

Resilience accounts of adolescents exposed to the dual risks of pollution and township life

By

Marianne Kim Blunden

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Supervisor: Prof. L. Theron

Co-supervisor: Dr. S. Haffejee

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Declaration

I, Marianne Kim Blunden (student number 17286582), declare that the thesis titled: *Resilience accounts of adolescents exposed to the dual risks of pollution and township life*, which I hereby submit for the degree Magister Educationis 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.



Marianne Kim Blunden

29 October 2020

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Faculty of Education

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INVESTIGATOR

Ms Marianne Kim Blunden

DEPARTMENT

Educational Psychology


APPROVAL TO COMMENCE STUDY

11 April 2018

DATE OF CLEARANCE CERTIFICATE

26 November 2020

CHAIRPERSON OF ETHICS COMMITTEE: Prof Funke Omidre



CC

Ms Bronwynne Swarts
Prof Linda Theron
Dr Sadiyya Haffeejee

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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 thesis, 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.*"

Dedication

I dedicate this research to my husband, Colin Blunden, whose love and support during the process ensured that I was able to follow my dreams.

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Abstract

As part of the larger study of the Resilient Youth in Stressed Environments (RYSE) study (ethics clearance, UP17/05/01) my study aims to make a limited contribution to RYSE by describing some adolescent accounts of resilience in a highly industrialized, resource-poor community in the South African context. This is in line with the RYSE aim of better understanding the protective factors that support the adaptation and thriving of young people exposed to multiple risks in stressed environments. My study was qualitative and I used a phenomenological design, within the framework of Social Ecological Resilience Theory. I purposively selected a small group of six participants from eMbalenhle, with the assistance of the community advisory panel (CAP). Using photo elicitation methods, the participants presented their view of resilience by describing how each photograph supported “being OK when times are hard”. In this way they provided insight into the resources, both personal and socio-ecological, that they believed were resilience-enabling. After applying thematic analysis to both the photographs and the transcripts of the session, three themes emerged; viz. ‘Resilience is: managing situations positively’, ‘Resilience is: being future focused’ and ‘Resilience is: constructive meaning making’. Whilst these three themes appear to indicate that personal resources were central to the adolescent views of resilience, there was underlying support of socio-ecological resources in all cases. The message for educational psychologists wishing to support positive adaptation of adolescents in stressed environments, therefore, is that it is important to recognize the co-contribution of socio-ecological and personal resources to adolescent resilience.

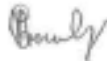
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Language Editor

Nick Cowley MA
27(0)834135050
12 Arniston
The Willows Estate
Kelland
Randburg

31 October 2020

I hereby certify that I have proof-read, edited and checked Mrs Marianne Blunden's mini-thesis towards an M. Ed. Psy. degree for grammatical and spelling accuracy, consistency of style and felicity of expression.



Nicholas Paul Cowley

SABC Radio News Bulletin Copy Editor (1988-2018)

Language Practitioner, State Language Services (1983-88)

MA, University of the Witwatersrand, 1983

BA (Hons), University of Natal, Pietermaritzburg, 1978

E-mail: nick.cowley.npc@gmail.com

List of abbreviations

CAP	Community Advisory Panel
CoGTA	Cooperative Governance & Traditional Affairs
e.g.	For example
et al.	And others
FBO	Faith-based Organisation
i.e.	That is
IEA	International Energy Agency
OK	Okay
NGO	Non-governmental Organisation
NO _x	Both Nitrogen Oxide (NO) and Nitrogen Dioxide (NO ₂)
PEI	Photo-elicitation interviewing
PI	Petrochemical industry
PM	Particulate Matter
RYSE	Resilient Youth in Stressed Environments
RSA	Republic of South Africa
SASOL	South African Synthetic Oil Liquid (originally in Afrikaans – Suid Afrikaanse Steenkool en OLie)
SERT	Social Ecology of Resilience Theory
SO ₂	Sulphur Dioxide
WHO	World Health Organisation

Table of Contents

Declaration	i
Ethical Clearance Certificate	ii
Ethics statement	iii
Dedication	iv
Acknowledgements	v
Abstract	vi
Language Editor	vii
List of abbreviations	viii
Table of Contents	ix
List of Figures	xiii
List of Tables	xiii
1 CHAPTER ONE: INTRODUCTION	1
1.1 INTRODUCTION AND RATIONALE OF THE STUDY	1
1.2 PROBLEM STATEMENT	2
1.3 PURPOSE OF THE STUDY	4
1.4 RESEARCH QUESTION	4
1.4.1 Sub-questions	5
1.4.1.1. Sub-question 1	5
1.4.1.2. Sub-question 2	5
1.5 THEORETICAL FRAMEWORK: SOCIAL ECOLOGY OF RESILIENCE THEORY (Ungar, 2011)	5
1.6 CONCEPT CLARIFICATION	7
1.6.1 Resilience.....	7
1.6.2 Adolescence.....	7
1.6.3 Risk factors.....	8
1.6.3.1 Petrochemical industry (PI).....	8
1.6.3.2 Petrochemical-affected community	8
1.6.3.3 Township.....	9
1.6.3.4 Resource-poor.....	10

1.7	ASSUMPTIONS	10
1.8	METHODOLOGY	11
1.8.1	Epistemological Paradigm	11
1.8.2	Research Paradigm and Design.....	11
1.8.3	Sampling	12
1.8.4	Data generation.....	12
1.8.5	Data analysis.....	12
1.9	QUALITY CRITERIA.....	12
1.10	ETHICAL CONSIDERATIONS	13
1.11	CONCLUSION	13
2	CHAPTER TWO: LITERATURE REVIEW	14
2.1	INTRODUCTION.....	14
2.2	eMbalenhle – a community living in the shadow of SASOL.....	14
2.2.1	Physical health risks.....	14
2.2.2	Economic risks	19
2.2.3	Psychosocial and mental health risks.....	21
2.3	CONCLUSION TO RISK SECTION.....	23
2.4	RESILIENCE.....	24
2.4.1	Personal resources	24
2.4.2	Relational resources.....	27
2.4.3	Structural resources	30
2.4.4	Cultural/Spiritual Resources.....	34
2.4.5	Interaction of resilience-enabling assets and resources.....	34
2.5	CONCLUSION TO THE RESILIENCE SECTION.....	35
2.6	CONCLUSION	36
3	CHAPTER THREE: RESEARCH DESIGN AND METHODOLOGY	37
3.1	INTRODUCTION.....	37
3.2	SITUATING MY STUDY OF LIMITED SCOPE IN THE RYSE STUDY ..	37
3.3	PURPOSE OF STUDY.....	38

3.4	PARADIGMATIC PERSPECTIVE	38
3.4.1	Metatheoretical paradigm	38
3.4.2	Methodological paradigm	40
3.5	METHODOLOGY	41
3.5.1	Research design	41
3.5.2	Participants and Context	42
3.5.3	Data Generation	47
3.5.4	Data Analysis	48
3.6	QUALITY CRITERIA.....	53
3.7	ETHICAL CONSIDERATIONS	54
3.8	CONCLUSION	56
4	CHAPTER FOUR: RESEARCH FINDINGS.....	57
4.1	INTRODUCTION	57
4.2	Theme 1: Resilience is: MANAGING SITUATIONS POSITIVELY	58
4.2.1	Sub-theme – Managing Mood	58
4.2.2	Sub-theme – Distracting Self.....	59
4.2.3	Sub-theme – Dealing with difficulties.....	61
4.2.4	Situating the theme of “Resilience is: Managing Situations Positively”	63
4.3	Theme 2: Resilience is: BEING FUTURE-FOCUSED	65
4.3.1	Sub-theme – Having Goals	66
4.3.2	Sub-theme - Persevering.....	67
4.3.3	Situating the theme of Being Future-Focused	69
4.4	Theme 3: Resilience is CONSTRUCTIVE MEANING MAKING	71
4.4.1	Sub-theme – Meaning making builds hope	72
4.4.2	Sub-theme – Viewing eMbalenhle as a place of opportunity	72
4.4.3	Situating the theme of Constructive Meaning Making	73
4.5	Conclusion.....	74
5.	CHAPTER FIVE: CONCLUSIONS AND RECOMMENDATIONS.....	75
5.1	INTRODUCTION.....	75

5.2	RESEARCH QUESTIONS REVISITED: CONCLUSIONS ABOUT ACCOUNTING FOR RESILIENCE IN PETROCHEMICAL AFFECTED TOWNSHIPS.....	75
5.3	REFLEXIVITY	80
5.4	LIMITATIONS OF THIS STUDY.....	83
5.5	RECOMMENDATIONS	84
5.5.1	Recommendations Relating to Future Research.....	84
5.5.2	Recommendations for Educational Psychologists.....	85
5.6	CONCLUSION	87
6	List of References	89
7	APPENDICES	121
7.1	APPENDIX A – MY REFLECTIONS ON cap RESPONSES TO CANDIDATE THEMES AND SUB-THEMES	122
7.2	APPENDIX B – Request for permission.....	123
7.3	APPENDIX C – Participant blank consent form	125
7.4	APPENDIX D – Literature summary Tables.....	132

List of Figures

Figure 1.1 Location of eMbalenhle Township Relative to Secunda and Sasol Petrochemical Complex	9
Figure 1.2 In the More Crowded Section of eMbalenhle, Backyard Shacks and Outdoor Plumbing Facilities are Common.....	10
Figure 2.1 Resilience Domains	24
Figure 3.1 “Information power—Items and dimensions.”	44
Figure 3.2 Pollution from PI Looking East from Embalenhle – Evidence of Poor Outdoor Air Quality	46
Figure 3.3 eMbalenhle – Cows Grazing Alongside Urban Settlement	46
Figure 3.4 Sports Facilities – eMbalenhle – Structural Resource Available for Residents ...	46
Figure 3.5 Illegal Rubbish Dumping After Service Delivery Protests in eMbalenhle.....	46
Figure 3.6 Paraphrase to Create Open Codes for “Phase 2” An Excerpt from the Transcription in Atlas.ti version 8.....	49
Figure 3.7 Excerpt from the Transcription Showing Open Codes Assigned to Photograph in Atlas.ti version 8.	50
Figure 3.8 Linked These Seven Quotes to One New Code	50
Figure 3.9 Using Code Groups in Atlas.ti version 8 to Develop Candidate Themes from Codes	51
Figure 3.10 Step 5 of Data Analysis Process: Defining a Theme: Managing Situations Positively	51
Figure 4.1 Visual Summary of Study’s Findings	57
Figure 4.2 Austin Shuffle’s Picture of Soccer Players from The Internet.....	60
Figure 4.3 Sphemathi’s “Brothers”.....	63
Figure 4.4 Zeynmusa – Walking into the Future	68
Figure 4.5 Bossman’s Picture of Vegetables Illustrate His Mother’s Instrumental and Possible Emotional Support in Helping Him Keep Up A Healthy Lifestyle.....	69
Figure 5.1 Summary of Findings That Answer The Research Sub-Questions in The Light Of The Theoretical Framework	76
Figure 5.2 Resilience - a Tree in a Forest	88

List of Tables

Table 3.1 Summary of Participant Demographics	45
Table 3.2 Inclusion/Exclusion Criteria for Themes Reported in Chapter Four.....	52
Table D.1 More Detailed List of References for Physical Health Risks.....	132
Table D.2 More Detailed List of References for Economic Risks.....	134
Table D.3 More Detailed List of References for Psychosocial and Mental Health Risks	135
Table D.4 More Detailed List of References for Resilience Enablers in the Personal Domain	137
Table D.5 More Detailed List of References for Resilience Enablers in the Relational Domain	139
Table D.6 More Detailed List of References for Resilience Enablers in the Structural Domain	141
Table D.7 More Detailed List of References for Resilience Enablers in the Cultural/Spiritual Domain	142

1 CHAPTER ONE: INTRODUCTION

1.1 INTRODUCTION AND RATIONALE OF THE STUDY

My study – which is of limited scope and forms part of the Resilient Youth in Stressed Environments (RYSE) project - focuses on privileging the voices of an older sample of the Global South’s adolescents, aged between 18 and 24, giving their accounts of resilience while living in a context of adversity. This is in contrast to the majority of previous research into resilience, which focused on children and younger adolescents (Bingley & McDermott, 2007; Graber et al., 2015). Further, much of the published resilience research has taken place in the Global North (Graber et al., 2015; Masten & Wright, 2010; Ungar, 2006), with a focus on minority communities (Ungar, 2013). Thus, the manner in which resilience processes are manifested in the Global South, also called the Majority world, amongst people who live in disadvantaged communities, has not been researched to the same extent (Pretorius & Theron, 2018). The importance of learning what processes and qualities these older adolescents believe account for their resilience, lies in the fact that such knowledge can be used to shape policy and increase effectiveness of services offered to youth in the highly industrialized, resource-poor community of eMbalenhle (the South African site of the RYSE study) and possibly other similar communities.

The RYSE study is investigating the resilience of adolescents who reside in contexts in Canada and South Africa that are stressed by the extraction industry, including the petrochemical industry (“RYSE Project”, 2018). eMbalenhle was chosen to be included in the RYSE project as it is a township originally developed during the Apartheid era to house black people who worked at the adjacent petrochemical industry (PI) in the town of Secunda. eMbalenhle epitomises the conditions found in a highly industrialised area that is also resource-poor. Mathebula (2018b) provided confirmation of the ongoing conditions and violence prevalent in eMbalenhle. Mathebula (2017a; 2018a) paints a picture of an environment in which refuse was not collected, there was illegal dumping and there were water leakages, all of which posed health risks to the community. Failure to maintain the parks and roadside verges contributed to safety risks. The violent protests, which erupted on 16 October 2017, and again on 26 and 27 June 2018, were a response by some community members to power cuts and poor

service delivery. In September 2018, Mathebula (2018b) wrote about gang activity in eMbalenhle and in May 2019, Mathebula (2019) reported an increase in hijackings. More recently, the power utility Eskom had cut electricity to the pumps which provided water to the area, so low water pressure, or sometimes no water supply at all, was a problem too.

In addition, eMbalenhle borders the town of Secunda. Secunda has the 5th highest levels of both PM₁₀ and PM_{2.5} in South Africa, which are measures of airborne particulate matter associated with elevated health risks (WHO, 2016). Past research, both locally (White et al., 2009) and overseas (Kampeerawipakorn et al., 2017), highlights the health and economic risks the petrochemical industry (PI) poses to surrounding communities (I provide detail of these risks in Chapter Two). Su et al. (2018) highlight the link between the PI and air pollution. In short, adolescents growing up in eMbalenhle are not only exposed to structural disadvantage, but also to dangerous levels of air pollution.

In the context of risks – such as those just mentioned – resilience is relevant. Resilience is a dynamic process involving interactions between an individual and their socioecological context in order to overcome the negative effects of risk (Masten & Wright, 2010; Pooley & Cohen, 2010). My research required that the adolescent participants explain their understanding of resilience as it applied to the stressed context of eMbalenhle. Ahern et al.'s (2006) view is that as adolescents are in a state of evolution, so their definition of resilience will probably reflect that change. It is also in line with Aburn et al.'s (2016, p. 995) contention that resilience is a “social construct ... [that is] largely dependent on the beliefs and world-views of the individual”. What is important to these adolescents in their stage of development, may not be the same as for children or adults, or younger adolescents (i.e., those who are not yet 18).

1.2 PROBLEM STATEMENT

Across the world, there is growing awareness of the value of resilience for those facing adversity (Panter-Brick & Eggerman, 2017). This adversity includes those associated with stressed environments. For instance, the World Health Organisation (WHO) links air pollution to 4.2 million deaths (WHO, 2018a) and household pollution to 3.8 million deaths (WHO, 2018b) worldwide. As the review by Thambiran and Diab (2010)

indicates, this is a problem in South Africa too and requires that air quality needs to be improved in order to protect the health and well-being of people exposed to those emissions most closely related to global warming. Simultaneously, it is important to understand and support the resilience of people in stressed environments, in South Africa as elsewhere (“RYSE Project”, 2018).

The literature on resilience of adolescents in stressed South African environments focuses on risks such as structural disadvantage (Scorgie et al., 2017; Theron & Theron, 2013; Theron & Theron, 2014), orphanhood (Sharer, et al., 2016; Wild, et al., 2013), being street-involved (Hills et al., 2016; Malindi, 2014a; Malindi, 2014b) and being exposed to violence (Choe et al., 2012). Furthermore, there are concerns that older adolescents’ accounts of resilience are not strongly enough represented in the resilience literature. Of the 37 studies affecting adolescents reviewed by Van Breda and Theron (2018), only 13 reflected the resilience of older adolescents (i.e., 19-24). Amongst those only five studies (Sharer, et al., 2016; Theron & Theron, 2013; Theron & Theron, 2014; Van Breda, 2015; Van Breda, 2017) reported on this age group in the context of township living. Additionally, older adolescents have not had many opportunities to voice their views about what supports resilience in the combined context of petrochemical exposure (and associated pollution) and township life.

On the other hand, there is a small but growing body of research (Malakou, 2019; Matlali, 2018; Sithole, 2019; Van Aswegen, 2019), associated with the long-term RYSE project, that has explicitly explored what supports the resilience of older adolescents whose context is characterised by the risks associated with both the PI and township living (structural disadvantage). In the master’s study by Matlali (2018), the focus was on the personal resilience-enabling factors that adolescents reported. Other RYSE related studies focused on the family (Van Aswegen, 2019) and the community (Sithole, 2019) as resilience enablers. A further study focused on what enables the resilience of eMbalenhle adolescents to unemployment (Malakou, 2019).

However, to date this extant resilience knowledge has not been focused on the impact of a multi-challenged community across the domains of personal, relational, structural and cultural/spiritual resources. In other words, there is still scope to describe resilience-enabling factors and processes as described by older adolescents, in a

manner that integrates the personal assets and socio-ecological resources available to them.

It is important to address the above gap, because the more that Educational Psychologists understand about the processes and factors supporting resilience, the more meaningful any interventions or support they offer to older adolescents dealing with the dual risks of being exposed to the PI and living in a resource-poor environment, can be. In the International Energy Agency report (IEA, 2019) continued growth in the PI is forecast, due to increasing demand in the developing world; this will probably result in greater numbers of adolescents being exposed to the risks associated with this industry. Additionally, continuing urbanisation is expected to lead to over 70% of South Africans living in urban areas by 2030 (CoGTA, 2016) and with a growing percentage of the population being in the 15 to 24 age group¹ there is potentially a growing number of older adolescents who will require support as they deal with the risks mentioned above. With this in mind, my study of limited scope, as part of the larger RYSE project, was directed by the purpose statement and question that are detailed next.

1.3 PURPOSE OF THE STUDY

The purpose of this research study was to describe the way in which adolescents from a resource-poor community in South Africa, which is exposed to a PI, account for resilience, with a view to identifying which personal assets and/or socio-ecological resources adolescents believe support the capacity for “Being OK”². As my study forms part of the larger RYSE project, it aims to contribute, in a small way, to an understanding of the factors and processes that support the development of resilience in adolescents growing up in a multi-challenged environment.

1.4 RESEARCH QUESTION

My study of limited scope is guided by a single research question: How do adolescents from a resource-poor community in South Africa that is exposed to a PI (i.e., eMbalenhle) account for resilience?

¹ 16,8% of population between 15 and 24 in 2018 (CIA, 2018)) and 17,24% of population in same age group in 2019 (IndexMundi, 2019)

² The phrase “Being OK when life is affected by the petrochemical industry” is used in the consent forms as approved by the CAP (Addendum C).

1.4.1 Sub-questions

1.4.1.1. Sub-question 1

What personal assets, if any, do adolescents refer to when accounting for resilience?

1.4.1.2. Sub-question 2

What socio-ecological resources, if any, do adolescents refer to when accounting for resilience?

1.5 THEORETICAL FRAMEWORK: SOCIAL ECOLOGY OF RESILIENCE THEORY (UNGAR, 2011)

I used Ungar's Social Ecology of Resilience Theory (SERT; Ungar, 2011) as a theoretical framework. A cornerstone of SERT is that individuals need to actively negotiate access (Ungar, 2012) to whatever social-ecological (formal or informal) resources are available to them, in order to maximise utilisation of their own personal assets in the process of building resilience. Formal resources include community or government resources such as clinics or social services, whereas informal resources are those relational resources arising from family, peer and cultural values (Ungar, 2011). Additionally, the social ecology must actively negotiate with and support individuals in their access to those resources ("RYSE Project", 2018). This fits with my study's purpose to describe what personal assets and what aspects of their socio-ecological environment the participants described as accounting for resilience. In addition, RYSE, a five-year research project on complex stressed environments and their impact on youth resilience, is framed by SERT. Further, previous resilience studies (e.g., Sharer et al., 2016; Van Breda, 2018) in South Africa have used a systemic or socio-ecological approach in order to provide a better understanding of the multi-level context of their participants.

In SERT, Ungar (2011) focused on four principles. The first principle, *Decentrality*, changes the traditional order of importance of the social-ecological and the intrapersonal resilience processes in resilience theories, which gave the intrapersonal processes primacy. *Decentrality*, thus, puts the focus outside the individual (Ungar, 2018) when considering the processes that support resilience. Historically, the focus was on the intrapersonal resilience processes or individual assets (Masten, 2014). However, following the advance of social-ecological approaches to resilience, this

historic focus has shifted. For instance, in their study on children affected by HIV and AIDS, Sharer et al. (2016) focused on the social ecology, concentrating on sibling and caregiver relationships and their impact on the mental health of the children in the study.

The second principle, *Complexity*, highlights the variable influence of various socio-ecological factors such as the context and its risk implications at different developmental stages (Bottrell, 2009). In this sense, resilience is seen as a dynamic process (Ungar, 2011). *Complexity* is also related to Equifinality (Ungar, 2011) and Multifinality (Collishaw et al., 2015), which are alternative pathways to resilience. Equifinality relates to many different resilience-enabling pathways and contexts achieving similar results, whereas Multifinality relates to several resilience-enabling pathways resulting in different “good ends” (Ungar, 2008, p. 19) within the same context. For instance, the factor analysis of the Child and Youth Resilience Measure (CYRM-28) performed by Van Rensburg et al. (2017) highlighted Equifinality, as it confirmed that the pathways to resilience for Sesotho-speaking rural adolescents were different from those for adolescents in Canada and New Zealand. SERT considers the navigation to and negotiation of access to the resilience-enabling pathways to be an important part of individuals’ ability to resile within their context (Ungar, 2012).

The third principle, *Atypicality*, indicates that resilience-related behaviour may have negative consequences or not be in line with typical societal norms (Theron, 2016; Van Rensburg et al., 2018). Research by Van Rensburg et al. (2018) highlights that Sesotho-speaking adolescents used the school as a valuable resource, which would be in line with their society’s values and norms. By way of contrast, Malindi and Theron (2010) show that in streetism, begging and even petty theft may support the development of resilience, whereas these means of accessing financial resources may be viewed as “anti-social” in mainstream society, thus supporting the principle of *Atypicality*.

Lastly, the fourth principle of *Cultural Relativity* focuses on the different value that certain cultures place on assets and resources. Theron et al. (2011) show that both a nuclear “familismo” (p. 812) amongst Mexican immigrants in Canada and an extended family-facilitated “Ubuntu” (p. 812) support resilience in different but culturally

appropriate ways. “Familismo” encompasses the “attitudes, beliefs, behaviors, and family structures occurring within families” (Morgan Consoli et al., 2015, p. 305) which support thriving. On the other hand, “Ubuntu” encompasses a broader belief in sharing and connection to others beyond the immediate family (Phasha, 2010).

1.6 CONCEPT CLARIFICATION

For the purpose of this study, the concepts of resilience, adolescence, and risk are central, and are therefore explained below. Particular risk concepts relevant to this study are: a PI, a township and the meaning of being a petrochemical-affected community and resource-poor.

1.6.1 Resilience

“Resilience is an interactive phenomenon that is inferred from findings indicating that some individuals have a relatively good outcome despite having experienced serious stresses or adversities – their outcome being better than that of other individuals who suffered the same experiences” (Rutter, 2012b, p. 474). Earlier, Rutter (2007) differentiated between resilience and competence, in order to highlight that resilience supports the development of competence in different spheres of activity, but is not synonymous with it (Rutter, 2006). Resilience is not a fixed state (Rutter, 2012b), as evidence of resilience may vary at different development stages or present differently, depending on the system being considered. The variability in the way resilience presents is related to the SERT principles of atypicality, cultural relativity and complexity as Ungar (2011) indicates, explaining that what is protective may change, “as individuals move between contexts and through time” (p. 7). Thus, adolescents may demonstrate resilience differently when interacting in different systems and across developmental periods (Masten, 2011; Masten, 2014; Masten, 2016).

1.6.2 Adolescence

With the expanding view of what constitutes adolescence, the definition of adolescence proposed by Sawyer et al. (2018) is most appropriate for my study. They recognise adolescents as those persons between 10 and 24 years of age (Sawyer et al., 2018, p. 2). The extension of the age range is related to a world-wide earlier onset of puberty and a deferred entrance into adult roles, such as working and marriage (Sawyer et al., 2018). This extends the age range previously recognized by the WHO. The WHO defines adolescents as people between 10 and 19 and youth as between

15 and 24 years of age (WHO Searo, 2019). My participants were between 18 and 24 years old as per the specification of the RYSE project, and thus were adolescents in terms of the broader Sawyer et al. (2018) definition. Burt and Masten (2010) refer to Arnett's description of this period of development as "emerging adulthood" (p. 9). Leebens and Williamson (2017) highlight the importance of connections, particularly relationships, for support for this age group.

1.6.3 Risk factors

Risk factors are those physical, mental, familial or community characteristics that have been linked to an increased possibility of negative outcomes (SAMHSA, 2018). Risk factors are seen by Ungar (2004) as the other side of the resilience coin, as resilience occurs with exposure to risk. Wright et al. (2013) define a risk as "an elevated probability of an undesirable outcome" (p.17). In a context such as eMbalenhle, where there are multiple risk factors as I indicate in the subsections below, the participants in my study face cumulative risks; some of these may be proximal, experienced directly by the participants, and others may be distal, part of the participants' broader ecology.

