

**THE DEVELOPMENT AND VALIDATION OF A CHILD IN CONFLICT
WITH THE LAW RISK ASSESSMENT SCALE FOR PROBATION
OFFICERS IN SOUTH AFRICA**

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The logo of the University of the Western Cape, featuring a classical building facade with columns and a pediment, rendered in a light blue color.

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ABSTRACT

During the planning phase of this project, the researcher intended to conduct a countrywide South African study, as reflected in the title. However, the researcher experienced difficulty with obtaining permission to conduct research in most provinces, ultimately only succeeding in Gauteng. Additionally, the COVID-19 pandemic delimited the researchers scope to conduct research in most provinces within South Africa.

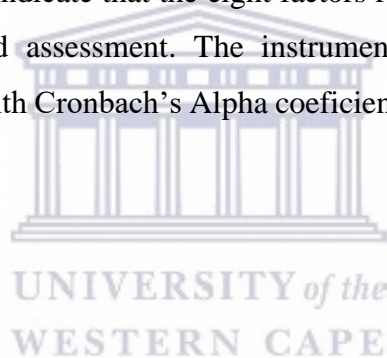
Internationally, a long tradition of using standardised risk and need assessment instruments with children in conflict with the law is existent. Consequently, it is important to note that the focus of this current study was the development and validation of a general standardised tool for children in conflict with the law in South Africa. The theoretical model underpinning this current study was the Risk-Need-Responsivity model, while the Validity theory was employed to guide the construct, regarding the validation procedures during the development and validation of the scales.

As the main aim of this study was to develop and validate a standardised contextual risk and need risk assessment instrument for CCL, the researcher employed a mixed-methods sequential exploratory design, which involved the integration of the findings, with the aim of answering this study's objectives. The study was conceptualised in accordance with a pragmatic approach, which was deemed appropriate for the research and consisted of the following phases: Phase 1 - Identification of domains and items; Phase 2 - Instrument development; and Phase 3 - Instrument validation.

The development process included face validation, content validation, item writing, and the initial validation of the instrument. A scoping review was conducted to investigate the best practice models utilised to develop and validate standardised risk and need assessment instruments. In addition, focus group discussions were conducted with probation officers to inform the development of the instrument. The sample for this current study included 23 probation officers for the focus group discussions from Gauteng, five key informants from whom data were collected internationally, via email, the cognitive testing of seven children in conflict with the law, as well as a survey on 315 children in conflict with the law in Gauteng. The e-mail data collection comprised an expert key informant's panel, who reviewed the items

for relevance, difficulty, and vagueness, with items subsequently amended or removed. Item selection procedures were conducted on the instrument. In addition, a pilot study was conducted as part of the initial validation, to test the items and format the instrument. The instrument was then administered to English-second-language-speaking children in conflict with the law. Accordingly, iterative exploratory factor analysis was conducted at both the item and scale levels, to select and reassign items and scales, in order to determine the final composition of the instrument.

The findings indicate that the instrument measures eight factors, namely: *behaviour at home, school and in the community; empathy with victims and taking responsibility for a crime; peer relations; abuse in childhood; absconds from formal setups; engages in general aggressive behaviour; serious aggressive behaviour; and aggressive behaviour at school*. These factors are explained in terms of the Risk-Need-Responsivity model, considered within a pragmatic framework. The study findings indicate that the eight factors represent the salient dimensions of the construct risk and need assessment. The instrument and its subscales displayed acceptable to good reliability, with Cronbach's Alpha coefficients ranging from 0.629 to 0.900.



KEYWORDS

Child in conflict with the law

Probation officers

Psychometric scale development

Reoffending

Risk

Risk assessment

Scale

Validation



LIST OF ACRONYMS

APSD	– The Antisocial Process Screening Device
CCL	– Children in conflict with the law
CJA	– Child Justice Act
CYCC	– Child and Youth Care Centre
DSD	– Department of Social Development
EFA	– Exploratory factor analysis
GPCSL	– The General Personality and Cognitive Social Learning
HOD	– Head of Department
JSOAPII	– Juvenile Sex Offender Assessment Protocol–II
KMO	– Kaiser–Meyer–Olkin test
MAYSI-2	– The Massachusetts Youth Screening Instrument–Second Version
MM	– Mixed-methods
PACT	– The Positive Achievement Change Tool,
PCA	– Principal component analysis
PCC	– The psychology of criminal conduct
PIC-R	– Personal, interpersonal and community-reinforcement
POs	– Probation officers
RNR	– Risk Need and Responsivity Model
SA	– South Africa

- SACRANAS – South African Children in conflict with the law Risk and Need Assessment scale
- SACORAS – South African Child Offender Risk Assessment Scale
- SAPS – South African Police Service
- SAVRY – The Structured Assessment for Violence Risk in Youth
- SR – Scoping review
- UK – United Kingdom
- UWC – University of the Western Cape
- WSJSA – Washington State Juvenile Pre-Screen Assessment
- YASI – The Youth Assessment and Screening Scale
- Y-ARAFAT – The Youth Actuarial Risk Assessment Tool
- Y-ARAFAT-FO – The Youth Actuarial Risk Assessment Tool for First-Time Offending
- YLSCMI – The Youth Level of Service Inventory



DECLARATION

I, Edgar Eben Smith, hereby declare: “The Development and Validation of a Child in Conflict with the Law Risk Assessment Scale for Probation Officers in South Africa” is my own work, that all the sources I have used or quoted have been indicated and acknowledged by means of complete references. This work has not been submitted previously in its entirety, or in any part, at any other higher education institution for degree purposes.

Student name: Edgar Eben Smith

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Date: 2022

Signed



DEDICATION

This PhD is dedicated to my late grandmother, affectionately known as MA. Though, you passed from this earthly realm, I will always push forward and onward, and bounce back just like you taught me. I can never repay you for the love, care, physical, emotional, and spiritual support you provided in my early years. Indeed, a solid foundation has been laid. I will forever be thankful for your efforts and unconditional love.

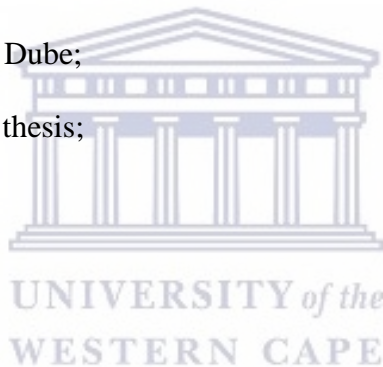


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- Gauteng DSD for granting permission to conduct this research at its workplaces;
- For all the probation officers, Gauteng DSD, who assisted in developing the instrument, thank you, colleagues



- To all the probation officers, employed in the Gauteng DSD, who collected data -a massive thank you, colleagues.
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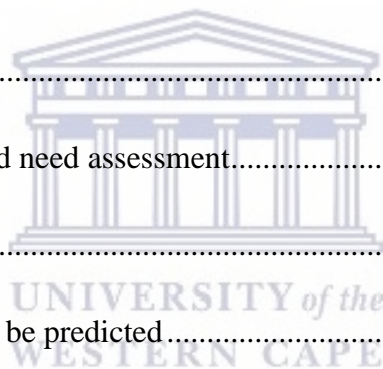


TABLE OF CONTENTS

ABSTRACT	i
KEYWORDS	iii
LIST OF ACRONYMS	iv
DECLARATION	vi
DEDICATION	vii
ACKNOWLEDGEMENTS	viii
TABLE OF CONTENTS	x
LIST OF TABLES	xxiv
LIST OF FIGURES	xxvi
CHAPTER 1: BACKGROUND AND ORIENTATION TO THE RESEARCH	1
1.1. Introduction.....	1
1.2. Background.....	1
1.3. Rationale for the study	4
1.4. Research setting	5
1.5. Problem Statement.....	7
1.6. Aims and objectives.....	8
1.6.1. Aims.....	8
1.6.2. Objectives	8
1.7. Research questions.....	9
1.8. Significance of the study.....	10
	x

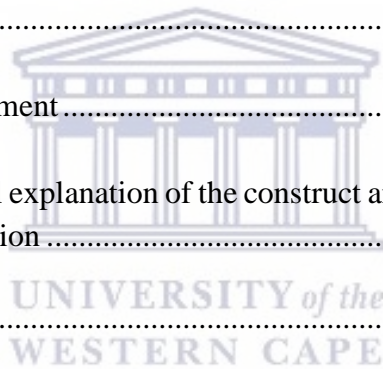


1.9. Methodology	11
1.10. Research design	11
1.11. Theoretical framework.....	11
1.12. Conceptual framework.....	12
1.13. Verification and validity	13
1.14. Ethical obligations	13
1.15. Definitions of key concepts	14
1.16. Outline of the thesis	15
CHAPTER 2: LITERATURE REVIEW	18
2.1. Introduction.....	18
2.2. Historical context of risk and need assessment.....	18
2.3. Risk of reoffending	21
2.3.1. Reoffending could be predicted.....	22
2.3.2. Risk factors for reoffending could be identified.....	22
2.3.3. Reoffending could be reduced	22
2.3.4. Appropriate, effective preventive and treatment services could be designed....	22
2.4. Risk of harm to others.....	23
2.5. Risk of self-harm.....	23
2.6. Multiculturalism.....	24
2.6.1. Multi-cultural instrument development	25
2.6.2. Bias	25

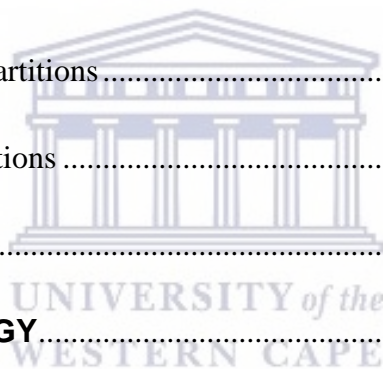


2.6.3. Equivalence.....	27
2.7. Examples of selected risk and need instruments.....	28
2.7.1. The Youth Level of Service/Case Management Inventory [YLS/CMI].....	28
2.7.2. Structured Assessment of Violence Risk in Youth [SAVRY]	29
2.7.3. The Juvenile Sex Offender Assessment Protocol (J-SOAP-II)	29
2.8. The risk-need responsivity model (RNR model).....	30
2.9. Validity theory	32
2.10. South African Probation Assessment of CCL	34
2.11. Summary.....	35
CHAPTER 3: THE RISK-NEED-RESPONSIVITY MODEL AND VALIDATION THEORETICAL FRAMEWORK.....	36
3.1. Introduction.....	36
3.2. Risk principle.....	37
3.3. Need principle.....	38
3.4. Responsivity principle	39
3.5. Professional discretion	40
3.6. Principles of RNR.....	41
3.7. The Psychology of Criminal Conduct (PCC)	43
3.8. Personal, Interpersonal and Community-Reinforcement.....	44
3.9. General Personality and Cognitive Social Learning (GPCSL).....	45
3.10. Critique against the RNR model	47
3.11. Validity theory	47

