the children are having difficulty understanding	1	2	3	4	5	6	7
core	126	MM	TeachEff	Teaching in a way that my learners will remember important information	1	2	3	4	5	6	7
core	127	MM	TeachEff	Applying the new developments in the curriculum into my teaching	1	2	3	4	5	6	7
core	128	MM	TeachEff	Helping children focus on learning tasks and avoid distractions	1	2	3	4	5	6	7
core	129	new	TeachEff	Managing inappropriate behaviour	1	2	3	4	5	6	7
core	130	new	TeachEff	Encouraging learners to take responsibility for their behaviour	1	2	3	4	5	6	7
core	131	new	TeachEff	Dealing with the diverse learning needs of the learners in my class.	1	2	3	4	5	6	7
core	132	new	TeachEff	Teaching learners positive bahviour	1	2	3	4	5	6	7
core	133	new	TeachEff	Providing learners with clear specific behaviour expectations	1	2	3	4	5	6	7
core	134	new	TeachEff	Communicating effectively with parents	1	2	3	4	5	6	7

DATE:	
NAME AND SURNAME:	
STUDENT NUMBER:	
AGE:	**GENDER:**
UP PROGRAMME ENROLLED FOR:	
LIST OF LANGUAGES YOU ARE FLUENT IN:	

Please rate how relevant each statement below is in terms of your career as a teacher												
		Source	**Scale**	**Item**	**Please choose your answer by circling the appropriate box ranging from: 1 = *Do not agree at all* to 7 = *Strongly agree***							
				The following statements express different views about teaching. Read each sentence and choose the option that better reflects your opinion, by checking the table below								
core	1	LE	Contextual	I did not want to become a teacher.	1	2	3	4	5	6	7
core	2	LE	Contextual	I may get to love teaching in future.	1	2	3	4	5	6	7
core	3	LE	Contextual	Teachers have played a positive role in my life.	1	2	3	4	5	6	7
core	4	LE	Contextual	I want to be a teacher who instils hope in learners even in the face of many obstacles	1	2	3	4	5	6	7
core	5	LE	Contextual	As a learner, I attended a school with many challenges and few resources	1	2	3	4	5	6	7
core	6	LE	Contextual	I know how to teach in a school where there are many challenges and few resources	1	2	3	4	5	6	7
core	7	LE	Contextual	As a teacher I want to take initiative to solve problems in schools	1	2	3	4	5	6	7
core	8	LE	Contextual	As a teacher I will wait for government or officials to solve problems in schools	1	2	3	4	5	6	7
core	9	LE	Contextual	I will meet informally with other teachers to discuss ways to deal with challenges	1	2	3	4	5	6	7
core	10	LE	Contextual	I know that teachers have to teach in schools that face many, on-going challenges	1	2	3	4	5	6	7
core	11	LE	Contextual	My spirituality/religion helps me to be a teacher	1	2	3	4	5	6	7

Used in FIRE project, UP. Generated from findings in Coetzee, S. (2014). Sustaining teacher career resilience in a resource constrained rural education system: A retrospective study (Doctoral dissertation). Retrieved from https://repository.up.ac.za/handle/2263/40230

REQUEST FOR PARTICIPATION AND INFORMED CONSENT

TEACHERS

Dear Sir/Madam

I am currently busy with a PhD study in Educational Psychology at the University of Pretoria on the following topic: "Social connectedness as a pathway to teacher resilience in school communities in challenged settings." My study forms part of the STAR project, in which you have been participating in recent years. This study wants to explore the ways in which social connectedness can impact on teacher well-being and the well-being of families in their communities.

You are herewith requested to participate in my study. Your participation is voluntary and you may withdraw from the study at any time if you wish to do so. All information you provide will be treated as confidential and your name will not be made public to anyone or when presenting findings. We will use pseudonyms to protect your identity. You will also not be asked to provide any information that could result in your identity being made public. You will have full access to the collected data during your involvement, as well as to the final results of the project. The collected data will be stored in a safe place at the University of Pretoria for 15 years. As this is a funded project, data will also be available in an open repository for public and scientific use where needed.

For the purposes of my study you will be requested to participate in participatory workshop sessions, taking the form of group discussions and some writing/drawing activities, which will be recorded in the form of posters, photographs and audio-recordings. For these workshop sessions you will be asked to tell us about asked to tell us about your experiences of a social connectedness intervention, and how these experiences impacted on teacher well-being and the well-being of families in your communities.

The benefit of this study is that the findings can inform others about the ways in which social connectedness can build teacher resilience in challenged settings. For you, a potential benefit entails that you may gain additional knowledge and skills about social connectedness during discussions, which you can apply in future. We do not foresee any risks, will respect your dignity at all times and not harm you in any way.

If you are willing to participate, please sign this letter to indicate your consent. This will mean that you agree to participate willingly and that you understand that you may withdraw from the study at any time. Under no circumstances will your identity be made known to others. If however, you would like your face to be shown when photographs are published, kindly tick the relevant block below.