1.6.3.1 Petrochemical industry (PI)

The PI is a subset of the oil industry and has been associated with exposure to various health and safety risks due to exposure to chemicals, gases, airborne particles and even explosions (Mazloumi et al., 2012). Thus, any organisation which produces these, such as Sasol at Secunda which "produce(s) a range of high-value product(s) ... including liquid fuels, chemicals and low-carbon electricity" (Sasol, n.d.), is considered to be in the PI sector. The location of Sasol Secunda was determined by Secunda's proximity to the primary coal fields of South Africa, as Sasol makes use of "abundant hydrocarbons, (and) in-country conversion of these resources into liquid fuels and chemicals" (Sasol, n.d.).

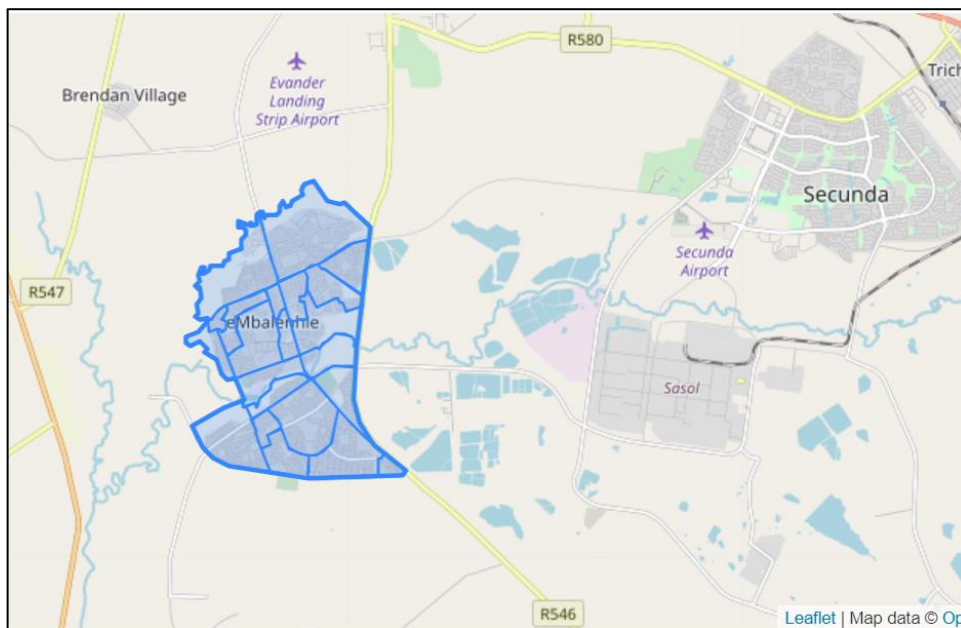
1.6.3.2 Petrochemical-affected community

eMbalenhle is adjacent to Secunda, where pollution was rated as 5th worst in South Africa in 2016 with the PM_{2.5} (Particulate Matter) micron level being 26 µg/m³, due to the industry in the area (WHO, 2016). This high level of PM_{2.5} is associated with elevated health risks, particularly in respect of pulmonary health. With PM₁₀ (a larger size of particulate matter) levels being set at a maximum average of 20 µg/m³ by the

WHO, and the more dangerous PM_{2.5} occurring at a higher level in the area (ShowMe, 2016), it can be seen that eMbalenhle is a petrochemical-affected community. eMbalenhle’s proximity to Sasol, a PI, can be seen in Figure 1.1.

Figure 1.1

Location of eMbalenhle Township Relative to Secunda and Sasol Petrochemical Complex



Map portion extracted from Frith (2013)

1.6.3.3 Township

Like other townships, eMbalenhle was created during the Apartheid era in line with the spatial development planning for Black workers who were housed in areas outside the white urban areas (Pernegger & Godehart, 2007). For many years, township residents lacked basic facilities such as indoor plumbing and even electricity, and even today there are some sections of eMbalenhle where this is the case (see Figure 1.2 below). This results in high levels of indoor pollution due to the use of fossil fuels for cooking and heating. Figure 1.2 also shows how in some areas, such as eMbalenhle Extension 15, the population density is high with 11 531 persons/km² as shacks (temporary structures made of corrugated iron) have been erected (Frith, 2013). This density strains the ability of the local municipality to provide adequate refuse removal and

services and gave rise to service delivery protests which turned violent in October 2017 (Mathebula, 2017a). Recently, Mathebula (2020) referred to ongoing power outages and delays in resolving this.

Figure 1.2

In the More Crowded Section of eMbalenhle, Backyard Shacks and Outdoor Plumbing Facilities are Common



Google Earth (2019)

1.6.3.4 Resource-poor

Bingley and McDermott (2007) define resource-poor environments as those in which people experience continuous hardships despite living in a country which otherwise is seen as having good resources. Service delivery protests highlight the need for improved services in eMbalenhle (Mathebula, 2017a). This indicates that eMbalenhle, as with many other townships in South Africa, is a resource-poor environment.

1.7 ASSUMPTIONS

In this study, I assumed that the adolescents would be able to identify both personal assets and socio-ecological resources and thus account for resilience within their own context. I anticipated that using the phrase “be OK when life is affected by the petrochemical industry” would make the concept of resilience accessible to the

participants who were second language (or third language) English speakers. I also believed that the phrase “be OK when life is affected by the petrochemical industry”, used in the consent form (Appendix C), would ensure that the material the participants would bring to the interview would be relevant to a consideration of resilience.

I also expected that one of the personal assets they would make use of would be self-distraction, as I had come across it in a neighbouring community the previous year, during my Honours research into resilience amongst adolescents experiencing drought (see Hammond, et al., 2017). Further, I assumed that the adolescents would display developmentally appropriate autonomy, as reflected by their agency (Hansen et al., 2017).

I assumed there would be variety in the socio-ecological resources that the participants identified as supporting them in “being OK”. By this I mean that I assumed that the participants would identify formal as well as informal socio-ecological protective factors. Adopting Ungar’s (2011) SERT framework in which the social ecology has primacy over the individual meant that I expected more data relating to social ecological resources than personal ones.

1.8 METHODOLOGY

The methodology is detailed in Chapter Three. What follows below is a summary of the methodology applied to this study.

1.8.1 Epistemological Paradigm

The paradigm underpinning my study is Interpretivism. Interpretivism accepts that there are many understandable, valid realities in any situation (Ponterotto, 2005). The reasons for me choosing Interpretivism as the epistemological paradigm, as well as the advantages and disadvantages for this approach are reported in Chapter Three (Section 3.4.1).

1.8.2 Research Paradigm and Design

The research paradigm is qualitative and the design is a descriptive phenomenological one, in which my research focused on the “lived experience” (Nieuwenhuis, 2016, p. 77) of the participants; of what supports resilience in the PI exposed, resource-poor urban setting of eMbalenhle, Mpumalanga. According to Christensen, Welch and Barr

(2017), the descriptive phenomenological method required me to bracket my knowing to let the essences of the phenomenon emerge from the participants' "life-world" (Christensen et al., 2017, p 117). The reasons for me choosing the aforementioned paradigm and design, as well as their advantages and disadvantages are reported in Chapter Three (Section 3.4.2 and Section 3.5.1).

1.8.3 Sampling

I used purposive sampling as the specific criteria for my participant selection were determined by my study falling under the auspices of the larger RYSE study (Maree & Pietersen, 2016). A more detailed discussion of the reasons for me choosing this sampling procedure, as well as its advantages and disadvantages are discussed in Chapter Three (Section 3.5.2.). In total, 6 participants (average age 20 years 6 months) constituted the sample for my qualitative study of limited scope. I provide participant details in Chapter Three (Section 3.5.2).

1.8.4 Data generation

Data collection was via the participatory, visual method known as photo-elicitation interviewing ("PEI", Clark-Ibanez, 2004; Creswell, 2012) with participants creating visual artefacts that were used to stimulate reflection on what constitutes resilience. All verbal communication was recorded and transcribed. The reasons for me choosing PEI as the data generation method as well as the advantages and disadvantages of this are discussed in Chapter Three (Section 3.5.3).

1.8.5 Data analysis

I analysed the data using thematic analysis, as explained by Braun and Clarke (2006). The reasons for me choosing this method of analysis, as well as the advantages and disadvantages of this, are discussed in Chapter Three (Section 3.5.4).

1.9 QUALITY CRITERIA

Anney (2014) referred to the seminal work by Lincoln and Guba (1985) who stated that to establish trustworthiness in qualitative research, a variety of criteria are to be adhered to. These criteria include: credibility, dependability, transferability, confirmability and authenticity. In Chapter Three (3.6), these criteria are discussed in detail and are thus not provided in this chapter.

1.10 ETHICAL CONSIDERATIONS

As mentioned, my study formed part of the 5-year long RYSE project which has ethical clearance UP 17/05/01 from the University of Pretoria, and is managed by researchers from the University of Pretoria (South Africa), Dalhousie University (Canada) and a local Community Advisory Panel (CAP). I received aligned ethical clearance from the Ethics Committee, Faculty of Education (UP 17/05/01 Theron 18-002). When I interacted with the participants, I was careful to work ethically as explained in Chapter Three (Section 3.7).

1.11 CONCLUSION

This chapter has provided a rationale for my study. At this stage there is little literature on how adolescents account for resilience in the context of the dual challenges of exposure to the PI and disadvantaged circumstances. The chapter also summarised how this gap would be empirically addressed. Chapter Two provides a more in-depth background for the study in terms of the health risks, both mental and physical, associated with the PI and how this contributes to a context of adversity for the participants. Further, it references studies about the risks inherent in township living. It also examines some of the resilience research of the Global North and Global South, with special attention to the personal and socio-ecological resources that support adolescent resilience. .

2 CHAPTER TWO: LITERATURE REVIEW

2.1 INTRODUCTION

This chapter considers, firstly, the risks and known effects associated with the petrochemical industry (PI), which have particular relevance to those people who live in areas surrounding it. Next, the risks associated with living in townships, an urban planning remnant of the Apartheid era (Bond, 2008), are examined, as the participants in my study live in eMbalenhle, a township adjacent to the PI at Secunda. Thirdly, I consider the resilience literature that reports particularly on the way resilience is accounted for both in terms of personal assets and socio-ecological resources, internationally and locally. Where applicable, the literature will be separated according to age cohorts, so as to highlight particular ways that resilience is experienced or accounted for by adolescents.

2.2 EMBALENHLE – A COMMUNITY LIVING IN THE SHADOW OF SASOL³

eMbalenhle, like many other communities in close proximity to large petrochemical industries, experiences multiple risks. In what follows, I report the risks to people's health, finances and psychosocial well-being associated with living near the petrochemical and related industries and with living in a township. I have tried to do so holistically (i.e., I have not discussed township and PI risks separately) because some of the impacts are the same, indicating that there is a double burden on the residents of eMbalenhle. For instance, lung cancer has been linked both to exposure to the PI and to indoor pollution.

2.2.1 Physical health risks

Physical health effects in eMbalenhle are associated with a combination of those risks arising from exposure to the PI as well as those risks associated with township living. The biological system most affected by both risk factors is the respiratory system.

The main physical health risks associated with living in close proximity to a petrochemical plant and its emissions, which contain a mixture of toxic chemicals, are the harmful effects on respiratory health (Wichmann et al, 2009). These include asthma episodes (Sears & Zierold, 2017; Smargiassi et al., 2009;) and bronchitis (Irwin

³ SASOL – is a petrochemical industry company, and is an abbreviation arising from the Afrikaans for the South African Coal and Oil company.

et al., 2016). Smargiassi et al. (2009) specifically linked sulphur dioxide (SO₂) emissions from an oil refinery to asthma attacks requiring hospitalisation experienced by young children in Montreal, Canada. Similarly, Göttschi et al. (2008) record that healthy lung development is compromised by pollution. There is evidence of the long-term effects of PM on lung health of adolescents into adulthood (Downs et al., 2007; Götschi et al., 2008). PM refers to small particles suspended in liquid in the air with particles smaller than 10 microns being able to enter the lungs and impact both the heart and lungs (EPA, 2017a).

Downs et al. (2007) indicated that it takes a consistent reduction of PM₁₀ for the ill-effects to be reduced. In the light of their study, recent efforts at improving air quality in the Global North have been associated with improved lung development in children and adolescents (Gauderman et al., 2015). This has important ramifications for the Global South, where air quality controls are lagging behind those in Europe and North America, with attendant physical health risks particularly for the young and elderly who are developmentally vulnerable. The lag in air quality control is highlighted by the results of a study by Iyer and Mastorakos (2009) who found that, due to the PI in Chennai, India, residents experienced severe health problems from pollution levels sometimes more than 30 times higher than control standards which exist in the Global North.

Additional studies in the Global South (i.e., from South America, Thailand and Mexico) show the wide-ranging effects of local PIs on physical health of people of all ages; however, children and adolescents are of particular concern due to their developmental stage. Wichmann et al. (2009) studied the respiratory health of children aged between 6 and 12 in Argentina who were exposed to PM and volatile organic compounds (VOC's) associated with the petrochemical industries in the La Plata area. VOC's refer to a variety of chemical gases emitted by either solids or liquids, which have an adverse impact on health (EPA, 2017b). Their findings indicated that the children living in close proximity to the industries had lower lung functions, and suffered more from asthma and complications arising therefrom, than children in other areas included in the study.

Research in the Global North (e.g., Smargiassi et al., 2009; U.S. Environmental Protection Agency, 2018), on the impact of meteorology on the spread of air pollution and the resultant experience of lung complications in children and adolescents, was also reflected in the South African studies by White et al. (2009) and Mentz et al. (2018). White et al. (2009) were concerned with the way that factors such as wind direction and speed impacted the areas in which adolescents experienced lung complications due to emissions from the petrochemical refinery in Cape Town. Mentz et al. (2018) similarly found that the meteorological conditions that prevail in Durban are associated with the impact that pollutants, coming from multiple industries including the refinery, have on the health of schoolchildren. The impact of meteorology is relevant to eMbalenhle as the prevailing wind direction is easterly from January to April, although easterlies also occur throughout the year (Weatherspark, n.d.) and eMbalenhle lies west of the SASOL Synfuels complex.

It should be noted that pollution in Secunda was rated as 5th worst in South Africa in 2016 with the PM_{2.5} micron level being 26 µg/m³, due to the industry in the area. Secunda was also identified as a pollution hotspot by the DEA (Department of Environmental Affairs) in 2012. This is associated with elevated health risks, particularly in respect of pulmonary health, since it exceeds the WHO Quality guideline recommendation of a PM₁₀ maximum annual mean level of 20µg/m³ (WHO, 2018). After reviewing the 2016 statistics, Gray (2019) reported that between 33 and 72 premature deaths per year are linked directly to the levels of pollution at Secunda, and that these preventable deaths could be reduced to between 9 and 20 if improved minimum emission standards were adhered to by 2020.

Additionally, petrochemical pollution has been associated with various types of cancers (Kampeerawipakorn et al., 2017; Panda & Shiva Nagendra, 2018). Lin et al. (2018) completed a meta-analysis of all articles reporting the link between lung cancer and exposure to the PI; they found that there was a significantly higher incidence of lung cancer across the 22 European Union countries in their study, due to exposure to the PI. In Thailand, Kampeerawipakorn et al. (2017) focused on benzene, a particular VOC, and its effect on adult residents of a petrochemical industrial complex. Their results showed significant impact on bio-markers for cancer vulnerability, rather than the specific bio-markers affected by benzene. Thus, there may be long-term risks

for cancer in adolescents exposed to a similar environment. Kampeerawipakorn et al. (2017), however, also acknowledged that additional investigation was required in order to find the particular pollutants that caused the cancer vulnerability. In South Africa, O'Rourke and Connolly (2003) refer to Doyle's (2002) findings on accidents at a refinery in Durban, Kwa-Zulu Natal, where the frequent release of SO₂ as well as other pollutants resulted in high leukaemia rates in the surrounding community. Buthelezi et al. (2019) report that lung cancer is also linked to poor indoor air quality.

Further, allergies (Sears & Zierold, 2017) and premature births (Kampeerawipakorn et al., 2017) as well as immune, nervous, endocrine and cardiovascular system problems (Bahadar et al., 2014; Irwin et al., 2016) are all found to be associated with petrochemical pollution. Additionally, Irwin et al. (2016) reported that indoor pollution is specifically associated with impacts on reproductive health involving foetuses in utero. Lower emissions are associated with lower lead levels and thus improved cognitive functioning (Nilsson, 2009).

The DEA (2012) indicated that SASOL's emissions contained significant amounts of BTEX (benzene, toluene, ethylbenzene and xylene), as well as contributing 15% of the Highveld Priority Area's (HPA) NO_x (refers to both Nitrogen Oxide and Nitrogen Dioxide) and 12% of the HPA's SO₂, both of which are hazardous to health. Of particular concern is the SO₂ as it breaks down into secondary particles of PM_{2.5}. It is of concern that SASOL (2017) reported that they were unable to meet minimum emission standards. As the aerial map (see Figure 1.1 in Chapter One) illustrates, eMbalenhle is the residential area which is closest to the SASOL Secunda complex and thus will probably suffer the most from the listed levels of pollution, some of which are almost double the required standards. An analysis of latest pollution levels by AQICN (n.d) indicated that the air quality status is hazardous in eMbalenhle, where the air quality measuring device is situated, in terms of both PM_{2.5} and PM₁₀, particularly during daylight hours.

As a township, eMbalenhle is further challenged by additional risks relating to indoor air quality. Despite the political changes of 1994, townships remain primarily the residential areas of historically disadvantaged populations. Township residents are typically vulnerable to household health risks associated with indoor pollution arising

from limited access to electricity and consequent use of fossil fuels as alternatives for heating and cooking (Wernecke, 2018). Although electricity use has increased in eMbalenhle, there are still homes where fuels such as coal or paraffin for heating and/or cooking are used, resulting in indoor pollution (Makonese et al., 2017). This leads to illnesses such as chronic obstructive pulmonary disease (COPD) (Buthelezi et al., 2019; Smith et al., 2013). There is also an increased negative impact on the lung function of children and adolescents (Balmer, 2017; Rovira et al., 2014). Further, Irwin et al. (2016) reported that indoor pollution is associated with negative impacts on cardiac health.

As the DEA (2012) plan indicates, household fuel burning contributes more to PM₁₀ in the atmosphere than does SASOL. This is supported by Buthelezi et al.'s (2019) explanation of incomplete burning of fuels used for heating and cooking. In their review of studies concerned with the well-being of children and youth exposed to energy resource activities, Cox et al. (2017) highlight that it is this combination of pollution in the home with the levels of air pollution found in areas such as eMbalenhle that puts young people's health at increased risk.

With specific regard to eMbalenhle, the Ridge Times, a local newspaper, reported on an environment in which refuse was not collected, there was illegal dumping and there were water leakages, all of which posed health risks to the community. "Residents said this has been going on for months and that they are at risk of catching diseases." (Mathebula⁴, 2018a). Moreover, failure to maintain the public open spaces (see Chapter Three for photographs of the area) and roadside verges in eMbalenhle contribute to physical safety risks. More recently, Eskom, the state-owned enterprise tasked with providing electricity, cut power to the pumps which provide water to the area, so low water pressure, and sometimes no water, has been a problem in eMbalenhle (Misselhorn, 2019). Access to water has become even more critical for the health of residents of eMbalenhle and particularly the informal settlements in it, as South Africa deals with the pandemic of COVID-19 (UN, 2020).

⁴ Sifiso Mathebula is a reporter for the Ridge Times, a community newspaper.

The table in Appendix D, Table D1, provides a summary of the physical health risks reported in this section and others that are similar that have been identified in either or both the petrochemical-affected or township contexts.

2.2.2 Economic risks

One of the principal economic drivers in the PI is the variable oil price, which poses economic risks in terms of job security (Schafft & Biddle, 2015), as jobs are shed during oil price downturns and there is reluctance to invest in infrastructure during volatile price markets (Weber et al., 2014). A second risk relates to the need for the industry to reduce its impact on global warming. Petrochemical industries have to find ways in which they can operate without exacerbating the global warming situation, which is difficult since they rely on fossil fuels. The implementation of environmental initiatives aimed at reducing global warming requires significant capital outlay, which in turn poses a financial risk to the companies needing to reduce their emissions. However, as Barloworld Logistics (2018) points out, there are also potential economic risks inherent in inaction. “Many businesses have yet to truly understand the cost of, for example, a chemical spill or pollution-related health claims” (Barloworld Logistics, 2018).

Finland is planning to cut down on its PI by investing in biofuels which will have the effect of boosting its economy and allowing it to provide “emission-free nuclear and bioenergy” by 2030 (Lund, 2017). The downside is that for those involved in the PI, jobs will be lost unless they can reskill themselves to take advantage of the new opportunities. South African research reveals that policies have been put in place (Pradhan & Mbohwa, 2014), but insufficient large-scale development had taken place at the time of the study to comment on the economic viability of biofuel production here. The policies are designed to uplift rural areas, as those communities are envisaged as being the primary suppliers of the feedstock (agricultural products: maize, sorghum or sugar cane) for the biofuel plants. A further advantage to South Africa of implementation of this policy would be that it would prevent the economic migration that has been associated with the proliferation of poorly resourced urban areas. Of specific concern in Secunda is that rather than dealing with the costs associated with making changes to reverse or limit the impact of their operations on global warming, SASOL (2017) asked for a delay in the implementation of the

regulations that required a reduction in emissions. From the company's reported perspective, one of the solutions, installation of a new incinerator, was regarded as being financially unviable.

Multiple additional risks include shortages in both housing (Fernando & Cooley, 2016; Petkova et al, 2009; Weber et al., 2014) and power supply (Goldenberg et al., 2010; Petkova et al., 2009), which are expected as employment and/or economic migration ramps up demand for these during boom times. Such employment booms followed by downturns are also associated with pressure on state social services (Weber et al., 2014), as temporary employees (Schafft & Biddle, 2014; Goldenberg, et al., 2010) arrive in large numbers requiring support. When jobs are lost, state social services are again called upon to support those in need (Weber et al., 2014). In addition, the different health risks, both physical (section 2.2.1) and psychosocial and mental (section 2.2.3), have economic consequences, particularly those risks which have long-term or chronic effects (Laborde et al., 2015; Nilsson, 2009; O'Rourke & Connolly, 2003;). I believe that with the current all-time low oil price (Khumalo, 2020), these economic risks will have a marked effect on the community of eMbalenhle, as it relies so heavily on SASOL for employment opportunities and the provision of services (see section 2.4.3).

Poverty and unemployment are ongoing risks for the residents of eMbalenhle. The local paper reports "Mr Khelhla Mahlangu...[who] said jobs are given to outsiders, while locals are suffering and are ignored by SASOL" (Mathebula, 2017b). This was apparently despite a quoted promise to have 80% of the workforce coming from the local area. In terms of the access to employment, it should be noted that transport costs to get to the place of work create additional financial burdens on residents of townships like eMbalenhle, which are historically located at a distance from towns and cities (Pernegger & Godehart, 2007). The familial stress of economic uncertainty associated with the PI as well as poor job prospects for adolescents may have an impact on adolescents' motivation to learn.

Table D2 in Appendix D provides a more detailed list of the economic risks associated with the PI.

2.2.3 Psychosocial and mental health risks

Psychosocial risks arise when psychological and/or social security is threatened by changes or conditions in the environment, between people and within a person (Egan et al., 2008). Psychosocial stressors can be caused by health issues, relationships, jobs and finances or any combination of them (Booth et al., 2015). Some of the psychosocial risks associated with the PI arise from job insecurity, shift work, and the migratory nature of the work. In response, employees become “economic refugees” (Weber et al., 2014, p. 62), moving from place to place to find work in existing communities, without a chance for them to integrate properly into any one community.

Studies in the Global North, particularly around areas where oil or shale have recently been found, identified the following particular psychosocial problems: substance addiction, violence and a sense of loss as the natural environment suffers damage (Gilmore et al., 2016; Goldenberg, et al., 2010; Luthra et al., 2011; Perry, 2012; Schafft & Biddle, 2015; Shandro et al., 2011). As mentioned above, in eMbalenhle, community protests turned violent due to the reported use of outside labour at the expense of locals (Mathebula, 2017a; Matumba, 2017). Such violent events could put family and community members at risk of experiencing psychosocial stress, even those not working in the industry themselves.

Misselhorn and Mathebula (2019) also reported violence prevalent in eMbalenhle, erupting especially in two waves up to June 2019. The earlier violent protests, which broke out on 16 October 2017, were a response by some community members to power cuts by Eskom. The municipal offices were damaged, as well as municipal refuse trucks, which had further ripple effects. Further, Aisenberg and Herrenkohl (2008) identified exposure to community violence as a risk factor for children growing up in that context.

Research in South Africa considered the effects of exposure to violence on adolescents (Choe et al, 2012; Govender & Killian, 2001; Hiller et al, 2017; Otjombe et al., 2015). The sustained stress of living with the psychosocial risk of violence can be expected to have an impact on memory retrieval (Vogel & Schwabe, 2016), which will impact academic achievement (Winne & Nesbit, 2010). Moreover, as identified by

Choe et al. (2012), the violent behaviour of adolescents often relates to the violent behaviour of their peer group, more than to any violence they see within the home. Their (Choe et al., 2012) research with 424 high school learners, between 14 and 21 years of age, living in a township in South Africa, highlights the multiple dimensions of violence the learners were exposed to: witnessing violence, being a victim, experiencing family conflict, and having violent peers. It also examined how the learners' own attitudes towards violence and violent behaviour resulted in increased violent behaviour of their own.

