Factors contributing to the resilience of middle-adolescents in a South African township: Insights from a resilience questionnaire

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Factors that contribute to resilience are key to the positive development of youths, and knowledge of such factors is essential for promoting resilience in schools through both policy and practice. This study reports on the results of an item and factor analysis of the Resilience Questionnaire for Middle-adolescents in Township Schools (R-MATS) that was used to survey 291 Grade 9 middle-adolescent learners from two black-only township secondary schools. The majority of respondents indicated an overall sense of contending with various stressors, especially the exposure to violence, and academic challenges. Respondents attributed their buoyancy to individual and environmental factors, such as self-confidence, an internal locus of control, a tough personality, commitment, being achievement-oriented, as well as positive identification of and access to social support.

Keywords: middle-adolescence; resilience questionnaire; resilient; R-MATS; township school

Introduction

Broader research into resilience demonstrates that many youths overcome overwhelming risks in their environment and develop successfully into competent and resilient individuals (Fergus & Zimmerman, 2005; Masten, 2001; Ungar, 2008; Werner, 1993). This finding could be true of many youths from (previously disadvantaged black-only) township schools (Mampane, 2012). Adolescents living in adverse developmental conditions benefit from protection or support to overcome obstacles and adversities, and thereby enhance their own powers of resilience within their environment. The ability of teachers to identify, refer and support learners who experience risk, ought to be a priority in deprived township schools. Literature on resilience in schools confirms that schools play an important role in the development of the child, by providing opportunities for growth and development, and by serving as centres of care and support to all learners and communities (Ebersöhn & Ferreira, 2011; Esquivel, Doll & Oades-Sese, 2011; Knight, 2007). Osher, Kendziora, Spier and Garibaldi (2014:152) argue that, by providing protection to learners, the school creates "a safe harbor [sic], offering both challenge and a sense of mission, fostering positive relationships with adults and peers, developing competencies and a sense of efficacy, and providing students with access to social capital, mental health support, and leadership opportunities."

When schools fail in their role of providing opportunities for growth and development to their learners, they inadvertently contribute to the learners' adversities. Osher et al. (2014:152) contend that, when schools fail to serve as safe harbours, they expose learners to "physical and emotional violence, boredom, alienation, academic frustration, bullying, gangs, humiliation and failure, harsh punishment, and expulsion from the school community and resources."

Providing support, setting high expectations, and providing opportunities for participation all contribute to educational resilience and the establishment of an optimal learning environment in schools. These factors should therefore be prioritised in high-risk township schools (Henderson & Milstein, 2003; Mampane & Bouwer, 2011; Masten, Herbers, Cutuli & Lafavor, 2008).

Demographically, South African black townships and schools are racially segregated and densely populated, and the residents of these townships mostly have a low socioeconomic status (Msila, 2009; Ndimande, 2009). Adolescents in a township environment are exposed to many challenges emanating from existing social, political and economic adversities (Brook, Morojele, Zhang & Brook, 2006; Dass-Brailsford, 2005; Msila, 2009; Ndimande, 2009). Poverty and segregation, racial or otherwise, are risk factors that could have a negative impact on the development of any child or youth, and might predispose them to unhealthy development. Empirical research attributes the poor academic performance of previously disadvantaged schools (including township schools) to a lack of teaching and learning resources, a poor culture of teaching and learning, poor school management, and, most importantly, the lack of a supportive educational environment (Christie, Butler & Potterton, 2007; Crouch & Mabogoane, 2001; Kamper, 2008; Masitsa, 2005). The developmental environment, which includes the school, does not only have a significant influence on the development of children and youths, but also the potential to either increase the debilitating effects of risk, or to protect a child from such risks. Resilience research has consistently demonstrated that many youths are able to overcome the debilitating effects of risk in their environment and to develop into successful, competent and resilient individuals (Masten, 2001; Ungar, 2008; Werner & Smith, 1982). This could be equally true for township youths.

Thus, if one could identify and understand the resilience factors that influence the youths who demonstrate an ability to bounce back and rise above the daily stressors to which they are exposed, this would constitute a solid step towards devising effective preventative measures and intervention strategies for the optimal development of all youths growing up in townships. The current study aimed to identify and describe environmental and developmental factors that encourage and motivate resilient middle-adolescent learners in a township school to overcome and 'beat the odds', which are stacked highly against them. The study therefore analysed and discussed the possible contribution of protective factors to the resilience of township middle-adolescent learners, as suggested by the results of the R-MATS.