Warm wishes

_____   _____

Mrs Jessica Versfeld   Prof Liesel Ebersöhn (Supervisor)
0842077743   email: liesel.ebersohn@up.ac.za
e-mail: Jessica.versfeld@up.ac.za

Faculty of Education
Fakulteit Opvoedkunde
Lefapha la Thuto

INFORMED CONSENT

TEACHERS

Title of research project: Social connectedness as a pathway to teacher resilience

I, _____ the undersigned, in my capacity as teacher at _____ (name of school) hereby agree to participate in the above-mentioned research. I understand that my contribution will be treated as confidential and anonymous, and that I may withdraw from the study at any time, if I wish to do so.

My face may be shown on photographs

YES	NO

Signed at _____ on_____2018.

_____   _____
Participant   Researcher

_____
Witness

APPENDIX C: ISITHEBE DEMOGRAPHIC QUESTIONNAIRE

Dear Participant

The information you provide by completing this page will help me understand who you are and where you come from. It will also help me to structure the research process in such a way that it suits your preferences. The information will never be known to belong to you specifically because when I write the findings of the research I will not use your name.

Please complete the following:

Name and Surname			
Gender			
Age		Nationality	
Your contact number:			
Teacher Qualifications	Name of qualification:	Training Institution:	Year completed:
Are you currently studying? If "yes" please provide details to the left	Current programme:	Institution where enrolled:	Year in which study commenced :
Have you received any in-service training (additional training offered by the school)			

How far away do you live from the school where you teach?			
How long does it take you to get from your house to your school?			
What is your home language			
In which language(-s) do you teach			
Which other languages do you use at school			
Which grades are you teaching at the moment			
Which subjects are you teaching			
Which grades have you taught in the past			
Which subjects have you taught in the past			
How long have you been teaching?	Less than 15 years	Between 15 to 24 years	More than 24 years
How long have you been teaching at this school			
What do you enjoy about being a teacher?			
What do you dislike about being a teacher?			

Why do you teach?			
Tell us about communities you are a part of outside of school	Church	Sports team	Other
Tell us about any volunteer work you are involved in			
Tell us about any programmes or initiatives your school runs for staff members	Birthday celebrations		Staff socials/team building
	Year-end functions		Other
Do you socialise with staff members outside of work?			
Tell us about your family relationships	Married		Partner
	Children		Other

APPENDIX D: ETHICAL CLEARANCE FROM ETHICS COMMITTEE OF THE FACULTY OF EDUCATION AT THE UNIVERSITY OF PRETORIA

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

Faculty of Education

Ethics Committee
13 May 2019

Ms Zahne Bosch

Dear Ms Bosch

REFERENCE: EP 06/11/01 Versveld 19-001

This letter serves to confirm that your application was carefully considered by the Faculty of Education Ethics Committee. The final decision of the Ethics Committee is that your application has been **approved** and you may now start with your data collection. The decision covers the entire research process and not only the days that data will be collected. The approval is valid for two years for a Masters and three for Doctorate.

The approval by the Ethics Committee is subject to the following conditions being met:
1. The research will be conducted as stipulated on the application form submitted to the Ethics Committee with the supporting documents.
2. Proof of how you adhered to the Department of Basic Education (DBE) policy for research must be submitted where relevant.
3. In the event that the research protocol changed for whatever reason the Ethics Committee must be notified thereof by submitting an amendment to the application (Section E), together with all the supporting documentation that will be used for data collection namely; questionnaires, interview schedules and observation schedules, for further approval before data can be collected. Non-compliance implies that the Committee's approval is null and void. The changes may include the following but are not limited to:
   - Change of investigator,
   - Research methods any other aspect therefore and,
   - Participants
   - Sites

The Ethics Committee of the Faculty of Education does not accept any liability for research misconduct, of whatsoever nature, committed by the researcher(s) in the implementation of the approved protocol.

Upon completion of your research you will need to submit the following documentations to the Ethics Committee for your Clearance Certificate:
   - Integrated Declaration Form (Form D08),
   - Initial Ethics Approval letter and,
   - Approval of Title.

Please quote the reference number **EP 06/11/01 Versveld 19-001** in any communication with the Ethics Committee.