3.11.1. Content evidence.....	49
3.11.2. Structural evidence.....	51
3.11.3. External factors	52
3.11.4. Generalisability	53
3.11.5. Substantive validity evidence	54
3.11.6. Consequential aspects of validity.....	55
3.12. Summary.....	55
CHAPTER 4: THEORETICAL CONSIDERATIONS IN THE DEVELOPMENT OF THE INSTRUMENT	57
4.1. Introduction.....	57
4.2. Steps in instrument development.....	57
4.3. Development and theoretical explanation of the construct and the development of the items of the scales under construction	61
4.3.1. Referral status	61
4.3.2. Conviction status.....	62
4.3.3. Substance abuse	63
4.3.4. Parenting	64
4.3.5. Absconding	69
4.3.6. Peer relations.....	70
4.3.7. Aggression	73
4.3.8. Spending of free time.....	74
4.3.9. Behaviour	75



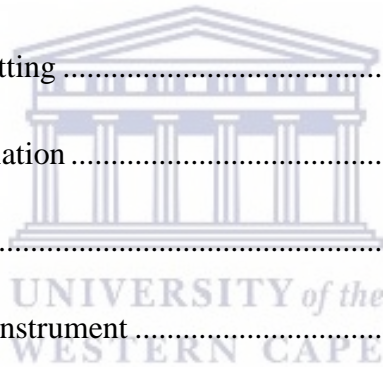
4.3.10. Orientation to crime	76
4.3.11. Attitudes to offending	78
4.3.12. Mental health status	79
4.3.13. Education	81
4.3.14. Employment.....	83
4.4. An overview of the scale design	84
4.4.1. Scaling items.....	84
4.4.2. Scaling formats	84
4.4.3. Scale partitions.....	84
4.4.4. Number of scale partitions.....	85
4.4.5. Labelling the partitions	85
4.5. Summary.....	87
CHAPTER 5: METHODOLOGY	88
5.1. Overview of the chapter.....	88
5.2. Study design.....	89
5.3. Mixed-methods	90
5.3.1. The pragmatic approach.....	91
5.3.2. Sequential exploratory design.....	91
5.4. Data collection methods.....	91
5.5. Phase 1: Exploring the construct – Objective 1	93
5.5.1. Research question	93



5.5.2. Research method.....	93
5.5.3. Research setting	93
5.5.4. Study population	93
5.5.5. Sampling	94
5.5.6. Measuring instrument	94
5.5.7. Data collection procedure	94
5.5.8. Data analysis	94
5.6. Phase 1: Exploring the construct – Objective 2.....	94
5.6.1. Research setting	95
5.6.2. Study population	95
5.6.3. Sampling	95
5.6.4. Measuring instrument	96
5.6.5. Data collection procedure	96
5.6.6. Data analysis	97
5.7. Phase 2: Instrument development – Objective 3.....	98
5.8. Phase 2: Instrument development – Objective 4.....	98
5.9. Phase 2: Instrument development – Objective 5.....	98
5.9.1. Focus group discussions with POs.....	99
5.9.1.1. Sampling	99
5.9.1.2. Measuring instrument	100
5.9.1.3. Research setting	100



5.9.1.4. Data analysis	101
5.9.2. Cognitive interviews with CCL	101
5.9.2.1. Research setting	102
5.9.2.2. Study population	102
5.9.2.3. Sampling	102
5.9.2.4. Measuring instrument	103
5.9.2.5. Data analysis	103
5.10. Phase 3: Instrument validation – Objective 6	104
5.10.1. Consultation with the POs	104
5.10.1.1. Research setting	104
5.10.1.2. Study population	104
5.10.1.3. Sampling	105
5.10.1.4. Measuring instrument	106
5.10.1.5. Data collection procedures.....	106
5.10.1.6. Data analysis	106
5.10.2. Consultation with key informants	107
5.10.2.1. Research setting	107
5.10.2.2. Population	107
5.10.2.3. Sample.....	107
5.10.2.4. Data collection	108
5.10.2.5. Data analysis	109



5.11. Phase 3: Instrument validation – Objective 7	109
5.11.1. Research design	109
5.11.2. Research setting	110
5.11.3. Target group.....	110
5.11.4. Sample.....	110
5.11.5. Respondent group	111
5.11.6. Instrument	111
5.11.7. Recruitment procedures	112
5.11.8. Time schedule	113
5.11.9. Data collection and process	113
5.11.10. Data analysis	115
5.11.10.1. Part 1: Descriptive statistics – Demographic data of participants	115
5.11.10.2. Part 2: Inferential statistics – Data analysis	116
5.11.10.3. Part 3: Data reduction procedures.....	119
5.12. Phase 3: Instrument validation – Objective 8	121
5.13. Phase 3: Instrument validation – Objective 9	122
5.14. Phase 3: Instrument validation – Objective 10	123
5.15. Phase 3: Instrument validation – Objective 11	123
5.16. Data verification procedures	123
5.17. Reflexivity.....	125
5.18. Ethical considerations	125

5.19. Summary 126

CHAPTER 6: PHASE 1: RESULTS EXPLORING THE CONSTRUCT IN THE LITERATURE..... 127

6. 1. Introduction..... 127

6.2. Phase 1: Exploring the construct – Objective 1 127

6.2.1. Stage 5 of SR: Collating, summarising and reporting results 127

6.2.2. Stepwise textual narrative synthesis 128

6.2.2.1. Step 1: Study grouping - instruments identified in the SR 128

6.2.2.2. Step 2: Study commentaries produced..... 128

6.2.2.3. Step 3: Narrative discussion of instruments used in SR 129

6.2.3. Adaptation of instruments..... 129

6.2.3.1. Name of instrument: WSJCA pre-screen..... 129

6.2.3.2. Name of instrument: PACT 131

6.2.3.3. Name of instrument: APSD 134

6.2.4. Development of instruments 135

6.2.4.1. Name of instrument: Y-ARAT-FO 135

6.2.4.2. Name of instrument: Y-ARAT 137

6.2.5. Validation of instruments..... 138

6.2.5.1. Name of instrument: YLS/CMI 138

6.2.5.2. Name of instrument MAYSI-2 139

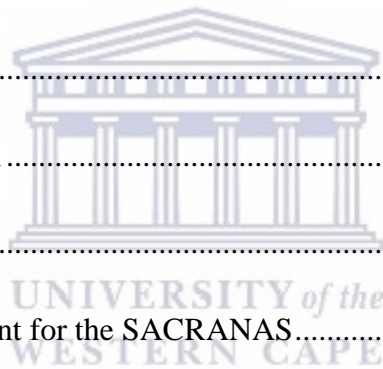
6.2.5.3. Name of instrument: SAVRY 142

6.2.5.4. Name of instrument: Model risk assessment instrument 143

6.2.5.5. Name of instrument: J-SOAPII.....	144
6.3. Phase 1: Exploring the construct – Objective 2	147
6.3.1. Data analysis of focus groups	147
6.4. Summary	149
CHAPTER 7: PHASE 2: INSTRUMENT DEVELOPMENT	150
7.1. Introduction.....	150
7.2. Phase Two: Instrument development – Objective 3	150
7.2.1. Development of the blueprint	150
7.3. Phase Two: Instrument development – Objective 4	151
7.4. Phase Two: Instrument development – Objective 5	152
7.4.1. Cognitive testing through focus groups with POs	152
7.4.1.1. Data analysis	152
7.4.2. Cognitive interviews with CCL	156
7.4.2.1. Analysis.....	156
7.5. Summary	157
CHAPTER 8: PHASE 3: INSTRUMENT VALIDATION	158
8.1. Introduction.....	158
8.2. Phase Three: Instrument validation – Objective 6	158
8.2.1. Demographic particulars	160
8.3. Phase Three: Instrument validation – Objective 7	161
8.3.1. Results of the assumption of the sample adequacy.....	161

8.3.2. Results of assumption of sampling adequacy and sphericity	162
8.4. Phase Three: Instrument validation – Objective 8.....	162
8.4.1. Correlated item-Total correlation of the domain, Behaviour at home, school and community	163
8.4.2. Correlated item-Total correlation of the domain, Empathy with the victim and taking responsibility for his/her crime	164
8.4.3. Correlated item-Total correlation of the domain, Peer relations	164
8.4.4. Correlated item-Total correlation of the domain, Abuse in childhood.....	165
8.4.5. Correlated item-Total correlation of the domain, Absconds from formal set-ups .	166
8.4.6. Correlated item-Total correlation of the scale, General aggressive behaviour ..	166
8.4.7. Correlated item-Total correlation of the domain, Serious aggressive behaviour	167
8.4.8. Correlated item-total correlation of the scale Aggressive behaviour in education	168
8.5. Phase Three: Instrument validation – Objective 9.....	168
8.6. Phase Three: Instrument validation – Objective 10.....	173
8.6.1. Eigenvalues and scree plots	174
8.7. Phase Three: Instrument validation – Objective 11	177
8.8. Reliability statistics.....	177
8.9. Summary of chapter.....	181
CHAPTER 9: DISCUSSION	182
9.1. Introduction.....	182
9.2. Phase 1: Identifying the domains and items, as per objectives 1 and 2	183

9.3. Phase 2: Illuminating the development of the instrument, as per objectives 3, 4, and 5	184
9.4. Phase 3: Validating the instrument, as per objectives 6 to 11	185
9.5. The eight-factor structure.....	187
9.6. RNR model	187
9.6.1. History of antisocial behaviour	188
9.6.2. Antisocial personality pattern	189
9.6.3. Anti-social cognition.....	189
9.6.4. Antisocial associates	189
9.6.5. Family/marital relationships	190
9.6.6. School/work	190
9.6.7. Leisure/Recreation	190
9.6.8. Substance abuse	190
9.7. Concluding validity argument for the SACRANAS.....	191
9.8. Summary of the chapter	192
CHAPTER 10: SUMMARY OF THE RESEARCH REPORT OVERALL CONCLUSIONS AND RECOMMENDATIONS	193
10.1. Introduction.....	193
10.2. Phase one	193
10.3. Phase 2: Instrument development	194
10.4. Phase 3: Instrument validation.....	195
10.5. Conclusion	195
10.5.1. Reliability of the newly developed assessment tool	196



10.6. Significance of the study.....	197
10.6.1. Contribution to the practice and application.....	197
10.6.2. Contribution to the research methodology.....	198
10.6.3. Contribution to policy	199
10.7. Limitations of the study	199
10.8. Recommendations for further study/research	200
10.9. Concluding remarks	201
REFERENCES	202
A-Z.....	202-230
APPENDICES.....	231
APPENDIX 1: Ethics approval letter	231
APPENDIX 2: BOSASA research approval letter	232
APPENDIX 3: Gauteng DSD research approval letter.....	233
APPENDIX 4: Key informants information sheet.....	234
APPENDIX 5: Key informants consent form.....	237
APPENDIX 6: Key informants interview schedule.....	238
APPENDIX 7: Parental information sheet ANNEXURE	239
APPENDIX 8: Parental consent form.....	242
APPENDIX 9: Child information sheet.....	243
APPENDIX 10: Child assent form	246
APPENDIX 11: Probation officer information sheet	248