The article first considers the construct of resilience and resilience questionnaires, drawing attention to the contextual emphasis in the construction of the R-MATS. It then proceeds to report on the research design, sample and data collection, followed by the data analysis. It concludes with the results and findings that address the township as a context, as well as the factors that contribute to the resilience of the respondents.

The Construct of Resilience
Resilience and Development
Researchers who examine the concept of resilience concur that resilience is a process, rather than a static construct (Masten, 2001; Richardson, 2002). Resilience of youths and children is attributed to contextual and normative factors that promote healthy and positive development of the population group being studied (Masten & Obradović, 2006; Werner, 1995; Werner & Smith, 1982). Many adolescents living in adverse developmental conditions require protection and resilience to overcome obstacles and adversities, and to enhance their own powers of resilience within their environment (Haggerty, Sherrod, Garmezy & Rutter, 1996). Masten (2007), as well Masten and Obradović (2006), agree that resilience is inferred, deduced and interpreted from the behaviour of the individual in relation to the environmental circumstances to which he/she is exposed. Thus, resilience of individuals is based on understanding and knowledge of their development and their potential for positive adaptations (Masten & Obradović, 2006). One of Ungar's (2008:218) findings on his resilience research across cultures was that "aspects of resilience exert differing amounts of influence on the child's life depending on specific culture and context in which resilience is realised." A further critical review of resilience research in South Africa by Theron and Theron (2010) emphasises the significance of context – the authors suggest that resilience researchers ought to match the backgrounds of resilience to a specific context and culture.

Developmental context and culture of the individual cannot be ignored in resilience research. Fergus and Zimmerman (2005) argue that resilience is defined by context, and that resilience theory recognises the role of external context (and contextual factors) including social and environmental influence. The article in hand aims to report on specific resilience factors observed in black South African youths attending school in a township environment.

The Resilience Questionnaire for Middle-Adolescents in Township Schools (R-MATS)
Even though there are many ways to measure resilience in adolescents, none of these are widely used or preferred. Windle, Bennett and Noyes (2011) critically reviewed 15 resilience measures and generally found poor reporting of scale development and poor validation of information. Evaluating the psychometric properties and appropriateness of six resilience measures for adolescents, Ahern, Kiehl, Sole and Byers (2006) concluded that, on the grounds of its age-, context- and culture-specificity, the Adolescent Resilient Scale for Japanese Youths was the only valid measure for Japanese adolescents. Similarly, Mampane (2012) has concluded that the R-MATS is a valid measure for South African middle-adolescents in township schools. However, this clearly calls into question the application of these measures in another context, and further highlights the effect that norms and context have on the results of resilience research. The influence of context and culture remains a fundamental aspect of the measurement of resilience and, obviously, the contemplation of results.

To address the influence of factors specific to a particular culture and context when developing resilience measures, there is a move towards employing a mixed methods approach in the design (Gartland, Bond, Olsson, Buzwell & Sawyer, 2011; Ungar & Liebenberg, 2011). Fergus and Zimmerman (2005:405) strongly suggest that resilience is "content and context specific"; which means, research findings from one context and population may not apply to another context. Ungar and Liebenberg (2011) designed a resilience measure, the Child and Youth Resilience Measure (CYRM-28), which contains structured questions and open-ended questions, which was administered to youths in 11 countries (across context and culture). The authors argue that even though all questions were relevant to the participating subpopulation, "the varying factor structures observed in response patterns indicated heterogeneity in how resilience is understood and negotiated across culture and context" (Ungar & Liebenberg, 2011:141). These findings suggest that, the influence of culture and context cannot be ignored in resilience research.

Resilience is inferred from behaviour and everyday activities in which the individual participates as a way of responding to challenges and adverse circumstances. Masten and Powel (2003:4) argue that individuals "manifest resilience in their behaviour and life patterns". Hence, an understanding of middle-adolescents' resilience requires the knowledge of developmental outcomes as well as of the impending risk factors in a given environment.

