A South African Study on Prevalent Risk and Protective Factors in Early Childhood: Ecological Systems Perspective

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Article

A South African Study on Prevalent Risk and Protective Factors in Early Childhood: Ecological Systems Perspective

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Abstract: It is essential to consider the factors that affect early childhood development because doing so can help identify potential risks and window of opportunity for intervention to improve outcomes for children. However, identifying risk and protective factors in early childhood requires careful consideration of several challenges and an integrated approach that recognises the complex and dynamic nature of development. The purpose of this study was to identify and describe the prevalent psychosocial risk and protective factors in the early childhood development phase, using an ecological perspective. The study employed a quantitative cross-sectional study using a random sampling technique. The final sample consisted of 505 caregivers of children aged 5 years old and younger. This study revealed that the most prevalent protective factors include child self-regulation, parent-child warmth, family management and collective efficacy but more importantly social support. While risk factors may exist this is mitigated by social support as it moderates and buffers against the effects of risk factors, as indicated by the various research studies cited.

Keywords: early childhood; ecological systems theory; prevalent; risk factors; protective factors

Introduction

Early childhood development is the study of the period of a child's life from birth to age eight, when their physical, mental, social, and emotional development happens at a rapid pace. This stage, which provides a foundation for future learning, behaviour, and health outcomes, is crucial for a child's general wellbeing, according to the World Health Organization (WHO) [1]. Nutrition, parenting skills, accessibility to high quality early childhood education, healthcare services, and other factors can all have a substantial impact on a child's development during this period.

Bronfenbrenner's ecological systems theory [2] contributes significantly to our understanding of early childhood development. The ecological systems theory outlines and highlights that the development of a child can be influenced, by the complex interaction of multiple systems and contexts, ranging from the immediate microsystem of family and school to the larger macrosystem of culture and society. Further, the ecological systems theory underscores the significance of investigating the dynamic interactions between the various systems in order to understand how children grow and develop. Bronfenbrenners [2] has underlined the importance of family, peers, and the larger community on a child's cognitive, social, and emotional development. This holistic approach emphasizes the importance of taking into consideration the broader environment in which children grow, highlighting the role of families, communities, and societies in enabling healthy and thriving early development. In order to have a comprehensive understanding of the dynamics of development, Bronfenbrenner's theory emphasizes the importance of examining how these risk and protective factors interact at various levels of an individual's ecological environment.Early childhood risk and protective factors include a child's physical, cognitive, social, and emotional development,

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as well as experiences that increase or decrease a child's likelihood of positive development and well-being. Risk or protective factors at one level of the ecological system can influence risk or protective factors at another. Protective factors can operate as buffers against the negative consequences of risk factors. Understanding the factors that influence early childhood development is critical because it can assist in identifying potential risks as well as opportunities for intervention to promote positive outcomes for children. Furthermore, recognizing the factors that affect early childhood development can assist policymakers, educators, and healthcare providers in developing programs and policies that promote positive outcomes for children. High-quality early childhood education, for example, has been shown to improve academic achievement, reduce behavioural problems, and increase the likelihood of graduating from high school [3]. Furthermore, interventions that assist parents and caregivers, such as home visiting programs, can improve parenting skills and child development outcomes [4].

Identifying all of the risk and protective factors that influence early childhood development remains a challenge. Although there has been significant progress in recent years, there is still much that still needs to be understood. Werner and Smith [5] identified several areas for further research, including the impact of adverse childhood experiences on young children, the role of parenting practices and family environment, and the influence of genetics and epigenetics on early development. The aim of this paper is to identify and describe possible additional prevalent psychosocial risk and protective factors, through an ecological systems perspective, that has an effect on the developing child. Most research studies look at the factors in isolation, however, this study attempts to look at risk and protective factors collectively in relation to the individual child outcomes.

Materials and Methods

Research Design

A cross-sectional quantitative survey was used in this study to investigate the prevalence of psychosocial risk and protective factors in early childhood development across ecological systems. This research study was conducted in the City of Cape Town, Western Cape, South Africa. The final randomly selected sample consisted of 505 caregivers of children aged between 0 to 5 years old.

Data collection instruments

A self-reported questionnaire was used to collect data from the participants. The questionnaire consisted of 2 parts: Part one included (i) demographic information – Section 1 gathering information on age, gender, race, home language, family structure, income, etc. and Part two (ii) Childhood Experience Survey which consisted of Section 2 (Developmental Outcomes), Section 3 (Family Risk/Promotive Factors), Section 4 (Individual Risk/Promotive Factors), Section 5 (Community Risk and Promotive Factors) and Section 6 (Economic Risk and Promotive Factors). The Childhood Experience Survey (CES) is a compilation of certain subscales of various instruments with the aim to measure risk and protective factors in early childhood across the ecological system. The various subsections within the Childhood Experience survey cover the domains of the micro, meso, exo and macrosytem within the ecological systems.