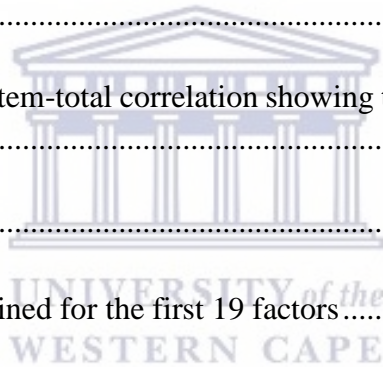
APPENDIX 12: Focus group confidentiality binding form	250
APPENDIX 13: Scoping review.....	252
APPENDIX 14: SACORAS blueprint.....	282
APPENDIX 15: Draft SACRANAS.....	290
APPENDIX 16: Domains, items & definitions, and instrument table.....	298
APPENDIX 17: Scaling format and descriptions table	305
APPENDIX 18: Editorial certificate.....	306



LIST OF TABLES

Table 3.1: The central eight	42
Table 5.1: Schematic presentation of research phases, objectives, research approach, research methods, population/s, sampling, data collection methods, data analysis, validity and reliability as well as data verification of the thesis	92
Table 5.2: Biographical particulars about the participants in the Johannesburg and Pretoria focus groups.....	196
Table 5.3: Biographical particulars about the participants Johannesburg and Pretoria focus groups	100
Table 5.4. Biographical detail of CCL.....	103
Table 5.5: Biographical particulars about the participants Johannesburg and Pretoria focus group 2.....	105
Table 5.6: Biographical particulars about the key informants	108
Table 5.7: Data collection plan	112
Table 5.8: Demographic profile of the child participants	115
Table 6.1: Instruments depicting the categories of adaption, development, and validation ..	128
Table 6.2: Overview of themes and sub-themes	148
Table 7.1: Conceptual data analysis depicting coding unit and percentage of POs concurring...	153
Table 7.2: Proximity analysis describing codes from focus groups, themes from focus groups and an illustrative code	154
Table 8.1: Focus group two discussion suggestions	159
Table 8.2: Email research discussions suggestions.....	160
Table 8.3: KMO results for sample adequacy (N=315).....	161
Table 8.4: Bartlett's test for total sample (N=315).....	162

Table 8.5: Item and Correlated item-Total correlation depicting the scale, behaviour at home, school and community	163
Table 8.6: Item and Correlated item-Total correlation depicting the scale, empathy with the victim and taking responsibility for his or her crime	164
Table 8.7: Item and correlated item total correlation portraying the scale, Peer relations	165
Table 8.8: Item and correlated item-total correlation showing the scale, Abuse in childhood	165
Table 8.9: Item and correlated item-total correlation portraying the scale, Absconds from formal set-ups	166
Table 8.10: Item and correlated item total correlation depicting the scale, General aggressive behaviour	167
Table 8.11: Item and correlated item-total correlation depicting the scale, Serious aggressive behaviour	167
Table 8.12: Item and correlated item-total correlation showing the scale, Aggressive behaviour at school	168
Table 8.13: Pattern matrix.....	169
Table 8.14: Total variance explained for the first 19 factors	175
Table 8.15: Parallel analysis	176
Table 8.16: Cronbach's Alphas of the SACRANAS	178
Table 8.17: Item analysis of the SACRANAS.....	178



LIST OF FIGURES

Figure 1.1: Map of Gauteng	6
Figure 7.1: The five-step process of content analysis.....	153
Figure 8.1: Scree-plot of the risk and need assessment factor analysis	174



CHAPTER ONE

BACKGROUND AND ORIENTATION TO THE RESEARCH

1.1. Introduction

In this chapter, the researcher provides an introduction to all the elements of this doctoral study. The chapter commences with a background to, as well as rationale for this current study. Subsequently, the research setting and problem statement are described, followed by the aims, objectives, and research questions of the research study. The significance of the study is presented, followed by a description of the research methodology and design, used to gather and analyse the appropriate data results. A discussion of the theoretical and conceptual frameworks utilised for the study ensues, as well as an explanation of the concepts of verification and validation. The ethical considerations of the study are presented next, and the key concepts, used in the study, are defined. The researcher concludes this chapter with a summary of the remaining chapters of the dissertation.

1.2. Background

Internationally, there is a long tradition of using standardised risk and need assessment instruments with children in conflict with the law [CCL]. Several standardised, general risk and need instruments were developed, to assess CCL (Cuervo & Villanueva, 2018; Picken et al., 2019). In addition, specialised, standardised risk and need instruments were developed for mental health (Heyns & Roestenburg, 2017; Morris, 2014), sexual violence (Miccio-Fonseca, 2013; Prentky et al., 2020), violence (Edelstein, 2018; Soderstrom et al., 2019), and psychopathy (Li, Chan et al., 2017). A standardised risk and need assessment instrument for probation officers (POs) to assess CCL, therefore, is important in South Africa.

In many countries, research has been conducted to identify the types of behaviour that increase CCL risks for engagement in crime (Bonta & Andrews, 2017; Cuervo, Villanueva, & Basto-Pereira, 2020; Hollin, 2017; Li, Chu et al., 2019; Picken et al., 2019). These risk factors could be related to *internal disorders* of CCL, or *external* factors associated with the circumstances of CCL. Some examples of *internal* risk factors could include brain disease and disorders,

neurological damage in early life, as well as the prevalence of fetal alcohol spectrum disorders. External risk factors could include association with a challenging peer group/gangsters, and the abuse of alcohol or drugs.

Additionally, many CCL experience poor engagement with, and achievement in school, while the parents/caregivers of several are poor role models, fail to provide structured and fair discipline, or have a history of engagement in criminal activity (Bonta & Andrews, 2017; Jacobs & Slabbert, 2019; Magidi et al., 2016; Muguzulwa & Gxubane, 2019). However, according to Bonta and Andrews (2017), risk factors may or may not be transformed. The main types of risks assessed, for within child justice settings, include the following: The risk assessment of general reoffending; risk of violence; risk of sexual violence; and the assessment of serious and chronic offending (Baglivio et al., 2017; Bonta & Andrews, 2017; Stockdale et al., 2014).

Standardised risk and need assessments seek to predict the likelihood of ongoing child offending behaviour, without the intervention of professionals, such as POs. Of critical importance, is the gathering of critical information, and the analysing of its meaning, in the time and context of the assessment. This critical information is gathered from several documents obtained from the South African Police Service (SAPS), National Prosecution Authority, Department of Social Development (DSD), Department of Education, an Department of Health, as well as by conducting interviews with CCL. Risk and need assessments are conducted in an evidence-based, structured manner, using standardised instruments, as well as professional decision making. The results of the risk and need assessments should be communicated eloquently, in terms of the likelihood, pattern, nature and seriousness of the offence, for it to be understood by CCL, professionals, parents, guardians, and the court. Standardised risk and need assessments generally culminate in the classification of CCL into a general risk category, for example: low, medium, high, or very high (Bonta & Andrews, 2017; Booth & Kingston, 2016; Smith, 2013).

Worldwide, there is a long tradition of assessing the risk of reoffending, risk of harm to other persons, as well as risk of self-harm of CCL. Reoffending generally refers to CCL reverting to offending behaviour post-completion of a diversion programme, sentencing disposition, child,

and youth care centre (CYCC) or correctional programme (Human, 2018; Smith, 2013). The risk of harm to other persons occurs when CCL commit a crime that harms, or seriously harms other people (Assink et al., 2016; Baglivio et al., 2017; Oliphant & Pavlic, 2012). The risk of self-harm delineates the likelihood of CCL being harmed by their own actions, or the actions/omissions of other persons (Youth Justice Board [YJB], 2014).

South African literature, regarding risk assessment of adult offenders (Herbig & Hesselink, 2012; Hesselink, 2012), as well as CCL (Heyns & Roestenburg, 2017; Omar, 2012; Smith, 2013), has highlighted that a systematic, standardised, evidence-based framework remains lacking in the country. Notably, in the 1990s, the Inter-ministerial Committee on Young People at Risk (Republic of South Africa [RSA], Department of Social Development [DSD], 1996b) suggested that a standardised risk assessment protocol be developed in South Africa. The Child Justice Act (Republic of South Africa [RSA], 2008, Act No. 75 of 2008) concurs with the tenets that underpin the Constitution (Republic of South Africa [RSA], 1996a, Act 108 of 1996), as well as the international obligations of South Africa. Of importance to this current study is the fact that Chapter 5 of the Child Justice Act (RSA, 2008) demands a more comprehensive risk assessment, when POs conduct risk assessments with CCL.

South African social work practice places a high emphasis on developmental social work, which is based on Restorative Justice and Diversion (Gxubane, 2021; Human, 2018; Republic of South Africa [RSA], Department of Welfare, 1997). This implies that, upon assessment by POs locally, CCL could be diverted away from the child justice system, should they acknowledge responsibility for the offence of their own free will. When a diversion recommendation, made by a PO, is accepted by the Child Justice Court, children in South Africa do not receive a criminal record (Gxubane 2016; Human, 2018; RSA, 2008). Muntingh and Ballard (2012) observed that the police charged 75 453 children between April 2010 and March 2011; however, only 16 462 children were diverted in the courts, due to various reasons, such as, cases being withdrawn by victims, incompetent investigations, and cases being withdrawn by prosecutors, among others. Stout (2006, p. 139) delineates "...the emphasis on creating a diversion regime may not succeed in transforming the experience of the criminal justice system for serious and persistent child offenders." Therefore, the impact of repeat and violent CCL, such as murderers and rapists, on their victims and communities, emphasises the

importance of high-quality risk assessment by POs (Altbeker, 2007; Human, 2018; Omar, 2012).

Hesselink (2012), Human (2018), and Smith (2013) concur that the clinical approach to risk assessment still plays a significant role in criminal justice risk assessment for CCL in South Africa. POs do not keep abreast of international developments concerning the conducting of risk assessments of CCL, as they still rely heavily on first-generation tools, namely, the social work interview and a prescribed form (Human 2018; Smith, 2013). Transnationally, however, risk assessments are completed with the aid of fourth-generation scales, such as the Youth Level of Service/Case Management Inventory [YLS/CMI] (Bonta & Andrews, 2017; Cuervo & Villanueva, 2018; McKenzie, 2018), to inform the level of supervision, intervention, treatment planning, and case management of CCL (Baker, 2012; McKenzie, 2018; YJB, 2014).