In addition to violence, Genareo and Filteau (2016) considered the particular impact that the influx of workers had on schools and the resultant "outsider culture" that was fostered within the school environment. They identified the role that teachers played in developing a culture that excluded newcomers, even if they remained in the community for a long period of time. Although not specifically included as a focus of my study, the impact on schools is of interest to me as a Student Psychologist in the category Student (Post Graduate), in the light of the economic migration to eMbalenhle and the fact that some of my participants were relative newcomers to the area.

Further, the boom-bust cycle of employment, unemployment and retrenchment is associated with poor mental health, including anxiety and depression (Virtanen et al., 2016). Virtanen et al.'s (2016) study examined the impact on two groups of Swedish adolescents, between 21 and 24, entering the job market for the first time, one in a time of recession and the other in one of economic growth, and how it affected their mental health into middle age. Their findings were that the former group of adolescents experienced more anxiety and depression than the latter. This study, although not specifically focused on the PI, but on employment in an industrialised town in northern Sweden, is relevant to the PI because of the cyclical nature of its employment as it responds to the fluctuations in the oil price. A survey by Rigzone (Jones, 2017) highlighted that not only job security but even the payment of salaries and bonuses are dependent on the oil price.

Exposure to pollution was also cited by Zhang et al. (2017) as being associated with depressive symptoms. In the conclusion to their study of the falling state of "happiness" in China amongst adults, which they link to the rise in the Air Pollution Index (API),

they state “the current emphasis on physical health-related costs understates other hidden costs of pollution to mental health” (p.93). Bazazan et al. (2019) found a link between shift work in the PI in Iran and both social dysfunction and anxiety. I suggest that this finding is important for my study, as the impact of the shift worker’s mental health potentially has ramifications for family life and the home environment in which adolescents are developing, and because SASOL employees, in certain categories, work shifts (Secunda, 2018).

High concentrations of lead in air pollution (EPA, 2018) may lead to behaviour problems (Sears & Zierold, 2017). Bosco et al. (2005) specifically link lead pollution to the PI in Sicily. Nkomo et al. (2017) highlight the impact of lead on mental health in their study in Soweto, another township in South Africa, which linked high blood levels of lead to violent behaviour in late adolescence.

The table in Appendix D, Table D3., provides a more detailed list of references for psychosocial and mental health risks associated with the PI and township living.

2.3 CONCLUSION TO RISK SECTION

My review of the risk-focused literature made me more aware of the complexity of the risks that adolescents in eMbalenhle may face. Rather than accepting these risks as they currently are, I took hope from the review by Gray (2019), which indicates that steps can be taken to reduce the risks in terms of petrochemical exposure, thus setting up a cycle of improving health outcomes, both physical and mental. However, not all risks will be removed by adhering to the minimum emission standards, and those that remain will need to be dealt with by reducing the structural disadvantages that still impact adolescents and their families 25 years after democracy. For instance, Eskom needs to ensure that electricity is affordable and available in order for indoor pollution to be reduced.

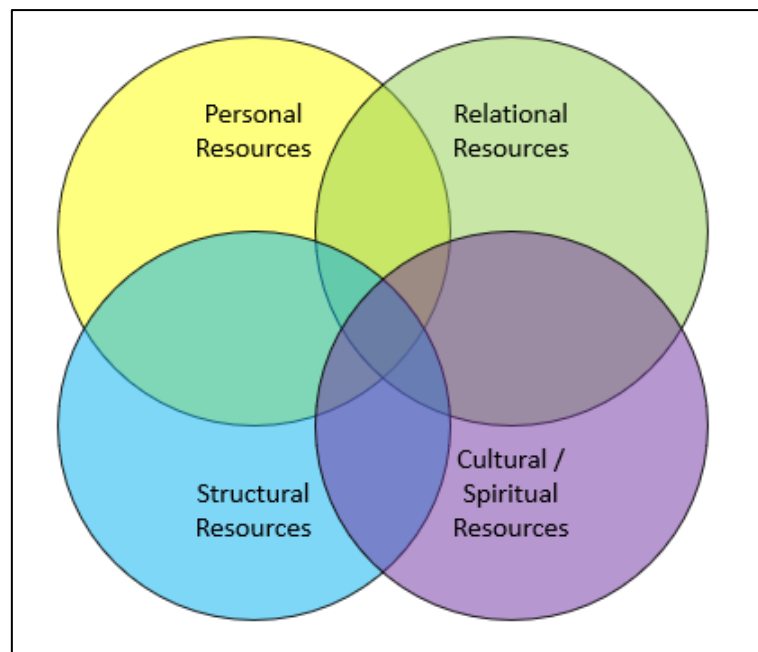
Despite the high-risk environment they face, many adolescents show few negative outcomes (Van Breda, 2018). In other words, many adolescents function normatively and this is associated with resilience. In the following section I will explore those resources that literature indicates may support adolescent resilience in times of stress.

2.4 RESILIENCE

Resilience is a complex process (Berejena Mhongera & Lombard, 2020; Jalala et al., 2020). This process is facilitated when those dealing with adversity access protective resources associated with four resource domains: the personal, the relational, the structural and the cultural/spiritual, in a way that is suited to the context. This is in line with SERT's negotiated access to resources (Ungar, 2011). Figure 2.1 highlights that these resource domains interact. The relevance of these domains to multiple contexts of adversity in South Africa is supported by recent literature (e.g., Bhana et al., 2016; Ebersöhn et al., 2017; Singh & Naicker, 2019; Van Rensburg et al., 2018).

Figure 2.1

Resilience Domains



2.4.1 Personal resources

Early resilience literature focused on personal assets (e.g., autonomy, optimism, internal motivation, self-regulation, altruism, humour, commitment to education) (Masten, 2011). Although subsequent studies have decentred the individual and their assets (Ungar, 2011), personal resources still matter for resilience. However, even if an individual has many personal assets, a context that does not support the use of

those assets in the face of adversity may undermine the expression of those assets and thus the resilience processes of the individual (Van Breda, 2018).

In South Africa, the most commonly identified personal asset is agency (e.g. Bond & Van Breda, 2018; Dias & Cadime, 2017; Goliath & Pretorius, 2016; Hage & Pillay, 2017). Agency is that capacity an individual has to control their own life (Van Breda, 2018). Thus, behaviours such as setting personal goals (Botha & Van den Berg, 2016; Jefferis & Theron, 2017), problem-solving, taking care of one's self as well as verbalising needs and emotions, are integral to having agency (Van Breda & Theron, 2018). By verbalising needs or emotions, the individual is negotiating with the social ecology in a way that may support access to those resources that will satisfy the expressed needs. Two South African studies show the different ways in which children and adolescents dealt with adversity by applying agency. In the first study, Ogina (2012) linked the capacity of 57 orphans to purposefully reconstruct their thinking to an agentic mind-set. This deliberate choice to create positive thoughts shifted the orphans from viewing themselves as victims of their situation, to viewing themselves as capable of impacting the situation, which in turn supported their resilience. In the second study by Malindi and Cekiso (2014), the 19 children and adolescents who lived on the streets of Mthatha in the Eastern Cape used agentic problem-solving to come up with maladaptive solutions. However, these solutions reflected a contextually appropriate way of managing the adversity the participants faced, in a way that supported their resilience.

Meaning-making that supports resilience is a further personal asset. In making positive meaning, the individual takes pleasure from the good things that are available in the environment (Ebersöhn, 2017) or adopts a positive interpretation of the future, and thus has a hopeful outlook (Cortina, et al., 2016; Oshri et al., 2018; Phasha, 2010; Soji et al., 2015). Matlali (2018) found that meaning-making was associated with experiencing positive emotions, including having a positive future orientation, in her study of the views of 30 adolescents between 15 and 24 living in eMbalenhle. Similarly, Van Breda and Dickens (2017) found that hopefulness or optimism was the primary personal asset that supported resilience in the 52 adolescents who transitioned out of care in Girls and Boys Town (GBT). This had the effect of facilitating accommodation, or the ability to adjust previously held beliefs/schemas to fit new situations in the one-

year follow-up. In their resilience intervention with 30 adolescents in South Africa's Free State province, Jefferis et al. (2019) found that meaning-making assisted learners to reframe their view of the adversity they experienced and support hopeful orientation to the future. However, for some, meaning-making may require resignation or acceptance of the current adverse situation (Bhana et al., 2016; Soji et al., 2015). In such cases, adolescents typically interpreted the current situation as temporary.

The ability to self-regulate, or adjust behaviour, control emotions and thought, (Reid et al., 2012) also supports resilience (Masten, 2019). When an individual chooses to adjust their behaviour or emotions, or makes use of self-distraction to control emotions or thoughts, it assists them to cope with adversity in constructive ways. For instance, Soji et al. (2015) found that by deliberately avoiding or letting go of negative emotions, the members of the six youth-headed households included in their study were able to persevere despite still facing the adversity of orphanhood. Likewise, Hills et al. (2016) explored the lived experience of 10 adolescent street children and found that for some, the ability to control their emotions helped them to resile despite the challenges they faced on a daily basis. Additional support for self-regulation as resilience-enabling was found in the answers given to the Resilience Questionnaire for Middle Adolescents in Township Schools (R-MATS) by the 291 adolescents in the study by Mampane (2014). This is because self-regulation is seen as conceptually aligned to the internal locus of control, which the Mampane (2014) study specifically mentions as being resilience-enabling. Similarly, Matlali (2018) found that having an internal locus of control was associated with personal motivation and determination for the adolescents in her study.

Valorisation of education is a theme that appears in many resilience studies in South Africa (e.g. Hage & Pillay, 2017; Hlatshwayo & Vally, 2014; Van Breda, 2015). It means that an individual values education as a means of overcoming adversity and engages in behaviours that help to realise academic aspirations (Zulu & Munro, 2017). Thus, educational aspirations are related to individual goal-setting and a positive future orientation. For example, in Fielding-Miller et al.'s (2015) research on food insecurity amongst South African learners, some participants saw education as "the key to a better future" (p. 366). More recently, the study by Singh and Naicker (2019) revealed that 16 teenage mothers from a rural area adopted strategies to protect themselves

from criticism and social isolation, as they were determined to continue with their education. In their case the pressure of having gone against social values contributed to their experience of adversity as teenage mothers in a poor rural area with high unemployment. Completing their education potentiated a way to improve their lot and they aspired to this.

2.4.2 Relational resources

Relational resources are those connections that provide emotional, instrumental and informational support to the individuals dealing with adversity which facilitates the development of resilience (Li et al., 2017; Sharer et al., 2016; Walsh, 2012). Emotional support is found in caring relationships with trustworthy people (Brown, 2008; Naidoo et al., 2019; Perkins et al., 2018; Van Breda, 2018). Instrumental support is defined as support that includes ensuring physical needs are met, including through the provision of money, food and shelter (Brown, 2008; Heaney & Israel, 2019; Sharer et al., 2016). In addition, Heaney and Israel (2019) identify that providing tangible assistance, such as taking on chores like cooking, cleaning and even babysitting, which may free up individuals to focus on enabling processes, is included as instrumental support. Another aspect of relational support that is reported in the literature (e.g., Goliath & Pretorius, 2016; Hills et al., 2016) is the giving of advice and sharing of information, referred to by Heaney and Israel (2019) as informational support. The Hills et al. (2016) study, for instance, refers to advice on survival techniques for life on the streets which is shared with newcomers, thus supporting the resilience of these newcomers.

In South Africa, the resilience literature supports relational resources as being the most often reported socio-ecological resource (Van Breda & Theron, 2018). The relational resources that are identified are family (e.g., Botha & Van den Berg, 2016; Ebersöhn, 2017; Ebersöhn, et al., 2012; George & Moolman, 2017), the peer group (e.g., Ebersöhn & Bower, 2013; Goliath & Pretorius, 2016; Hills et al., 2016; Van Harmelen et al., 2017) and community members, including teachers (e.g. Ebersöhn, 2017; Herrero Romero et al., 2019; Naidoo et al., 2019; Theron & Engelbrecht, 2012) and role models (e.g. Singh & Naicker, 2019). Similarly, studies in the Global North identify relational resources as resilience-enabling (e.g., Ruiz-Román et al., 2019). The RYSE studies by Sithole (2019) and Van Aswegen (2019) also identify

relationships with family and community members as being resilience-enabling for adolescents in eMbalenhle.

The definition of “family” in South African resilience research encompasses more than the nuclear parents and siblings, as it also encompasses extended family such as grandparents, aunts and uncles and even non-family members such as caregivers, particularly in studies reporting on orphanhood or absentee fathers (Hall & Richter, 2018; Sooryamoorthy & Makhoba, 2016). In Ebersöhn et al.’s (2012) study of 11 children affected by maternal HIV, using the Kinetic Family Drawing revealed that the child’s resilience was related to specific buffers of family interaction, such as the family being actively engaged in caregiving and the family expressing positive emotion such as laughing. Soji et al. (2015) found that even deceased parents may be role models in the context of orphanhood, as the orphans chose to maintain the supportive family atmosphere and live up to the values which the parents had previously put in place. Emotional support from their social network of mothers, grandmothers, and the families of their children’s father was identified as important to the seven teenage mothers in the Naidoo et al. (2019) study. In a study by Singh and Naicker (2019) with 16 teenage mothers, financial support offered by the baby’s maternal grandfather was an important instrumental resource. Additionally, this study also found that an emotionally supportive family reduced the stigma of being a teenage mother, thus removing one aspect of the context of adversity.

The study by Van Aswegen (2019), which also formed part of the RYSE study, reported on how family support facilitated the resilience of 30 adolescents between 15 and 24. The results indicated that instrumental, emotional (viz., love and attention) and informational support (viz., advice and guidance) by families was important for these young people’s resilience. Particular aspects of instrumental support included families having sufficient financial resources to provide for the adolescent’s physical needs. Emotional support was reported as assisting in the setting of goals and a future vision. Interestingly, the study indicated that the future vision, in many cases, included leaving the PI and/or the area of eMbalenhle for better prospects. This is at odds with the reality that the PI provided the wherewithal for the adolescents’ instrumental needs, discussed in the section “Family members work at SASOL” (Van Aswegen,

2019, p 60), and possibly could be associated with parental dissatisfaction with the life they have in eMbalenhle.

From a resilience perspective, the peer group can support the development of either maladaptive or adaptive strategies for dealing with adversity. The peer group is made up of friends or others of similar age. Developmentally, adolescence is the stage during which the peer group gains in importance (Goliath & Pretorius, 2016). Vorster (2018), in his article about gangs and religion in the Cape Flats, identifies the role that gang affiliation serves, as a resilience-enabler, albeit a maladaptive one. I mention this here as the activity of gangs in eMbalenhle has been recorded by Mathebula (2018b), and thus gang membership may also be a relevant resilience-enabling resource for adolescents in the township.

In contrast to peer relationships being associated with maladaptive behaviours, McDonald et al. (2019) link positive peer relationships with a sense of belonging, which is resilience-enabling. Goliath and Pretorius (2016) and Kumpfer (1999) also highlight the protective value of pro-social peers for adolescents living in a context in which drug use has been normalised. Soji et al. (2015) also identify the informational support of the peer group as adolescents turn to their peers for guidance. Both instrumental (food and money) and emotional support were supplied to adolescents who lived on the streets of Mthatha by their peers (Malindi & Cekiso, 2014, who reported similar findings.) The Singh and Naicker (2019) study with 16 teenage mothers also found that their friends provided meaningful emotional support, although some participants reported teasing and bullying at school by other peers, which would constrain the girls' resilience.

Community members who attend to the emotional and instrumental needs of adolescents may be neighbours, teachers or religious leaders. For example, adolescents in child-headed households reported that they sometimes consulted neighbours as trusted advisors (Soji et al., 2015). In some cases, the community members will be positive role models (Dass-Brailsford, 2005; Ebersöhn et al., 2017; Lethale & Pillay, 2013; Malindi & Machenjedge, 2012), as they have overcome similar adversity and model the kinds of actions that will support a positive future (Hurd et al., 2009). In other cases, the emotional and instrumental support provided by teachers

offsets the impact on learners of poorly resourced schools in contexts of disadvantaged settings (Liebenberg et al., 2016; Theron & Engelbrecht, 2012). In a study by Dass-Brailsford (2005), results highlighted the emotional support provided by teachers and their value as role models. Similarly, the research by Jefferis and Theron (2017) examined the relational aspect of the support provided by teachers for the resilience processes of 13 to 19 year-old learners. Jefferis and Theron identified that teachers provided a supportive relationship not only by listening to the learners, but also by providing them with guidance or mentorship.

Ellis and Abdi (2017) indicate that the relational processes of bonding, bridging and linking within communities are particularly resilience-enabling where those communities are faced with violence. These three processes describe, respectively, the process of developing stronger relationships from the proximal relationships with those most like oneself – bonding; building relationships with others who are different from oneself in important ways – bridging; and creating more distal relationships where there may be power differentials – linking. (Ellis & Abdi, 2017, p. 290). Additionally, the impact of violence in the environment on adolescents can be mediated by supportive parental relationships (Cummings et al., 2016; Hardaway et al., 2016; Ozer et al., 2015; Van Aswegen, 2019) where adolescents have bonded with their parents and/or caregivers. Further, teachers need to learn how to facilitate bridging in schools so as to support the integration of migrant adolescents (Hlatshwayo & Vally, 2014; Ozer et al., 2015) and reduce xenophobia, which is frequently associated with violence. I contend that this is relevant in the context of eMbalenhle as a result of the economic migration mentioned in Section 2.2.2.

2.4.3 Structural resources

Structural resources are those organisations, services, and infrastructure that support resilience. However, they can only be considered resilience-enabling resources if navigation to the services or organisations is possible and encouraged within the community (Ungar, 2012). South African and international literature identifies schools (e.g. Ebersöhn, 2017; Ebersöhn & Bouwer, 2013; Malindi, 2014b; Mampane, 2014; Mampane & Bouwer, 2011; Skinner et al, 2019; Theron & Van Rensburg, 2018; Ungar et al., 2019; Wright et al., 2013; Zimmerman et al., 2013) and faith-based groups (Collishaw et al., 2016; Ebersöhn et al., 2017; Hills et al, 2016; Isaacs & Savahl, 2014;

Smit et al., 2015; Zimmerman et al., 2013) as some of the main structural resilience-enablers. Structural resources could also include services and structures that facilitate safety in communities experiencing violence and/or crime (Zolkoski & Bullock, 2012). Additionally, the international study by Chawla et al. (2014) highlighted how the provision of green spaces in schools supports resilience in adolescents. However, clinics (Malindi, 2014b) and other health services (Zolkoski & Bullock, 2012), shelters (Myburgh et al., 2015) and non-governmental organizations (NGO's) (Van Breda & Theron, 2018) are also referenced as supporting resilience, provided the individuals facing adversity have access to these resources (e.g., Hall & Theron, 2016; Hills et al., 2016; Hlatshwayo & Vally, 2014; Malindi, 2014b; Theron, 2017; Van Breda, 2017a; Van Breda & Dickens, 2017; Van Rensburg et al., 2013).

In the RYSE study by Sithole (2019), which considered the views on community support held by 30 adolescents between the ages of 15 and 24 living in eMbalenhle, all the above structural supports were identified with the addition of the contribution made by SASOL. In particular, participants linked family employment at SASOL to meeting their instrumental needs, such as shelter. Also, they indicated that SASOL supported their education and health needs. In part, this was due to the company's contribution of building such infrastructure as housing, school blocks, parks, roads and sports facilities, such as the SASOL sports club at which I met the participants in my study. Finally, financial support from SASOL in terms of bursaries, learnerships and medical and life insurance benefits also contributed to the support the adolescents described. In this study, it appeared that navigation to structural resources depended on individual motivation to access the resources, rather than difficulty having access to the resources.

The benefit of having access to sporting activities or other extra-mural activities is cited in research both in the Global North and in South Africa (Bond & Van Breda, 2018; Caldarella et al., 2019; Hills et al., 2016; Malindi & Machenjedge, 2012; Ungar & Theron, 2019). In the Hills et al. (2016) study, the particular benefits of sporting activities (like surfing), that were made available to the street-dwelling adolescents, were highlighted, such as the way that participation in sport was associated with increased self-esteem and future focus amongst the participants. Similarly, Bond and Van Breda (2018) identified that participation in sport was associated with increased

assertiveness, improved problem-solving and emotional regulation - all personal assets associated with resilience which form part of social competence. Further, Caldarella et al. (2019) researched 276 parents' views of the positive effect of sport on their adolescent children in the US state of Utah. In their study, participation in school sport was associated with development of self-regulation, a personal resilience-enabling asset. However, the development of other resilience-enabling personal assets, notably empathy and social competence, appeared to be stimulated rather by participation in sports and activities that take place outside of the school context. Reinforcing the aforementioned studies, the study by Mathikithela and Wood (2019) indicated that absence of access to sporting activities in schools was associated with negative outcomes for learners in disadvantaged contexts. Thus, while the presence of sporting activities is associated with positive outcomes for learners, the opposite is true if sporting activities are not provided. In the Sithole study (2019) there appeared to be a gender-differentiated interest in access to opportunities for sporting activities, with more men indicating that access to sports clubs and gyms was supportive.

Green spaces are seen as resilience-enabling (Chawla, et al., 2014). This view is further supported by Ungar and Theron (2019), who identify natural environments, such as parks, as supporting reflection, an important tool for meaning-making, a resilience process. Parks also provide opportunities for physical activity, which serves the dual purpose of reducing stress and maintaining health.

Government legislation and policies can also be seen as structural resources when they facilitate resilience, as mentioned in the study by Naidoo et al. (2019). It was clear that the young women were able to negotiate access to education by virtue of the right to education enshrined in the Constitution. However, additional resilience-enabling structural resources, such as access to counselling, were notably absent at the school in question, due to the school's policies.

The study by Wills and Hofmeyr (2019) unpacked a few key structural enablers of academic resilience in Quintile 1-3 schools, in their survey of 2383 Grade 6 learners at 60 primary schools in three provinces. The first of these is that teacher absenteeism is low and a second is that a higher number of textbooks was available in the classrooms of schools which had a higher proportion of academically resilient learners.

In the conclusion to their study, they indicated that having school-based social and emotional learning interventions would further support academic resilience (Wills & Hofmeyr, 2019). Ungar et al. (2019) indicated that schools are resilience-enabling when they provide access to material resources (such as textbooks mentioned above) as well as an environment in which learners can exercise agency and self-regulation, such as is required on the sports field. An earlier longitudinal study of 1025 learners by Botha and Van den Berg (2016) also highlighted the value of a functional school as a resilience-enabler (protective support). Mawdsley et al. (2014) define a functional school as one which achieves greater than or equal to an 80% pass rate on the Senior Certificate Examination (SCE), whilst having low absenteeism of both learners and staff, amongst other criteria such as quality co-curricular activities.

Finally, religious organisations (faith-based organisations – FBOs) are considered resilience-enabling. For example, they provided positive role models and transferred pro-social values to the learners in the Botha and Van den Berg (2016) study. The study identified the following further ways in which FBOs support resilience in both individuals and the community: culturally appropriate mutually supportive psychosocial practices; assistance in facilitating navigation to additional local support services; and sometimes instrumental support in the form of food and shelter (also see Refugee Studies Centre, 2013). Additionally, Hamilton and Hamilton (2004) and Flanagan (2004) related the role FBOs play in adolescent development. Hamilton and Hamilton (2004) focused on the FBOs' provision of access to supportive adults, who act as mentors, as well as intergenerational relationships, which support resilience by facilitating the development of personal resilience assets such as meaning-making and purpose. The FBOs also facilitate pro-social peer relationships. On the other hand, Flanagan (2004) focused on adolescent development of altruism, which Mosavel et al. (2013) identified as a valuable personal asset for resilience, facilitated through the FBOs' service programmes which encourage adolescent participation. However, it should be noted that in Sithole (2019), FBOs in eMbalenhle were seen as mainly providing opportunities for information sharing, a result that was limited to one group and mostly the women in the group.

2.4.4 Cultural/Spiritual Resources

There is a growing body of research supporting the importance of cultural/spiritual resources as resilience enabling. King (2020) refers to the support of spirituality, particularly with regard to meaning making and the development of a positive future orientation, for the residents at a children's home in Kenya. This mixed method study involved 75 participants, between the ages of 10 and 19, in the quantitative assessments. Subsequently, 14 participants contributed to the semi-structured interviews in the qualitative portion of the study in which religious coping, i.e., the emotional support that having a belief provided, was identified as one of the themes. Nadat (2019) also identified religion as resilience enabling. Religious beliefs, particularly those that encourage hope that difficult circumstances pass and/or that spiritual beings will provide the strength needed to deal with any form of hardship, have been associated with adolescent resilience (Brittian et al., 2013; Hills et al., 2016; Malindi, 2014a; Ebersöhn et al., 2017).

In addition to religious and spiritual beliefs being supportive of resilience, cultural values and practices can facilitate resilience (Van Breda & Theron, 2018). For instance, Phasha (2010) noted the importance of cultural values such as Ubuntu. In her study with young people with experiences of sexual abuse, Ubuntu prompted forgiveness. This supported young people's capacity to accommodate what had happened to them and to move on. Likewise, Soji et al. (2015) reported the value of traditional rites of passage for their participants from youth-headed families. These rites supported a sense of cultural identity and belonging, and encouraged lessons that guided young people when they felt unsure.

2.4.5 Interaction of resilience-enabling assets and resources

The sections from 2.4.1 to 2.4.4 could give the impression that the resource domains are discrete. However, Figure 2.1 serves as a reminder that the domains interact. In fact, the ideal is that all four domains should be contributing to the adolescent's resilience processes, albeit to different degrees depending on context (Ungar, 2011; Ungar & Theron, 2019). For example, relational resources, such as caring teachers, are insufficient enablers of resilience if there is an absence of accessible structural resources, such as psychosocial services or food programmes (Skinner et al., 2019).

In the absence of structural support, learners may be too hungry or anxious to take full advantage of the relational resources present in the school.