The Childhood Experience Survey (CES) is a collection of several instrument subscales designed to assess risk and protective variables in early childhood across the ecological system. The many subsections of the Childhood Experience survey encompass various aspects of the ecological systems' micro, meso, exo, and macrosytems. As a result, the instrument was considered ideal for collecting the information required to address the research questions related to the quantitative component of this study. The CES was created by combining and adapting the following instruments:

Strengths and Difficulties Questionnaire [6]

The SDQ is a 25 item scale which consists of five subscales namely: emotional symptoms (5 items), conduct problems (5 items), hyperactivity/inattention (5 items), peer relationship problems (5

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items), prosocial behavior (5 items). The alpha score recorded for this instrument was .73 with test re-test reliability .62

Parent Adaptation of the IYDS

The International Youth Development Survey (IYDS) is a self-report instrument adapted from the Communities That Care Youth Survey relating specifically to substance abuse behaviour. This instrument has shown good reliability and validity samples of adolescents in the US and Australia [7].

Alabama Parenting Questionnaire (APQ) [8]

The APQ is a 42-instrument questionnaire measuring five dimensions of parenting. It measures (1) positive involvement with children, (2) supervision and monitoring, (3) use of positive discipline techniques, (4) consistency in the use of such discipline and (5) use of corporal punishment. The Cronbach alpha for the Alabama Parenting Questionnaire was 0.86.

IPSCAN Child Abuse Screening Tool (I-CAST)

This instrument is used to collect data on the extent and depth of child abuse. This study used questions on the parent version of the child's exposure of violence in the home. The Cronbach alpha for this tool was .77

Communities that Care (CTC)

The CTC instrument measures a broad range of behavioural outcomes and risk and protective factors in four domains: Community, School, Family and Peer/Individual. Within these domains, there are 35 scales with an average of four questions per scale.

Data analysis

The data collected from the self-reported questionnaire was entered into the Statistical Package for the Social Sciences (SPSS) Version 28 and initial analyses were conducted to check for errors and missing data, as well as computing subscale variables. Descriptive statistics were used to describe the sample with numbers (*n*) and percentages (%). Mean and standard deviations was calculated to analyse the prevalence of the variables tested. Cronbach alpha was used to assess the dependability of the measuring instruments' scales and subscales.

Results

The study findings indicate that the majority of the participants were female (n = 315; 62.4%), with a mean age of 29.86 (SD = 6.53), identified as Coloured (n=410; 81.2%), had Grade 12 education (n = 327; 64%), were employed (n = 463; 91.7%) with a household income of between R10 000 – R30 000 per month (n = 280; 55.4%, have at least one child age 5 and younger (n = 410; 81.3%), biological (n = 438; 86.7%) and attending day-care (n = 443; 89.3%).

Individual/Child Outcomes

Table 1 presents the mean scores on individual child outcomes for factors relating to school readiness, self-regulation, free from anxiety, absence of enduring negative behaviour, hyperactivity and positive relationships with peers. Overall, the majority of the participants (n = 453; 89.7%) indicated that they were not concerned about their child's learning development or behaviour (M = 1.11, SD = 0.32). The participants indicated that they were positive about their child's learning development, development and behaviour, parent-child communication, child peer interactions. However, when questions were posed measuring their children's *school readiness* the mean scores (M = 0, "I don't know") reflected that parents "did not know" how to accurately respond to these items. For the items measuring *hyperactivity*, the mean scores for all items were (M = 1) indicating that their children were sometimes restless, fidgety and easily distracted, with frequencies > than 50%, but that they were able to think things through before acting and see tasks through to the end.

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On items measuring self-regulation, the majority of the participants indicated that their children were able to self-regulate. The average item mean value for self-regulation was 3.20 (SD = 0.679). The items measuring the child being *free from anxiety* indicated that the majority of children did not experience anxiety and/or depression. Furthermore, the majority of the participants also reported that their children did not present with *negative behaviour* such as; temper tantrums, fighting, cheating and stealing.

For reports on positive peer relationship with peers the participants reported that it was somewhat true that their *children prefer to play alone* (M = 1.24, SD 0.503*).* The participants *reported that their child does not have at least one good friend and that their child is generally not liked by other children* (M = 1.99, SD = 0.264). Furthermore, the participants reported that it is somewhat true that *their child is bullied by other children (*M = 1.53, SD = 0.749*) and that their child gets along better with adults than with other children* (M = 1.27, SD = 0.632).

Table 1. Scores on Individual Outcomes (n = 505).

Factor	Item	Mean	SD
School Readiness			
	Concerns about child's learning development	1.11	0.32
	How your child speaks and makes sounds	0.2	0.61
	How your child understands what you say to him/her	0.2	0.60
	How your child uses his/her fingers	0.15	0.46
	How your child uses his/her arms	0.26	0.78
	How your child behaves	0.21	0.63
	How your child gets along with others	0.22	0.66
	How your child is learning to do things for himself/herself	0.24	0.72
	How your child is learning preschool or school skills	0.24	0.72
Range for each item is from 3 (very concerned) to 0 (I don't know)			
Self – Regulation			
	Relax when she is tense/stressed	3.23	0.65
	Control his/her emotions	3.28	0.63
	Calm down when she feels anxious	3.19	0.69
	Control his/her temper when people are angry at him/her	3.12	0.75
Range for each item is from 1 (strongly disagree) to 0 (I don't know). ***The higher the score the higher the agreement.***			
Free from Anxiety			
	Complains regularly about headaches, stomach cramps or illness	1.23	0.52
	Has a lot of worries/regularly worried	1.3	0.59
	Regularly unhappy, depressed or tearful	1.28	0.60
	Nervous/clingy in new situations	1.55	0.77
	Has a lot of fears or is scared easily	1.42	0.72
Range for each item is from 3 (certainly true) to 0 (I don't know). ***The higher the score the higher the agreement.***			
Absence of Enduring Negative Behaviour			
	Has regular temper tantrums or is short tempered	1.39	0.68