Previously, POs were not allowed to use instruments that were registered as psychometric instruments by the Psychometrics Committee of the Professional Board for Psychology (Republic of South Africa [RSA], 1974b, section 37). According to social work studies, such as Swanzen (2006) and Struwig (2006), for many years in South Africa, the public and professionals alike have accepted that all psychometric standardised testing and assessments should be conducted by psychologists, as POs were not qualified to do standardised testing. However, POs are appointed under Section 2 of the Probation Services Act (Republic of South Africa [RSA], 1991, Act 116 of 1991). In addition, locally, all POs are qualified social workers, registered with the South African Council for Social Service Professions.

Evidence-based interventions for POs require a more objective assessment method, to avoid sole dependence on the judgment of POs; therefore, the development, validation, adaptation, and use of standardised assessment instruments could assist in this process (Edelstein, 2018; Smith, 2013). Consequently, Omar (2012) and Smith (2013) strongly argue that ongoing research about standardised risk assessments could contribute to a more professional, evidence-based probation service, based on reliable and valid risk assessments of CCL.

1.3. Rationale for the study

Probation officers conduct assessments daily; however, Hesselink (2012) and Roestenburg (2012) postulate that South African social workers chiefly conduct generic, non-standardised assessments with CCL, within a developmental assessment framework. Additionally, Van

der Merwe and Dawes (2007), as well as Omar (2012) identified a lack of standardised, valid, and reliable risk and need assessment scales in South Africa with which to assess the risk and need of CCL. Consequently, a dearth of information on standardised risk and need assessments of CCL is available locally, while Smith (2013) postulates that the assessment instruments used should be updated and aligned with international best practices.

In some studies, local researchers have attempted to translate and revalidate existing scales to be used in South Africa (Hendricks, 2018; Isaacs et al., 2017). However, Hesselink (2012) and Van Breda (2004) strongly argue that, in South Africa, with its extreme cultural diversity, instruments developed in the West are often not suitable for use with most local social work clients. South Africa is a multicultural and multilingual society (Gxubane, 2016; Ismail, 2018; RSA, 1996a; Van Breda, 2008); therefore, theoretically, it is more apt to go through the complete scale development, validation, and adaptation procedures, with existing CCL assessment scales, which are utilised internationally, as reference points (Edelstein, 2018; Roestenburg, 2012). Ismail (2018, pp. 39–40) boldly declares, “it is both morally and ethically wrong to utilise assessment measures without proving its validity and reliability as well as potential bias against certain groups (cultural and linguistic relevance), within a multicultural South African context”.

In view of the arguments above, it has become imperative to develop a standardised risk assessment tool for CCL, pertinent to the unique *South African context*. Consequently, the researcher embarked on this study process to develop a tool for POs, to assist with the risk and need assessment of all children, who commit any crime.

1.4. Research setting

South Africa comprises nine provinces and the researcher lives and works in one of them, namely, the Western Cape. The researcher experienced many difficulties with attempts to obtain approval to conduct this current research in three provinces, namely, the Western Cape, Eastern Cape, and Gauteng). On many occasions in 2015 and 2016, the researcher applied for approval from the Western Cape Department of Social Development [DSD] to conduct this research, without success. In 2017, the researcher applied for approval from the Eastern Cape DSD to conduct this research, also without success. However, in 2017, the researcher also

applied for approval from the Gauteng DSD to conduct this research, with success. In 2019, though, the researcher had to reapply to the Gauteng DSD for permission to conduct this research, as the previous HOD had left the department, and the newly appointed HOD had to grant permission. As a result, the researcher lost many months of actual research in the field, and the research was only conducted in Gauteng, one of the nine provinces in South Africa.



Figure 1.1: Map of Gauteng

The official languages of South Africa are Sepedi, Sesotho, Setswana, siSwati, Tshivenda, Xitsonga, Afrikaans, English, isiNdebele, isiXhosa and isiZulu, all of which are spoken in Gauteng. This province is a cultural melting pot; consequently, the inhabitants speak many home languages, and several mixed languages. The research sites were located in the

Johannesburg region, Tshwane region, West Rand region, Ekurhuleni region, as well as the Child and Youth Care Centre [CYCC], under the management of the Gauteng DSD and BOSASA. The map of Gauteng is illustrated in Figure 1.1.

1.5. Problem Statement

Limited research on how professionals conduct standardised risk and need assessments with CCL exists in South Africa (Human, 2018; Roestenburg, 2012; Smith, 2013; Van der Merwe & Dawes, 2007). Holtzhauzen (2012) and Smith (2013) concur that POs do not make use of standardised tools to assist them. Gxubane (2008) and Smith (2013) argue that the current information gathering technique (social work interview), as well as the tools (non-standardised form/s) utilised, should be updated to become aligned with international best practices, for example, semi-structured interview with a standardised scale (Bonta & Andrews, 2017; Booth & Kingston, 2016). Risk assessment of CCL is a specialised skill that cannot be learned in a generic social work degree training programme, because in order to function as POs, specialised training is required (Smith, 2013). As far as the researcher could ascertain, no standardised instrument exists to measure the risk and need of CCL in South Africa. Therefore, in this current study, the researcher aims to develop a contextual, user-friendly instrument specifically for the South African CCL population.

Surprisingly, the use of instruments to predict offending behaviour is not a new development, as one of the earliest examples of prediction of offending behaviour was developed by Burges (1928). The work of Burges (1928, also cited in Andrews & Bonta, 2010) examined over 3000 parolees and observed 21 factors that differentiated parole success from parole failures. In addition, Glueck and Glueck (1950) developed *The Social Prediction Table* that has attempted to identify factors, which could be used to predict the onset of offending (also cited in Andrews & Bonta 2010). However, standardised risk and need assessment instruments are not part of the child justice system in South Africa (Holtshauzen, 2012; Omar, 2012; Smith, 2013).

The researcher identified the need for a valid, reliable, and viable instrument, that should be developed for POs to assess the risk and need of CCL, locally, and attempts to address this void in this current study, by developing and validating a standardised risk and need assessment instrument to assess CCL in South Africa.

1.6. Aims and objectives

The following are the aims and objectives of this current study.

1.6.1. Aims

The aim of phase 1 was to explore the construct, as well as identify the domains and items. The aim of phase 2 was the development of the scales, while the aim of phase 3 was to validate the instrument.

1.6.2. Objectives

Phase 1: Exploring the construct

- Objective 1: To explore literature pertaining to the measurement of CCL risk and need assessment, systematically, to describe best practice models used for the development and validation of a standardised CCL risk and need assessment instrument.
- Objective 2: To explore the construct of CCL risk and need assessment qualitatively with POs working in the field.

Phase 2: Instrument development

- Objective 3: To develop a blueprint for the instrument that includes the domains, as well as operational definitions for each domain, based on the literature reviewed, and the qualitative data collected in phase 1 of the study.
- Objective 4: To populate each domain with items, based on the qualitative data collected in phase 1 of the study.
- Objective 5: To test the instrument cognitively.

Phase 3: Instrument validation

- Objective 6: To qualitatively assess the face and content validity of the risk and need assessment instrument, in consultation with the POs and key informants.
- Objective 7: To conduct field testing with the instrument, by means of a survey.

- Objective 8: To reduce items, by exploring item characteristics and factor structure.
- Objective 9: To explore the factor structure of the instrument, using exploratory factor analysis.
- Objective 10: To assess the dimensionality of the instrument, using exploratory factor analysis.
- Objective 11: To test the internal consistency of the instrument using Cronbach's Alpha.

1.7. Research questions

In this current study, the researcher sought to address the following overarching question: "What content should be included in a standardised risk and need assessment scale for POs to assess CCL?" This overarching question is augmented by the following sub-questions, delineated per objective.

Phase 1: Exploring the construct

- Objective 1: "What are the best practice models used for the development and validation of a standardised CCL risk and need assessment instrument?"
- Objective 2: "What are the perceptions of POs and CCL in the field, regarding the construct of CCL risk and need assessment?"

Phase 2: Instrument development

- Objective 3: "Which domains should be included in such an instrument?"
- Objective 4: "Which items should be included in each of the domains?"
- Objective 5: "Would the items be appropriate for the target population?"

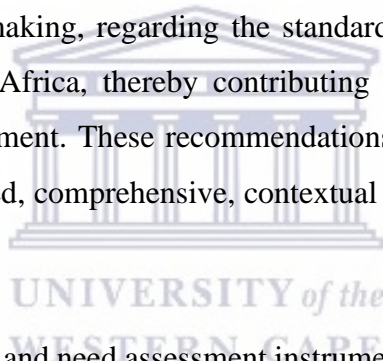
Phase 3: Instrument validation

- Objective 6: "What are the face and content validity of the instrument?"
- Objective 7: "What is the result of the survey field testing of the instrument?"

- Objective 8: “After exploring item characteristics and the factor structure, which should be removed to reduce the number of items?”
- Objective 9: “What is the factor structure of the instrument?”
- Objective 10: “What is the dimensionality of the instrument?”
- Objective 11: “What is the internal consistency of the instrument?”

1.8. Significance of the study

An important issue that has not been researched adequately in South Africa is the development, validation, and adaptation of standardised risk and need assessment instruments to assess CCL. This current study could make a significant contribution to the intervention and knowledge of local probation work, by providing a standardised risk and need instrument, to conduct risk and need assessments with CCL. The recommendations derived from this current study could inform stakeholders in policy-making, regarding the standardised, contextual risk and need assessments of CCL in South Africa, thereby contributing to the field of contextual and decolonised instrument development. These recommendations would also be useful to POs, who have to conduct standardised, comprehensive, contextual risk and need assessments with CCL.



Additionally, a standardised risk and need assessment instrument could assist the Child Justice Court to make informed decisions concerning the sentences and intervention needs for CCL. The enhanced risk and need assessments of CCL by POs would specifically benefit the CCL, as more balanced assessments would be conducted. The newly developed standardised risk and need instrument would also fulfil a crucial role in identifying the CCL, who would most likely reoffend, by identifying risk factors that increase the propensity of future offending. This would benefit the CCL, as those assessed as high risk, would receive more intensive services, while those assessed as low risk, would receive lesser intensive services. Standardised risk and need assessments would allow more accurate detection of important factors to target in interventions with CCL, and guide case planning by POs more effectively in South Africa.

Ultimately, this current study could address the identified dearth of locally designed, contextually appropriate, risk and need assessment instruments, as assessment measures for

CCL in South Africa. It will also demonstrate the rigorous instrument development process required to establish the psychometric properties of an instrument in development.

1.9. Methodology

Mixed-method research refers to the data collection, analysis, and integration of both qualitative and quantitative data in a single study, using multiple phases. In this current study, a mixed-methods approach was followed, as this approach, which included a Scoping review, focus groups discussions with POs, email research with experts, and a survey with CCL (Arksey & O' Malley, 2005; Creswell, 2014), was appropriate to realise the goal of this research, namely, to develop and validate an instrument. The researcher employed the sequential exploratory design, in which qualitative data are collected and analysed first, followed by quantitative data collection and analysis (Creswell, 2014; Creswell & Plano Clark, 2011).