The middle-adolescent sample for this study was identified according to the age norms policy as outlined in Notice 2433 of 1998 of the South African Schools Act (No.84 of 1996) (Department of Education, 1996), the middle-adolescent age group (14-16 years) is in Grade 8 to 10. This implies that a Grade 8 learner is expected to be 14 years old and a Grade 9 learner, 15 years old. For the purpose of this study, it was decided to restrict the investigation to learners in Grade 9, who meet the 14 to 16-year-old age requirement.

The R-MATS (Cronbach alpha 0.82, item-scale correlation ≥0.30 for all items) was developed as a four-point Likert-type scale with two sections, A and B. Section A deals with the background of respondents in 11 statements, detailing systemic and individual risk factors that are assumed to be relevant to township youths in the study. The respondents were required to indicate the presence or absence of risk in their environment with a "yes" or "no" answer. Section B contains 24 statements that reflect resilient behaviour as taken from the literature on resilience (Dishion & Connell, 2006; Luthar & Cicchetti, 2000; Mampane, 2012). The respondents were required to evaluate themselves in terms of each statement by using values of truth, namely: "true all the time", "true most of the time", "untrue most of the time" and "untrue all the time".

Method
Research Design
The research was conducted by means of a small-scale survey and adopted a postpositive design. Yu (2003, cited in Johnson & Onwuegbuzie, 2004:24) asserts that positivism has long been "replaced by new philosophies of science and cannot be labelled as quantitative research." Phillips and Burbules (2000, cited in Johnson & Onwuegbuzie, 2004:24) define postpositivism as a "term that better represents today's practicing quantitative researchers". According to Creswell (2003:7), postpositivists examine the causes of behaviour through "careful observation and measurement of the objective reality that exists 'out there' in the world". Postpositivists argue that it is actually not possible to be 'positive' about claims of knowledge in respect of the behaviour and actions of humans, in view of the cultural and contextual influences on behavioural outcomes (Creswell, 2003). In a different argument, Creswell (2011:275) declares that, "a

mixed methods study that begins with a quantitative survey phase reflects an initial postpositivist leaning, but, in the next qualitative phase of focus groups, the researcher shifts to a constructivist paradigm."

I thus concur with Denzin and Lincoln's (2008) argument that postpositivists rely on traditional evaluation procedures like internal and external validity (including structured qualitative methods) to capture as much of reality as possible. According to Rattray and Jones (2007:238), to determine construct validity of a new measure, the statistical technique of factor analysis can be used to "determine the constructs or domains within the developing measure." In this research, exploratory factor analysis of the R-MATS (behaviour-based questionnaire directed at a specific context) has identified factors that contributed to the resilience of township middle-adolescents.

Permission to conduct research in public schools was obtained from the Gauteng Department of Education; the Tshwane South District office, and from the University of Pretoria's Faculty of Education ethics committee. Written consent was obtained from the parents of all learners, and letters of assent were read and presented to respondents to read and sign before they participated in the study.

Sampling, Data Collection and Data Analysis
Purposive sampling was adopted as a data-gathering method, and two schools that accommodated learners from the formal and informal residential areas of the Mamelodi township were identified for participation in the research (all respondents were black). In both participating schools, the Life Orientation teachers were heads of department. The R-MATS was administered per class during school hours to a total of 291 learners in Grade 9 (185 males and 106 females of whom 51% lived in formal and 49% in informal housing structures). For administrative purposes, ten minutes before the Life Orientation learning period, the full 45 minutes of the Life Orientation period was required. An exploratory factor analysis was conducted on the 24 statements in Section B to identify their underlying structure and to define the meaning of the common factors that contribute to the resilience of these township learners.

Results and Findings
The Township as a Context containing both Risk and Protection
Section A of the R-MATS reveals respondents' perceptions of the challenging circumstances that they face. Table 1, which contains the risk factors (no responses) and related protective factors (yes responses), confirms that protective factors are represented by the absence of the particular risk factor.