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	Generally obedient and normally does what is asked by adults	2.71*	0.58
	Fights or regularly bullies other children	1.31	0.66
	Cheats and lies regularly/Is regularly argumentative with adults	1.26	0.61
	Steals at home/school or any place/spiteful towards others	1.14	0.43
Range for each item is from 3 (certainly true) to 0 (I don't know). ***The higher the score the higher the agreement. *reverse score***			
Hyperactivity			
	Restless/overactive cannot stay still for a long time	1.64	0.61
	Constantly fidgeting fiddling or squirming	1.77	0.66
	Easily distracted/concentration wanders	1.93	0.74
	Think things through before acting/can stop and think things through	2.40*	0.64
	See tasks through to the end	2.49*	0.58
Range for each item is from 3 (certainly true) to 0 (I don't know). ***The higher the score the higher the agreement.***			
Positive relationships with peers			
	Rather a loner/prefers to play alone	1.24	0.50
	Has at least one good friend	1.99*	0.26
	Generally other children like my child	1.95*	0.30
	Gets bullied by other children	1.53	0.75
	Gets along better with adults than with other children	1.27	0.63
Range 1 (not true) (2) Somewhat true ***(3) Certainly true*** ****reverse score***			

Microsystem Outcomes

The factors related to the microsystem outcomes include: reciprocal parent-child warmth, positive relationship with peers, family conflict, family management, parent aggravation, parents' social support, parents' history of mental health, family history of antisocial behaviour, mother substance abuse, violent discipline, non-violent discipline, psychological aggression, neglect and medical coverage.

Psychosocial protective factors

The scores in Table 2 reflect the descriptive results for protective factors within the ecological systems theory. The results for reciprocal parent-child warmth indicate that the participants always *tell their child when they do something well* (M = 4.47, SD = 1.029), always *compliment their child when he/she does something good* (M = 4.68, SD =0.695), always *praise their child when he/she behaves well* (M = 4.70, SD = 0.698) and that their children are always *affectionate towards them as parents* (M = 4.58, SD = 0.807). The results for parent social support indicate that parents would ask *family who does not live with them* (M = 2.53, SD = 0.892) for assistance if an emergency arises late at night, as opposed to someone living in the home. Similarly, when in a financial crisis the participant will request financial assistance by *family who does not live with them* (M = 2.76, SD = 1.015).

Participants were asked whether they actioned the following in the past year and the majority of the participants indicated that they have explained *3-5 times* why something is wrong (M = 2.81, SD = 1.381), told their child *6 – 9 times* to stop doing something (M = 3.04, SD 1.333), gave the child money 6 – 9 times to distract him or her (M = 3.35, SD = 1.644) and never took away privileges or money (M = 4.01, SD = 1.745). In terms of access to medical coverage for all items the participants reported that they were not without access to medical assistance or medical coverage (M = 1.87, SD

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0.377). Furthermore, participants indicated that at the time of the pregnancy the participants were in a steady relationship and currently romantically involved with the child's other parent. In addition, the participants reported that although they wanted to fall pregnant later on in life they were not completely averse to the pregnancy. Lastly, the results indicate that prenatal care was sort during the period of pregnancy.

Table 2. Scores on psychosocial protective factors - Microsystem (n = 505).

Factor	Item	Mean	SD
Reciprocal parent-child warmth			
	You tell your child when she does something well	4.47	1.029
	You compliment your child when she does something good	4.68	0.695
	You praise your child when she behaves well	4.7	0.698
	How regularly is your child affectionate towards you	4.58	0.807
Range for each item is from 1 (never) to 5 (always).			
The higher the score the higher the agreement.			
Parent social support			
	If you should have an emergency late at night is there someone that can look after your child, who is the first person you will ask	2.53	0.892
	What happens when you and your partner are in a financial crisis, who is the first person you will ask	2.76	1.015
Range for each item is from 3 (certainly true) to 0 (I don't know).			
The higher the score the higher the agreement.			
Non-violent discipline			
	Explained why something is wrong	2.81	1.381
	Told your child to stop or start doing something	3.04	1.333
	Gave your child something else to do to distract him/her	3.35	1.644
	Took away privileges or money	4.01	1.745
****In the past year***			
Range (1) not in the past year – (5) 10 or more times per year			
Access to medical coverage			
	Was there a time when you or someone in your household needed to see a doctor but could not because you were unable to afford it	1.87	0.377
	Was there a time when someone in your household needed dental work but could not because you could not afford it	1.85	0.402
	Does your child have any form of health care cover like medical aid or a hospital plan	1.35	0.486
Range 1 (no)- 2 (yes)			
Pregnancy			
	Did you want to fall pregnant at the time	2.53	1.082
	How many times did you receive prenatal care	8.63	3.368
Range (1) I wanted to fall pregnant earlier (2) I wanted to be pregnant then (3) I wanted to fall pregnant later			