1.10. Research design

The researcher employed an *explorative-sequential and contextual research design*. The researcher first completed the qualitative phase, and thereafter the quantitative phase of the data collection and analysis (Creswell, 2014; Creswell & Plano Clarke, 2011). This contextual study focuses on POs, practising in the Gauteng Province of South Africa, conducting risk and need assessments of CCL (Carey, 2009). As indicated above, the aim of Phase 1 was the exploration of the construct, the aim of Phase 2 was the development of the instrument, and the aim of Phase 3 was instrument validation.

1.11. Theoretical framework

The Risk-Needs-Responsivity model [RNR] (Bonta & Wormith, 2013), as well as the Validation Theory (Messick, 1998) were employed in this current study. In this regard, the RNR was used as a theoretical framework to identify the dimensions to be included in the scales, as well as explore the construction of valid scales for internally valid research. Globally, the RNR model has been used, with increasing success, in the development and validation of the risk and need assessment instruments (Bonta & Andrews, 2017; Cuervo & Villanueva, 2018; McGrath et al., 2018; McKenzie, 2018). It is important to note that internationally, many

instruments, scales, tools, and indices are tailored on the RNR model for adults, children, male, female, as well as mentally unwell offenders (Baglivio, 2009; Bonta & Andrews, 2017; Cuervo & Villanueva, 2018; McGrath et al., 2018). Risk factors have been classified as falling broadly into two categories, namely, static and dynamic categories. Static risk factors include those that are historical and do not change (for example, age at first offence, gender). Dynamic risk factors are typically individual, social, or situational factors that could change over time, for example, pro-criminal attitudes, pro-criminal associates, antisocial personality pattern, family/marital, school/work, substance abuse, and leisure/recreation (Bonta & Andrews, 2017; Taxman & Smith, 2020; Viglione, 2019).

The Validity Theory was utilised to guide the procedures of construct validation throughout the development and validation of the instrument. Traditionally, *validity* is a concept that describes an instrument, and accurately reflects the concept it is intended to measure (Babbie, 2013; Roestenburg, 2012). Roestenburg (2012) utilised various forms of traditional validity when developing scales. A further concept of *construct validity* is described by Messick (1989) as a unitary concept that explores multiple sources of evidence. Within the unitary concept of *validity*, several pieces of evidence for a validity argument are currently taken to be different facets of a single unified form of construct validity (Kane, 2001; Messick, 1989). It could be argued that, regardless of how construct validity is defined, there is no single best way to study it. Messick (1989) introduced six types of evidence that should be gathered to support the validity argument, namely: 1) content; 2) structure; 3) external factors; 4) generalisability; 5) substantive, and 6) consequential aspects of validity.

1.12. Conceptual framework

Instrument construction is the set of activities involved in developing and evaluating an instrument of some psychological function (DeVellis, 2017). Boateng et al. (2018) and Kline (2015) warn prospective instrument developers that test/instrument construction is a tedious, labour intensive, complicated, and complex process. Many models for the development of instruments in social sciences are existent. The recent model of Boateng et al. (2018) proposed a model for instrument development that consists of three phases and eight separate steps: *Phase one: Item development* - Step 1 consists of (a) Identification of domains (b) item generation. Step 2 involves (a) evaluation by experts, (b) evaluation by target population. *Phase*

two: Instrument development - Step 3 comprises pretesting questions. Step 4 involves survey administration, establishing a sample size, and determining the type of data. Step 5 covers the extraction of factors. In *Phase 3*, Step 6 involves tests of dimensionality, Step 7, tests of reliability, and Step 8, tests of validity. However, the RNR model (Bonta & Wormith, 2013) and the Validation Theory (Messick, 1998) were a better fit for this current study. In this regard, the RNR was used as a theoretical framework, to identify the dimensions to be included in the scales, as well as explore the construction of valid scales for internally valid research.

1.13. Verification and validity

The research process in qualitative research requires rigour and should be scientifically sound. Qualitative researchers employ models appropriate to qualitative designs, to ensure rigour, without sacrificing the relevance of qualitative research. Methods for verification, namely triangulation, member checking, clarifying bias, peer debriefing, and auditing, were considered to ensure the credibility of the analysis of the qualitative responses to open-ended questions (Creswell, 2014). Conversely, in general, quantitative research refers to quantification in the collection and analysis of data. As a research strategy, it is deductivist and objectivist. Validity and reliability were ensured through a survey with CCL, using the validity theory, which entails complex statistical analysis.

1.14. Ethical obligations

Project registration and ethics clearance (Registration Number. HS18/7/32) was granted by the Human and Social Sciences Research Ethics Committee of the University of the Western Cape [UWC] (Appendix 1). Each phase had accompanying invitation letters and information sheets (Appendices 4, 7, 9, 11) that stipulated and explained the rights of the participants, as well as the responsibilities of the researcher. Every phase emphasised and ensured that participation was voluntary. All participants were allowed to withdraw from the study, whenever they so decided, without losing perceived benefits, or their decision influencing their court cases. The participants had to complete consent and assent forms indicating their willingness to participate in the study (Appendices 5, 8, 10, 12). The accompanying letters and consent forms reflected the information related to the respective phases. The participants were not subjected to any danger, or harm, during the research process.

The data were kept strictly confidential, and anonymised by assigning alpha-numeric codes, instead of the participants' personal information. In addition, the data were password-protected and stored in a secure location. The data will be kept for five years after completion of the study, in line with the UWC protocol for ethical data storage, and will be erased subsequently. Permission for access to identified research settings was requested from the gatekeepers, relative to each phase. All the data collected were subjected to the Protection of Personal Information Act (Republic of South Africa [RSA], 2013, Act No. 4 of 2013), as outlined in the University of the Western Cape, Research Data Management Policy (UWC, 2015).

1.15. Definitions of key concepts

- **Child in conflict with the law**

In terms Section 1:12 of the Children's Act (Republic of South Africa [RSA], 2005, Act No. 38 of 2005), and the Child Justice Act, (RSA, 2008), a child in conflict with the law is a person younger than 18 years of age.

- **Probation officer**

A probation officer is a person who has been appointed under Section 2 of the Probation Services Act (RSA, 1991). In South Africa, all probation officers are qualified social workers, registered with the South African Council for Social Service Professions.

- **Psychometric scale development**

DeVellis (2017) suggests a model for instrument development, consisting of 4 distinct steps, namely: a) establish a theoretical foundation for scale development; b) the scale construction; c) the scale evaluation steps; and d) revision and ongoing refinement of the scale.

- **Risk assessment**

Risk assessment is a formal assessment, which is conducted by a professional, or independent expert, to provide criminal justice authorities with an estimate of a child in conflict with the law's risk, or likelihood of future criminal offending (Bonta & Andrews, 2017; Wormith & Schafers, 2016).

- **Reoffending**

Definitions and measurements of reoffending may vary from study to study. Reoffending generally means reverting to offending behaviour, after completing a diversion programme,

sentencing disposition, CYCC, or correctional programme. It refers to the arrest for any violation, conviction for any offence, or re-incarceration for which CCL has had prior treatment (Andrews & Bonta, 2010, Baglivio, 2009; RSA, 2008). Based on recommendations from local POs involved in this current study, and the realities in South Africa, reoffending is delineated as any offence committed by CCL within 12 months.

- **Scale**

“The term, scale, refers to an instrument that is summated. An instrument that is summated is simply a tool comprising two or more items that are added together to get a score. The individual items are not interpreted separately, but rather as a cluster” (South African Council for Social Service Professions [SACSSP], 2003, p. 6). In this current study, the terms, *scale*, *instrument*, and *tool* will be used interchangeably.

1.16. Outline of the thesis

Chapter 1: The introduction and general orientation to the research report are outlined in this chapter, with a specific focus on the introduction, background to, and rationale for study, followed by the research setting, problem statement, aims and objectives, research questions, significance, research design and approach, ethical considerations, clarification of key concepts, and the content plan of the research report.

Chapter 2: The researcher provides an overview of the historical context of risk and need assessment, as well as an in-depth discussion of the RVR model and Validity theory that underpin the study. This chapter includes a discussion of the RNR Model as the essential basis for the study. The RNR model was used as a framework to identify the dimensions to be included in the scales. The researcher clarifies how the Validity theory guided this current study in the development and validation of the new instrument.

Chapter 3: In this chapter, the RNR model and the the Validity theory are introduced, which provide the framework for the development and validation of the scales. Both are explained in detail, including a discussion of all their components. Subsequently, the researcher clarifies how the RNR model fits into the process of scale development. In addition, the researcher explains how the validity theory is applied in the study, discusses the various types of evidence that could be gathered to build a valid argument, and presents the views of how these are usually measured.

Chapter 4: The researcher provides an introduction to scale development in social work in South Africa, as well as an orientation in multicultural scale development in South Africa. In addition, the steps followed in the development of this scale is presented, and a description of the development of the constructs (domains) and items. The concepts of *scaling formats*, *scale partitions*, *number of scales partitions*, *the construct validity* and *reliability of the scales* are illuminated.

Chapter 5: In this chapter, the methodology and its application are presented, with the focus on the manner in which the methodology was implemented. The study design is outlined, and its aims and objectives restated, followed by a discussion of the mixed-methods, research aims, methodology of the data collection process, objectives per phase, and data verification. In this chapter, the focus is on the focus group discussions with the POs, cognitive interviews with CCL, email data received from the key informants, and data analysis. The researcher also discusses reflexivity, and presents the ethical considerations and procedures that were followed while conducting this current study.

Chapter 6: In this chapter, the researcher discusses Phase 1, which is the systematic exploration of literature, regarding the measurement of CCL risk and need assessment. Subsequently, the researcher describes the best practice models used for the development and validation of a standardised CCL risk and need assessment instrument. This chapter is also focused on the qualitative exploration with POs, working in the field, as well as the data analysis of the construct, risk and need assessment.

Chapter 7: In this chapter, the researcher delineates Phase 2 of the study, describing the development of the instrument. The researcher presents the development of a blueprint, populates each domain based on the qualitative data collected in Phase 1, and reports on the cognitive testing of the instrument on both CCL and POs.

Chapter 8: In this chapter, the researcher addresses the validation of the instrument. The researcher discusses the thematic analysis, as well as the content analysis of the responses of the POs in the focus groups. In addition, the researcher clarifies the discussion of the individual email interviews with the key informants. The field testing by means of a survey on CCL is reported. Raw data are analysed, using the IBM Statistical Package for the Social Sciences (SPSS) Version 26. Several statistical analyses are conducted, such as the EFA, to determine the possible reduction of the items, explore the factor structure, and assess the dimensionality

of the newly-developed instrument. Finally, the researcher uses Cronbach's Alpha to test the internal consistency of the instrument.

Chapter 9: In this chapter, the researcher discusses the overall aims of the study, and the three phases, as well as the eleven research objectives.