Table 1 Risk factors and protective factors deduced from the R-MATS: Section A

	Protective and risk factors	Yes %	No %
1	At least one member of the household is employed	76	24
2	Formal housing, brick house	51	49
3	Both parents alive	86	14
4	Not involved in fights at school – good problem-solving skills	6	94
5	Sufficient food	77	23
6	Few stressors/problems	16	84
7	Feels protected – not abused	8	92
8	Lives with parents	78	22
9	Good treatment at home	15	85
10	Good life experiences	90	10
11	Adequate academic progress	23	77

(Mampane, 2012)

Noting those items in Table 1 that drew a large majority (>75%) "yes" or "no" responses, a picture emerged of circumstances as they were generally experienced in the township under study. Of the five risk factors indicated by >75% of the respondents, no fewer than three (4, 7 and 9) were related to experiences of violence, both at home and at school. During the course of their school careers, 77% of the learners repeated at least one grade. A vast majority (84%) expressed an overall sense of having to contend with various stressors. In contrast, the major protective factors indicated by >75% of the respondents related to healthy family circumstances (3 and 8), household security (1) and provisioning (5). Most respondents (90%) acknowledged having good life experiences.

A paired t-test (Pooled T) between the item means of Section A ("yes" and "no" responses) and the total scores of the items in Section B, was performed to determine which of the 11 Section A items had a significant negative effect on the resilience of the respondents. The results that were obtained are presented in Table 2.

Table 2 The effect of risk factors on the resilience of respondents

Factor number	Mean "Yes"	Mean "No"	Standard deviation		Number		P= Pooled t
			"Yes"	"No"	"Yes"	"No"	
1	1.4809	1.4990	0.3784	0.2975	160	50	0.7564
2	1.4743	1.5001	0.3377	0.3839	106	102	0.6080
3	1.4693	1.5754	0.3571	0.3739	180	30	0.1360
4	1.8727	1.4578	0.3727	0.3440	13	199	0.0000*
5	1.4576	1.5707	0.3539	0.3666	164	48	0.0548***
6	1.6162	1.4576	0.2906	0.3668	33	177	0.0198**
7	1.6083	1.4728	0.3293	0.3611	17	194	0.1370
8	1.4860	1.4768	0.3517	0.3899	164	47	0.8767
9	1.5841	1.4592	0.3135	0.3580	31	179	0.0694***
10	1.4695	1.5944	0.3609	0.3374	189	22	0.1236
11	1.5718	1.4573	0.3983	0.3437	48	164	0.0517***

*$\leq$1% level of significance; **$\leq$5% level of significance; ***$\leq$10% level of significance

According to Table 2, the negative effect of risk factor 4 (fights a lot at school) on resilience has the highest statistical significance (at the 1% level). This suggests a strong likelihood that fighting, experiencing violence and poor conflict resolution with peers at school could affect the resilience of middle-adolescents negatively. Risk factor 6 (has many problems) was significant at the 5% level, suggesting that a sense of being overwhelmed by multiple stressors, especially during the developmental phase of middle-adolescence, could have affected the participants' resilience negatively. The three risk factors (5, 9 and 11) found to be significant at the ten percent level might merit consideration. Factor 5 (insufficient food) and 9 (bad treatment at home) pertain to the home context, which seems to suggest some reliance on the family to fulfil the role of providing for basic developmental and survival needs. It appears that insufficient provisioning and lack of a secure, loving, caring and supportive home environment could have had a negative effect on the resilience of certain respondents. Based on Table 2, the risk factor 11 (having repeated a grade) raises the possibility that concerns over poor academic performance, with the implication of uncertain future goals, affected the resilience of some respondents negatively. Other studies report on various protective factors that are essential in the promotion of academic performances and resilience in learners. Skills like confidence, making connections, setting goals, managing stress, increasing wellbeing and

understanding motivation are linked to academic success (Hupfeld, 2010). Borman and Overman (2004) found that greater engagement in academic activities, internal locus of control, efficaciousness in maths, positive outlook towards school, and positive self-esteem, are shown to have promoted the resilience of mathematics students from low socio-economic background.

Table 2 suggests that both contextual (extrinsic) and personal (intrinsic) risk factors have a significant influence on the resilience of the respondents, and that the sense of losing control and footing possibly posed a threat to their resilience. It might follow that knowledge of these factors and an ability to mitigate them are essential for building resilience.