Research by Nyika Machenjedge et al. (2019), found that neither the personal nor the socio-ecological (relational and structural) resources were sufficient in and of themselves for the resilience they observed amongst the 23 orphaned younger adolescents in their study. Rather, they noted that there was evidence of a “complex combination” (Nyika Machenjedge et al., 2019, p. 74) of assets and resources. More recently, Malakou (2019) considered the voices of seven adolescents in eMbalenhle who were exposed to unemployment and explored what supported adolescent resilience to unemployment. Her findings indicated that the participants identified both personal assets and social ecological resources as resilience- enablers. Additionally, they voiced them in such a way that the bi-directional interactions between personal resources (such as personal drive) and community support (such as opportunities) were clear. In other words, personal drive facilitated navigation to the opportunities available to overcome the challenge of unemployment, whilst the community made the opportunities available.

2.5 CONCLUSION TO THE RESILIENCE SECTION

Various factors, such as gender, can influence the pattern of interaction between personal and socio-ecological resources. In his professorial inauguration lecture, Van Breda (2018) highlighted the importance and complexity of the interaction between a person and their significant relationships and the systems within which the person and the relationships exist. For instance, in research by Van Breda and Hlungwani (2019), the former’s original research (Van Breda, 2015) with nine young men leaving care, was replicated with nine young women leaving care, with the aim of seeing if the same resilience processes applied to both. The study highlighted that although care-leaving processes of the women were similar to those of men in the earlier study (Van Breda, 2015), there was a stronger emphasis on relationships, particularly when selecting contextually appropriate responses to situations, such as facilitating the transition out of care.

Having reviewed the resilience literature, I am now more aware of the interaction of the domains (see Section 2.4.5) that could contribute to the resilience of adolescents

in eMbalenhle. This has made it clear to me that considering personal assets alone is insufficient if one is to fully understand the pathways of resilience in adolescents. Relational, structural, spiritual/religious and cultural resources, and access to those resources, need to be considered for the role they play in enabling adolescents' resilience.

Appendix D, Table D4, contains a summary of the studies of resilience mentioned above as well as additional studies not detailed.

2.6 CONCLUSION

My review has revealed that there is a growing body of literature on the resilience of adolescents in South Africa. However, limited studies have focused on the resilience of adolescents exposed to multiple risks in the context of the PI and township life. I looked at what enables resilience across domains (personal, relational, structural, spiritual/religious and cultural). This provided a useful framework for me when I considered how participants in my study accounted for resilience adolescents exposed to multiple risks in the context of the PI and township life. In the following chapter I will describe the methodology I used in order to draw out the participants' accounting for resilience in their specific context.

3 CHAPTER THREE: RESEARCH DESIGN AND METHODOLOGY

3.1 INTRODUCTION

This chapter presents the discussion of the research methodology I used and my reasons for choosing it. Further, the sampling procedures, the participants, procedures for data generation and analysis and interpretation within the context of the paradigmatic perspective are described. Photo-elicitation interviewing (PEI; Clark-Ibanez, 2004), the method used to facilitate data generation, is explained. Finally, the ethical issues considered and adopted during research are discussed.

3.2 SITUATING MY STUDY OF LIMITED SCOPE IN THE RYSE STUDY

The RYSE project is a bi-national (South Africa and Canada) 5-year project set up to “examine the biopsychosocial resilience of young people over time and the relationships between the resilience of ecological systems where there are disruptions – some positive, some negative – related to oil and gas production and the effects of climate change”. (RYSE project, n.d.). My study of limited scope is focused on adolescents living at eMbalenhle, Mpumalanga, which is the research site for the South African part of the RYSE project. I was particularly interested in how personal assets and socio-ecological resources featured in these accounts. In the broader picture, knowing which assets and resources are valued by these adolescents may be useful in planning additional support for others in the community. I conducted group interviews in which the participants discussed the ways in which their photographs supported “Being OK”. I then transcribed the interviews and analysed both the interviews and photographs, allowing themes relating to resilience to be uncovered. Member-checking with the CAP took place at the University to confirm that themes were consistent with their lived experiences. The CAP provided some additional feedback, which I found useful for confirming the themes and which enriched my understanding of the social ecology of my participants. In summary, I had no ownership over the situational risks as the context was predetermined by the RYSE study. However, I was free to choose the purpose-specific research questions for my study and the data generation instrument, namely PEI.

3.3 PURPOSE OF STUDY

The purpose of this research study was to describe the way in which adolescents from a resource-poor community in South Africa, which is exposed to a PI, account for resilience. The aim of this study was therefore descriptive. The primary benefit of my using a descriptive study is that it captured the information (i.e., the accounts) provided by the participants about their “lived experience” of what supported adolescents’ “being OK”, the phenomenon being studied (Gravetter & Forzano, 2018; Rooney & Evans, 2019). The purpose of a descriptive study is to give an accurate account of the characteristics of a phenomenon being studied, and the frequency with which those characteristics occur (Dulock, 1993; Gravetter & Forzano, 2018; O’Halloran et al., 2016). This aligns with my purpose to describe the assets and resources the participants identified as accounting for “being OK”. With my study occurring *in situ*, at eMbalenhle, and making use of the adolescents’ rich data in the form of photographs they selected, it also was consistent with the descriptive study requirement to be naturalistic (Creswell & Poth, 2018).

3.4 PARADIGMATIC PERSPECTIVE

3.4.1 Metatheoretical paradigm

The paradigm underpinning my study is Interpretivism. The ontology, epistemology, axiology and methodology of Interpretivism have specific influences on the way research is designed and conducted (Ponterotto, 2005). The ontology, or understanding of how reality is created, within Interpretivism, considers that it is a process taking place in community or in a specific context and accepts that there may be many ways of viewing reality (Creswell & Poth, 2018; Ponterotto, 2005). I achieved this aim by identifying the multiple views that adolescents have of what enables resilience and reporting them as themes within the participants’ accounts (Creswell & Poth, 2018).

The Interpretivist epistemology, or way of knowing what reality is, relies on interpretation of the meaning ascribed to events/phenomena by the participants of the study, within their context. Thus, it is concerned with the interaction between participants and the researcher (Ponterotto, 2005). To lessen my impact as an “outsider” in the study, I met with the participants to record their accounts of resilience

in their own environment, at the Sports Centre in eMbalenhle. Further, in my study I recorded what the individual participants said about how their photographs related to their lived experience and made use of quotes as evidence (see Chapter Four).

The axiology, or impact of researcher values on the research process (Ponterotto, 2005), underpinning Interpretivism involved this: that I, as the researcher, had to behave in a way that ensured that the participants' subjective reality was valued and that similarities and differences between one participant's subjective reality and another's were viewed as important to building a more detailed understanding of resilience (Creswell & Poth, 2018). Further, I had to identify any preconceived notions (i.e., my assumptions; see Section 1.7) and "bracket" them out so as to be open to the participants' meaning-making rather than relying on my own interpretations. The axiology of Interpretivism also impacts the way in which both ontology and epistemology are applied and thus informs the methodology (Aliyu et al., 2015). Keeping a record of how many of the participants reflected each theme was a way of meeting the requirements of the axiology of Interpretivism.

The advantages of adopting Interpretivism lie in the underlying belief that there are many valid truths; this allowed me to accept and embrace different points of view in my participants' accounts of resilience. Additionally, the interaction between the researcher and the participants is relied upon as a mechanism for understanding the meaning-making of the participants (Ponterotto, 2005). Lam (2018) highlights that Interpretivism recognises that meaning-making is contextually bound. Thus, adopting Interpretivism allowed me to gain a more in-depth understanding of resilience and its complexity in the context of township living and exposure to the PI, as described by the participants. In my study, adopting Interpretivism informed my methodology. As detailed in Section 1.8.2., the particular methodology associated with Interpretivism, which I used, was phenomenology (Morgan & Sklar, 2012). Interpretivism also required me to do thematic analysis of the transcripts and photographs and confirm that my interpretation of this meaning was accurate through member-checking with the CAP. Further, identifying the frequency with which the various themes occurred in my study, was in line with the axiology of Interpretivism, as it ensured that I recognised the "voices" of my participants and their individual contributions to the study.

However, the advantage Lam (2018) recognises, can also be seen as a disadvantage, especially for those with a positivist orientation, as the results are not generalisable. A further disadvantage of Interpretivism is that I, as the researcher, came into the research situation with my own bias or previous understanding of the phenomenon in other contexts, which has to be acknowledged for the impact it has on the interpretation or understanding of the phenomenon as described by the participants in this study. I had to remind myself that the context was different from that which I had experienced during my Honours research into resilience in the context of drought in a neighbouring community (Hammond et al., 2017), as was the question. So, I had to listen carefully and not “impose” my history on the participants. I was further assisted in this by the participants bringing their own photographs as prompts for the discussions, meaning I did not drive the discussion. The assumptions with which I began the study, detailed in Chapter One, Section 1.7, form part of my “bias”. Thus, although I made use of inductive coding, I was aware of “looking for” such personal assets as self-distraction, as I had come across it during my Honours research (Hammond et al., 2017). I had to actively look for “new” assets and/or resources as dictated by the data to overcome this bias.

3.4.2 Methodological paradigm

The approach I adopted for this study was qualitative. As Du Plooy-Cilliers (2014) and Ormston et al.(2014) indicate, the qualitative method implies that the focus is on the words used by the participants, not on statistical analysis or numbers. Qualitative research is naturalistic in that it takes place in the participants’ own environment. Further, using qualitative research also implies that as a researcher, I was an instrument for drawing out the participants’ views and making meaning of them (Creswell & Poth, 2018; Marshall & Rossman, 2016). A qualitative approach was advantageous in that it enabled me to learn from the participants about their understanding of adolescent resilience. Their accounts would reflect their insider knowledge of the assets and resources they believe to facilitate adolescent resilience in their own context (Smith et al., 2002). My aim was to create a credible account of those assets and resources perceived as supporting the resilience processes of adolescents in the particular context of eMbalenhle.

In line with the American Psychological Association (Levitt et al., 2018) guidelines for qualitative research, I detail the methods I used without expectation that another researcher would be able to replicate the results even though he/she duplicated the methodology, as the nature of qualitative research is that it will provide data that are relevant to the context in which it takes place. By making this assertion, I recognise that each participant's lived experience is unique and that new themes may emerge if the study were to be duplicated using the same methodology with new participants. Further, as an instrument of research, I may have influenced the results in a different way from another researcher, by probing or failing to probe statements made by the participants, thus affecting the data available for analysis.

3.5 METHODOLOGY

3.5.1 Research design

The research design is a descriptive phenomenological one, in which my research focused on participants' accounts of what supported adolescent resilience in the petrochemical-affected, resource-poor urban setting of eMbalenhle, Mpumalanga. The primary benefit of a phenomenological design is that it allows for a deeper, richer understanding of how participants create meaning in their own context (Blundell, 2015; Creswell & Poth, 2018). Participants' accounts drew on their "lived experience" (Nieuwenhuis, 2016, p. 77) of adolescence in eMbalenhle and the factors/processes that enable resilience in the face of the risks associated with living in eMbalenhle.

A phenomenological design, as opposed to a narrative design, was required because I was attempting to get to "a common meaning" (Creswell & Poth, 2018, p.75) from the participants, and not just a recording of their experience, which is a further benefit of this design choice. This was in order to arrive at the "universal essence" and understanding of how adolescent resilience is accounted for in the context of eMbalenhle. Following Creswell and Poth (2018), an advantage of this understanding is that it can be useful for those supporting adolescents in eMbalenhle, such as Educational Psychologists and teachers amongst others when designing resilience-enabling programs.

There is also an advantage for the researcher, as it is recognised that participating in phenomenological research has the potential to transform the researcher as they engage with deep learning. However, challenges arising from adopting a phenomenological design may arise when selecting participants, as the participants may not have experienced the phenomenon being researched. In this case, it was not a requirement that the participants experienced resilience *per se*, but rather that they were able to identify (account for) assets and resources that supported resilience. Additionally, researchers may have difficulty bracketing (applying *epoché* to) their own perspectives, and this will in turn impact on the conclusions drawn (Creswell & Poth, 2018).

3.5.2 Participants and Context

The participants were purposively sampled. Purposive sampling is a common method of non-random selection of participants in qualitative research (Morgan & Sklar, 2012). It is associated with benefits in time and cost, as having clear criteria ensures that an appropriate sample is targeted (Dudovskiy, 2012). There are also challenges of purposive sampling, such as findings that cannot be generalised (Dudovskiy, 2012). However, that was not the purpose of my research.

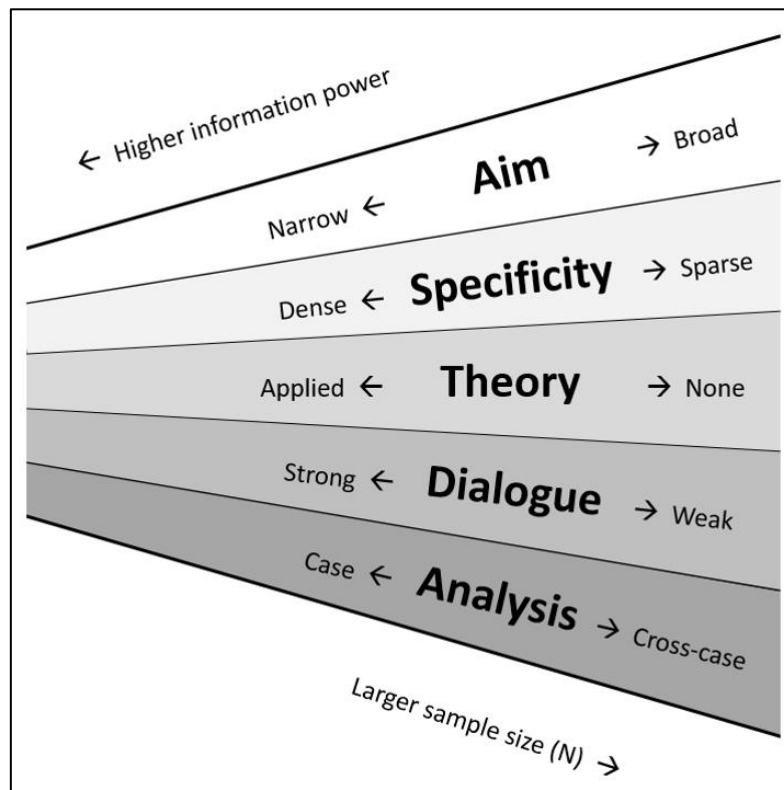
Purposive sampling was facilitated by the RYSE community advisory panel (CAP). A CAP is a group of community representatives who are invited to partner in the research process (Theron, 2013; Theron, 2016), acting as gatekeepers, facilitating both physical and social, culturally sensitive access to the community, whilst themselves not necessarily being participants in the research (Clark, 2010). The RYSE CAP was comprised of representatives from the National Youth Development Agency, Khulisa Social Solutions, six members of the eMbalenhle Youth Committee and two local advisors (RYSE Project, n.d.). As my Masters study took place under the umbrella of the RYSE project, and the CAP relationship was already in place, the CAP recruited participants on my behalf using the criteria provided. Further, I hoped the assistance of the CAP would offset the impact of the participants' view of myself as an outsider, which could result in participants holding back knowledge that could answer my research question.

The criteria for selection were: adolescents between 18 and 24 (an age parameter set by the RYSE project (RYSE project, n.d.) who would be able to participate using English, and who live in eMbalenhle. The use of a CAP hopefully reduced the bias potentially arising from an outsider making the selections, as the CAP members acted as gatekeepers (Creswell, 2016), using their contacts and local knowledge to acquire participants for my study. However, I had no way of knowing what biases may have influenced the RYSE CAP during the selection process as the CAP members used their own networks in addition to flyers or advertisements to recruit the participants.

I had six participants, which was consistent with the relatively small sample size typical in qualitative research. Boddy (2016), Marshall et al. (2013) and Creswell and Poth (2018) provide different ideal sample sizes, ranging between three and 40 participants. Boddy (2016) refers to Sandelowski's warning that a larger sample makes it difficult to do deep analysis of the participants' lived experiences. A risk of a small sample size is that participants may drop out of the study or may give divergent accounts, making it difficult to achieve data saturation (i.e., get sufficient information about the phenomenon to arrive at a meaningful description of the phenomenon) (Marshall et al., 2013). All my participants contributed their accounts, although one did have to leave before the end of the planned single research day. However, I believe this did not affect data saturation, as the photographs/images were discussed until the participants no longer wanted to introduce new photographs. By that stage I was aware that no new content was being shared (i.e., I seemed to be hearing the same accounts). Figure 3.1 (Malterud et al. 2016, p.4), supports my small sample size, as my aim was specific and my study applied SERT. Further, I believe that the strength of the dialogue was related to the use of PEI to stimulate discussion. However, I needed to analyse multiple participants' contributions, which probably could not have been achieved with a smaller sample size or single case.

Figure 3.1

“Information power—Items and dimensions.”



Malterud et al., 2016, p.4 with permission

As summarised in Table 3.1, five of my participants were men and one was a woman. They ranged in age between 19 and 22. I noted that there were more men in my sample, which I found surprising as the CAP member who selected them was a woman. However, in the context of a patriarchal society in which men are sometimes expected to take the lead, I recognise that it is possible that the men the CAP member approached were more confident about participating in my study. Two participants were still at school and four had completed matric, but were currently not in full-time employment. Two participants had part-time employment. The high rate of unemployment could reflect South Africa’s 2019 unemployment statistics: 33,9% of young people, aged between 15 and 24 years old, were not in employment, education or training (Stats SA, 2020). Not all my participants had been born in eMbalenhle, but all had lived there for at least one year.

Table 3.1

Summary of Participant Demographics

Participant	Name	Sex	Age	At School	Employment
1	BOSSMAN (pseudonym)	M	21	no	Part-time
2	Ntsamaeng	F	20	no	Part-time
3	Sifiso	M	20	yes	Unemployed
4	ZEYNMUSA (pseudonym)	M	22	no	Unemployed
5	AUSTIN SHUFFLE (pseudonym)	M	22	no	Unemployed
6	Sphemathi	M	19	yes	Unemployed

eMbalenhle is a pollution-challenged residential area, in the Govan Mbeki municipality of Mpumalanga, South Africa. It is designated as Main Place 866011 in Census 2011 (Frith, 2013) with a population of 118 889 people living in 35 404 households. The population density varies across the 22 sub places (zones) from 12023.78 people per km² in Dunusa to 3444.15 people per km² in eMbalenhle Ext 5 to 1473.64 people per km² in eMbalenhle Ext 24. Some people live in brick homes and others in shacks. The 2016 Community Survey technical report for the Govan Mbeki municipality indicated a poverty intensity of 42.5%. (Stats SA, 2016). As detailed in Chapter Two, Mathebula (2018) referred to the violence prevalent in eMbalenhle. Like other residents, my participants had been exposed to violent protests in which the municipal offices and vehicles were damaged or burned.

Figure 3.2

Pollution from PI Looking East from Embalenhle – Evidence of Poor Outdoor Air Quality



(own photograph)

Figure 3.3

eMbalenhle – Cows Grazing Alongside Urban Settlement



(own photograph)

Figure 3.4

Sports Facilities – eMbalenhle – Structural Resource Available for Residents



(own photograph)

Figure 3.5

Illegal Rubbish Dumping After Service Delivery Protests in eMbalenhle



(https://ridgetimes.co.za/wp-content/uploads/sites/94/2018/01/IMG-7683_90798-768x576.jpg)

3.5.3 Data Generation

Data generation was via the participatory, visual method of PEI (Clark-Ibanez, 2004; Creswell, 2012), with participants creating visual artefacts that were used to stimulate accounts of resilience. Prior to our meeting, my participants were asked to take five photographs of places, people, things or activities that illustrated what resilience meant to them, or to bring objects symbolising the aforementioned. The plan was that they would use their cell phone cameras to take pictures and then share the photographs with the group. However, there was a mixed response to this request, probably because the instruction included that the participants could bring an object if they were unable to bring photographs. One participant created a collage, which he brought along, with various pictures he had cut out of magazines or downloaded from the internet. Another participant had combined cell phone pictures and PicsArt (a free-to-use photograph content editor) creations and provided many more than five. Some of the others combined some personal photographs and some Google images which reflected their identification of the image as representing a resource that enabled “Being OK when life is hard”. However, as all the participants provided images, even if taken from Google rather than with their own cameras, using PEI was still justified. This view is explained in the next paragraph.

As per PEI, the visual images provided “visual inventories” (Clark-Ibanez, 2004, p 1511) of the lived experiences of the participants. They also provided clues as to how resilience was viewed by the participants and in this sense enabled me to “see through [the] participants’ eyes” (Torre & Murphy, 2015, p. 12). The visual images also served to ease the initiation of discussions, as the focus was on the images, as suggested by Strachan and Davies (2015), and thus facilitated the building of a trust relationship. With the participants having produced and/or chosen their images, they came to the discussion empowered (Richard & Lahman, 2013; Torre & Murphy, 2015). This went some way to addressing the inherent power differential between myself as researcher and the participants. As the visual images had personal relevance to the participants, they facilitated discussion of resilience processes that were previously unknown to me.

The advantage of using cell phone cameras was that the participants were able to remove any images they were unhappy with before sharing them. Further, the obstacle

of the logistics of supplying cameras and printing pictures was avoided (Torre & Murphy, 2015). As for the participant who brought a collage, he chose to discuss only some of his images, even though there were more. Another advantage was that the act of taking/choosing the photographs required thought by the participants. In other words, it fostered a reflexive process, as they had to make decisions about what to select and why the content was important. On the less positive side, not all the photographs were selected for discussion. Rather than indicating that the participants had not overcome the obstacle of filtering suitability, it is possible that they felt that the additional photographs would not add more to the discussion. In addition, the participants might have hidden valuable information about their lived experience, by not taking relevant photographs that they thought might be less “socially desirable” (Torre & Murphy, 2015, p. 15).

The participant-generated images were used as stimuli for the conversation-like discussions (Richard & Lahman, 2013). Melton and Johnson (2015), Zenkov et al. (2014) and Creighton et al. (2013) all indicate that using visual images, followed by interviews or discussions, facilitates reflection and a deeper response from participants. The interviews, which took place as a group, were handled in a “conversational style to acquire information, attitudes and beliefs” (Seabi, 2012, p. 89-90). From this conversation, I hoped to get a deeper understanding of how the participants account for resilience in their socio-ecological context. I asked participants to tell me how their images answered the question [about “being OK when life is hard”], to ‘tell the story’ of their images. With further probing (Barnidge et al., 2010), the participants were able to verbalise what it meant “to be OK when life is hard” in eMbalenhle. The phrase “being OK when life is hard” had been identified by the CAP as identifying resilience in their community and was used in the invitation flyer that accompanied the consent form for the participants (Appendix C). The value to me as the researcher was that both the images and the ensuing discussion “reflect[ed] the individual’s environment and perceptions” (Melton & Johnson, 2015, p. 40).

3.5.4 Data Analysis

The above activity, i.e. the presentation and discussion of images, was recorded. The recording was transcribed verbatim by myself. Along with the photographs

taken/chosen by the participants, these transcriptions comprised the data to be analysed.

Following Braun and Clarke (2006), I conducted thematic analysis. To this end, I inductively coded elements of the data, which answered my research question, while looking for recurring themes. A theme “captures something important about the data in relation to the research question, and represents some level of *patterned* response or meaning within the data set” (Braun & Clarke, 2006, p. 82).

The first step was to repeatedly consider the images and read through the transcriptions multiple times to ensure proper understanding. Then (the second step) I generated first pass codes, a process known as “open coding” (Smit, 2002, p.69), for data that answered my research question. I used Atlas.ti version 8 (2018) software to manage this process, by loading the transcript into Atlas.ti version 8 and highlighting relevant phrases as codes. Each code was derived from a paraphrase of the highlighted phrase (see Figure 3.6 below). In Figure 3.6, “2:30” indicates the text which supports the open code “resilience_distracting self through activity” and paraphrases Austin Shuffle’s comment ‘I usually go play sports just to forget about my situation’. I also loaded the participants’ images into the relevant part of the transcript and linked the images to codes in a similar fashion (see Figure 3.7 below). In Figure 3.7 the link between the code “resilience_family supporting and leading” and the picture from Ntsamaeng is made. Figure 3.8 shows how seven different excerpts were linked to one code, viz. “resilience_family supporting and leading”, as part of the iterative process of applying open codes to the transcript.

Figure 3.6

Paraphrase to Create Open Codes for “Phase 2” An Excerpt from the Transcription in Atlas.ti version 8



(Braun & Clark, 2006, p.18).

Figure 3.7

Excerpt from the Transcription Showing Open Codes Assigned to Photograph in Atlas.ti version 8.