Chapter 10: In this chapter, the use of the mixed-methods design and the pragmatic approach as a framework, to guide the development of the SACRANAS, is highlighted. The researcher provides a brief summary of the key findings of the study, and its contribution to the field of the risk and need assessment instrument development for CCL in South Africa. Finally, the significance and limitations of the study are stated, as well as some recommendations for further research.



CHAPTER TWO

LITERATURE REVIEW

2.1. Introduction

The aim of this chapter is to provide an academic rationale for the study, as evidenced by a broad overview of the existing body of literature on risk and need assessment instrument development and validation. Firstly, the researcher provides an overview of the historical context of risk and need assessment. The concept of multicultural instrument development is discussed. In Chapter 1, the RNR model and Validity theory were introduced, and in this chapter, their application is discussed, as well as the main threads in the literature presented.

2.2. Historical context of risk and need assessment

Previously, as mentioned in Chapter 1, all psychometric standardised testing and assessments were considered the domain of psychologists. However, it is important to understand the history of child justice, in order to contextualise current developments. The mandatory appointment of probation officers to address the issues of youth in conflict with the law, is contained in the South African Legislation, namely, the Probation Services Amendment Act (Republic of South Africa [RSA], 2002, Act 35 of 2002). The Child Justice Act (RSA, 2008), and the Child Justice Amendment Act (Republic South Africa [RSA], 2019, Act No. 28 of 2019) introduces the assessment of children by probation officers as a legal requirement for the first time in South African law. The legislation defines assessment as “a process of developmental assessment or evaluation of a person, the family circumstances of the person, the nature and circumstances surrounding the alleged commission of the offence, its impact on the victim, the attitude of the alleged offender in relation to the offence and any other relevant factor” (Skelton & Tshehla, 2008).

The application of the risk and need assessments of CCL has made substantial progress in the social sciences (Bonta & Andrews, 2017; Chu et al., 2012; Petersen-Badali, Skilling, & Haqanee, 2015). Of particular importance, the risk and need assessment of offenders is developing in South Africa (Edelstein, 2018; Hesselink, 2012; Roestenburg, 2012; Smith,

2013). As the assessment of the risks and needs of CCL is an essential part of probation work, most western countries, namely Canada, Spain, USA, and UK, have formalised the process of assessing the risks and needs of CCL, by using a structured decision-making process (Baker, 2004; Bonta & Andrews, 2017; Viglione, 2019).

Several approaches to risk assessment of CCL exist, namely, *actuarial*, *clinical*, and *structured clinical judgment* [SCJ] (Bonta & Andrews, 2017). *Actuarial* risk prediction is primarily based on information about group risk of reoffending, analysed in extensive studies of populations, using meta-analytic techniques. The *actuarial* assessment of a child offender measures the extent to which the individual shares the key characteristics of the group, such as age, gender, and criminal records, for example, which are considered to be associated with levels of risk (Schwalbe, 2007; Viglione, 2019). An example of a scale employed in the *actuarial* approach is the *Youth Level of Service/Case Management Inventory* (Bonta & Andrews, 2017; Viglione, 2019). *Clinical* judgements rely on the professional knowledge, skills, and experience of individual practitioners (Herbig & Hesselink, 2012, Hesselink, 2012). Smith (2013) observed that the clinical approach to risk assessment still plays a major role in the criminal justice risk assessment in South Africa. An example of an instrument used in the clinical approach is the *Assessment report probation officer* [RSA, 2008, section 40). *Structured clinical judgment* [SCJ] seeks to combine the systematic and evidence-based elements of the *actuarial approach*, with the sensitivity to individual risk factors of the *clinical approach*. SCJ supports a multi-disciplinary approach and places a high premium on professional clinical skill, experience, and expertise, applied through more structured approaches, informed by the best available evidence, to maximise, as far as possible, the completeness and accuracy of the risk assessment (Hilterman et al., 2014; Van der Put et al., 2014). An example of a scale used in the SCJ approach is the *Structured Assessment of Violence Risk in Youth [SAVRY]* (Hilterman et al., 2014).

Four generations of risk assessment have been identified. The first generation of risk assessment (professional judgement) mainly involves the unstructured clinical judgements of the probability of offending behaviour (Bonta & Andrews, 2017; Smith, 2013). The second generation of risk assessment (evidence-based tools) comprises empirically-based instruments that emphasise static, historical risk factors, such as the number and type of convictions

(Schwalbe, 2007; Viglione, 2019). The third generation of risk assessment (evidence-based and dynamic) uses both clinical and actuarial methods to measure static and dynamic risk factors, objectively and systematically (Bonta & Andrews, 2017; Schwalbe, 2007). The fourth generation of risk assessment assesses the level of supervision, treatment planning, as well as case management, and aims to include the identification of the key responsibility characteristics, to allow the practitioner to match interventions to offenders better (Cuervo et al., 2020; Viglione, 2019). The development of the *Youth Assessment and Screening Instrument [YASI]* included protective factors, to offer a strengths-based approach (Orbis Partners Inc., 2007). Internationally, the combined use of clinical and actuarial methods in a holistic approach to risk and need assessment, is advocated currently as the approach most likely to enhance both the predictive accuracy and usefulness of risk and need assessments for child offenders (Bonta & Andrews, 2017; Smith, 2013).

The main criticisms of risk and need assessment instruments include the following:

- Most instruments consider factors relating to one risk only, such as the risk of reoffending;
- Risks identified by the literature and POs may not be those identified by the CCL;
- The potential of subjecting children, who have already experienced multiple assessments, to further assessment processes;
- They could influence professional judgement and may encourage a tick box mentality;
- They are often not relevant to children's needs, developing personalities and rapidly changing circumstances, as children get older;
- Each tool has its own method of scoring information, including how the total score is computed (Smith, 2013; Taxman & Smith, 2020; Viglione, 2019).

The advantages of risk and need assessment instruments include the following:

- It enhances accountability through standardisation and could assist with research;
- It helps management, by distributing the caseload equally;
- Risk and need assessment instruments improve the predictive accuracy;

- It provides individual intervention and assists with programme planning;
- Risk and need assessment instruments provide consistency of information used by POs to make decisions regarding release from a CYCC or prison;
- Lastly, risk and need assessment instruments assist professionals to assign children to treatment programming, and determine the components of a supervision plan (Bonta & Andrews, 2017; Taxman & Smith, 2020; Viglione, 2019).

Risk and need assessment instruments, in general, include broad categories related to crime, behavioural descriptions, procedures to determine levels of risk, and standardised instruments to record this information (Andrews & Bonta, 2010; Taxman & Smith, 2020; Viglione, 2019). Risk and need assessment tools are chiefly designed for two primary uses: (1) To determine the appropriate level of supervision/custodial sentence; (2) To determine intervention required and measure change (Andrews & Bonta, 2010).

Ultimately, the Probation Services Amendment Act (RSA, 2002) requires that all arrested children, who have not been released, should be assessed by a probation officer as soon as is reasonably possible; however, before his/her first appearance in court. The Act also provides that, when a child has not been assessed by the time s/he appears in court, the court may extend the time for the child to be assessed, by periods not exceeding seven days at a time, following his/her first court appearance. The areas that are of particular concern in the assessment by probation officers include:

- Risk of reoffending
- Risk of harm to others
- Risk of self-harm
- Multiculturalism

2.3. Risk of reoffending

Definitions of the risk of reoffending may vary from study to study. Reoffending, generally, means reverting to offending behaviour after the completion of a diversion programme, sentencing disposition, child and youth care centre (CYCC), or correctional programme

(Human, 2018; Smith, 2013). Ortega-Campos et al. (2020) postulate that reoffending occurs when CCL commit any type of charge, after the first evaluation with the Youth Level of Service/ Case Management Inventory (YLS/CMI) short version within two years. The risk of reoffending is defined as the degree of likelihood that CCL will reoffend, linked with the timescale in which the reoffending is likely to occur (Assink et al., 2016; Bonta & Andrews, 2017).

2.3.1. Reoffending could be predicted

Viglione (2019), as well as Bonta and Andrews (2017) agree that the *risk principle* suggests that criminal behaviour could be predicted reliably, and treatment should be focused on the higher-risk offenders. In addition, the abovementioned literature maintain that child reoffending is predictable, and could be reduced by using validated risk assessments, to identify and address *criminogenic needs*, which currently, is known to lead to, or cause child offending.

2.3.2. Risk factors for reoffending could be identified

Risk and need assessment instruments for CCL that identify *criminogenic needs* are inextricably linked to offender rehabilitation and public protection (Bonta & Andrews, 2017; Taxman & Smith, 2020; Viglione, 2019).

2.3.3. Reoffending could be reduced

If the criminogenic needs of the CCL are addressed and changed positively, there is substantial empirical research, which indicates that these same offenders would be significantly less likely to reoffend (Bonta & Andrews, 2017; Cuervo et al., 2020; Smith, 2013; Viglione, 2019).

2.3.4. Appropriate, effective preventive and treatment services could be designed

Higher-risk CCL, as determined by a valid risk assessment, tend to respond better to intensive and extensive services, while low-risk offenders respond better to minimal or no intervention. In this regard, standardised assessments could help to identify the most effective interventions for various types of clients (Viglione, 2019; Taxman & Smith, 2020).

2.4. Risk of harm to others

The risk of harm to other persons is the probability that the child offender would commit a crime, which is likely to inflict harm, or serious harm on other persons (Baker, 2004). The risk of serious harm has become a significant issue in the child justice context, as reported by Burman et al. (2007) regarding the child justice context in Scotland. The risk of serious harm by CCL refers to the impact and consequences of a crime, should it occur (Smith, 2013, YJB, 2014). Additionally, the YJB (2014, p. 134) defines the imminent risk of serious harm as “CCL will commit the behaviour in question as soon as the opportunity arises, and the impact would be serious. Immediate multi-agency action is likely to be required. The potential event is more likely than not to happen imminently”. Consequently, the risk of serious harm demands a more in-depth assessment, to ascertain whether the CCL presents a risk of serious harm to other people, including sexual violence (Booth & Kingston, 2016). Locally, accurate risk of serious harm assessments by the CCL, are in high demand, as decisions on whether they should be released into the community could have severe consequences for the CCL, as well as the public.

However, assessing the risk of serious harm presents several important difficulties (Burman et al., 2007). A major difficulty is the low base rate, which could lead to an increased likelihood of making a false *positive predictive error* (the *base rate problem*). Accordingly, risk assessment studies are increasingly using the *receiver operating characteristic*, which displays the relationship between level of risk and decision choice, to evaluate the overall predictive efficacy of an actuarial risk assessment. It equates sensitivity, or *hit rate* (the percentage of reoffenders correctly identified as high-risk on assessment) with *specificity* (the percentage of non-reoffenders correctly identified as low risk), allowing the *positive predictive accuracy* to be calculated (Baglivio, 2009; Meyers & Schmidt, 2006).