Risk-Mitigating and Resilience-Building Factors resulting from Factor Analysis

Responses to Section B of the R-MATS were generally high in the "true" category, suggesting that most learners regarded themselves as meeting the behavioural criteria of the items (Mampane, 2012).

Factor analysis is one of the statistical techniques used to measure construct validity (Rattray & Jones, 2007). An exploratory factor analysis (EFA) of Section B of the R-MATS was used to determine the underlying factors that could help explain the relationships between the variables. EFA involves estimating or extracting the factors, deciding on how many factors to retain, rotating factors to an interpretable orientation, and obtaining individual factor scores (Lorenzo-Seva & Ferrando, 2006).

The individual factor scores were subsequently grouped according to common characteristics, and the variance in the observed variables was explained (Pett, Lackey & Sullivan, 2003). The EFA further helped to group intercorrelated items together. This resulted in the identification of four factors (with a factor loading of ≥ 0.3) that contributed to the resilience of the respondents, as shown in Table 3. Ultimately, the EFA revealed the significant contribution of specific protective factors to the resilience of the respondents, thus enabling an understanding of how the respondents defined their resilience.

Table 3 Rotated factor loadings of R-MATS (Section B)

Item number	Factor 1	Factor 2	Factor 3	Factor 4
1	0.232	0.269	0.069	-0.002
2	0.141	0.063	0.152	0.395
3	0.094	0.223	0.236	-0.060
4	0.239	0.011	0.038	0.142
5	0.442	-0.056	0.224	-0.449
6	0.139	0.062	-0.022	0.453
7	0.184	-0.005	0.205	0.455
8	0.311	0.030	0.162	0.174
9	0.613	-0.006	-0.113	-0.124
10	0.339	0.041	0.122	-0.025
11	0.587	0.098	0.012	0.167
12	0.025	0.217	0.442	-0.175
13	0.133	0.434	-0.042	-0.003
14	0.093	0.269	0.130	-0.046
15	-0.221	1.066	-0.084	0.155
16	0.638	-0.054	-0.026	0.164
17	0.029	0.101	0.388	0.085
18	0.457	0.021	0.019	0.054
19	-0.134	-0.095	0.687	0.119
20	0.485	0.068	-0.011	0.142
21	0.149	0.052	0.241	0.375
22	0.225	0.082	0.050	-0.004
23	0.242	0.146	-0.029	0.033
24	0.018	-0.036	0.383	-0.002
VP	**2.397**	**1.650**	**1.284**	**1.137**

Contemplation of the item loading for each factor in Table 3 indicates the following resilience themes: confidence and internal locus of control, social support, toughness, and commitment and achievement orientation. Also endorsed elsewhere in the literature: problem solving skills and close bond with at least one competent adult (Benard, 1995; Werner, 1995); positive temperament, self-efficacy and decision making (Rutter, 1999); adaptive processes such as motivation for learning and engaging in environment, care-giver child relationship and regulation of emotions and behaviour; future motivation; autonomy; and adult support (Masten, 1994, 2001; Masten & Obradović, 2006).

Factor 1: Confidence and internal locus of control
Items that were strongly loaded on factor 1 present a sense of confidence and high expectations ("I believe that one day things will be better for me" – 16); the ability to succeed ("my teachers made me

see that I am good at my work and can do well in class" – 20); taking charge and focusing on goals ("my future and success depend on my hard work"– 8; "I do not allow people to stop me from trying to do my best in my work" – 10); an internal locus of control, including awareness of one's strengths ("I am in control of what happens to me" – 5; "I believe that I have good talents" – 9; "I believe that I am able to do better" – 11); and knowing and having access to a role model ("I know a good person whose behaviour is an example to me" – 18).

In their self-evaluation, resilient respondents in this study perceived behavioural statements representing confidence and an internal locus of control as providing a "true" reflection of their behaviour. Overall, the set of items highlights a sense of duty and personal responsibility, a proactive approach, taking charge and acknowledging personal strengths. Maurer and Andrews (2000) argue that confidence is the best measure of self-efficacy, while Rew and Horner (2003) confirm that confident adolescents tend to experience success and satisfaction in their social and academic life, as well as less stress than their less confident counterparts. Individuals who accept responsibility and take control of their actions, even in the presence of challenges, demonstrate an internal locus of control (VanderZee, Buunk & Sanderman, 1997).