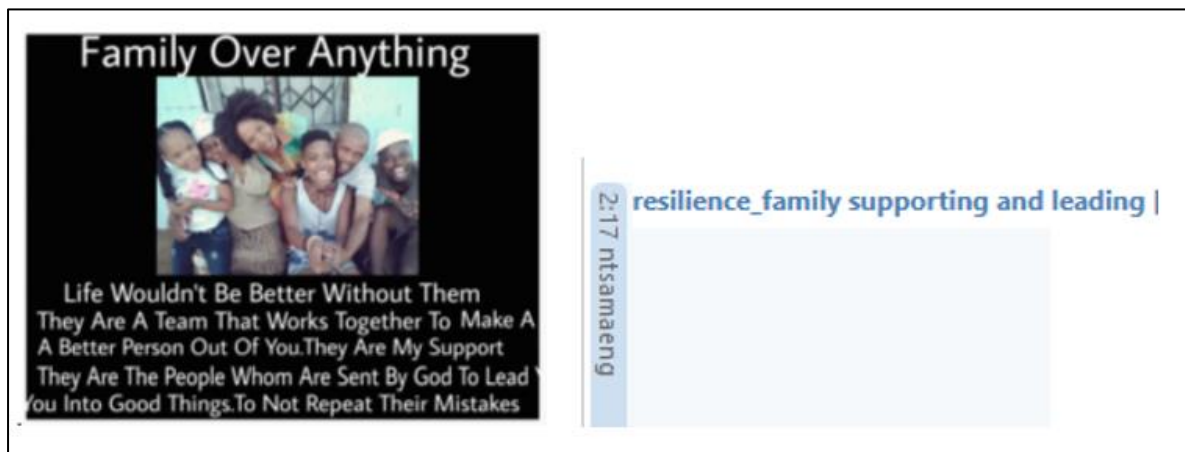


Figure 3.8

Linked These Seven Quotes to One New Code

7 quotations for resilience_family supporting and leading [RYSE-Data-14-04-2018-MKB]

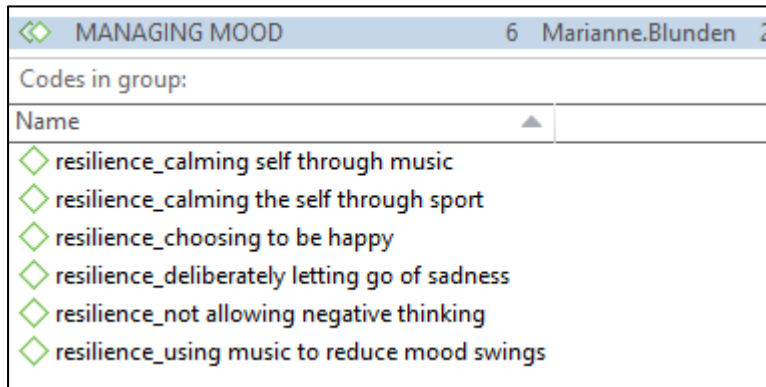
Search Quotations				
ID	▲	Name	Start	End
☰	2:17	ntsamaeng	14542	14610
☰	2:18	ntsamaeng	14635	14878
☰	2:19	ntsamaeng	15821	16223
☰	2:35	sifiso	24395	24496
☰	2:42	ntsamaeng	27913	28119
☰	2:48	sphemathi	30118	30282
☰	2:65	austin shuffle	36678	36955

In the third step, I created axial or thematic codes by linking similar open codes to form potential themes or sub-themes. The code name reflected what was similar across the open codes. I made use of the code groups function in Atlas.ti version 8 for recording

the candidate themes. This involved linking the lower level or open codes to the appropriate candidate theme (see Figure 3.9, which shows the six open codes linked to the candidate theme “Managing Mood”).

Figure 3.9

Using Code Groups in Atlas.ti version 8 to Develop Candidate Themes from Codes



The fourth step required re-reading and possibly reorganising the coded data extracts to ensure that the thematic grouping was meaningful and also fit within the entire data set. In step five, I clarified each theme by defining what it was and what it was not (see Figure 3.10), as well as providing examples from the data (Braun & Clarke, 2006, p. 87).

Figure 3.10

Step 5 of Data Analysis Process: Defining a Theme: Managing Situations Positively

Managing situations positively
<p>Definition: All actions that support being OK in the stressed petro-chemical environment of eMbalenhle including distracting the self, adopting problem solving strategies, persevering (keeping going) and managing mood</p> <p>Number of participants: Most participants engaged in some form of distraction of self. A few referred to problem solving strategies. A few also referred to persevering.</p>

Braun and Clarke (2006)

Table 3.2

Inclusion/Exclusion Criteria for Themes Reported in Chapter Four

Theme	Inclusion criteria	Exclusion criteria
Resilience is managing situations positively	All actions that support being OK in the stressed petro-chemical environment of eMbalenhle including distracting the self, adopting problem solving strategies, persevering (keeping going) and managing mood	Any actions that have negative outcomes, such as violence or destruction of property.
Resilience is being future-focused	Any reference to being future focused, including having goals and working/persevering to achieve them.	Any reference to the adolescent thinking about other people's future. Any reference to the adolescent thinking about the past. Any reference to the adolescent pursuing goals that do no facilitate health/wellbeing.
Resilience is constructive meaning-making	Any reference to efforts to "make sense" of the difficulties that adolescents live with. It also involves being hopeful, such as believing things will work out well or be better in the future. Any reference to community opportunities for living a better life by living in eMbalenhle.	Any reference to the adolescent feeling hopeless about their current circumstances or future.

To protect from bias and heighten trustworthiness (Barbour, 2001, p. 1116), I presented my emerging themes along with the evidence to a senior researcher and fellow Masters students involved in the RYSE project. It should be noted that the PowerPoint presentation did not include revisiting the coded transcript. Instead, various extracts were examined to see how they addressed the definitions of the themes I had identified, in order to ascertain that I had provided "a compelling and coherent reading of data" (Braun & Clarke, 2016, p. 740). Thus, I used the input from

my co-researchers reflexively to ensure that my themes made sense in the context of the data (Braun & Clarke, 2019) and made appropriate adjustments where they were called for. It was during this stage that Resilience: Managing Mood (Section 4.2.4 in Chapter Four) became a sub-theme of Resilience: Dealing with situations positively (Section 4.2. in Chapter Four), where initially I had it as a separate theme. While another researcher may have arrived at different themes (i.e., I acknowledge that the identified themes cannot be considered definitive), Braun and Clarke (2016) indicated that this difference is appropriate in the context of an “organic” (p. 741) approach to thematic analysis. The final phase was writing a full report on the data, themes and data extracts (i.e., Chapter Four) thus fulfilling the requirement to describe how my adolescent participants accounted for resilience.

3.6 QUALITY CRITERIA

As mentioned in Section 1.9., the criteria of credibility, dependability, transferability, confirmability and authenticity need to be achieved in order to fulfil requirements for trustworthiness in qualitative research (Lincoln & Guba, 1985). In my study, credibility, which means the degree to which the ability of and work by the researcher (Golafshani, 2003) can be trusted, was achieved by first peer-checking the themes arrived at after inductive analysis of the data. Further, member-checking by the CAP provided that check against the congruence of the findings with the “lived” reality of life in eMbalenhle, which Nieuwenhuis (2016) considers an important aspect of credibility. Meeting with the CAP, which gave community representatives an opportunity to clarify any misconceptions on my part (see Appendix A), was in line with Morse’s (2015) concern that member-checking has to go beyond simply verifying the accuracy of the transcript. She encouraged that non-participants, such as the CAP members who were not involved in the data-generation phase of this study, verify the data analysis. At the CAP meeting there was some disagreement about my interpretation that “eMbalenhle is a place of opportunity” (see Appendix A), but the majority did agree and so the interpretation was allowed to stand.

Facilitating the dependability of my study, which means the degree of replicability of the results should the research be repeated (Morse, 2015), was achieved by using and detailing the methods, as indicated in section 3.5 and in the Addenda, A and B. I promoted transferability, which means the degree to which another researcher will be

able to apply the findings to his or her research setting (Morrow, 2005), by providing demographic information about my six participants and their context (see Table 3.1).

Confirmability is the extent to which the findings can be confirmed or supported by others (Trochim, 2006). I achieved this by showing my findings to co-researchers on the RYSE project as well as the CAP. By giving examples in Chapter Four of excerpts from the transcriptions and photographs (the data) used by the participants to support their accounts of what helped them to be OK, I made it possible for others to confirm that the themes I arrived at were drawn from the data. Finally, authenticity, which means ensuring that the participants were represented in an authentic and genuine way (“fairness”, Morrow, 2015, p. 252), was ensured by including excerpts from all participants. Had I been biased towards one or two participants’ accounts, that would have been unfair and not authentically representative of the sample. Further, the discussion during the feedback from the CAP served to expand my understanding of the participants’ accounts in the context of eMbalenhle and thus supported “ontological authenticity” (Morrow, 2015, p. 252).

3.7 ETHICAL CONSIDERATIONS

It was important that I kept the five principles of ethical research in mind during my study (Elias & Theron, 2012), viz, to do no harm; to build a trust relationship; to demonstrate integrity; to be fair and equitable; and to have respect for the participants. Before attending the research day, the participants had received and signed consent forms from their CAP recruiters. In this way, informed consent was in place. Assent was not required, as all my participants were over 18 years of age. I spoke to the participants about their mutual responsibility to safeguard the anonymity, confidentiality and privacy of other members of the group during the introduction to the session. This addressed the principles of doing no harm and respecting the participants, while also helping to build a trust relationship I also advised the participants that if they wished to stop discussing anything, they were welcome to do so (Gubrium et al., 2014). There was additional support in the form of an educational psychologist as well as an interpreter available for the participants if they needed either. However, I believe I created a safe space in which they felt able to talk freely. This was facilitated by playing Masekitlana, an indigenous stone-tapping game (John

et al., 2016), before the session. Playing the game allowed me to introduce myself to the participants, and also gave them a chance to introduce themselves and provide me with any pseudonym they wished to use during the study, in a non-threatening way. Kaiser (2009) reminded me that ethical practice in qualitative research requires that participants' identities should remain confidential. For this reason, during "data cleaning" (Kaiser, 2009, p. 5.), I removed the identifying surnames from those participants who chose not to use pseudonyms. However, I acknowledge that it may still be possible, for someone familiar with the participants, to recognise them by a process of deductive reasoning based on details provided during the research process. One participant raised the issue of his scholastic struggles, which I believe indicated that he felt safe in the group.

Participants were advised that they could withdraw if they chose to and in fact one of the participants left early due to work commitments, after sharing his collage with the group. This meant that the group, including myself, had to agree to him going through all his images, before anyone else had a turn. Agreement was reached and he left shortly after the next person started to discuss her first picture.

Permission for the use and reproduction of the photographs taken by the participants was confirmed with the participants, to ensure that the agreement they had given on the consent form was still in effect. It should be noted once again that some of the photographs/images used by the participants were selected from the internet. In terms of the ethics of using these downloaded pictures selected by some of the participants, I found that the majority of downloaded pictures were open access. Where one of the pictures was identifiable due to a copyright mark, I wrote to request permission to use the picture. The picture, which was from Bleacher-report.com, is included in Chapter Four. At the time of submitting my mini-dissertation, I had not received a response, but consider that I am covered by US copyright law (US Copyright Office, 2019) permitting use of pictures for purposes of study. I also wrote to Ms. K. Malterud to request permission to use the graphic, and used the unmarked graphic she attached to her response rather than the one from the article. Both letters are included in Appendix B.

Finally, I checked with the participants that all people whose faces were visible in the self-produced photographs had given consent to be photographed (Gubrium & Harper, 2013), and I was assured that this was the case. It is an ethical consideration when using photo-elicitation that the participants need to remember not to show the faces of people when taking photographs; but in this case, as the photographs were either of family members or peers who consented, I believe that it is not germane to my study. However, I did “blur” the faces of Sphemathi’s brothers (see Figure 4.3.) to ensure their privacy. I was given permission by the participants to keep copies of their photographs for research purposes.

3.8 CONCLUSION

In this chapter the research process was described, including the selection of participants and the data collection method used. The next chapter describes the themes identified during data analysis and links them where possible to relevant literature.

4 CHAPTER FOUR: RESEARCH FINDINGS

4.1 INTRODUCTION

In this chapter, I describe the three themes (as summarised in Figure 4.1) that emerged in answer to the question, ‘How do adolescents from a resource-poor community in South Africa that is exposed to a PI (i.e., eMbalenhle) account for resilience?’. The themes emerged from my inductive analysis of the transcripts and images gathered during my visit to eMbalenhle on 14 April 2018. At the end of reporting each theme/sub-theme, I indicate how that theme fits with the resilience literature (particularly that which I reviewed for Chapter Two). I also link my findings to those of other RYSE studies with similar aged participants (Malakou, 2019; Matlali, 2018; Sithole, 2019). I make further meaning of (i.e., discuss) the three themes in Chapter Five.

Figure 4.1

Visual Summary of Study’s Findings

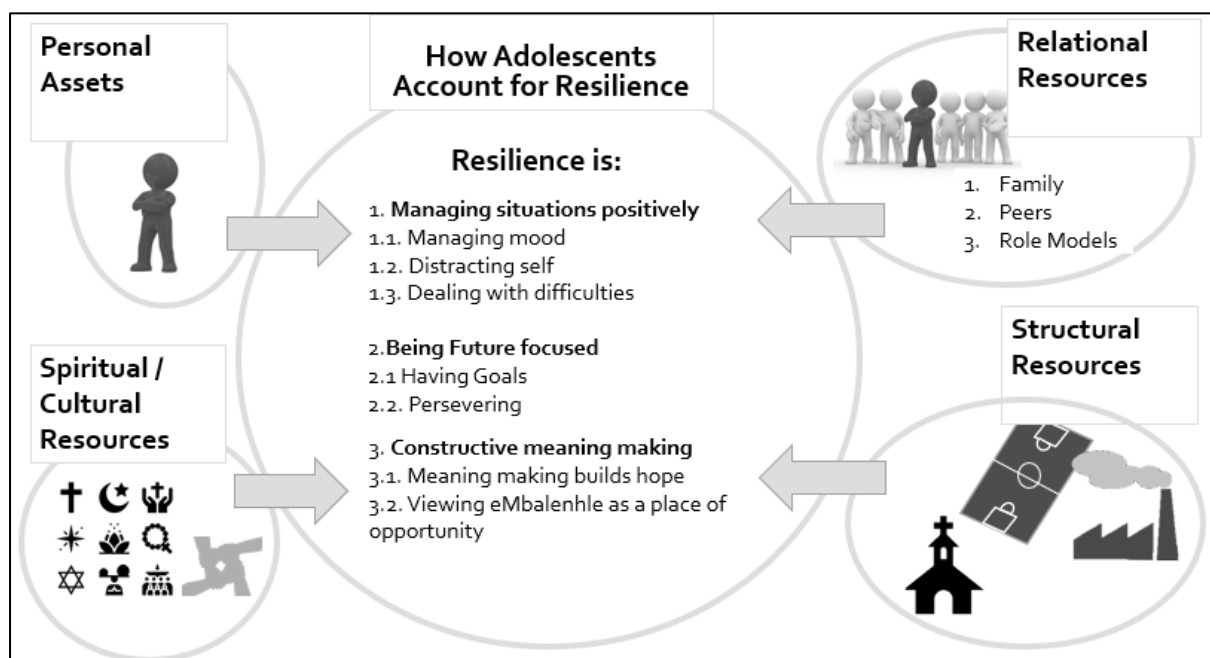


Figure 4.1 depicts those personal assets and relational, structural and spiritual/cultural resources which are sources of strength recognized by the participants as helping them to “do OK when life is hard”. The figure illustrates that the self and the social ecology featured in how participants accounted for resilience. In the sections following,

I will elaborate on these themes using the term 'All' to refer to a theme supported by all six participants; 'Most' when four or five participants supported it; and 'Some' when two or three participants supported it. When only one participant supported a theme, it is regarded as an outlier.

4.2 THEME 1: RESILIENCE IS: MANAGING SITUATIONS POSITIVELY

Managing situations positively embraces all deliberate actions that support resilience in the resource-poor and PI-affected environment of eMbalenhle. These include distracting the self, adopting problem-solving strategies and managing mood. Thus, actions used to manage situations positively, as explained by the participants, involve both agency and self-regulation. These are also recognised in the literature as being supportive of resilience (e.g. Bhana et al, 2016; Bond & Van Breda, 2018; Hage & Pillay, 2017; Scorgie et al, 2017).

4.2.1 Sub-theme – Managing Mood

For all six participants, managing mood was about being calm in the face of difficulties and/or making a deliberate effort to choose happiness. The participants' accounts revealed awareness of mental health issues, such as depression and mood swings. Participants also indicated that family, peers and music were all factors that worked alongside individual efforts to support mood management.

In the South African context, family has to be considered beyond the bounds of the nuclear family, as cultural values often encourage a young person to turn to an older relative for advice in the absence of an advisor in the home (Malindi, 2014; Phasha, 2010; Zulu, 2019). For this reason, as noted in Chapter Two (section 2.4.2), 'family' in my study refers to all family members, including extended family and caregivers (Department of Social Development, 2006). Such a sense of flexible kinship was evident in Sifiso's account of how he managed mood when feeling distressed: 'I can only go to one person which is my uncle so we can talk about that thing that is bothering me'. Another participant, Ntsamaeng, indicated that both her family and friends provided support for her when she was distressed, by saying 'They're [her family] trying to fill it up whenever I need something or whenever I'm falling apart.... my friends, they also play a big role in my life. I turn to them whenever I feel like I am falling apart'.

Capturing negative feelings in writing and then letting the feelings go was helpful for Zeynmusa: 'Whenever I'm feeling sad, I can write it down and then after I burn that paper after I written it, I believe that that thing is gone'. For Bossman, there was a conscious rejection of negative thinking. In response to a question as to how he would deal with a failure to achieve his goal, he stated, 'That's not the kind of thinking I keep ... I keep the positive ones'. Music was similarly useful in the management of mood. For example, Sifiso said, 'Whenever I have mood swings, I listen to music, but not just any music. I listen to Eminem music, because he's shouting ... I feel as if he has solved my problems'. Sphemathi expressed a similar link between listening to music and managing mood when he said, 'I'll simply be alone and listen to music and all of that. That's how I keep myself calm'. Finally, Zeynmusa also said, 'When I'm not in a good mood or in a bad space I usually listen to music. Especially gospel,' and later, 'That time [when] I couldn't even listen to anybody, the thing I used to listen to is music. It's how it healed me. It makes me calm, very calm'. The use of music as a resource presupposes access to the necessary devices and electricity - implying that these structural supports are provided. However, as noted in Chapter Two (section 2.2), electricity supply is problematic in eMbalenhle, which in turn threatens the ability to make use of music to manage mood.

4.2.2 Sub-theme – Distracting Self

All the participants reported on the personal capacity of adapting to the challenges of their current situation, with most participants (i.e. four) relying on some form of distraction, which could be sport or non-sporting activities. Distraction directed participants' attention away from the hardships that challenged them. As Zimmer-Gembeck and Skinner (2016) indicate, self-distraction, as a secondary source of control, is a psychologically useful way of coping, and thus enables resilience at times when the stressors, such as township life, are not personally controllable.

For example, Austin Shuffle said, 'Usually when I'm around the township ... I usually go play sports just to forget about my situation at the moment', a comment which was supported by his choice of picture (Figure 4.2). Austin Shuffle was joined in this by Sphemathi, who said, 'Sometimes, as guys, when we say playing soccer relieves us, we mean when we are with these people, your focus moves away from things that

have happened'. Both Austin Shuffle's and Sphemathi's statements imply the existence of structural support for self-distraction (sports fields in this case). Although they did not explicitly reference the provision of sports fields as a support, focusing rather on the activities they engaged in, these activities would have been far less easy without dedicated spaces in which to perform them.

Figure 4.2

Shuffle's Picture of Soccer Players from The Internet



(www.Bleacherreport.com) – permission requested.

In addition to personal and structural resources, relational resources also supported the use of self-distraction as a means to forget about the existing situation. Sifiso's statement that 'we [he and his friends] also do other things so that I forget about what I am going through', indicates that the peer group, and thus relational support, is instrumental to him in achieving self-distraction, and probably to the other two young men also. Likewise, Sphemathi's reference to his group of soccer-playing peers highlighted the contribution of relational support to self-distraction.

For Sphemathi, though, there was additional self-distraction when he spent time with a very young (two-year-old) boy, which showed that relationships other than those with peers can serve as opportunities for self-distraction. He said, 'I love that boy. Each and every time when I'm with him I forget about my problems. He just makes me forget

about all the problems I have’. Further, he noted that going to church - both a structural and spiritual resource - and his relationship with two particular churchgoers helped him to ‘forget about what happened’. What was striking about this part of his account was his sense of agency in terms of the relationship with “my spiritual parents, which are these two, so for me ... allowing them to be in my life was a great move’. This indicated Sphemathi’s navigation to a relational resource which he saw as supportive of his “being OK when times are tough”. He also chose to attend church for similar reasons: ‘when things are tough and hard, I prefer going to church, listening to the word of God [and] listening to music at church ... and forget about what happened’ which indicated his use of faith-based resources as a means of self-distraction. Sometimes self-distraction was noted by participants as something they could do on their own. As Ntsamaeng stated,

A way to handle a certain problem ... [is by] being involved in any activities. I'm not a sporty person but then I try to do something like reading magazines or watching TV. ... I know if I do something, some sort of activity, then I know that I'll be ok.

Additionally, Ntsamaeng referred to hobbies as means of self-distraction when she was in low spirits: ‘I would say hobbies, somehow they distract me from drowning whenever I’m feeling down.’ In this case, even though managing mood is also implied by the reference to ‘drowning whenever I’m feeling down’, the use of the word “distract” indicated to me that this quote was better suited as an example of self-distraction. Similarly, Sphemathi indicated that if his friends were not available, he too could distract himself with his hobby of music, ‘If they [his friends] are not there ... I just go straight to where I practise, take the keyboard, sit down, playing the keyboard the whole day.’ Sphemathi’s use of a keyboard and Ntsamaeng’s TV-watching imply that electricity (i.e., a form of structural support) is available.

4.2.3 Sub-theme – Dealing with difficulties

Most participants (four) indicated that problem solving or dealing with difficulties supported resilience, and that this capacity drew on personal and social-ecological resources. Ntsamaeng said, ‘I can overcome any problem that I'm having and I've got to find a solution to it no matter how hard it is, but then I've got to overcome it and take charge.’ She also commented that both her family and her boyfriend supported her

problem-solving. Her family reminded her ‘how to overcome everything that comes my way, which is some sort of challenge’, whereas her boyfriend supported her in problem-solving, as ‘we always come up with a solution together ... and [he] reminds me that I’m strong enough to overcome this problem that I’m having’. In addition, Ntsamaeng’s appreciation of spiritual resources to deal with difficulties was seen in her statement that ‘[God will] show me guidance and show me a way to handle a certain problem that I’m facing’ and ‘Whenever I’m not feeling well ... I seek ... guidance from God’. These comments from Ntsamaeng highlight the interaction between the relational and faith-based/spiritual resources available to her and her personal efforts to overcome problems.

Austin Shuffle felt that it was necessary to ‘be head-on and tackle [my] problems head-on’. His friends played a role in this process. He thought that with the support of his friends, ‘maybe we can come up with a solution on how to tackle [my] problems during those tough times’. With Sphemathi, the role of his peers in supporting him to deal with difficult times after his father’s death can be seen clearly in his comments about his “Brothers”. (See Figure 4.3.)

These are the guys at school I live with. For me I took them as a family. They are Brothers to me, they are not just friends because in time of needs (like last year, the time my father passed on) they were there throughout. From the beginning to the end they were there giving me support. All the support that I needed, I found it in them.

Figure 4.3

Sphemathi's "Brothers"



Similarly, for Sifiso, peers were important to how he dealt with difficulties. He referred to his peers as follows: ' So ... I can talk to the ones I trust about my issues. They are friends who can talk to me and show me the right way through out what I'm going through.' This indicates informational support and guidance from Sifiso's peers.

4.2.4 Situating the theme of "Resilience is: Managing Situations Positively"

The above findings for "Resilience is: Managing Situations Positively" reflect current understandings that managing mood, self-distraction and dealing with difficulties are resilience-enabling (e.g. Bond & Van Breda, 2018; Kumar, Sonika, & Salini, 2019; Masten, 2019). In order to manage situations positively, it is necessary to have agency, as the verb 'manage' implies. For my participants, agency took the form of self-distraction. The use of self-distraction to bolster resilience has been previously reported both internationally and in South Africa. For instance, Steinhardt and Dolbier's (2008) study accepted that self-distraction was a useful strategy for building resilience in college students in the United States, and Kumar et al. (2019) found a positive relationship between self-distraction and resilience amongst medical students in India. Locally, Hills et al. (2016), Lethale and Pillay (2013), Malindi (2014) and Vollebregt (2018) reported the use of self-distraction as one of the tools, amongst others, for enabling resilience. For instance, the Hills et al. (2016) study found that

there was an interaction between the adolescents and their social ecology in terms of cultural/spiritual resources, supportive peers and participation in sporting activities, which supported resilience. On the other hand, Malindi (2014) found that listening to music and having faith supported resilience as part of an intrapersonal contribution to the process that accompanied relational (family) and structural (community care) contributions.

Zolkoski and Bullock's (2012) review of resilience literature found that problem-solving (i.e., the capacity to deal with difficulties) is part of the resilience-enabling skill set of adolescents. From a developmental standpoint, the peer group is particularly important in adolescence, as peers assist adolescents to achieve separation from parents as well as in identity formation (Selvam, 2017). An aspect of the peers' involvement in dealing with difficulties, noted in the findings of my study, was that the peer group was often relied upon to assist with problem-solving. Additionally, in two local studies, problem-solving was used constructively to support the resilience of orphans (Ogina, 2012) and as a personal asset to support resilience in learners in inclusive learning environments (Makoelle & Malindi, 2015). Further, Woollett, Cluver, Hatcher and Brahmhatt (2016) linked problem-solving to resilience in the very different context of adolescents who had been infected with HIV since birth (perinatally), as did Soji, Pretorius and Bak (2015) in the context of child-headed households. What is important in the light of these contextually disparate examples, is that problem-solving or deliberately dealing with difficulties is shown to be a resilience-enabler that applies to many adolescents in more than one high-risk context. Following my findings, this now includes the dual-risk context of township living and being exposed to the PI.

In this context of multiple risks, the participants made no mention of maladaptive coping strategies, such as taking drugs, being used to solve problems. This can be contrasted to the Malindi and Cekiso (2014) study that found taking drugs was perceived to be a context-appropriate way of dealing with the multiple risks of streetism. Moreover, the comment from a CAP member (RYSE, 2018) that drug use was a commonly used maladaptive strategy found in eMbalenhle was not reflected by the participants of my study. Thus, despite the prevalence of drug use in the community, the absence of maladaptive coping strategies reported by the participants

could arguably be explained by the presence of pro-social peers and/or supportive family members in the lives of the participants.