2.5. Risk of self-harm

Several risk factors have been identified for children at risk of self-harm, which may include family breakdowns, exposure to trauma, substance misuse, mental ill-health, impulsivity, peer ostracism and bullying, victimisation, disruption of education, and other negative life events (Baker, 2004; Shepherd et al., 2018). Self-harm is a significant issue in Sri Lanka, especially for CCL in custody (Hettiarachchi et al., 2018). Their study found a high prevalence of self-harm, self-harm ideation, and self-harm with suicidal intent, among child offenders detained in

the child justice system in Sri Lanka. These authors argued that the prevalence of the aforementioned behaviours was higher than that reported in the youth justice samples from high-income countries.

Additionally, females, who were the victims of sexual abuse, and had been exposed to self-harm by friends, were more likely to report self-harm. An Australian study, conducted by Shepherd et al. (2018), identified that the prevalence and correlates of self-harm for children in custody is an important public health enterprise, as such information could help correctional services to identify at-risk children better, and facilitate therapeutic assistance. Additionally, it is important that ongoing self-harm support services are available for at-risk children leaving custody. The investigation observed that a considerable minority of incarcerated children have self-harmed, and childhood trauma, as well as mental health problems were linked with these behaviours.

2.6. Multiculturalism

Multiculturalism, as a systematic and all-inclusive approach to cultural and ethnic diversity, with educational, linguistic, economic, and social components, as well as specific institutional mechanisms, was adopted by countries such as Australia, Canada and Sweden (Nyoni, 2012). Nyoni (2012) explains that the terms, *multiculturalism* and *diversity*, are used interchangeably regularly, to include aspects of identity derived from gender, sexual orientation, disability, socioeconomic status, or age. Multiculturalism acknowledges the broad scope of dimensions of race, ethnicity, language, sexual orientation, gender, age, and disability.

A multicultural country, like South Africa, requires fair, multi-cultural psychometric instruments (Hill et al., 2013). Multi-cultural instrument development is concerned with the development of instruments that are equivalent across cultures, for the purpose of making comparisons of the phenomena across the cultures (Foxcroft, 2004; Van Breda, 2004). Van Breda (2004) argues that if social workers are being called upon to evaluate their practice with multicultural clients, they should be provided with instruments, developed and validated for multi-cultural use.

2.6.1. Multi-cultural instrument development

Multiculturalism, in the context of econometric scale development (social work), refers to the use of scales with clients from diverse cultures (Van Breda, 2004). The Multi-Cultural Scale Development delineates comparisons of constructs between various cultures, for the purpose of understanding different cultures better, as well as the similarities and differences between them. Multi-Cultural Scale Development aims to develop scales that could be used by a practitioner (of any culture) with clients from diverse cultures (Van Breda, 2004). Clark and Watson (1995), Masiza (2016), as well as Van de Vijver and Rothman (2004), recommend that, when instrument developers develop, validate, and adapt a cross-cultural, or multi-cultural instrument, a theoretical discussion of the notions of bias and equivalence is required.

2.6.2. Bias

Bias exists when a test makes systematic errors in measurement or prediction. *Bias* is a statistical concept, and consequently, could be defined empirically, with its existence determined scientifically. By examining the test data, the extent to which a test provides biased measures, could be determined. Van de Vijver and Tanzer (1997) postulate that bias occurs when score differences in the indicators of a particular construct, do not correspond with differences in the underlying trait or ability. It involves the characteristics of an instrument, in a specific cross-cultural comparison, rather than its core properties. *Bias* ensues in a test when the testing process is unfair to a group of individuals, who could be defined in some way (He & Van de Vijver, 2012; Van de Vijver & Tanzer, 2004). Additionally, Poortinga (1989) defines bias as the presence of nuisance factors (unwanted but systematic sources of variation) in cross-cultural measurement.

Van de Vijver and Leung (1997) describe a categorisation of bias, consisting of three types, namely, *construct bias*, *method bias*, and *item bias*. *Construct bias* occurs when the construct measured is not identical across groups. There are several sources under the construct's concept, for example, a partial overlap in the definitions of the construct across cultures, denotes a source of bias (He & Van de Vijver, 2012; Van de Vijver & Poortinga, 1997; Van de Vijver & Tanzer, 1997).

Method bias refers to all sources of bias originating from the method and procedure of a study, including factors such as, sample incomparability, instrument differences, tester and interviewer effects, and the mode of administration (He & Van de Vijver, 2012, Van de Vijver & Leung, 1997; Van de Vijver & Poortinga, 1997). In general, three types of *method bias* can be distinguished, namely, *sample bias*, *administration bias*, and *instrument bias*. *Sample bias* refers to confounding sample differences that impact the responses, for example, comparing responses of literate and illiterate people on some instruments could result in systematic differences between the groups, due only to their level of literacy, or education (He & Van de Vijver, 2012). *Administration bias* refers to differences in the procedures, or mode employed in administering the instrument. In the previous example, using self-report questionnaires for the literate group and asking an interviewer to administer the same questionnaire to an illiterate group, could create systematic differences between the groups, due to the mode of test administration (He & Van de Vijver, 2012). Finally, *instrument bias* refers to the general features of the instrument that generate unintended differences between groups, for example, systematic differences between groups may be due to the ways in which specific groups treat the Likert scales (He & Van de Vijver, 2012).

Item bias occurs when an item has a different psychological meaning across cultures, for example, an item of a scale (measuring anxiety) is said to be biased, when persons with the same trait, but from different cultures, are not equally likely to endorse the item (Van de Vijver & Leung, 1997). Item bias can arise from poor translation, inapplicability of item contents in different cultures, or from items that trigger additional traits, or have words with ambiguous connotations. For instance, certain words, for example, the English word, *distress*, or expression, *I feel blue*, may not have equivalents in a second language, which challenges the translations of an instrument. When applying the Marlowe-Crowne Social Desirability Scale in different cultures, the item, *I never make a long trip without checking the safety of my car*, does not apply to most college students in developing countries (Valchev, Van de Vijver, Nel, Rothmann, Meiring, & De Bruin, 2011). As a result, this item will introduce bias and endanger the comparison of scores at item level.

2.6.3. Equivalence

Van de Vijver and Leung (1997) suggest three levels of equivalence, namely, *construct equivalence*, *measurement unit equivalence*, and *scalar equivalence*. The first level (lowest), *construct equivalence*, also referred to as *structural equivalence* or *functional equivalence*, is reached when the instrument measures the same construct across different groups (Laher, 2010). When a lack of shared meaning across the groups exists, construct equivalence cannot be claimed for those groups, regarding the measure in question (Byrne & Van de Vijver, 2010).

Foxcroft and Roodt (2005) argue that psychological constructs are tied to their natural contexts, and cannot be studied outside of those contexts. Different cultures cannot be compared, when an instrument measures different constructs across the groups, as it would be like comparing oranges and apples (Van de Vijver & Tanzer, 2004). Van de Vijver and Leung (1997) further relate this to the concept of depression. Depression has different meanings across cultural groups; therefore, no link can be found between scores obtained from these different groups, regarding the construct of depression. To claim for construct equivalence, the instrument needs to measure the same construct across the various cultural groups. Construct equivalence evidence may be assessed by means of exploratory factor analysis [EFA] (He & Van de Vijver, 2012; Laher, 2010; Liebenberg, Ungar, & Van de Vijver, 2012), or confirmatory factor analysis (Els et al., 2016; Ungar & Van de Vijver, 2011).

The next level is *measurement unit equivalence*, which is regarded as the next highest level of equivalence. Measurement unit equivalence refers to the consistency of the measurement unit across the groups (He & Van de Vijver, 2012). It indicates that the tests have the same measuring unit, but different origins (Laher, 2010). He and Van de Vijver (2012) use the example of kilometres and miles; some countries (SA) use kilometres to measure road distances, and others use miles (USA, UK). Kilometres and miles cannot be compared directly; however, with the formula (one mile is about 1.6 km), one scale can be converted to another scale, consequently allowing the data to be comparable, by ensuring that distances can be compared across countries.

Scalar equivalence, also referred to as *full-scale equivalence*, is regarded as the highest level of equivalence (Els et al., 2016; He & Van de Vijver, 2012; Van de Vijver & Leung, 1997; Van de Vijver & Tanzer, 2004). Scalar equivalence requires that the instrument has the same measurement unit, the same origins, and measures the same construct across the groups. Scalar equivalence can only be accomplished when the measure is completely bias-free, specifically, no construct bias, item bias, or method bias (Els et al., 2016; Van de Vijver & Tanzer, 2004). Direct group comparisons can only be made when the scalar equivalence of an instrument has been achieved (Van de Vijver & Tanzer, 2004).

Instrument developers may use various methods to establish scalar equivalence. Researchers could assess the reliability coefficients, and the internal structure of a measure, as well as calculate the invariance, using multiple groups confirmatory factor analysis (Els et al., 2016). Els et al. (2016) and Laher (2010) postulate that the assessment of incongruences could be conducted through techniques like *Tucker's phi*. Van Breda (2004) declares that, in social work, equivalence is an essential issue in multicultural scale development, recommending that methods to promote and ensure equivalence must be found throughout the multi-cultural scale development process. Multicultural scale developers continuously evaluate the multicultural validity of the development process, from beginning to end.



2.7. Examples of selected risk and need instruments

In Chapter 1, the researcher refers to the development of several instruments, with which to measure risk and need, regarding the risk of general reoffending, violence, sexual violence, as well as the assessment of serious and chronic offending (Baglivio et al., 2017; Bonta & Andrews, 2017; Stockdale et al., 2014). As a general orientation, the researcher has decided to describe three popular instruments, adapted from the RNR, and used internationally, namely, the Youth Level of Service/Case Management Inventory [YLS/CMI - general scale], the Structured Assessment of Violence Risk in Youth [SAVRY - violence scale], and the Juvenile Sex Offender Assessment Protocol [J-SOAP II - sexual offending scale].

2.7.1. The Youth Level of Service/Case Management Inventory [YLS/CMI]

According to the literature (Andrews & Bonta, 2010; Cuervo et al., 2020; Dos Santos

et al., 2016; Viglione 2019), the YLS/CMI is an extremely popular instrument for the general risk and need assessment of CCL. Generally, the YLS/CMI has positive reviews regarding its reliability and predictive validity about the likelihood of the child to reoffend. According to Bonta and Andrews (2017), the YLS/CMI has been validated in Canada, Singapore, the United Kingdom, the United States of America, Australia, Portugal, and Germany.

2.7.2. Structured Assessment of Violence Risk in Youth [SAVRY]

The development of tools to assess the risk of violence among children and young people is progressing. The Structured Assessment of Violence Risk in Youth [SAVRY] is based on the Structured Professional Judgment [SPJ] model and contains 24 items, drawn from the existing research on adolescent development and youth violence. The SAVRY risk items are grouped into three domains, namely, Historical (ten items), Social/Contextual (six items), and Individual/Clinical (eight items). The final SAVRY risk rating (*low*, *moderate*, or *high*) represents a structured judgment regarding the risk of future violence. Although the final risk ratings are not linked to specific scores, or base rates in the population, empirical studies often find a linear relationship between the number of risk factors and violence risk (Soderstrom et al., 2019; Stockdale, 2008).