Psychosocial risk factors

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The scores in Table 3 reflect the descriptive results for risk factors within the ecological systems theory. The results for family conflict indicate that the majority of the participants disagreed that they *argue about the same issues in the family* (M = 2.21; SD 0.61). The result for *people have serious arguments in my house, those who disagreed* (M = 2.43; SD = 0.67) were not much different from those who agreed. *Insulting and shouting at one another* were reportedly not common behaviour among most of the participants (M = 2.26, SD = 0.73). Of the 505 participants 277 reported that they sometimes *kept their opinion to themselves* (M= 2.19; SD = 1.03) when having a disagreement with their partner. Disagreements were sometimes *discussed calmly* (M = 1.96; SD = 0.82). *Arguing fiercely and shouting at each* other occurred sometimes (M = 2.86; SD = 0.99) to almost never and never. Similar results were reported for *throwing things at each other* (M = 3.15; 0.91) reporting "never". Participants also reported that a *compromise was reached* (M = 1.83; SD = 0.77) and that they often *criticised one another* (M = 2.44; SD = 0.83).

Scores on family management indicate that there is almost a 50/50 split when it comes to rules about what children eat with (M = 1.5; SD = 0.53). However, rules relating to bedtime (M = 1.14; SD = 0.36) and the television programmes allowed (M = 1.54; SD = 1.03) the reported that there are rules. Participants also reported that they were able to teach their child that wrong behaviour has consequences (M = 1.3; SD = 0.62) and that they had no trouble exercising their rule with their children (M = 1.44; SD = 0.87). The results for parent aggravation indicate that participants has never felt that their *child was difficult to care for* (M = 1.62; SD = 0.88) nor that their child did things that was of concern to them (M = 1.69; SD = 0.85). The participants also reported that they never felt angry towards their child (M = 1.67; SD = 0.96).

The results for parent mental health show that participants *felt calm and peaceful* (M = 2.37; SD = 0.79) most of the time. When it comes to *feeling nervous or anxious*, the participants reported (M = 3.27, SD = 0.67) that they have felt this way within the reporting month. The average mean score for item *on not being able to cheer up was 3.42 (SD =0.61*) felt this way within the reporting months and similarly for reports on depression (M = 3.42; SD = 0.61). However, on being happy the participants reported that they were happy most/all of the time (M = 2.36; SD = 0.74).

The majority of participants reported that there was no one in their household that was arrested nor sent to prison (M = 1.84; SD = 0.37) and that there was no one that had a substance abuse problem (M = 1.78; SD = 0.42) in the past year. Reportedly, participants did not smoke cigarettes (M = 1.85; SD = 0.39), drink alcohol (M = 1.94; SD = 0.28) use dagga (M = 1.98; SD = 0.19) or any other illicit substance (M = 2; SD = 0.16) in the last six months of the pregnancy. Reportedly, participants did not smack (M = 1.49; SD = 0.87) hit (M = 1.91; SD = 1.1) or hit with hard object (M = 1.83; SD = 1.01) when disciplining their child. In terms of psychological aggression/discipline for all items the majority participants >80% reported that they did not engage in any of the behaviour items listed in the tool. The majority of the participant reported that there was never a time that their child did not get medical treatment for an injury (n = 484, 95.8%), that their child did not get food or fluids needed (n = 486, 96.2%) nor was their child seriously wounded (n = 490, 97%) while unsupervised.

Table 3. Scores on Psychosocial Risk factors – Microsystem (n = 505).

Factor	Item	Mean	SD
Family Conflict			
	In my family we argue regularly about the same issues	2.21	0.613
	People in my family have serious arguments	2.43	0.693
	People in my family insult and shout at one another regularly	2.26	0.726
	Item: If you have a serious disagreement with your partner you…		
	Kept your opinion to yourself	2.19	1.032
	Discussed your disagreements calmly	1.96	0.821
	Argued fiercely or shouted at one another	2.86	0.985

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	Thrown things at each other	3.15	0.911
	Come to a compromise	1.83	0.769
	Criticized one another	2.44	0.828
Range (1) often (2) sometimes (3) almost never (4) never			
Family Management			
	Are there rules or routines about what kind of food your child/ren eat	1.5	0.528
	Are there rules or routines about what time your child/ren go to bed	1.14	0.357
	What TV programme your child/ren are allowed to watch	1.54	1.025
	I teach my child that wrong behaviour or breaking of the rules will be punished	1.3	0.621
	I have little or no trouble exercising my rules with my child/ren	1.44	0.871
Range (1) ,yes (2) no			
Parent Aggravation			
	Child is more difficult to care for	1.62	0.879
	Child does things that concerns you	1.69	0.851
	Feel you are angry with your child	1.67	0.958
Range (1) never (2) very little (3) sometimes (4) often (5) always			
History of Parent Mental Health issues			
	Calm and peaceful	2.37	0.794
	Feeling very nervous/anxious	3.27	0.668
	So depressed that nothing could cheer you up	3.42	0.605
	Feeling depressed and blue	3.42	0.619
	Been a happy person	2.36	0.735
Range (1) not at all (2) sometimes (3) most of the time (4) all the time			
Antisocial Behaviour			
	Was someone in your household arrested and sent to prison	1.84	0.368
	Will this person return to your household within the next 3 years	1.93	0.286
	Does/did someone in your household have a substance use problem	1.78	0.421
Range (1) yes (2) no			
Mother substance abuse during pregnancy			
	Smoke cigarettes	1.85	0.39
	Take/drink alcohol	1.94	0.279
	Use dagga	1.98	0.193
	Use any other illicit drugs	2	0.156
Range (1) yes (2) no			
Violent Discipline - child			
	Smack him/her	1.49	0.868
	Hit him/her	1.91	1.101
	Hit him/her with a hard object	1.83	1.101
Range (1) definitely not true (2) mostly not true (3) mostly true (4) definitely true			
Psychological aggression/discipline			
	Threatened to go away from your child	5.15	1.564