Managing mood also relates to self-regulation. Regulating or managing mood, or being able to control emotions, is an important aspect of resilience, as discussed by Botha and Van den Berg (2016). Additionally, Hills et al. (2016) specifically noted that having the ability to control emotions, especially anger, and to remain calm supported resilience of the street-connected youth in their study. Similarly, a more recent study by McDonald et al. (2019) in Australia highlighted parents' and children's belief that self-regulation, or control of emotions, was important for resilience. However, these researchers (McDonald et al., 2019) indicated that not only self-regulation, but also the ability to express emotions, were associated with resilience. Additionally, Soji et al. (2015) reported participants' capacity for deliberately letting go of negative emotions, which is echoed by Bossman's statement about not holding on to negative thinking.

Turning to the earlier RYSE studies with participants living in eMbalenhle, Matlali (2018), Malakou (2019) and Sithole (2019) derived results from their arts-based research that echo aspects of the above themes. Matlali (2018) specifically noted that problem-solving was weakly supported by her participants, whereas most (four of the six) participants in my smaller study identified problem-solving or dealing with difficulties as supportive of resilience. Additionally, she had one participant who used music to "manage mood" in a way that was similar to my participants' use of music as a structural resource to manage mood. Sithole's (2019) study focused on community supports, but also extended to self-distraction, as she noted the provision of sporting fields by SASOL, which enabled the participants to make use of sport as a resource to distract themselves. As in Sithole's findings, the use of sport as a resilience-enabler was restricted to men in my research. It should be noted that this link to SASOL (in that the petrochemical company contributed by providing the sports fields, a structural resource) was never made explicit by the participants in my research.

4.3 THEME 2: RESILIENCE IS: BEING FUTURE-FOCUSED

The theme of being future-focused entails having goals and working to achieve them. A further aspect, persevering in the face of obstacles, is included here as it relates to

keeping one's mind on the long-term goal no matter what difficulties are faced in the short-term. Perseverance relates to drive or a sense of purpose, as discussed by Li et al. (2017); Scorgie et al. (2017); and Van Breda (2017).

4.3.1 Sub-theme – Having Goals

Most participants (i.e. five) had a positive future orientation and most (i.e. four) specifically referred to setting goals for the future. Both personal and socio-ecological resources contributed to the participants' accounts of how goal-setting supported resilience. For instance, Bossman chose a picture of a person graduating to epitomise how important it was to him to have goals despite the challenging circumstances. He went on to say,

It helps a lot to` set your goals and stay true to yourself to know yourself, who do you want to be. Even though conditions might tell you otherwise, when you know where you want to go, there's nothing that can stop you.

Bossman continued: 'Church inspires me ... to remain with my dreams intact' which appears to indicate that spiritual resources supported him in striving to reach his goals.

For Ntsamaeng, having goals also helped her to keep looking forward to the future, as she said: 'At the back of my mind I have this set of goals that I wanna achieve that reminds me that there's more to life than what I'm going through'. On the other hand, Zeynmusa indicated that the specific material goal of owning a BMW was motivational by saying: 'Ok I'm having the love of this car [as per his chosen image], it's ...making me to reach where I want to be' and later on, '..believing in these cars always makes me to achieve more every day and make me learn more every day. It's always pushing me to be strong'.

As Austin Shuffle stated, family can also provide the impetus for goal-setting in aiming for a better life. He stated that his grandfather provided motivational support for him: 'He's the toughest person that I know ... he actually motivates me to be, like, try for better in life'. Austin Shuffle also indicated that he had a personal drive in relation to his participation in competitive activities as varied as pool and video games, 'pushing yourself to the limit and achieving more and more of what you want to get so it also pushes me to the limit'. Thus, Austin Shuffle made use of structural resources such as pool halls and electricity to fulfil this drive.

4.3.2 Sub-theme - Persevering

Most participants (i.e. four) indicated in their accounting for resilience that perseverance was important in dealing with difficult circumstances, as it related to keeping one's mind on the long-term goal. Austin Shuffle stated, 'I'm always pushing; I never get beaten'. Further, Sifiso indicated that perseverance was important in managing challenges. This was apparent when he spoke about his schooling problems and indicated his long-term goal was to complete his education despite experiencing difficulties in the short term:

I'm not doing well right now at school with my Grade 11. I'm repeating and I've been trying to study but there is no difference. My marks are not going anywhere. I still get the same marks I got last year. But that doesn't mean I should leave school and go do other things even if I'm not doing well at school, I will still go there and try my best.

Zeynmusa chose an image (Figure 4.4) from the internet that was personally meaningful for him as it spoke to perseverance in the journey of life. He supported the picture with the following explanation:

Whenever I'm looking at this picture, it tells me I still have a journey to go. ... So, when you're on a journey ... There are storms you can face. There's sunshine you can face. There are difficulties. You can fall down, but the only thing that matters is to arrive at the destination where you want to go.

Figure 4.4

Zeynmusa – Walking into the Future

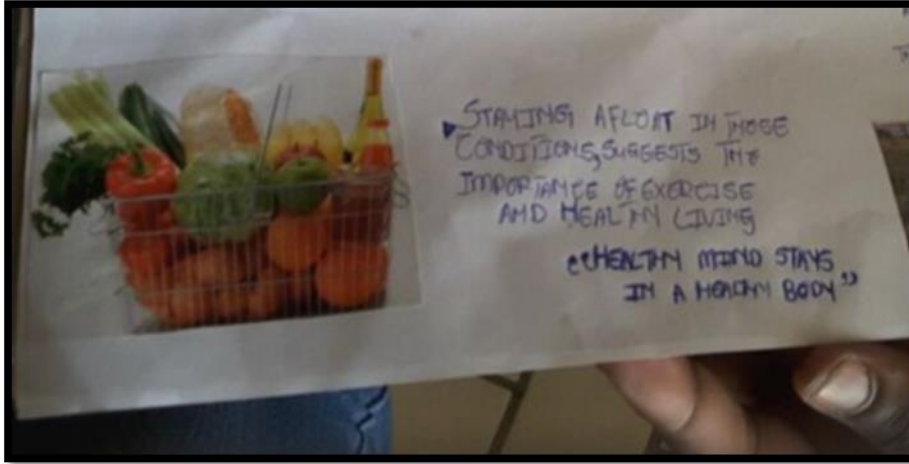


(From Pinterest – domain on photograph – kimberlymccrose.com no longer active).

In the following excerpt from Bossman about his healthy lifestyle choice, the use of the word 'keep' also supports the sub-theme of perseverance: 'So I keep a balanced lifestyle as you can see there. I've got my veggies there. Actually, it's [the vegetables] my mother's' (See Figure 4.5 below). The structural support of the availability of healthy food is also implied by his statement as is the relational support of his mother. By making these foods available and helping him persevere with his chosen lifestyle, his mother provides him with instrumental support, which possibly indicates emotional support too, as provision of food is part of the nurturing process.

Figure 4.5

Bossman's Picture of Vegetables Illustrate His Mother's Instrumental and Possible Emotional Support in Helping Him Keep Up A Healthy Lifestyle



4.3.3 Situating the theme of Being Future-Focused

Dias and Cadime (2017) found that goal-setting behaviour predicted resilience for Portuguese high school students. Their findings are in line with the accounts of the participants in my study indicating that goal-setting supported adolescents “doing OK when times were tough”. Similarly, Bosma et al.’s (2019) study in the USA with Latino adolescents exposed to multiple risks, linked self-motivation to staying focused in order to attain personal goals. South African research, which specifically refers to goal-setting as resilience-enabling, includes Hills et al. (2016); Goliath and Pretorius (2016) and Jefferis and Theron (2017). More recent research, dealing with teenage mothers in South Africa, has found that having a goal to complete their education was supportive of their ability to cope with the adversity they experienced on returning to school (Naidoo et al., 2019; Singh & Naicker, 2019). Both these studies (Naidoo et al., 2019; Singh & Naicker, 2019) also referred to relational resources, such as supportive mothers, that co-facilitated these adolescent mothers’ goal orientation by making it possible for them to return to school. Such relational orientation was evident in the accounts provided by Austin Shuffle and Bossman, amongst others, in my study who mentioned the importance of ‘family;’ and “mother” respectively.

Caizzi et al. (2018) identified perseverance as a key enabler of resilience in their study of adventure learning programmes with young people in the United Kingdom. Further, the study by Skinner et al. (2020) pointed to the value of perseverance for developing motivational resilience, together with institutional (the school) and relational (teachers, parents, and peers) enablers. In South Africa, Ebersöhn et al. (2015) found that perseverance, in the presence of structural support from local facilities, such as the police, and material resources, was important for young children dealing with maternal HIV. I found this interesting as it indicated that as an enabler of resilience, perseverance has applicability across developmental stages. Additionally, Phasha (2010) specifically linked perseverance to both staying in school and resilience, which resonated with my participant Sifiso's comments.

In Matlali (2018), the dominant theme for her RYSE study of personal assets was identified as "Personal Motivation and Determination" (p. 56). These two assets were similarly reflected in the responses of the participants in my study, for example 'having a 'personal drive' (Austin Shuffle) and 'I will still go there and try my best' (Sifiso). However, the idea of altruism (goals of supporting others) as reported by Matlali (2018) was notably absent from the goals of the participants in my study. Whilst the absence of altruism in their goal-focused accounts may indicate a shift in cultural values away from "Ubuntu" towards a more westernised focus on the individual, as reported in other township contexts (e.g., Albien & Naidoo, 2016; Dube-Addae, 2019), it may also be related to the developmental focus on the self, amongst adolescents (Sokol, 2009).

Malakou (2019) similarly found that "Having a vision" was the most reported theme in her RYSE study, which focused on the resilience of adolescents challenged by the risks associated with eMbalenhle, as well as by unemployment. The participants in her study referred to goals and dreams as well as a motivation to keep going. However, I noted that in these two RYSE studies (Malakou, 2019; Matlali, 2018) the themes relating to future focus ("Having a vision" and "Personal motivation and determination" respectively) enjoyed the strongest support, whereas in my study the theme of "Resilience is: Being future focused" was the second most evident theme amongst my participants (the most prominent theme was Resilience is: Managing situations

positively). This difference may be a result of their studies focusing more specifically on unemployment and personal assets respectively.

Furthermore, I was struck by the common use of the word “push” in the responses of some of the RYSE participants in both Matlali’s (2018) study and mine. This appears to point to a drive to succeed in achieving the goals set. Siyabonga expressed the view that perseverance was about *‘[having] a warrior spirit and keep pushing forward’* (Matlali, 2018, p. 56) and Thoko commented that she had to *‘push [herself in order] to succeed’* (Matlali, 2018, p.57). This effortful drive to achieve goals does appear to indicate that the social ecology of eMbalenhle is probably not supportive enough of goal attainment, meaning that adolescents need to be strongly invested in their future plans to ensure success.

In summary, the theme of being future-focused fits well with the international and local literature on goal-setting and perseverance and their importance for resilience. However, it should be noted that the kind of structural resources noted by Sithole (2019), such as bursaries and learnerships, which supported the attainment of the goals of the adolescents in her study, were not reported by the participants in my study. Also missing from my study was the relational support provided by teachers in supporting resilience-enabling goals that was noted by Hall and Theron (2016), but this may be understood in the light of the finding in Herrero Romer et al.’s (2019) study that teachers in poorly resourced schools may not provide sufficient academic or other support.

4.4 THEME 3: RESILIENCE IS CONSTRUCTIVE MEANING MAKING

This theme includes efforts by the participants to “make sense” of the hardships they experience by viewing difficulties as opportunities, and/or adopting a hopeful attitude to the present and/or the future (Van Breda & Theron, 2018). It also involves believing or hoping that things will be better, also in the future (Lethale & Pillay, 2013; Brittan, Lewin & Norris, 2013). Most participants (i.e. five) mentioned family or church and/or belief in God as factors helping them to make sense of life when it is difficult. Moreover, the awareness that there are structural resources available in the community, which offer participants opportunities to achieve their goals, supported positive interpretations of current challenges and hope for a better future.

4.4.1 Sub-theme – Meaning making builds hope

Some participants (three) made hopeful meaning, Austin Shuffle stated that his grandfather shaped his meaning making by urging him to view the current situation as temporary. ‘He’s always, no be calm, it will pass, it’s just a season.’ Additionally, Austin Shuffle valued the way that the research-related interaction with the other participants shaped his understanding of what it takes to be “doing OK when times are tough”. Their insights helped him make hopeful meaning:

OK, I just want to thank you all for sharing what you have shared with us today... now I understand that the situation is just a situation; it will pass. And then focus, just focus for the future. You know it doesn't end here.

Spiritual resources also tended to support the development of hope. For example, Bossman said, ‘I’m a church type of person. So, church and God inspires me, gives me hope. It inspires me to never mind the current circumstances to look further [into the future].’ For Ntsamaeng, both relational and spiritual resources supported her meaning making processes. She described her family as ‘people who are sent by God to put me into the right path’. Later she said, ‘They [my family] just try to make me feel better and remind me of the purpose of life’.

4.4.2 Sub-theme – Viewing eMbalenhle as a place of opportunity

Most participants (five) interpreted the context of eMbalenhle as one that had risks (e.g., lots of pollution; violent protests), but also opportunities and resources. For example, Bossman stated that ‘eMbalenhle is a place for people with hunger to advance’ and later ‘eMbalenhle is full of young people who are making it through, who are building their careers through various companies, companies like Sasol and Eskom.’ Likewise, Austin Shuffle said, ‘There’s everything you need here. Just settle here and then everything is [good]’. In a similar vein, Sifiso stated ‘ I like living at Emba [local name for eMbalenhle] because there are many opportunities to find jobs’ and Sphemathi said ‘It is a place whereby you are free to your rights. Opportunities are there. It’s a cool place for everyone. Everyone wanna come and live [here].’ This positive interpretation by most of the participants of their community as a place of opportunity highlights the importance of structural resources, such as large companies that provide opportunities for employment. It also points to how peers can function as

role models of success and in so doing support positive meaning making (i.e., believing that opportunities exist locally).

4.4.3 Situating the theme of Constructive Meaning Making

The participants referred to their meaning making in personal terms, but also in ways that linked to relational, community and spiritual resources. Thus, whilst the theme of constructive meaning making is typically recognised in the literature as a personal asset, the importance of the participants' socio-ecological resources in providing input to the process cannot be ignored. As Maree (2010) noted, making meaning, albeit in the career context, is an active process involving context and relationships. Furthermore, Masten and Motti-Stefanidi (2020) noted that an intervention with adolescents which engaged family, school and community systems may help build meaning, amongst other resilience enablers such as agency and hope, in the face of a disaster.

Essentially, constructive meaning-making supported participants in my study to be hopeful. Van Breda and Dickens (2017) found that hopefulness or optimism was the primary personal resource that supported resilience in the 52 adolescents who transitioned out of care from Girls and Boys Town (GBT), South Africa. This personal resource had the effect of facilitating accommodation, or the ability to adjust previously held beliefs/schemas, to fit new situations in the one-year follow-up. Additionally, Haase et al. (2019) reported that meaning making, through the process of creating a music video, gave adolescent participants an opportunity to develop optimistic (hopeful) coping strategies, in the context of varied relational and spiritual resources, for dealing with cancer treatments. Similarly, Botha and van den Berg (2016) and Zulu (2019) linked meaning making to family involvement, a relational resource. Although the participants in my study did not specifically link music to meaning making, the link between meaning making and access to spiritual and relational resources fit Ntsamaeng's and Bossman's accounts. Also, Woollett et al.'s (2016) study highlighted the manner in which peers supported the meaning making of HIV-infected adolescents by providing other perspectives – this was echoed in part by Austin Shuffle's valuing of the input from his research peers. These examples support the notion that relational and spiritual resources enable adolescents' meaning making.

Various studies (Cortina et al., 2016; Ebersöhn, 2017 Soji, et al., 2015) indicate that believing that there are opportunities, is linked to the development of hope and ultimately the ability to resile. My participants believed that eMbalenhle was a place of opportunity. In the context of large-scale unemployment in South Africa, particularly amongst young adults (referred to in Chapter One, section 2.2), this focus on opportunity may reflect how the capacity to interpret a resource-constrained context as a place of opportunity accounts for resilience among adolescents living in such a context. However, the effort to negotiate access to opportunities through relational networks – which is evident in Van Breda and Hlungwani (2018) - was notably absent in the accounts of the participants in my study. My participants only pointed out that there were opportunities. Perhaps the silence around relational networks supporting access to opportunities can be linked to the difficulties in terms of negotiating access to the opportunities in eMbalenhle, which were made clear to me during member checking. Additionally, Mathebula (2020b) reported that corruption and fraud are being used to exploit job seekers. Nevertheless, in the RYSE study by Malakou (2019), opportunities mentioned by the participants were focused on those specifically assisting resilience in the context of unemployment, such as hearing about job openings from parents, peers or community members. This highlights the relationship between input from relational sources, which provide information, and the individual's belief that opportunities exist.

4.5 CONCLUSION

This chapter highlighted three themes that explain how adolescents in the highly industrialised, resource-poor community of eMbalenhle account for resilience. These themes signified resilience-enabling processes that draw on both personal and socio-ecological resources. The social ecology included the domains of relational, structural and spiritual/cultural resources available to the participants. The participants believed it was these resilience-enabling resources which accounted for “being OK when times are tough.”

In the following chapter, I will further consider how my research findings may have contributed to understandings of adolescent resilience in the context of exposure to the PI and township life. In so doing, I will discuss which aspects of SERT are reflected in my study's findings.

5 CHAPTER FIVE: CONCLUSIONS AND RECOMMENDATIONS

5.1 INTRODUCTION

In this chapter the primary research question and supporting sub-questions are revisited. The findings of the study are discussed as they relate to SERT (Ungar, 2011). The limitations identified during the study are discussed and contributions made to knowledge are explained. Possible directions for future research relating to the limitations are recommended in the final section.

5.2 RESEARCH QUESTIONS REVISITED: CONCLUSIONS ABOUT ACCOUNTING FOR RESILIENCE IN PETROCHEMICAL AFFECTED TOWNSHIPS

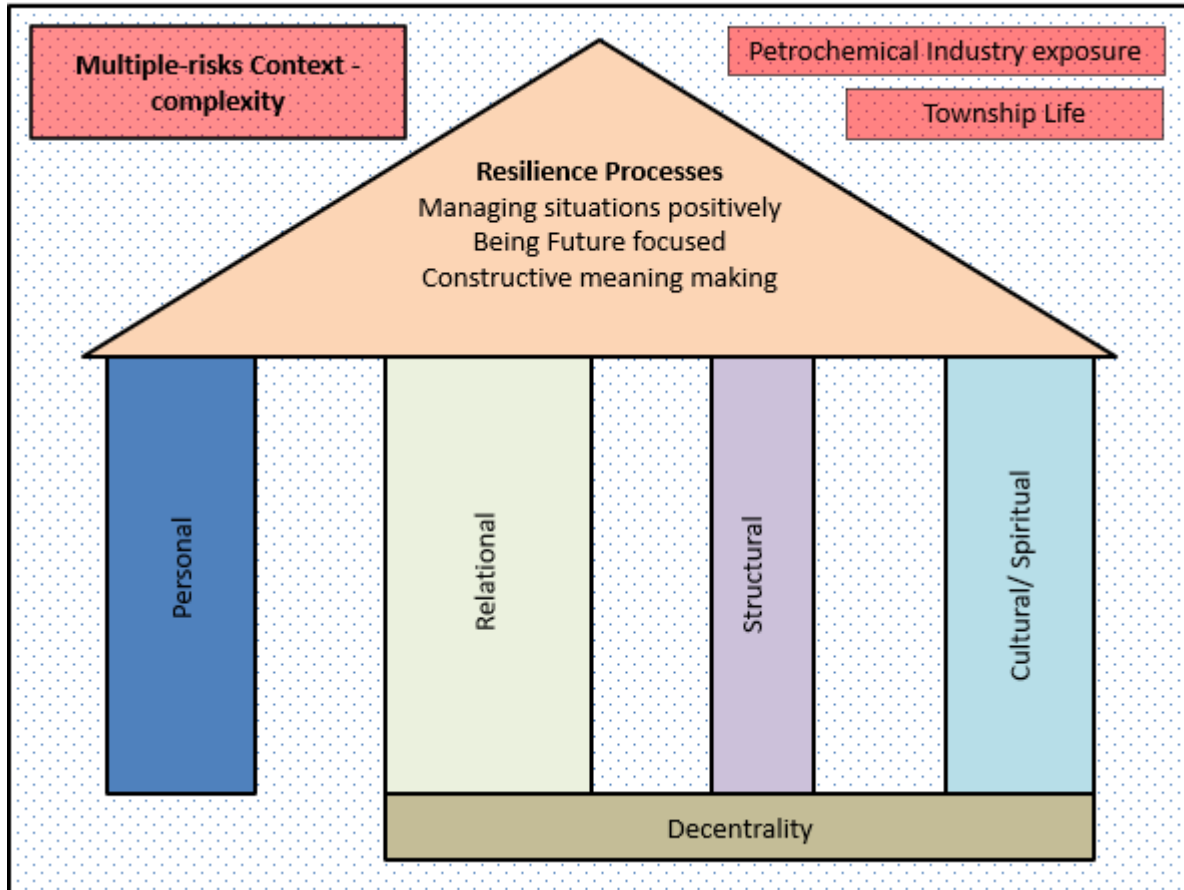
The primary research question that directed my study of limited scope was: ‘How do adolescents from a resource-poor community in South Africa that is exposed to a PI (i.e., eMbalenhle) account for resilience?’. It links to the following sub-questions:

- What personal assets, if any, do adolescents refer to when accounting for resilience?
- What socio-ecological resources, if any, do adolescents refer to when accounting for resilience?

In Figure 5.1, I provide an illustrated summary of the findings of this study and how they relate to SERT.

Figure 5.1

Summary of Findings That Answer the Research Sub-Questions in the Light of the Theoretical Framework



Inspired by <https://thewellbeingproject.co.uk/5-pillars-of-resilience/5-resilience-pillars22/>

Figure 5.1 highlights that the adolescents in my study account for resilience in terms of processes that draw on both personal and socio-ecological resources. I use the shaded background to indicate that the resilience processes occur in the context of the multiple risks of exposure to the PI and township life. These multiple risks fit with current understandings of the challenges of both the PI and township life, viz. physical health, economic and psychosocial and mental health risks. Particular risks of PI exposure include respiratory difficulties, job instability due to oil price fluctuations and increased levels of aggression due to lead exposure (e.g., Mentz et al., 2018; Nkomo et al., 2017; Weber et al., 2014; Zhang et al., 2017), amongst others as detailed in

Chapter Two, Section 2.2. Some of the risks inherent in township life are indoor pollution, exposure to crime and violence, and poor service delivery (e.g., Buthelezi et al., 2019; Mathebula, 2018a; 2018b; 2019); these are also identified in Chapter Two, Section 2.2. While the whole figure points to the complexity principle of SERT (explained in 5.2.1), decentrality (an additional principle of SERT) is included as a plinth beneath the socio-ecological resource “pillars” to emphasise that the principle was evident in the participants’ accounts. I explain more about this in 5.2.1.

It can be seen from Figure 5.1 that the sub-question on personal assets was answered by the participants. They reported that all three themes (i.e., Managing situations positively, Being future-focused, Constructive meaning making) draw on the personal resources of perseverance, self-distraction, regulation of mood, meaning making, having a future focus and goal orientation. These personal resources have been recognised in many previous studies (e.g., Masten, 2014; Naidoo et al., 2019; Phillips et al., 2019; Van Breda & Theron, 2018; Wills & Hofmeyr, 2019). Further, the participants accounted for resilience in terms of many varied relational resources, including support from parents and other family members, peers, role models and community members. In Figure 5.1, the relational “pillar” is wider than other socio-ecological pillars, as all participants referred to at least one relational resource as supporting resilience processes. A few structural supports, such as the provision of sport facilities and electricity, were implicit in how participants accounted for resilience. However, as the narrower “pillar” suggests, structural resources were not explicitly identified by the participants and were not referenced by all participants. Finally, the inclusion of spiritual resources in all the participants’ accounts meant that all four domains of resilience (see Chapter Two, Section 2.4) were addressed. These socio-ecological resources have also been recognised in many previous studies, ranging from Wild et al. (2013); and Van Breda and Dickens (2017) to the more recent King (2020); Masten and Motti-Stefanidi (2020), and Naidoo et al. (2019). However, none of these pre-existing studies were specific to the context of PI exposure and township life as identified in this study. Given this, my study may make a small contribution to broadening the range of the risk contexts in which these personal and socio-ecological resources account for resilience.

5.2.1. Results viewed in context of SERT

The reference to typical resilience-enabling processes, such as self-distraction, perseverance and goal-setting, indicate that the adolescents' accounts in my study did not address the SERT principle of *Atypicality*. It is possible that the strength of relational and spiritual support evident in their accounts, encouraged pro-social choices by the adolescents, as found in other studies (e.g., Burt & Rosenberg, 2019, Ebersöhn et al., 2017). However, an alternative possibility is that, in the group context that supported my data generation, participants were reluctant to reveal any atypical choices they might make (Dennis, 2014). This was unlike the street children in the study by Hills et al. (2016), who reported their use of substances to support their resilience when faced with life on the streets – an atypical response in that it was not socially acceptable.

In Figure 5.1., *Complexity* (Ungar, 2011) is shown by a shaded background in order to acknowledge the specific context of the participants in which the identified resilience-enabling processes (i.e., the themes) operate. In the context of exposure to PI and township life, Managing situations positively, Being future-focused, and Constructive meaning making were identified as supporting “being OK when times are hard [when faced with multiple risks]”. The principle of *Complexity* was evident in the various ways the participants accounted for the resources associated with the themes. For instance, not all participants identified the same resources as supporting self-distraction. While some participants implied that one single structural resource, viz. electricity alone, assisted self-distraction, others relied on both access to soccer fields (structural) and peers (relational) in order to self-distract by playing soccer.