Best wishes

Dr Teresa Ogina
Deputy Chair: Ethics Committee
Faculty of Education

SCHOOL	GENDER	AGE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	2	58	6	6	5	6	6	5	6	7	6	7	7	6	7	7	6	6	7	7	6	7	6	6	6
1	2	50	6	6	6	6	5	5	5	5	5	6	6	5	5	6	6	4	5	6	6	6	5	7	6
1	2	57	7	6	6	6	7	5	5	6	6	5	7	5	6	6	7	7	6	6	6	6	5	5	7
1	2	50	7	5	6	7	5	7	7	5	7	7	7	7	6	7	5	7	6	7	6	7	5	6	7
1	2	30	7	0	5	0	0	0	5	0	0	0	0	0	0	0	0	6	5	0	0	5	0	6	0
1	2	48	5	2	0	3	4	3	0	0	0	0	0	4	0	0	0	0	0	6	0	0	0	0	0
2	2	53	7	5	5	7	7	5	5	7	5	2	5	5	7	5	5	3	7	5	3	7	7	5	5
2	2	43	4	5	5	4	6	4	7	7	4	5	5	4	4	7	6	7	5	4	5	5	7	4	4
2	2	53	6	6	5	6	5	6	6	6	7	7	5	6	6	7	6	6	5	6	6	7	7	6	6
2	2	48	4	5	4	4	5	4	5	5	4	6	5	4	6	6	5	5	5	5	5	5	6	5	5
2	2	50	4	4	4	4	4	4	4	4	0	5	5	5	5	5	5	5	5	0	4	6	6	5	5
3	2	38	6	6	5	6	6	6	6	6	5	6	6	5	5	6	5	5	5	5	6	6	6	6	6
3	2	54	7	5	6	6	6	0	7	6	6	7	7	7	7	7	7	7	7	7	0	6	6	6	7
3	1	50	5	6	6	6	6	5	5	5	5	5	5	5	5	5	6	7	7	7	5	6	5	5	5
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	2	45	6	6	6	5	6	5	6	6	5	6	6	6	6	6	6	6	6	6	6	6	6	6	6
4	2	47	5	5	5	5	6	5	5	5	5	6	6	5	5	5	6	5	5	6	6	6	6	5	6
4	2	0	6	6	6	5	6	5	5	6	6	6	6	6	6	7	6	6	4	5	6	6	7	6	7
4	2	60	5	6	6	5	5	4	5	4	5	5	6	5	5	5	5	6	5	6	6	6	6	6	5
4	2	54	6	5	4	4	6	6	6	6	6	5	5	5	5	6	5	6	5	5	5	6	5	6	6
4	2	53	5	6	5	5	5	5	5	5	5	5	6	6	6	6	5	6	6	6	5	6	6	6	6
4	2	60	5	6	7	5	4	5	6	5	6	6	6	5	5	6	6	5	6	5	6	5	6	7	6
4	2	60	6	6	6	6	4	6	6	6	6	6	6	6	6	6	6	5	6	6	5	6	6	6	6
5	2	49	7	6	5	4	7	5	7	7	6	7	7	6	7	7	6	6	6	6	5	7	7	7	7
5	2	0	6	6	6	6	6	6	6	7	7	7	6	4	5	6	6	5	6	6	7	6	7	6	7
6	2	55	6	6	5	6	5	5	6	6	6	7	6	6	7	6	6	7	3	6	7	6	5	7	7
6	2	52	7	0	4	4	4	1	7	5	5	6	5	5	6	6	6	7	3	4	4	5	6	6	7
6	2	63	5	4	4	4	5	4	6	6	6	6	5	5	5	6	5	5	3	4	5	6	6	6	5
6	2	46	5	5	5	4	4	4	5	4	4	5	0	5	4	5	5	4	4	5	4	6	5	5	6
6	2	46	5	6	4	5	6	4	5	6	6	6	6	6	6	5	5	6	6	5	6	6	6	6	6
6	2	53	6	6	6	5	7	5	7	6	7	6	7	7	7	7	6	7	6	7	6	7	7	7	6

6	2	54	6	5	6	6	7	0	7	4	6	5	6	7	6	6	6	7	6	7	6	7	7	6	7
6	2	52	5	6	5	5	6	5	6	4	5	6	6	5	5	6	5	6	5	5	6	6	6	5	5
6	2	55	6	6	6	6	6	5	7	6	7	6	6	6	6	7	6	6	6	6	6	6	6	5	5
6	2	23	7	7	6	6	7	7	5	7	7	6	6	6	6	7	7	7	6	7	5	7	6	7	7
6	2	47	5	7	4	7	7	4	7	7	7	5	6	7	7	7	7	6	5	6	7	7	7	7	5
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24	25	26	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	1	2	3	4
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3	5	5	1	5	4	5
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6	7	6	1	2	7	6
6	6	5	1	6	5	6
5	6	4	5	6	7	6
1	7	7	1	7	7	7
7	7	7	7	7	7	7
6	5	5	4	4	4	6

Gender

Male = 1   Female = 2   (Missing value = 0)

School (Names omitted for anonymity and privacy) (Missing value = 0)

1	2	3	4	5	6

Teacher Resilience Questionnaire

Question Number:	Scales:	Measurement:		
1 to 4; 23; 25	TR-Prof	1 = Do not agree at all	7 = Strongly agree	(Missing value = 0)
5 to 8	TR-Emot	1 = Do not agree at all	7 = Strongly agree	
9 to 20	TR-Mot	1 = Do not agree at all	7 = Strongly agree	
21 to 22; 24; 26	TR-Soc	1 = Do not agree at all	7 = Strongly agree	
114 to 122	Resilience	1 = Absolutely not confident	7 = Strongly confident	
123 to 134	TeachEff	1 = Absolutely not confident	7 = Strongly confident	
1 to 11	Contextual	1 = Do not agree at all	7 = Strongly agree	

Age

50 years and younger = 1	Over 50 = 2	(Missing Value = 0)
(23 to 50)	(51 to 63)	