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	Shouted at your child	4.09	1.892
	Threatened to call ghosts/evil spirits or harmful people	5.1	1.441
	Cursed your child	5.3	1.455
	Threatened to kick your child out or send him her away for a long time	5.42	1.337
	Locked your child out of the house	5.64	1.112
	Insulted your child by calling him/her dumb, lazy or other names	5.34	1.481
	Refused to talk to your child	5.32	1.401
	Withheld a meal time as punishment	5.33	1.489
	Locked up in a darkroom	5.74	0.875
	Used public humiliation to discipline a child	5.75	0.931
Range (1) not in the past year (2) 1 or 2 times (3) 3-5 times (4) 6-9 times (5) >10 times			
Neglect			
	Did not get medical treatment for an injury or illness	1.99	0.211
	Did not get the food or fluids that he/she needs	2.01	0.201
	Was seriously injured of wounded when you or another adult was meant to supervise but did not	1.99	0.179
Range (1) no (2) yes			

Mesosystem Outcomes

The factors related to the mesosystem outcomes include; parental involvement in education, community disorganisation, collective efficacy and difficulty paying bills. On the items measuring for parental involvement in child learning the majority of the participants indicated that they have spent twice or more a week on activities Participants further reported that they were *involved in activities at their child's school* whether it was consulting with the teacher (M = 1.35, SD = 0.58), *attending events* (M = 1.21; SD; 0.54) or *scheduled meetings* (M = 1.39; SD = 0.61). The participants reported that within their areas that *crime/sale of drugs* (M = 2.35; SD = 1.81) and *many abandoned buildings* (M = 2.51; SD = 0.95) were mostly not true/not true. However, they have reported that *fights* (M = 2.67; SD = 0.90), *graffiti* (which are sometimes construed as vandalism) and *racial insults or attacks* (M = 2.82; SD = 1.25) were mostly true for their neighbourhood. Despite these reports the participants indicated that the *feel safe in their neighbourhood* (M = 3.3; SD = 0.85). When participants were posed questions relating to behaviour of the people within their neighbourhood, the participants reported that they were *able to trust their neighbours* (M = 3.16; SD = 1.38). However, whilst slightly over half of the participants reported trust in their neighbours the result show that participants were on the fence regarding whether their *neighbours were prepared to help* (M = 3.07; SD = 1.38) Similarly, the participants reported that "*if a group of neighbourhood children stay out of school or hang around at corners our neighbours will do something*" (M = 2.99; SD = 1.49), participants indicated that "it was likely" and that *"if a fight should break out in-front of your house and someone gets hit our neighbours will break it up"* (M = 2.98; SD = 1.54) of the participants indicated that "it was likely". The majority of the participants reported that they were not placed in a position where they were *not able to pay their rent/bond* (M = 1.3; SD = 0.46), evicted (M = 1.12; SD = 0.33) nor *having their water and electricity services cut* (M = 1.19; SD = 0.40). This may be an indication that the participants may have been relatively financially secure enough to be able to pay for basic services.

Table 4. Scores on Psychosocial Risk and Protective factors – Mesosystem (n = 505).

Factor	Item	Mean	SD
Parent involvement in learning			
	Told him/her a story	2.27	0.78

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	Taught him or her letters of alphabet	2.64	0.532
	Taught him/her a song or music	2.65	0.521
	Worked on arts and crafts	2.3	0.753
	Took him/her along when visiting a shop, bank, etc.	2.47	0.67
	Involved him/her in chores like cooking, cleaning, etc.	2.54	0.626
Range from 1 (no) to 3 (3times or more)			
Parent involvement with school			
	Consult with your child's teacher	1.35	0.579
	Attend school events in which your child participates	1.21	0.54
	Attend the PTA or other meetings	1.39	0.609
Range from 2 (yes) and 1 (no)			
Environment - neighbourhood			
	Crime and/or sale of drugs	2.35	1.081
	Many empty or abandoned buildings	2.51	0.951
	Fights	2.67	0.902
	A lot of graffiti	2.74	1
	Racial in insults or attacks	2.82	1.249
	I feel safe in my neighbourhood	3.3	0.853
Range 1 (not true) to 4 (definitely true)			
Collective Efficacy			
	People around here are prepared to help their neighbour	3.07	1.38
	People in this area can be trusted	3.16	1.379
	If a group of neighbourhood children stay out of school or hang around at corners our neighbours will do something	2.99	1.486
	If a fight should break out in-front of your house and someone gets hit our neighbours will break it up	2.98	1.535
Range (1) not true (2) mostly not true (3) mostly true (4) definitely true			
Ability to pay bills			
	Did not pay the full amount of rent/bond	1.3	0.461
	Was put out of your house because rent/bond not paid	1.12	0.331
	Did not pay the full amount on water or electricity	1.3	0.46
	Water or electricity services were cut	1.19	0.399
Range (1) no (2) yes			

Exosystem Outcomes

The study found one factor in the exosystem which relates the receiving public assistance in times of need. Of the 505 participants 57% (n = 288) reported that they did not receive a subsidy, 55 % (n = 278) reported that they did not receive any food stamps and 57.4% (n = 290) reported that their child did not receive or benefit from any food issued at school.