The principle of *Complexity* also relates to resilience processes being expressed across diverse contexts in context-specific ways and/or having less protective value in specific contexts. For instance, self-distraction supported resilience when university students were faced with academic stress in the United States (Steinhardt & Dolbier, 2008) and it also supported the resilience of my participants in the vastly different context of eMbalenhle and its compound stressors. By way of contrast, the same process of self-distraction, namely excessive use of smartphones, was found to be maladaptive amongst Chinese high school students (Wang et al., 2020), whereas self-distraction was described by the participants in my study in a way that indicated it was

adaptive. As indicated in Chapter Four, Sections 4.2.4, 4.3.3 and 4.4.3, all the identified processes, not only self-distraction, occur across multiple contexts (e.g., Hills et al., 2016; Naidoo et al., 2019; Van Breda & Dickens, 2017) supporting *Complexity* across the findings of this study.

All the participants accounted for resilience in terms of supportive relationships with family, peers and/or role models; spiritual resources; and, to a lesser extent, through structural resources. This reflected the SERT principle of *Decentrality*, as socio-ecological factors were included alongside their personal resources in their accounts of resources that were resilience-enabling, as identified by Ungar (2011). Hence, the inclusion of a *Decentrality* block beneath the three socio-ecological domains in Figure 5.1. This is also in line with three previous RYSE studies that used one data set (generated by 30 youth from eMbalenhle in 2017). From this one data set, it was possible to distil personal resources (Matlali, 2018); family supports (Van Aswegen, 2018) and community supports (Sithole, 2019). When considering that the same data underpinned these different studies, it is clear that resilience is partly individual and partly socio-ecological, as is similarly reflected in my subsequent study with a different group of eMbalenhle adolescents.

Even though resilience is part personal and part socio-ecological, the participants in my study were silent about a number of supports that are reported in the resilience literature. Aspects of the resilience literature which were notable for their absence in the participants' accounts, included elements of structural support by formal organisations such as schools or clinics, (e.g., Ebersöhn, 2017) and policies of the kind considered by George (2017) as being potentially supportive of resilience in adolescents. However, implicit in many of the participants' answers were the structural resources of sports fields, employment opportunities and electricity provision. These silences could perhaps relate to the age of the participants, as only two of them were still at school, and thus the school environment was not part of their current reality when identifying aspects of their life that support "doing OK when life is hard". However, as the study by Lavy and Ayuob (2019) indicated, it is possible for high school leavers to recognise the value of schools, and of teachers as a group, as resilience-enabling. The silence may therefore be due to the participants' teachers not connecting with the learners. The school-going participants' failure to account for

schools as structural resources may be attributed to the context of township life, as schools in this environment are often poorly resourced and some also have problems with high class numbers and poor levels of academic support by teachers (Herrero Romero et al., 2019).

Cultural relativity, the fourth principle of the SERT model, was evident in the manner in which spiritual resources were referenced by the participants. This was in line with other South African studies (e.g., Malindi & Cekiso, 2014; Van Rensburg et al., 2017) which showed that religious practices supported resilience. However, it should be noted that two previous RYSE studies (Malakou, 2019; Sithole, 2019) did not find religious practices to be resilience-enabling, despite the CAP (Sithole, 2019) indicating that many adolescents in eMbalenhle attend church. As such, the accounts by the participants in my study reflecting their religious beliefs, which reinforced the CAP's assertion in the Sithole (2019) study, supported the principle of *Cultural relativity*.

5.3 REFLEXIVITY

Reflexivity is defined as “the constant awareness, assessment, and reassessment by the researcher of the researcher's own contribution / influence / shaping of inter-subjective research and the consequent research findings” (Patnaik, 2013, p. 100). When I reflect on the findings of my study of limited scope, I acknowledge that my framing of the research question and the associated sub-questions were influenced by the research I was exposed to during my B.Ed. Honours (Hammond et al., 2017). I believed from the outset that resilience was a process which was dependent on both personal and socio-ecological resources. The existence of prior, albeit limited, knowledge or understanding of the phenomenon being explored, influences the direction in which the researcher will take the study. For myself, when reviewing the transcription, I noted that I had failed to explore further aspects of the participants' accounts which might have yielded additional information. For instance, when Bossman mentioned his mother as providing him with healthy food (see Chapter Four), I did not delve further to see in what other ways support like his mother's might assist people in “being OK when life is tough”. I also did not engage further with exactly how he felt having a healthy lifestyle accounted for resilience, although the literature (e.g., Collishaw et al., 2016; Hills et al., 2016) frequently refers to health as resilience-enabling. As Burck (2005) says, “An examination of the interactional processes in the

research interviews can help highlight researcher effects, themes neglected, and areas opened up and closed down” (p.256). This failure to delve deeper, may have been because I heard what I was expecting in terms of relational support, and only considered the various ways (instrumental, informational and emotional) in which relational support may manifest itself after compiling the literature review. Alternatively, it may have arisen due to my limited research experience.

I accepted that the RYSE CAP would select participants who would be able to provide answers to my research questions, as my previous research had also been facilitated by a CAP. I needed to check that the CAP did not select participants based solely on their having the same religious affiliation. I felt I needed to raise the question when I noted that the majority of participants reported having links to a church (faith-based organisation - FBO) and/or a belief in God. I also wanted to ensure that purposive sampling, as opposed to convenience sampling, had been used by the CAP member who selected my group. As I did not explore these links to spiritual resources and FBOs, I think I missed an opportunity to uncover additional information on ways in which FBOs, as structural resources, support adolescent resilience in eMbalenhle, such as opportunities to be of service (Perkins et al., 2018). My reluctance to explore this valuable source may have arisen out of my personal position that beliefs are personal and should not be questioned. During my study, however, I learned that the CAP could also be useful by providing a confirmatory lens on the data during member checking: this was in line with Morse (2015) as explained in Chapter Three, Section 3.6. Additionally, the CAP was able to add to my understanding of the context by making me aware, for instance, that negotiating access to the opportunities identified by the participants in my study was not easy.

Whilst the adolescents acknowledged the personal resources that informed the resilience-enabling processes they discussed; their accounts revealed that socio-ecological resources supported these processes too. However, I experienced some difficulty presenting an integrated view of the personal and socio-ecological resources in the initial stages of writing up my findings in Chapter Four. I believe that this was due to the effects of the limited approach adopted during my Honours group research (Hammond et al., 2017). That research separated personal from socio-ecological resources in a way that recognised SERT, but did not apply it (Ungar, 2011). I

managed this in the current study by revisiting the quotations attached to the themes and considering which people or what resources the participants referenced as supportive of each resilience-enabling process. I was struck by the importance of the different ways the adolescents in this study had of managing situations positively, including using self-distraction, compared to the limited view in the Honours group research (Hammond et al., 2017). I reflected that the additional findings identified processes which were particularly relevant to the participants, as older adolescents, in dealing with the difficult economic climate and potential joblessness as reported by Stats SA (2019a) that they may face in the multi-risk context in which they live.

Finally, in the context of a community in which violence often explodes in response to poor service delivery (Mathebula, 2017a; Mathebula, 2018b; Misselhorn & Mathebula, 2019), the participants' views on "being calm" were unexpected; this was because some previous studies into the impact of violence on adolescents, for example Scorgie et al. (2017), did not specifically identify the process of managing mood as resilience-enabling, rather identifying only relational and structural resources. However, as Ungar and Theron (2019) indicate, individual psychological processes are insufficient resilience enablers without socio-ecological support and the participants in this study did refer to both relational and structural resources as supportive of "being calm".

Another difficulty I experienced was differentiating between my roles as a researcher and as a future educational psychologist, when one of the participants indicated that he was struggling at school. While I abided by the requirement of my role as a researcher that I remain a research instrument (Marshall & Rossman, 2016), and not overstep the research boundaries by engaging with him as an educational psychologist in training, I still felt concerned that I was unable to do more to assist him with his struggles, in the face of his opening up about them. It should be noted that, as mentioned in Chapter Three, there was an educational psychologist available to support him if he had become distressed, although I did not draw on this support at the time. On the other hand, this interaction, despite the interviews occurring in a group setting, appeared to indicate that the participant felt sufficient trust to share his experience with me and the group.

Finally, I cannot ignore the role that my own inexperience with Thematic Analysis may have contributed to the blurred lines between themes, as Javadi and Zarea (2016) indicated. I found that Thematic Analysis created “artificial boundaries”, in cases where a particular statement could be linked to only one theme, even when the content indicated applicability in more than one theme. Rather than being seen as a limitation of Thematic Analysis, I viewed this as an indication that the resilience-enabling processes the participants described were intertwined and could not easily be separated. For instance, in Ntsamaeng’s account of how hobbies supported both self-distraction and managing mood, I chose to link the account to self-distraction due to the context in which she made the statement. However, I did reflect that perhaps self-distraction might be considered a supportive process for managing mood, as indicated in the study by Phillips et al. (2019), who found that individual self-reliant activity served to calm some participants.

5.4 LIMITATIONS OF THIS STUDY

Reflecting on my study helped me to identify specific limitations. Some limitations were personal and others related to the fact that my study fell within the larger RYSE Project and I therefore had no control over the sampling processes and time constraints of the data-gathering session.

A personal limitation was my lack of knowledge of the home language of the participants. When combined with the difficulty some of the participants may have had in communicating as second language English speakers, important information may have been missed. Although there was a translator available for two of the groups which were data gathering in the same hall, I felt this was a limitation in that, on a couple of occasions, participants resorted to their home language and the translator was busy with another group and was thus unable to assist my group of participants. The fact that the third group did not require a translator, owing to its facilitator being proficient in the home language of his participants, further supports the assertion that this limitation may have affected the completeness of the record of the participants’ accounts in my study. My limitation in this regard became obvious, despite the requirement for participants to be proficient in English as part of the inclusion criteria for purposive sampling (see Chapter Three), when a participant appeared to feel that English did not have the words to represent what he needed to express. For instance,

Zeynmusa indicated in minute 42 of the recording, ‘Especially gospel. They say in Zulu ...’, which he was unable to translate.

Having three groups operating in the same hall in relatively close proximity added to the privacy risks inherent in group work, as people from other groups may have overheard the accounts of the participants. This gave rise to two concerns. The first concern related to the ethics of other people being privy to information that the group had agreed to keep “in-house”. The second concern was the noise factor, as one of the groups, which was larger, seemed to be particularly loud and this sometimes “intruded” on the focus of my group.

Time constraints did not permit in-depth exploration of the contextual (risk) issues that made the participants select those particular resilience enablers. Although earlier RYSE studies (Matlali, 2018; Sithole, 2019; Van Aswegen, 2019) did explore the risks, I felt that additional time would have enriched my understanding of how the risks of PI exposure and township life were linked to the resilience processes described.

5.5 RECOMMENDATIONS

In my group, I only had one female “voice”, so there was no opportunity to explore gender differences, if any, in the experience of resilience-enabling processes such as those explored by Van Breda and Hlungwani (2018). In Van Breda (2015), young men’s resilience-enabling processes were examined and then in Van Breda and Hlungwani (2018) those of young women were studied, enabling a comparison of which processes were common and which were specific to each gender.

5.5.1 Recommendations Relating to Future Research

An ongoing challenge in research in South Africa remains the researcher’s frequent lack of proficiency in the home language of the subject(s). It might be useful to repeat the study with a researcher who is able to conduct the interviews in the participants’ home language to see if this enables them to account for resilience more fully. As Van Nes et al. (2010) explain so clearly, idioms and meaning can be lost, when participants’ views are translated from the original in qualitative research. The alternative of using a translator, which I did have available but used only once, requires that specific methodological concerns should be considered in the research design (Squires,

2009). The recommendation is that a translator be dedicated to each group in situations where multiple groups are being interviewed in a single venue, to ensure that information is not lost, and that the correct words are used in clarifying what was said in the participant's home language. However, use of translators would require consideration of both their credentials and their interaction effect (Mohamad Nasri et al., 2020; Pelzang & Hutchinson, 2018; Theron, 2016), particularly if an ability to speak English had not been a criterion of the purposive sampling used.

Where possible, different groups should have their discussions in separate venues or in a venue that facilitates greater separation between groups. This may serve the dual purpose of protecting the privacy of participants and minimising the distraction effect of noise from other groups.

The next recommendation is related to overcoming the time constraint of having only one morning to discuss the meaning in the visual items created by the participants and develop the researcher-participant relationship. Thus, further research should also factor in additional time to facilitate this. Future research could use the additional time for individual interviews to allow for deeper understanding of the value each participant gave to the resilience processes each identified during the group session. However, there is recognition that the more time required for research, the greater the possibility of participant dropout, which may negatively impact the results, resulting in attrition bias (Marcellus, 2004; Miller & Hollist, 2007).

Thirdly, for future research, the CAP could perhaps attempt to balance the gender ratio in the selected group of participants. The aim would be greater understanding of what the commonalities and differences in accounts of resilience, if any, are between the genders in the context of PI exposure and township life. However, I acknowledge that a future CAP may find it difficult to recruit young women who are available to participate due to possible domestic duties, as noted by Malakou (2019).

5.5.2 Recommendations for Educational Psychologists

Educational Psychologists are required by the relevant Health Professions Council of South Africa guidelines (2017) to undertake evidence-based interventions that promote resilience. As these findings were produced within the specific context of PI

exposure and township life, Educational Psychologists working in dissimilar contexts should apply these findings with caution. However, the findings might be useful in that they provide a voice, albeit limited, for the adolescents in that context. Theron (2020) indicated that recognising the adolescent voice may result in more appropriate interventions than would occur if only adult considerations were included in the design. Additionally, Theron (2019) indicated that recognition of specific resilience enablers in a particular context, if “cautiously applied” (Theron, 2019; p 329), may support the development of ideal interventions in that context.

The importance of the relational socio-ecological resources - parents, extended kin, role models and the peer group - in supporting the resilience of adolescents facing the risks of PI exposure and township life, was borne out in my study. Similarly, Toland and Carrigan (2011) as well as the numerous South African studies identified in the review by Van Breda and Theron (2018), identified the value of relational socio-ecological resources; therefore, any Educational Psychologist should endeavour to include relevant relational resources in planning any resilience-fostering intervention.

Studies, such as Jefferis and Theron (2017), Smit et al. (2015) and Van Breda & Dickens (2017) amongst others, identify educators as resource-enabling. Despite educators not being identified as such by the participants in this study, an Educational Psychologist would need to include educators as a vital resource in planning any intervention with school-aged learners (Theron, 2019). As Weist et al., (2017) show, a collaborative approach to mental health between the relational socio-ecological resources noted above and mental health professionals has a positive impact on learner outcomes.

The pervasive accounts by participants of spiritual resources as resilience-enabling, often explicitly linked to FBO's, may indicate a further resource for Educational Psychologists to support when planning interventions in communities that also indicate the value of spiritual resources. It is possible that working with the FBO's to support the development of programmes such as those mentioned by Flanagan (2004) which foster the growth of altruism, may further enable resilience amongst adolescents in those communities. The identification and support of potential mentors in the FBO's by Educational Psychologists, where such mentors are not currently in place, might

also be useful; Hamilton and Hamilton (2004) indicated that mentorship by older members of FBO's was resilience-enabling.

Educational Psychologists should continue to research the resilience-enabling resources most useful to adolescents, so as to ensure that multiple views are considered. This is necessary as the minimal voice of one woman cannot be considered sufficient for an understanding of what women in eMbalenhle consider as resilience-enabling. Additionally, continued research with adolescents might provide information about further personal and socio-ecological resources that could be used to support resilience-enabling processes. I would recommend that the use of the PEI (Photo Elicitation Interview) be continued in research, as cell phone and social media use is widespread, even in disadvantaged communities like eMbalenhle, and as such is particularly relevant to adolescents. Furthermore, the provision of photographs taken or selected by participants goes some way to reducing the "power differential" between researcher and participants (Clark-Ibanez, 2004; Rice et al. 2013; Torre & Murphy, 2015).

As the participants' hopes and goals for the future are evident in their photo-elicited accounts in this study, and Rice et al. (2013) make similar findings, it appears that PEI could be a useful tool for Educational Psychologists engaged in therapy. Content revealed by discussion of the images might support Educational Psychologists in designing personalised interventions with their clients. Finally, as in research, the use of PEI may ease the initiation of dialogue in therapy, as the client explains the context and relevance of the image, particularly with adolescents.

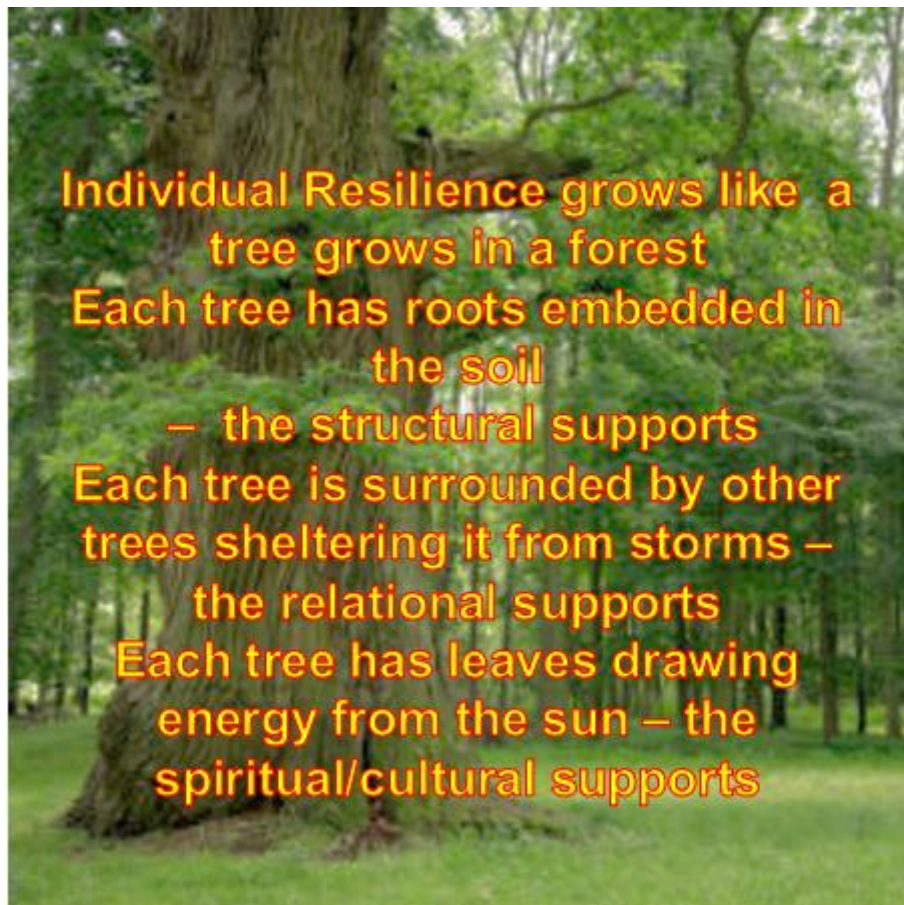
5.6 CONCLUSION

This study achieved its purpose of describing the way adolescents account for resilience using PEI. The key insight noted during this study was that when adolescents talked about resilience-enabling processes, they included both personal and socio-ecological resources in each process description. This highlighted the applicability of Ungar's SERT (2011) to understanding the participants' accounts of what supports "being OK when times are hard" in the multiple risk context of petrochemical industry exposure and township life. Thus, as implied in Figure 5.2,

when championing adolescent resilience, it is important to leverage both these personal and socio-ecological resources, to maximise the chances of success.

Figure 5.2

Resilience - a Tree in a Forest



(background photo from istockphoto.com)

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Health Behavior and Health Education | Part Three, Chapter Nine: Key Constructs

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7 APPENDICES

7.1 APPENDIX A – MY REFLECTIONS ON CAP RESPONSES TO CANDIDATE THEMES AND SUB-THEMES

Extracts from member checking with CAP

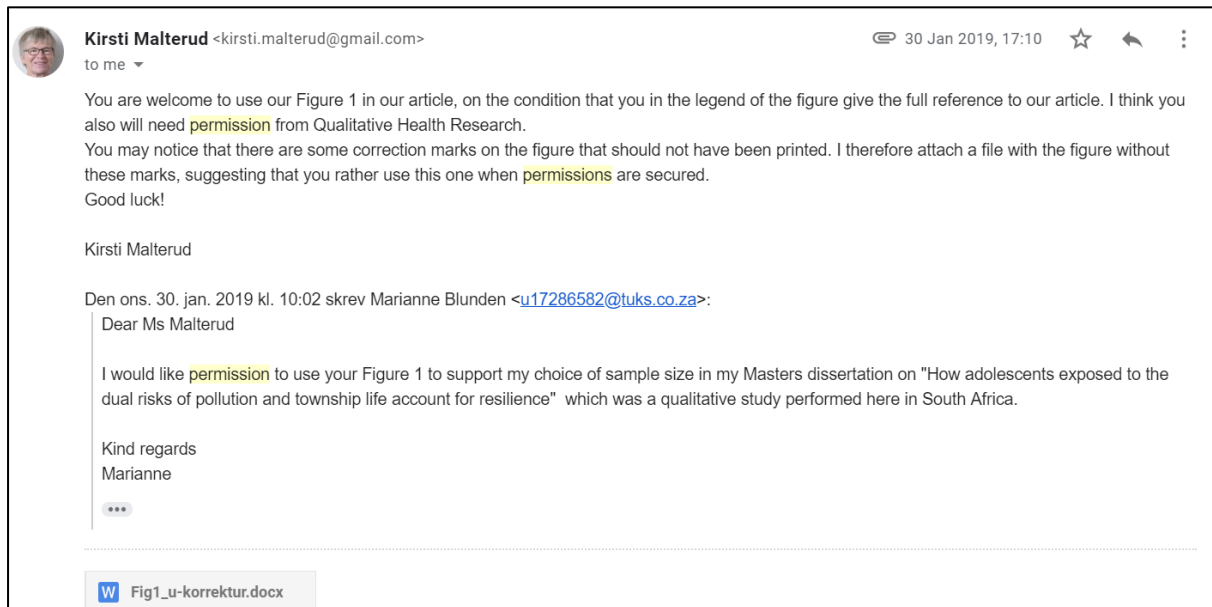
In response to the discussion about “Having Supportive Relationships” Mtho – said, “family will tell you, you have to be strong, that’s how it is; so most of the time it’s friends because friends have experienced what you experience so they share your pain” [give emotional support], which I understood to mean that for Mtho the peer group was a stronger source of emotional support than family.

The comment from Thulane: “Sasol is closer to us than any other company so we see people there who have been successful and have escaped this hard life” was in response to the presence of role models, and I felt that this indicated that the role models were not always closely connected to the adolescents, but were role models by virtue of their visibility within the community. This extended my understanding of role models beyond that of someone having direct contact with adolescents.

The theme of constructive meaning making gave rise to varied responses from the CAP members. Thandiwe did not agree that constructive meaning making is about accepting eMbalenhle is where you are – accept it; Mtho agreed with me that eMbalenhle is a place of opportunity – it’s what you make it. He said, “Life doesn’t have a remote, you must get up and change it yourself”. Thandiwe commented “There are opportunities but they don’t easily come your way”, which indicated to me that access to opportunities is not easy, and as such opportunities are mixed. It also highlighted for me that having the ability to navigate access to those opportunities is very important for resilience in eMbalenhle.

7.2 APPENDIX B – REQUEST FOR PERMISSION

Request 1.



Kirsti Malterud <kirsti.malterud@gmail.com>
to me ▾

30 Jan 2019, 17:10 ☆ ↶ ⋮

You are welcome to use our Figure 1 in our article, on the condition that you in the legend of the figure give the full reference to our article. I think you also will need **permission** from Qualitative Health Research.

You may notice that there are some correction marks on the figure that should not have been printed. I therefore attach a file with the figure without these marks, suggesting that you rather use this one when **permissions** are secured.

Good luck!

Kirsti Malterud

Den ons. 30. jan. 2019 kl. 10:02 skrev Marianne Blunden <u17286582@tuks.co.za>:
Dear Ms Malterud

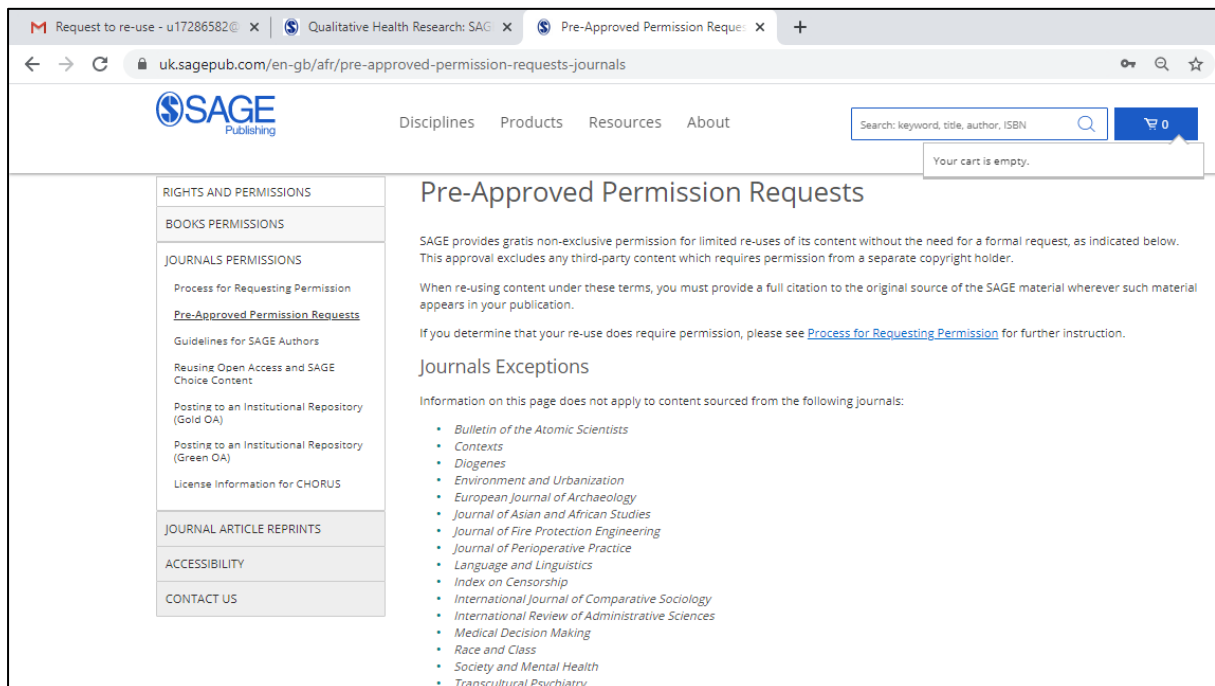
I would like **permission** to use your Figure 1 to support my choice of sample size in my Masters dissertation on "How adolescents exposed to the dual risks of pollution and township life account for resilience" which was a qualitative study performed here in South Africa.