Factor 2: Social support
Items that were loaded on factor 2 indicate the ability to identify, access and utilise support (mostly adult support), as well as to connect with competent people and source their assistance, guidance and advice ("I have an adult to talk to at home, who listens to me" – 1; "I know someone at school who cares about me and that I can talk to" – 13; "there is at least one teacher I can talk to who listens to me and encourages me to do my best" – 15). Clustering item 14 ("I use different ways to work out a difficult problem") within this set would seem to imply that being flexible and strategic in seeking solutions and persevering to achieve success might well include turning to people perceived to be understanding and accepting. The overall theme appears to be: not to feel alone; to feel that one matters and that one has someone cares; and to have the assurance of where to go when in need of help.

Social support is thus one of the characteristics of resilience, and developing resilience requires caring and supportive relationships. Werner and Smith (1982) reported that resilient children in their study had at least one adult person who cared about them. Henderson and Milstein (2003) agree that the provision of support is fundamental in overcoming adversity and building resilience, while Brooks and Goldstein (2001) maintain that the support should translate into unconditional positive regard and encouragement from caring individuals. Regarding support within the context of a township, Mampane and Bouwer (2011) found that middle-adolescents viewed a supportive and nurturing school to be vital in enforcing rules, providing successful teaching, ensuring sound educational outcomes and ultimately guiding the learners towards positive future goals.

Factor 3: Toughness and commitment
Factor 3 was constituted by items that indicate hardiness ("I am a tough person" – 24; "even when my problems are just too much, I do not give up trying to make it work" – 12), as well as a sense of commitment and orientation towards achievement and performance, with a focus on working hard to succeed and never giving up ("even when I do not understand in class I don't give up trying" – 19; "I do not like to be absent from school, I hate to miss the teaching" – 17). In its description of recovering from adversity as a demonstration of robustness and the commitment of an individual to achieve and maintain healthy developmental outcomes, the definition of resilience is richly endorsed by this factor (Masten, 2007).

Henry (1999) relates toughness to being strong, withstanding abuse and enhancing self-value. Seery, Holman and Silver (2010) couple toughness and mastery, and emphasise that these two traits generate greater resilience, as well as better health and wellbeing. Thus, resilient individuals remain tough in the face of adversity and are committed to overcoming challenges. Resilient individuals not only endure the effects of stressors so as to achieve desirable developmental outcomes, but they also endeavour to rebound from adversity.

Factor 4: Achievement orientation
Items 2, 6, 7 and 21, which feature performance, achievements and success to ensure a bright future, had high factor loadings on factor four. A strong drive to succeed, showing determination to take ownership and affirm one's strengths, is demonstrated ("I make sure that I do my classwork and homework" – 2; "doing well at school is very important to me" – 7), and extrinsic motivation and support from significant others in ensuring the achievement of goals and success are acknowledged ("I feel safe and loved at home, they want to know if I am OK" – 6; "my teachers support me to aim high and to think of my bright future" – 21).

Henderson and Milstein (2003) point out that schools that expect and encourage the high achievement of learners experience a high rate of academic success and a low rate of problem behaviour. This confirms that articulating high but realistic goals and positive expectations to youths constitutes an important resilience-building factor. Mampane and Bouwer (2011) found that township middle-adolescents perceive the school as instru-

mental in their realisation of positive future goals, as it represents care and safety. Although the onus and responsibility to succeed is with the youth, the supportive role of significant others cannot be underestimated.