Discussion

The objective of this study was to determine the prevalent psychosocial risk and protective factors in early childhood development. In this study more mothers participated compared to fathers. Research on parenting and child development and mothers have consistently been found to participate in research as opposed to fathers. Women continue to bear a larger share of childcare

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duties, spending more time on activities such as feeding, bathing, and supervising children [9], while fathers scheduling challenges limit their ability to allocate time for research participation [10,11]. Furthermore, the majority of the study participants identified as coloured. It should be noted that the study was conducted in Cape Town, where the coloured community accounts for 31.5%% of the population, according to the most recent available Census study [12].

Individual Risk and Protective Factors Outcomes of the child

Reportedly, in this study there seemed to be little to no concern over the learning and behaviour development of the child. However, participants were uncertain about their child's school readiness. According to research, there is a positive relationship between parental knowledge of child development and child school readiness. Parents who understand their child's development are better able to provide appropriate support and guidance to help their child succeed in school. Rouse & Fantuzzo [13] state that parental knowledge of child development is related to children's academic achievement as well as their social and emotional development. Rouse & Fantuzzo [13] also discovered that parents who were more knowledgeable about child development were more likely to engage in school readiness activities such as reading to their child and providing opportunities for play and exploration. Later, Pulido & Mistry [14] discovered that parental knowledge of child development was a significant predictor of children's language and literacy skills, even after controlling for socioeconomic status and parental education level. This study however, did not test for knowledge of child development.

The findings of this study highlighted that despite the lack of knowledge around school readiness parents engaged in school readiness activities. However, it must be noted this study did not test children for school readiness and competency to determine level of school readiness. The current study found that regardless of the reported display of the factor, hyperactivity, children were still able to see tasks through and were reportedly able to self-regulate. This is interesting because Sarver et al. [15] state that children that exhibit hyperactivity may exhibit deficit in self-regulation skills. Self-regulation, also known as executive function, refers to a set of cognitive and behavioural processes that allow individuals to regulate their thoughts, emotions, and behaviours in a purposeful and adaptive manner. Self-regulation development in early childhood is critical for academic and social success because it enables children to focus their attention, control their impulses, and adapt to changing situations in the classroom. A study conducted by Moffitt et al. [16] found that children who demonstrated higher levels of self-regulation at the age of four had better academic and social outcomes at the age of ten, including higher grades, fewer behavioural problems, and more positive peer relationships. Based on the current study findings the participants' children reportedly display positive behaviour and are able to self-regulate which seems consistent with the findings of Moffitt et al [16]. However, in terms of the social outcome components, this study found that the children prefer to play on their own, were generally not liked by other children and were bullied by the other children. As this study group relates to children in the first 2000 days it could be that there are specific additional critical skills developed coupled between age four and age ten to consider Moffitt et al. [16] findings on social outcomes or there are other factors at play.

Microsystem Risk and Protective Outcomes

As highlighted in the ecological systems theory, the microsystem, which includes immediate contexts such as family and school, has a direct and influential impact on the social, emotional, and cognitive development of the developing child [2]. Family conflict or inadequate parenting are examples of risk factors inside the microsystem that may stunt development. Protective influences, such as a nurturing family or a supportive school environment, on the other hand, can promote positive development [2]. This study focused on both psychosocial protective (reciprocal parent-child warmth, parent social support, non-violent discipline, access to medical coverage, mother's relationship status and accepted pregnancy) and risk (family conflict, poor family management, parent aggravation, mental health issues, antisocial behaviour, substance use, violent discipline, psychological aggression and neglect) factors. A nurturing family environment, characterized by

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warmth, support, and consistent caregiving, is a potent protective factor in the microsystem. It promotes secure attachments and emotional well-being in children, fostering their overall development [17]. Furthermore, healthy development requires strong, pleasant relationships between parents and children. These bonds create a safe foundation for children to explore their surroundings, develop social skills, and build confidence [18]. On the contrary, family dysfunction such as domestic violence, substance abuse, or inadequate parenting can all have long-term effects on a child's development [19]. It can cause emotional and behavioural issues, as well as hinder cognitive growth and the development of secure attachments. Additionally, frequent conflict and disagreements within the family microsystem can produce a hostile and stressful environment for children, affecting their emotional well-being and social development [20].

Positive peer interactions promote social growth and a sense of belonging within the microsystem. These relationships enable children to develop social and emotional abilities, which improves their general well-being [21]. While the peer group is a component of the microsystem, it can also be a source of risk. Negative peer influences, such as delinquent behaviour or bullying, can have a negative impact on a child's behaviour and social development [22].

Within the microsystem, communities that provide resources such as access to healthcare, secure areas for recreation, and support networks can safeguard children from adverse conditions. These resources benefit both physical and mental health [23]. However, apart from community resources, financial insecurity or poverty within the family microsystem can limit access to critical resources and opportunities, compromising a child's nutrition, healthcare, and educational experiences, so impeding their overall development [24].