Kind regards
Marianne

⋮

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However, as per the below, I did not need to request additional permission from SAGE – the publishers of *Qualitative Health Research*, as my use is covered by the pre-approved permission requests on the SAGE website. Further, the journal is not listed as an exception.



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- *Language and Linguistics*
- *Index on Censorship*
- *International Journal of Comparative Sociology*
- *International Review of Administrative Sciences*
- *Medical Decision Making*
- *Race and Class*
- *Society and Mental Health*
- *Transcultural Psychiatry*

Request 2.

Marianne Blunden <u17286582@tuks.co.za> Sat, 18 May 2019, 17:02 ☆ ↶ ⋮
to info, Linda ▾

Date: 18 May 2019
Re: Permission to Use Copyrighted Material in a Master's Thesis

Dear Bleacher Report

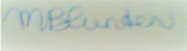
I am a University of Pretoria, South Africa, graduate student completing my Master's thesis entitled "How adolescents exposed to the dual risks of pollution and township life account for resilience". My thesis will be available in hard copy in the library of the Education campus for reference, study and / or copy. Except in situations where a thesis is under embargo or restriction, the electronic version will be accessible through the University of Pretoria Library's web catalogue, and also through web search engines. These rights will in no way restrict republication of the material in any other form by you or by others authorized by you.

I would like permission to allow inclusion of the following material in my thesis: photograph used by one of my participants during a photo elicitation interview which showed a collage of a goal keeper in light green kit making various saves. I was unable to identify the exact picture when searching using Google image match software, so am unable to advise you of the particular article the image came from, but the mark B-R in the bottom right side indicated that it came from one of your reports. I believe that its use falls within the "Fair Use" provision for educational non-profit re-use ("<https://www.copyright.gov/fair-use/more-info.html>", 2019) as your site operates under New York law.

The material will be attributed through a citation.

Please confirm in writing or by email that these arrangements meet with your approval.

Sincerely



Marianne Blunden (Student No. 17286582)

I received the following response:

18 May 2019,
17:02

Support community@bleacherreport.com via zendesk.com

to me


##- Please type your reply above this line -##

Your request (88223) has been received and is being reviewed by our support staff. While we review requests regularly, we may not respond to every request.

In the meantime, please browse below for answers to common questions.

To add additional comments, reply to this email.

7.3 APPENDIX C – PARTICIPANT BLANK CONSENT FORM



UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

Faculty of Education

**PARTICIPANT INVITATION AND CONSENT FORM – Activity 2
(Young Adults)**

We invite you to participate in a project called: *Patterns of Resilience among Youth in Communities that Depend on Oil and Gas Production and Those Coping with Climate Change.*

Who are we?
We are researchers from the University of Pretoria (South Africa), Dalhousie University (Canada), Royal Roads University (Canada) and Khulisa Social Solutions (South Africa). Our contact details are at the end of this letter if you need them.

What are we doing in this project?
Broadly, we want to learn from you (and other people from the Secunda area) what makes it possible for people to be OK in life when they live in communities which are involved in the oil and gas (petrochemical) industry. We will do the same with people living in North American communities which are involved in and challenged by the petrochemical industry. We will use this information to better understand what makes it possible for people to be healthy and to feel good. We want to use this understanding to make it possible for more people who live in communities involved in the petrochemical industry to be healthy and feel good.

The Research Ethics Committee of the Faculty of Education, University of Pretoria has said it is OK for us to do this study (UP 17/05/01). They know we will work carefully using South Africa's and international ethical rules (this is actually called the guidelines and principles of the international Declaration of Helsinki and the ethical guidelines of the National Health Research Ethics Council). The committee will maybe want to look at the forms you sign (if you say yes to being in this study) to check that we did everything in the right way.

Why are we asking you to be part of this project?
Because you

1. Are 18-24 years old, and
2. Are OK speaking English and can read and write in English, and
3. Live in the Secunda area, Mpumalanga, and
4. Have been affected (negatively or positively) by the petrochemical industry,
5. Were recommended as a participant for this project by someone working at Khulisa or by a member of the project's Community Advisory Panel.

What do you need to know?

Room 4-1.7, Level 4, Building
University of Pretoria, Private Bag X20
Hatfield 0028, South Africa
Tel +27 (0)12 420 1234
Fax +27 (0)12 420 5678
Email name.surname@up.ac.za
www.up.ac.za

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Lefapha la Thuto

- You can say no. If you say no, there will be no problem, you don't need to give a reason. Even if you say yes now, it is OK for you to change your mind later and stop taking part.
- If something (like drug use) makes it hard for you to understand clearly what this project is about, we will not be able to let you take part.

If you say yes, what will you be asked to do?

You will be asked to participate in a research activity

Date and time	Place	Description
Date: <hr/>	Embalenhle Sasol Club	<p>We will ask you (and the other young people in your group) to use an artistic activity (we will give you everything you need to do this) that will help answer the following questions:</p> <ul style="list-style-type: none"> - How does the petrochemical industry affect your life? - Are young men and women affected differently and if so how? - What does it mean for a young person to be OK when the petrochemical industry affects their life in a negative way? - What/who makes it possible for young people to be OK when the petrochemical industry affects their life in a negative way? - Are there differences in what/who makes it possible for young men and women to be OK when the petrochemical industry affects their life in a negative way, and if so how?
Time: <hr/>		

We will ask your permission to audio record the above so that we can write down what you say. We will also use video cameras to record what you are saying and doing during the research. We will also take photos of you during the research; we will ask your permission to use your pictures in on social media and on our websites.

What do you get out of this?

We would like to offer you R100 as a token of our appreciation. At the end of this study, a copy of the findings will be made available to you if you would like to have them.

Can you get hurt by taking part?

We don't think that you can get hurt physically, but there are some other risks. We explain them below and what we will do to manage them.

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Possible / Probable risks/discomforts	Strategies to minimise risk/discomfort
Speaking English could be tiring or difficult.	If you prefer, you can speak in your home language. We will ask members of the research team or others in your group to translate into English so that the researchers who speak English can also understand.
You will complete the activities on [date] in a group.	Because you will be part of a group, other people will know that you participated and what you said. To try and minimize outsiders knowing what you said, we will agree on group rules (e.g., treating one another respectfully; not talking to others about what specific participants said/did).
If your group chooses to use a video-activity and this video is made public, your community and many other people will know that you participated in the study.	You do not have to take part in the video. Alternatively, if you do want to take part but you don't want other people to identify you, then we can find ways of hiding your face (e.g., by wearing a mask). You can also choose whether your name is added to the credits or list of people who are in the video.

What will happen to what you write or draw or make or say during the study?

We will ask a person/people to listen to the audio-recordings of the activity that you did and type what you and the other participants have said. This person/these people will sign a form in which they promise to keep the recording private (meaning they can't tell anyone anything about what they listen to and type up). Once everything is typed up, the researchers from the University of Pretoria will delete (erase/wipe out) what was recorded.

We (the South African and Canadian researchers working in the project) will study the typed-up version of what you and others said. We will use the information you gave us to finalize a questionnaire that we will ask about 300 young people from the Secunda area to complete. We will also use it to write about what makes it harder and easier for young people to do well in life. We will probably quote what you said/wrote or show the drawings you made when we write about what we learnt from you or when we tell others about what we learnt from you (e.g., at a conference or when we teach students). We will also compare what you tell us with what we have learnt from young people living in Canadian communities which are involved in the petrochemical industry and use this comparison to better understand how young people think about health and about feeling good.

We will keep a copy of what you said in a safe place at the University of Pretoria. We will keep the copies for 10 years. Your name will not be on any of these copies. We will allow university students who have to complete research projects about resilience, adolescents, climate change or communities dependent on petrochemical producing companies to use these copies for their research projects.

Who will see the forms you sign and what happens to them?

Only the researchers from the University of Pretoria will have access to the forms that you sign. They will store these forms for 10 years.

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Will it cost you anything to take part in this study?

No, it will not cost you anything. We will pay the cost of the local bus/local taxi that you use to participate in the research activities on _____

Do you have questions to ask?

- If you have questions you can email Linda Theron at Linda.theron@up.ac.za or phone her at 012 420 6211. You can also contact Mosna Khaile at 0767756180 or email her at Khaile.mosna@up.ac.za
- You can contact the chair of the Research Ethics Committee, Prof Liesel Ebersohn on (012 422 2337) if you have any concerns or complaints that have not been adequately addressed by the researcher.
- You will receive a copy of this information and consent form for your own records.

Thank you very much for considering our invitation!

Linda and Mosna

Declaration by participant

By signing below, I [full name] agree to take part in a research study named: *Patterns of Resilience Among Youth in Communities that Depend on Oil and Gas Production and Those Coping with Climate Change*.

I say that:

- I have read and understood this information and consent form and it is written in a language with which I am fluent enough and comfortable.
- I have had a chance to ask questions to both the person obtaining consent, as well as the researcher (if this is a different person), and all my questions have been adequately answered.
- I understand that taking part in this study is **voluntary** (I can say no) and I have not been pressurised to take part.
- I understand that what I contribute (what I say/write/draw) could be reproduced publicly and/or quoted.
- I reserve the right to decide whether or not my actual name or a made-up one will be used in the research. I will decide this at the end of my participation once I have a better understanding of what is involved, and once I have talked through what that would mean with the university researchers.
- I understand that I may choose to leave the study at any time and that will not be a problem. I also understand that once the findings of the study are in the process of publication I cannot withdraw what I contributed to the study.
- I may be asked to leave the study before it has finished, if the researcher feels it is in my best interests.
- I agree that photos/videos of me engaging in research activities can be put up on social media and on research websites and be used in research-related publications/conference papers.

Signed at (*place*) on (*date*) 2017

.....
Signature of participant

.....
Signature of witness

Faculty of Education
Fakulteit Opvoedkunde
Lefapha la Thuto

You may contact me again	Yes	No
I would like a summary of findings	Yes	No

My contact details are:

Name & Surname: _____

Age: _____

Male / Female: _____

Postal Address: _____

Email: _____

Phone Number: _____

Cell Phone Number: _____

In case the above details change, please contact the following person who knows me well and who does not live with me and who will help you to contact me:

Name & Surname: _____

Phone/ Cell Phone Number /Email: _____

Declaration by person obtaining consent

I (name) declare that:

- I explained the information in this document to
- I encouraged him/her to ask questions and took adequate time to answer them.
- I am satisfied that he/she adequately understands all aspects of the research, as discussed above.
- I did/did not use an interpreter.

Signed at (place) on (date) 2017

Faculty of Education
Fakulteit Opvoedkunde
Lefapha la Thuto

.....
Signature of person obtaining consent

.....
Signature of witness

Declaration by researcher

I (*name*) declare that:

- I explained the information in this document to
- I encouraged him/her to ask questions and took adequate time to answer them.
- I am satisfied that he/she adequately understands all aspects of the research, as discussed above
- I did/did not use an interpreter.

Signed at (*place*) on (*date*) 2017

.....
Signature of researcher

.....
Signature of witness

7.4 APPENDIX D – LITERATURE SUMMARY TABLES

Tables summarizing the risks that have been identified in either the petrochemical-affected or township contexts or both, and the resilience resources by domain identified in studies across multiple contexts.

Table D.1

More Detailed List of References for Physical Health Risks

Physical Health Risks	Reference Source
Asthma	Balmer (2017); Buthelezi et al. (2019); Laborde et al. (2015); Rovira et al. (2014)
Respiratory disorders	Balmer (2017); Buthelezi et al. (2019); Miller & Marty (2010); Rovira et al. (2014); Sears & Zierold (2015); Wernecke (2018)
Lung function growth in children – adverse long-term effects	Göttschi et al. (2008)
Genotoxic - gene altering and thus cancer risk – DNA repair capacity significantly lower	Kampeerawipakorn (2016); O'Rourke & Connolly (2003); Pelallo-Martinez et al. (2014)
Incremental cancer risk	Buthelezi et al. (2019); Panda & Shiva Nagendra (2018); Wernecke (2018)
Haemotoxicity – low levels of benzene + lead + high levels of PAH (Polycyclic Aromatic Hydrocarbons)	Pelallo-Martinez et al. (2014)
Noise pollution – mining activity; shebeens	Perry (2012); Petkova et al. (2009); Pretorius & Theron (2018)
Pregnancies – (teens affected by lead exposure – impact on cognition associated with increased risk-taking behaviours)	Reyes (2015)
Sexually transmitted diseases and pregnancies – increased during boom times; also a factor in structural disadvantage	Cameron et al. (2013); Goldenberg, et al. (2010); Makiwane et al. (2018); Shandro et al. (2011)
Cognitive performance – pollution damage	Grönqvist et al. (2014); Lavy et al. (2014)
Explosions – risk of fatality or injury	O'Rourke & Connolly (2003)

Shift work – injury and health risks due to sleep disturbances or fatigue Mazloumi et al. (2012); Petkova et al. (2009)

Table D.2
More Detailed List of References for Economic Risks

Economic Risks	Reference Source
Unquantified costs - of damage to environment, health and social costs of using gasoline (petrol) in US alone - \$231.7-\$942.9 billion per annum	O'Rourke & Connolly (2003)
Economic costs of chronic health issues	Laborde et al. (2015)
Destruction of livelihoods – ecological damage	Iwilade (2015); Perry (2012)
Boom-bust economy – risk of investing in infrastructure	Khumalo (2020); Weber et al. (2014)
Lower earnings – lead exposure	Nilsson (2009)
Higher living costs – including transport and electricity	Buthelezi et al. (2019); Gilmore et al.(2016); Pernegger & Godehart (2007)
After the boom – higher poverty	O'Leary and Boettner reported by Weber et al. (2014, p 62)
Housing shortage	Fernando & Cooley (2016); Petkova et al. (2009); Weber et al. (2014)
Power shortage (strain on infrastructure)	Goldenberg, et al. (2010); Petkova et al. (2009)
Pressure on state social services	Weber et al. (2014)
Short-term employment/mobile workforce	Goldenberg, et al. (2010); Schafft & Biddle (2015)
Less productive workforce	Lavy et al. (2014)

Table D.3
More Detailed List of References for Psychosocial and Mental Health Risks

Psychosocial Risks	Reference Source
Family stress	Gilmore et al. (2016); Shandro et al. (2011)
Violence; Higher assault rates	Choe et al. (2012); Christodoulou et al. (2019); Gilmore, et al. (2016); Luthra et al. (2007); Misselhorn & Mathebula (2019); Mosavel et al. (2015); Otwombe et al. (2015); Scorgie, et al. (2017); Shandro et al. (2011)
Behaviour problems – including antisocial and elevated risk-taking behaviours	Bosco et al.(2005); Grönqvist et al. (2014); Reyes (2015); Sears & Zierold (2015)
Criminal behaviour (including gang involvement)	Breen, et al. (2019); Christodoulou et al. (2019); Grönqvist, et al. (2014); Mosavel et al. (2015); Reyes (2015); Scorgie et al. (2017)
Addiction issues; alcohol; drugs	Breen, et al. (2019); Christodoulou et al. (2019); Gilmore et al.(2016); Forsyth et al. (2007); Goldenberg, et al. (2010); Mosavel, et al. (2015); Otwombe et al. (2015); Scorgie, et al. (2017); Shandro et al. (2011)
Artificial class of “have’s” and “have-not’s”	Banks (2009)
Social disintegration	Filer reported in Banks (2009)
Lack of community spirit	Petkova et al. (2009)
Social integration of economic migrants	Genareo & Filteau (2016); Petkova et al. (2009)
Sense of loss – damage to natural environment (peace and belonging)	Schafft & Biddle (2015); Perry (2012)
Conflict between mobility and durability	Gilmore et al.(2016); Schafft & Biddle (2015)
Local tensions; grievances, anger	Ikelegbe (2001); Iwilade (2015)
Collective Trauma	Perry (2012)
Dependency Culture – reliance on the company to provide social resources	Petrova & Marinova (2013)
Low education attainment	Goldenberg, et al. (2010)
Mental Health Risks	
Anxiety	Bazazan et al. (2019); Shandro et al. (2011); Schafft & Biddle (2015); Virtanen et al. (2016)
Depression	Bazazan et al. (2019); Scorgie et al. (2017); Shandro et al. (2011); Virtanen et al. (2016); Zhang et al. (2017)
Emotional problems	Sears & Zierold (2017)

Shift work/mobile lifestyle – lack of connection; feeling of isolation; social dysfunction	Bazazan et al. (2019); Petkova et al. (2009)
Stress	Perry (2012)
Violent behaviour	Nkomo et al. (2017)

Table D.4
More Detailed List of References for Resilience Enablers in the Personal Domain

Personal Resources	Reference Source
Sense of humour	Ruiz-Román et al.(2019); Zolkoski & Bullock (2012)
Sunny temperament, easy-going	Li et al. (2017); Zolkoski & Bullock (2012)
Positive self-concept; self-esteem	Bhana et al. (2016); Jalala et al. (2020); Ruiz-Román et al.(2019); Singh & Naicker (2019); Theron & Theron (2010); Ungar et al. (2019); Van Breda (2017); Woollett et al. (2016); Zolkoski & Bullock (2012)
Positive attitude/optimism	Fløttum et al.(2016); Masten & Motti-Stefanidi (2020); Theron & Theron (2008, p. 2); Zolkoski & Bullock (2012)
Drive, sense of purpose, perseverance	Li et al. (2017); Makoelle & Malindi (2015); Matlali (2018); Ruiz-Román et al.(2019); Singh & Naicker (2019); Skinner et al. (2020); Van Breda (2017); Wills & Hofmeyr (2019); Zolkoski & Bullock (2012)
Hopefulness; future orientation	Fløttum et al.(2016); Masten & Motti-Stefanidi (2020); Oshri et al. (2018); Theron & Theron (2008, p. 2); Theron (2017); Wortham (2014); Zolkoski & Bullock (2012)
Socially or system-appropriate behaviour	Theron & Theron (2010); Zolkoski & Bullock (2012) Li et al. (2017)
Agency	Berejena Mhongera & Lombard (2020); Jalala et al. (2020); Kumpfer (1999); Malindi & Cekiso (2014); Masten & Motti-Stefanidi (2020); Makoelle & Malindi (2015); Naidoo, et al. (2019); Ruiz-Román et al.(2019); Singh & Naicker (2019); Theron & Theron (2010); Theron et al.(2013); Zolkoski & Bullock (2012)
Assertiveness	Masten (2014); Malindi & Cekiso (2014); Theron et al.(2013)
Autonomy; independence	Makoelle & Malindi (2015); Ruiz-Román et al.(2019); Zolkoski and Bullock (2012)
Good interpersonal skills	Oshri et al., 2017; Ruiz-Román et al.(2019); Zolkoski and Bullock (2012); Theron (2017)
Self-Regulation – avoidance of negative emotion / self-distraction	Dias & Cadime (2017); Li et al. (2017); Makoelle & Malindi (2015) Malindi (2014); Malindi & Cekiso

	(2014); Ogina (2012); Theron & Theron (2010); Wang et al. (2020); Zolkoski & Bullock (2012)
Planning skills/ goal-setting/coping skills	Botha & van den Berg (2016); Makoelle & Malindi (2015); Matlali (2018); Naidoo, et al. (2019); Ruiz-Román et al.(2019); Theron & Theron (2010); Van Breda (2017); Wills & Hofmeyr (2019); Zolkoski & Bullock (2012, p. 2296)
Street Smarts	Malindi & Cekiso (2014); Kumpfer (1999); Dias & Cadime (2017).
Good health ; physical ability	Zolkoski & Bullock (2012) Makoelle & Malindi (2015); Bachman DeSilva et al. (2012); Hills et al. (2016)
Intelligence	limura & Taku (2017); Ruiz-Román et al.(2019); Zolkoski & Bullock (2012)
Valorisation of education	Li et al. (2017); Fielding-Miller, Dunkle & Murdock (2015); Singh & Naicker (2019); Ungar et al. (2019) – school helps reach goals; Zulu & Munro (2017)

Table D.5
More Detailed List of References for Resilience Enablers in the Relational Domain

Relational Resources	Reference Source
Adult support – parents, caregivers	Aisenberg & Herrenkohl (2008); Berejena Mhongera & Lombard (2020); Choe et al.(2012); Makoelle & Malindi (2015); Naidoo, et al. (2019) – specifically mothers; Oshri et al. (2017); Singh & Naicker (2019) – specifically mothers; Theron (2016b); Theron & Theron (2010); Ungar et al. (2019)
Positive attachments (particularly to primary caregiver)	Makoelle & Malindi (2015); Oshri et al., 2017; Theron & Theron (2010); Theron (2016b); Van Breda (2017); Zolkoski & Bullock (2012)
Supportive grandparents	Hardaway et al. (2016); Li et al. (2017); Makoelle & Malindi (2015); Makoelle & Malindi (2015); Naidoo, et al. (2019) – specifically grandmothers; Theron & Theron (2010)
Supportive siblings	Makoelle & Malindi (2015); Sharer et al. (2016); Theron & Theron (2010)
Strong family dynamics	Ager (2013); Li et al. (2017); Makoelle & Malindi (2015); Masten & Motti-Stefanidi (2020); Theron & Theron (2010); Zolkoski & Bullock (2012)
Supportive home environment	Aisenberg & Herrenkohl (2008); Berejena Mhongera & Lombard (2020); Bhana et al. (2016); Dias & Cadime (2017); Li et al. (2017); Makoelle & Malindi (2015); Masten & Motti-Stefanidi (2020); Naidoo, et al. (2019); Van Harmelen et al. (2017) – short-term
Peer support	Aisenberg & Herrenkohl (2008); Berejena Mhongera & Lombard (2020); Bhana et al. (2016); Dias & Cadime (2017); Goliath & Pretorius (2016); Jalala et al. (2020); Li et al. (2017); Makoelle & Malindi (2015); Malindi & Cekiso (2014); Naidoo, et al. (2019); Oshri et al. (2017); Sanders et al. (2014); Theron (2016b, p. 648); Theron & Theron (2008, p. 4); Ungar et al. (2019); Van Harmelen et al. (2017)
Mentors (elders) and role models	Theron & Theron (2010); Theron (2016b); Van Breda (2017); Zolkoski & Bullock (2012)

Supportive adults – neighbours and teachers	Ager (2013); Berejena Mhongera & Lombard (2020); Freiberg (1993); Jalala et al. (2017); Li et al. (2017); Makoelle & Malindi (2015); Naidoo, et al. (2019); Ruiz- Román et al.(2019); Theron (2016); Theron & Theron (2010); Ungar et al. (2019); Zolkoski & Bullock (2012)
Community cohesion	Jalala et al. (2020)

Table D.6
More Detailed List of References for Resilience Enablers in the Structural Domain

Structural Resources	Reference Source
Opportunity available for Meaningful participation in social activities / tutoring	Li et al. (2017); Theron & Theron (2010); Van Breda (2017)
Effective social services; government	Ager (2013); Berejena Mhongera & Lombard (2020); Ellis & Abdi (2017); Jalala et al. (2020); Makoelle & Malindi (2015); Masten & Motti-Stefanidi (2020); Naidoo, et al. (2019); Oshri et al. (2017); Ruiz-Román, et al. (2019); Theron (2016b); Theron & Theron (2010); Van Breda (2017)
Effective public health services	Ager (2013); Hart et al. (2016);
Effective schools	not enough – Dias & Cadime (2017); Jalala et al. (2020); Li et al. (2017); Masten & Motti-Stefanidi (2020); Ruiz-Román et al.(2019); Skinner et al. (2019); Theron (2016b); Theron & Theron (2010); Ungar et al. (2019); Van Breda (2017); Wills & Hofmeyr (2019); Zolkoski & Bullock (2012)
Community programs	Ager (2013); Dias & Cadime (2017); Rosenbaum (2017); Theron (2016b); Zolkoski & Bullock (2012)
Green Spaces in Schools	Chawla et al.(2014)

Table D.7

More Detailed List of References for Resilience Enablers in the Cultural/Spiritual Domain

Cultural/Spiritual Resources	Reference Source
Community culture	Ruiz-Román et al.(2019)
Cultural belonging, ethnic identity	Ager (2013); Masten (2014); Theron & Theron (2010); Ungar et al. (2019)
Religious/spiritual practices	Brittian et al. (2013); King (2020); Masten (2014); Theron (2016b); Theron & Theron (2010); Zolkoski & Bullock (2012)
Positive values/belief systems – such as Ubuntu and “Botho”	Masten (2014) Munyaka & Motlhabi (2009) referred to by Rosenbaum (2017); Phasha (2010); Theron & Theron (2010)
Valorisation of education	Li et al. (2017); Theron (2016b); Ungar et al. (2019); Van Rensburg et al. (2018)