Ability to Identify and Utilise Resources

Considering the four factors indicated by the factor analyses above, the respondents evidently required the capacity to identify access to and utilise specific resources that would contribute to their ability to demonstrate resilience (see Figure 1). "Their ability to identify and utilise such resources resonates with their individual strengths (confidence and internal locus of control, toughness and commitment), while accessing resources is motivated and provided through social support and achievement orientation" (Mampane, 2012:406). Figure 1 illustrates resilience as a developmental outcome, as appropriately argued by Blum, McNeely and Nonnemaker (2002) and Masten (1994). Thus, teachers and adults in the respondents' lives can promote growth and resilience in adolescents by guiding them towards accessing and utilising available resources that are provided by the school and in the community. Even so, adolescents who experience too much adversity might well struggle to identify, access and utilise those resources that are available in their environment.
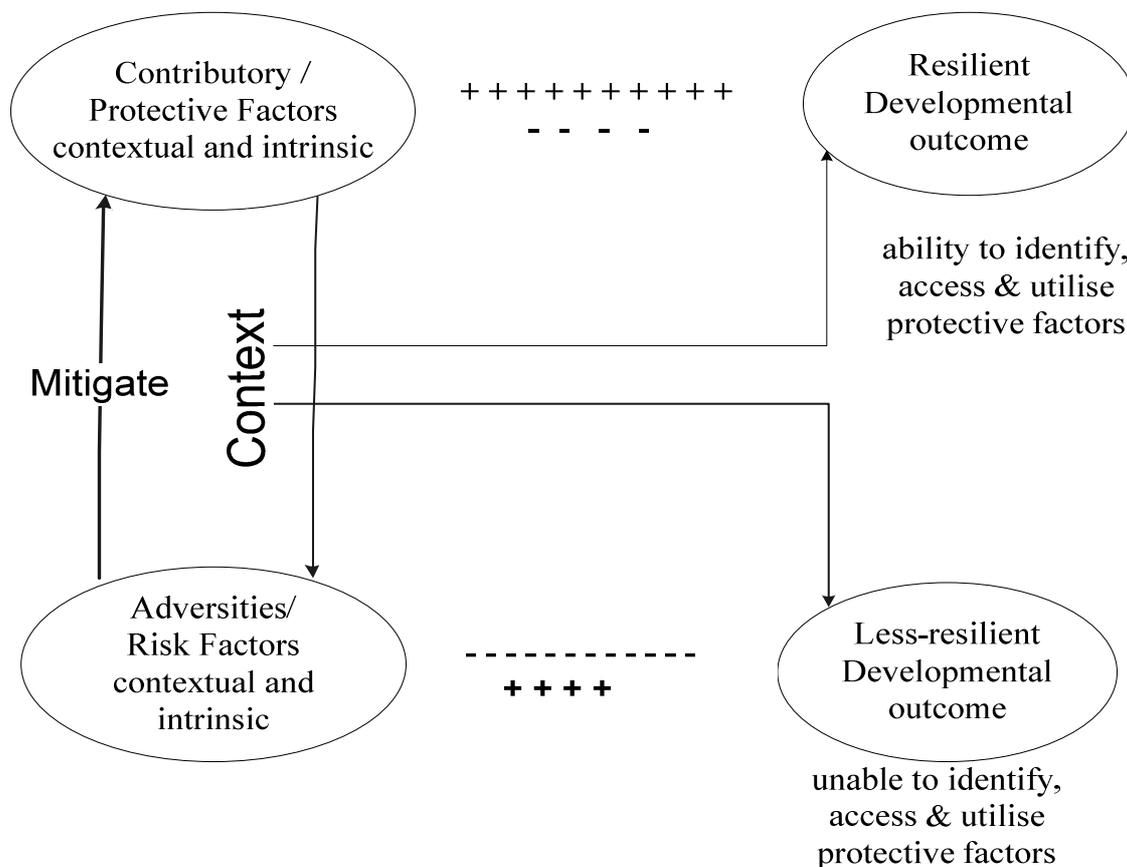
Figure 1: Resilience contributory factors & developmental outcome (Mampane, 2012)

Limitations

The results of this study cannot be generalised because a case study of only two schools in only one township is not representative of South African township youths as a whole. However, the sample size and reliability of the data allow the researcher to draw some tentative conclusions. Being a Likert-type scale questionnaire, Section B of the R-MATS required respondents to display a sense of self-awareness and the ability to self-evaluate. Although the generally high scores found in the "true" columns are cause for some discomfort in this regard, this is countered by the consistency of the results between sections A and B. The findings appear relevant to the chronic and multiple risk factors in black townships in South Africa and make a thought-provoking contribution to the understanding of resilience.