This study found that participants were able to establish boundaries, exercised non-violent discipline and practised warm/responsive parenting. Furthermore, the parent-child relationship is strongly linked to parental mental health. Parents who are dealing with from mental illnesses may have more adverse interactions with their children, such as irritability, impatience, or expressions of disapproval. These adverse interactions may increase a child's stress levels and have a negative impact on their emotional and behavioural development [26]. These difficulties in the parent-child relationship can have a negative impact on the development and well-being of children, including an increased risk of emotional and behavioural problems [3,27]. On the contrary the current study found that there was reciprocal parental child-warmth, despite participants reporting some mental health issues.

Participants reported that their child got along better with adults than with children their own age despite reports that their child had somewhat positive peer relationships. Social support, parent-child relationships, and parent mental health are all strongly linked. Social support has been shown in studies to improve the parent-child relationship and parental mental health outcomes [55–57]. Social support can provide parents with emotional, informational, and tangible resources to help them cope with parenting challenges and maintain a positive relationship with their child (55). The parent-child relationship can then be improved, which has been shown to be a protective factor for both parent and child mental health outcomes [28,29]. The current study results show that parents have access to social support, particularly other family members, which enable them to interact with their child in a more positive way. Participants also reported that they were able to exercise rules and set boundaries. Additionally, the findings indicated that non-violent discipline was exercised in the home. Similarly, reports on violent discipline, psychological aggression/discipline and neglect were also low. This could be as a result of the fact that in general participants, reportedly, were able to calmly sort out disagreements within the home without having to insult, shout at each other or escalate to violence, although there is an indication of family members criticising each other. Furthermore, there were little to no incidents of antisocial behaviour reported in the home. Research show that violence in the home has a significant impact on children's socioemotional development. Children who witness or experience domestic violence are more likely to experience a variety of socioemotional issues, such as depression, anxiety, aggression, and post-traumatic stress disorder (PTSD), according to a growing body of research (Holt et al., 2008; Holt et al., 2013). Additionally, exposure to domestic violence can have long-term effects on a child's socioemotional development,

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including decreased social skills and self-esteem as well as increased emotional reactivity and behavioural issues [30,32]. The impact of social support on children exposed to domestic violence is investigated by Peisch and Cho [33] and emphasises the protective effect of social support networks in mitigating the negative socioemotional implications that children may face because of experiencing domestic violence.

Mesosytem Risk and Protective Factors Outcomes

The mesosystem, which is defined by the interactions between various microsystems, is an important domain for protective factors that promote early childhood development. Parent-school collaboration that is effective, coordinated support services, peer-mediated learning, cohesive educational teams, and integrated mental health services all contribute to an environment that is nurturing and secure for children. Conflict or collaboration, for example, between family and school systems can either promote or mitigate risk factors within each context. These connections demonstrate the numerous factors that have the potential to impact on a child's growth. A major risk factor is ineffective or limited communication between parents and schools. When parents are not fully informed about their child's educational progress or requirements, chances for early intervention and support may be overlooked [34]. Furthermore, when teachers and parents are not able to collaborate effectively alongside one another, the child's learning journey can be affected. Collaboration between teachers and parents is essential for supporting individual needs and creating a supportive learning environment [35]. This study found that parents were actively involved with the child's learning and that they were actively involved with the child's school as well. Parental involvement in early childhood learning is vital since it has been demonstrated to have a major impact on a child's cognitive and socio-emotional development, establishing the foundation for lifelong learning [36]. It is interesting to note that the current study found that parents were uncertain of their child's school readiness. This is despite the fact that they are actively involved with the child's school. Perhaps there is a need to investigate the quality of the engagement between the parent and the school environment.

According to recent studies, children who grow up in poor neighbourhoods with high crime rates, limited access to excellent education, poverty, and social disorganisation are at a higher risk for a variety of undesirable outcomes such as poorer educational achievement [37], reduced cognitive development [38], greater stress and trauma exposure [39], and decreased access to safe outdoor play spaces [40] are some of the consequences. This study found that whilst there were fights and racial attacks within their neighbourhood they felt relatively safe in their neighbourhood. The participants also reported that there was some sort of collective efficacy and cohesion which potentially mitigates against social disorganisation and thereby possibly reducing the adverse effects on child development. Additionally, the findings indicates that the participants were somewhat financially secure enough to pay for basic services.

Exosystem Risk and Protective Factors Outcomes

Bronfenbrenner's ecological systems theory emphasises the importance of the exosystem, an environmental context that influences an individual's development indirectly. Several factors in the exosystem can either have a negative or positive impact on early childhood development within this framework. Protective factors include supportive community resources where access to a variety of community resources can improve children's well-being [41]; accessible healthcare services for children to access regular medical check-ups, immunizations, and preventive care, contribute to cognitive development and overall well-being [42]. Additionally, safe and supportive neighbourhoods with low crime rates, strong social networks, and high-quality schools, create an environment that fosters positive socioemotional and academic outcomes for children [43]; and parental support networks where parents have access to social support whereby their parenting abilities improve and their children's development improves [44].