Discussion, Conclusion and Recommendations

In establishing the reliability and construct validity of Section B of the R-MATS, EFA enabled a clustering of inter-correlated variables into four factors that best define the construct resilience as perceived by the respondents in terms of their habitual behaviour. These factors notably represent both intrinsic attributes of the respondents and contextual factors in a fine, interactive balance, thereby suggesting that even a highly problematic environment contains valuable resources to be utilised by youths with resilient characteristics.

This study found that resilient learners from a township environment defined their resilience based on who they are (confident, tough, committed to succeed in achieving set goals, responsible, independent); what they can do (utilise own abilities to solve problems and set future goals, control self, identify people who can support me), and what they have (role models, social support both at home and at school) (Buckner, Mezzacappa & Beardslee, 2003; Grotberg, 1995; Theron, Cameron, Didkowsky, Lau, Liebenberg & Ungar, 2011).

Accordingly, the resilient middle-adolescent learners from the township schools defined themselves as confident; with an internal locus of control; having the ability to identify and utilise social support; and being tough, committed and achievement oriented. In contrast, the less resilient learner would demonstrate less self-confidence and an external locus of control. Within an abusive or poor family they would probably fail to identify and utilise the support of other adults and would depend on ineffective strategies of mere coping, instead of striving for goal attainment. The challenges and demands that less resilient learners encounter in their environment might therefore be different from those of resilient learners, who demonstrate perseverance in dealing with various tasks. The findings in this study suggest that a resilient middle-adolescent from a township school, as perceived by the respondents, has the ability to strive for and achieve healthy development within the various microsystems where he/she functions (in contrast to the less resilient learner).

The findings also suggest that a resilient middle-adolescent from a township school is able to strive for – and indeed achieve – healthy development in the environment in which he/she functions, by responding to and accessing particular resources available. To ensure that resilience is nurtured and promoted in township youths, the identified resilience factors should not only be promoted and supported by officials in schools and families, but importantly, adults and responsible caregivers should also ensure that contributors to resilience are easily identifiable, accessible and can be readily utilised to benefit all youths and to ensure healthy developmental outcomes and resilience.

South African schools and communities are exposed to high levels of violence and crime (Burton & Leoschut, 2013; Hamlall & Morrell, 2012), and children who develop in such a context require resilience if they are to achieve healthy development. The factors contributing to resilience that are found in this study may hold the promise of fostering resilience and mitigating risk in the township school environment. The South African school curriculum focuses strongly on empowering learners with life skills in the compulsory subject, Life Orientation (Department of Basic Education, 2011; Theron & Dalzell, 2006), and could readily include "both implicit and explicit guidance concerning personal characteristics, such as confidence, internal locus of control, toughness and commitment, as well as the utilisation of the school environment for support, and recognition of the school's achievement orientation" (Mampane, 2012:406).

Literature (Atkinson, Martin & Rankin, 2009; Masten, 2011; Masten & Obradović, 2006; Richardson, 2002) indicates that resilience research has progressed from the initial focus (*first wave*) on resilience-building characteristics (resilient qualities and a phenomenological view) and the way in which resilience manifests towards understanding the resilient theory and resilience process (how resilience qualities are acquired) in the *second wave* and the *third wave* focused on understanding the source of resilience. The third wave's focus is on resilience measures, "whether resilience can be learned or measured with reliability and stability with the purpose of identification and intervention" (Atkinson et al., 2009:140). Knowledge and understanding of what specifically contributes to the resilience of township youths is essential for the identification and support for learners in this high-risk environment.

In conclusion, the following recommendations are suggested for future research. It would be of interest to understand the perceptions of resilient and less-resilient learners in higher grades from the same township school context, viz. Grade 10, 11 and 12 learners. Again, the inclusion of learners in higher grades to further test the validity of the R-MATS; especially since township learners have the inclination to over-evaluate behavioural statements when using Likert-type scales (Du Plessis, 2005; Mampane, 2010). The inclination to over-evaluate is a problem that can be further explored and if possible be prevented in further research. Finally, I recommend that this study be replicated using multiple black-only township (this study was conducted in one township, Mamelodi) schools in other parts of the country, to further explore and understand the perceived relationship between middle-adolescent learners and their township

school environment and to further determine the construct validity of the R-MATS, and to analyse the underlying conceptual structure of the items using three factor loading.

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