The inverse however include risk factors such as parental employment issues where job insecurity, irregular working hours, or high levels of job-related stress can lead to disruptions in

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family life, hindering the child's socioemotional development and well-being [45], inadequate access to healthcare which could result in children who do not receive adequate healthcare with unmet medical needs impeding on their physical and cognitive development [46], neighbourhood disadvantages i.e. with higher crime rates and limited access to quality education can increase the risk of academic and behavioral challenges [47], parental involvements constraints due to long commutes, lack of flexible work policies, or limited community support can hinder the child's development [48] and inadequate social services

This study found that slightly over half of the participants did not receive public assistance while the other half received. It should be noted that this study found that caregivers received income through some form of employment and may not have been dependent on public assistance. Receiving public assistance can play an important role in promoting early childhood development, especially for low-income families. Public assistance can help families reduce financial stress, resulting in a more stable and caring environment for children, which has been related to improved cognitive and socio-emotional development [24]. Despite whether the participants received public assistance or not this study found that the outcomes for the child was reportedly no different. Furthermore, this study found that access to healthcare was not a concern, as caregivers were able to ensure that the healthcare needs of their child were met.

Macrosystem Risk and Protective Factors

As a key component of Bronfenbrenner's ecological systems theory, the macrosystem portrays the broad cultural and socioeconomic factors that can affect a child's development. Risk factors in the macrosystem can have far-reaching consequences for early childhood development. Risk factors such as socio-economic inequality, cultural discrimination and bias, lack of comprehensive social policies, media and global economic and environmental factors can negatively affect child development. In order to mitigate against these it is important for policies like universal healthcare, paid parental leave, and affordable education in promoting positive child outcomes [49]. These policies can help mitigate disparities and ensure that children have access to essential resources and opportunities. Furthermore, exposing children to diverse cultures and perspectives promotes empathy, tolerance, and social competence [50], which could contribute to well-rounded development and an inclusive society. A recent study highlights the significance of global cooperation in solving environmental concerns such as climate change and pollution thus a sustainable environment provides children with clean air, water, and safe living situations, which improves their health and well-being [51].

In South Africa, Section 28 of the Bill of Rights [52] ensures that every child has a right - amongst other things: (1) family or parental care or appropriate alternative care; (2) basic nutrition, shelter, basic health care services and social services; (3) protection from maltreatment, neglect, abuse and degradation; (4) name and nationality from birth. This study found that at a proximal level this was the case. However, there is no evidence which speak to the distal factors which impact on the quality of these mentioned aspects such as cultural norms and stigmas and policies. Government programmes relating to family support, healthcare, and education are all part of the macrosystem. Inadequate or discriminatory regulations might limit access to important services and resources, affecting children from marginalised neighbourhoods disproportionately [53].

Limitation of the study

Limitations of the current study has to be acknowledged as no study is without limitations. A self-report questionnaire was used to collect data which may have resulted in positivity bias. Qualitative methods may be useful to explore deeper meanings to the quantitative component responses in the current study. Also, the current study lacks information on the prevalence of the macrosystem factors on early childhood development. There are several studies on proximal influences as opposed to the distal influences on the developing child. It would have been beneficial to include more questions on distal factors. Therefore, the focus of future research studies should include distal factors. Recognising that the study of child self-regulation is dynamic, further research

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in this area is needed to understand the influences on self-regulation at every level. The development of self-regulation is critical since it affects many elements of an individual's life, from academic achievement to mental health and overall well-being [16]. When it comes to research in early childhood development it appears that the focus is more on proximal influences as opposed to distal influences. Whilst we know that according to the ecological systems theory each system either has a direct or indirect impact on the developing child there is still limited research on how the distal influences impact on the developing child. Furthermore, studies could delve more into the quality of relationships between factors to bring clarity to the effects it has on child development as opposed to investigating the factors only.

Recommendations

Research on early childhood development through the ecological systems perspective can provide valuable information on how the various ecological systems affect child well-being. However, we can better understand how early childhood development is linked to bigger global objectives by linking such research with the United Nations Sustainable Development Goals (SDG's) 2030 [58]. Several potential research opportunities presents itself that link early childhood development to SDG's such as:

Goal 1- No Poverty: Research can explore how economic disparities within a child's ecological systems effect their development and discover strategies to break the poverty cycle.

Goal 4 - Quality Education: Understanding the function of early childhood education programmes and their interactions within the child's microsystem and mesosystem will help guide strategies for achieving quality education for everyone.

Goal 5 - Gender Equality: Research can be conducted to investigate how gender dynamics within the family, school, and community influence children's conceptions of gender roles and expectations.

Goal 3 - Good Health and Well-Being: Early childhood research can investigate the effects of healthcare access and quality on child development.

Goal 16 - Peace, Justice, and Strong Institutions: Investigating how macrosystem experiences, such as cultural norms and societal values, influence a child's sense of justice and social development.

Further recommendations for early childhood development research include:

Multi-level Studies: Research should adopt a multi-level approach, considering the interactions between microsystems, mesosystems, exosystems, and macrosystems to understand how they collectively influence early childhood development.

Longitudinal Research: Longitudinal studies are essential to capture the evolving dynamics between ecological systems and child development over time.

Intervention Studies: Investigate the effectiveness of interventions that target specific ecological systems to enhance early childhood outcomes and contribute to SDG achievement.

Interdisciplinary Collaboration: Foster collaboration between early childhood researchers, policymakers, and practitioners to ensure that research findings are translated into effective policies and practices that promote sustainable development.

Conclusion

In summary, this study revealed that the most prevalent protective factors include child self-regulation, parent-child warmth, family management and collective efficacy but more importantly social support. While risk factors may exist this is mitigated by social support as it moderates and buffers against the effects of risk factors, as indicated by the various research studies cited.

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