2.7.3. The Juvenile Sex Offender Assessment Protocol (J-SOAP-II)

The J-SOAP-II is a checklist of risk factors, derived from the literature, and organised to provide a structured review of the risk of reoffending among child sexual offenders (Chu et al., 2012). The J-SOAP-II (Chu et al., 2012) is a 28-item rating scale that is comprised of four independent subscales. Items are scored on a three-point scale, in which a score of 0 indicates the absence of the risk factor, a score of 1 suggests some evidence that the factor is present, and a score of 2 indicates clear evidence that the factor is present, or present to a greater degree or frequency. J-SOAP-II items are summed up to yield four individual subscale scores, a static and dynamic summary scale score (each based on the two corresponding subscales), and a total score. The instrument could be completed by using information from the data gathering process of a comprehensive evaluation or, depending on the quality of clinical files, using a retrospective review of the entire clinical record.

The superior performance of the dynamic items might have been partially influenced by the treating clinicians, who were quite familiar with the CCL, and completed the J-SOAP-II assessment. Because of the rapidly changing nature of adolescence, dynamic risk factors, particularly, may be important to predict the treatment response, as well as the ongoing risk of re-offence for adolescent sex offenders. It is critical that clinicians identify the factors that predict re-offence among adolescent sex offenders, to determine the appropriate sentences, and ensure public safety, as well as the appropriate levels of intervention. South Africa is a multi-cultural country; therefore, no research about child offending should be conducted without referring to culture.

2.8. The risk-need responsivity model (RNR model)

Many instruments, such as the YLS/CMI, PACT, WSJA pre-screen, and the SAVRY (Baglivio, 2009; Meyers & Schmidt, 2008; Schmidt et al., 2005) are based on the RNR model. The RNR model could be described as a very dominant, and the most widely used model for the adaption, development, and validation of risk and need assessments for CCL (Bonta & Andrews 2017; Viglione, 2019). The RNR model has been elaborated upon and contextualised within a general personality and cognitive, social learning theory of criminal conduct (Andrews & Bonta, 2010). Andrews and Bonta (2010) refer to the central eight major risk/need factors, namely: the *history of antisocial behaviour; antisocial personality pattern; antisocial cognition; anti-social associates; family/marital relationship; school/work; leisure/recreation; and substance abuse*. Internationally many scales are based on the central eight. After reading the extant literature, the researcher deduced that the central eight major risk/need factors, form the *domains* or *subscales* of standardised instruments (Andrews & Bonta, 2017; Baglivio, 2007; Meyers & Schmidt, 2008).

The YLS/CMI is a general instrument that assesses the risks and needs of CCL in many parts of the world; consequently, as a start, it was argued that a general tool be developed in South Africa. Jung and Rawana (1999) investigated the predictive validity of a variation of the YLS/CMI, in a sample of 250 male and young female offenders, followed up for six months post-assessment. Recidivists scored significantly higher than non-recidivists on the total YLS/CMI score (15.7 versus. 9.2, respectively), and all eight criminogenic needs. In addition, the Aboriginal youth scored significantly higher than the non-Aboriginal youth on family

circumstances/parenting, substance abuse, peer relations, and leisure/recreation.

Schmidt et al. (2005) examined the YLS/CMI's reliability and validity in a sample of 107 male (62.6%) and female (37.4%) offenders (29% Aboriginal; 71% Caucasian), who were court-referred for mental health assessments in Northern Ontario. Interrater reliability estimates (intraclass correlations, $n = 29$) ranged from .61 (Peer relations) to .85 (Education/employment), and all were statistically significant. Internal consistency estimates (Cronbach's Alpha, $N = 107$) ranged from .56 (Substance abuse) to .77 (Attitudes/orientation). These results suggest that the YLS/CMI is a reliable instrument that could provide a consistent risk-need profile; however, the Peer relations and Substance abuse subscales were marginally below the established benchmark. Importantly, the total scores on the YLS/CMI were significantly correlated ($p < .01$) with other well-established behavioural measures of pathology (concurrent validity), and a number of outcome measures (predictive validity), including the number of new offences ($r = .30$), time to reoffend ($r = -.42$), and serious reoffending ($r = .26$) for the entire sample. However, correlations with any reoffending, and the number of new offences were nonsignificant for the female sample ($n = 34$). Receiver Operating Characteristic Curves were also used to assess the YLS/CMI's predictive validity, resulting in a moderate to a large area under the curve values. The YLS/CMI has been observed to be reliable and consistent internally, with adequate concurrent and predictive validity for use within the general CCL population. However, there is a need for further research in this area, using different offender populations and utilising additional outcome measures.

Another recent study reported preliminary psychometric data for an Australian adaptation of the YLS/CMI, for example, predictive validity coefficients were similar to those found in other jurisdictions (Thompson & Pope, 2005). Test-retest results were suggestive of change, namely, the results were significantly lower at retest, and correlated positively with recidivism. However, the authors acknowledge several significant methodological shortcomings, including an idiosyncratic selection of cases for re-evaluation, potential access to scores from the first assessment, and potential knowledge of the outcome.

The SAVRY, also derived from the RNR model, is a multi-item clinician-rated measure, designed to evaluate the risk of violence in CCL (Stockdale, 2008). The SAVRY consists of

ten historical risk items, six social-contextual risk items, eight individual-clinical risk items, as well as six protective factors. Each risk item is rated on a three-point (0, 1, & 2) scale, whereas the protective factors are rated as being either present or absent. Following a rating of the items, the clinician assigns a summary risk rating of low, medium, or high. Risk ratings could be based either on a summation of the items, or structured professional judgment [SPJ]. SPJ is the approach to risk assessment employed by the SAVRY, and represents another recent development in the field. SPJ has combined structured assessment approaches with actuarial scores. The authors report an adequate internal consistency ($\alpha = .82$) and interrater reliability (range from .81 to .83 for the SAVRY total score and from .72 to .77 for the summary risk rating), as well as good concurrent (SAVRY risk total correlates .78 to .89 with other youth measures) criterion (SAVRY scores correlate between .25 and .72 with various measures of violence), and predictive validity (area under the curve values for the total score average about .74 to .80 (Borum & Verhaagen, 2006).

Ultimately, the RNR model provides an empirically validated structure that guides modern risk assessments instruments in achieving two main goals. First, all basic risk assessments seek to determine the level of risk for re-offence. The secondary goal of an RNR-based risk assessment is to evaluate the mechanisms by which the probability of re-offence could be mitigated, by identifying the factors that influence the likelihood of the individual reoffending. Therefore, it would be prudent to employ the RNR model as a theoretical model in this current study (Bonta & Andrews, 2017; Viglione, 2019).

2.9. Validity theory

The validity theory was appropriate for this current study, as the aim of the study was to assess the extent to which validity evidence, based on empirical evidence and theory, supports the development of a standardised risk and need assessment instrument for CCL in South Africa. As the modern validity theory reorganises classical validities into procedures of validity evidence, the researcher in this current study has collected evidence in support of a validity argument, in line with the validity theory. Importantly, Cook and Beckman (2006) posit that the validity theory informs the development and use of instruments. Inspired by Messick (1989), the validity theory was employed in this current study, to frame all the stages of the

development and validation of the instrument, by employing the procedures of construct validation.

Accordingly, the defining and operationalising of the constructs, as well as the writing of the items, were informed by the validity theory. The theory holds that the validity of an instrument depends on the clarity of the theoretical construct, as well as a good description of the content domain. Validity theory guided the domains and items into an operationalisation, which was employed to ensure representation of the full range of the construct domain. An assessment of the content validity of the domains was conducted to ensure content relevance and representation.

A pilot study was conducted to support the argument for content evidence. The internal structure of the instrument was assessed to confirm whether the structure of the instrument represents the structure of the construct being measured. These procedures should confirm the adequacy of the instrument, in relation to the RNR model, provided that the instrument was validly measuring the construct it was purported to be measuring. The researcher was unable to collect substantive evidence, owing to the limited time allowed for data collection, due to the COVID 19 pandemic. In terms of Section 27(1) of the Disaster Management Act (Republic of South Africa [RSA], 2002, Act No. 57 of 2002), a national state of disaster was declared in South Africa. Consequently, all research data collection and fieldwork were stopped in accordance with lockdown laws and COVID 19 protocols. Consequential evidence could not be gathered for this current study, as the instrument is still under construction. Additionally, at this point in the development of the instrument, generalisability evidence could not be assessed.

The validity theory has informed the choice of the RNR model for the identification and operationalisation of the dimensions of the instrument. Research in the area of standardised risk and need assessments often do not take the context into account, possibly because of a lack of instrumentation to measure these factors. Therefore, the RNR model was employed to address this inconsistency, by ensuring that standardised instrument development procedures and constructs that purported to measure the risks and needs of CCL.

In this current study, through the construct validity procedures, the relevant literature and theory were consulted to assess the extent to which the scales of the instrument include the relevant domains of the RNR model. A clear understanding of the psychological domain of the construct that this instrument measures, was guided by the RNR model. It is important to note that the results of the different analyses conducted for this current study, are pointless on their own, but together they provide evidence for the validity argument.

2.10. South African Probation Assessment of CCL

South African legislation has mandated new roles and responsibilities for POs, who assess CCL. One of the highlights of the Child Justice Act, is the specialization of POs, who conduct assessments with CCL (RSA, 2008; Sibisi, 2015; Smith, 2013). In South Africa, any child who is alleged to have committed an offence, must be assessed by a probation officer, except in instances where the assessment has been dispensed with in accordance with section 41(3) or 47(5) of the Child Justice Act (RSA, 2008). The assessment must be undertaken at the earliest opportunity; however, if the child has been arrested, the assessment must take place within 48 hours (RSA, 2008; Schoeman, 2016).

The probation officer's assessment report plays an essential role in the decision-making of the Child Justice Court. Generally, the Probation Officer's report, in terms of Section 40 of the Child Justice Act (RSA, 2008), comprises the questions that relate to aspects, such as family composition, family background, education, employment status, housing, social circumstances, previous interventions, interpersonal relationships, peer group pressure, gang involvement, religious involvement, case information, victim particulars, developmental assessment, and recommendations.

The following guidelines assist POs in the assessments of CCL:

- Estimate the probable age of the child;
- Gather information relating to any previous conviction, previous diversion, or pending charge, in respect of the child;
- Formulate recommendations regarding the release, or detention and placement of the child;

- Determine whether a child is in need of care and protection, and should be transferred to the Children's Court;
- Determine measures to be taken, when dealing with a child below 10 years of age;
- Establish the prospects of diversion;
- Express a view on whether expert evidence would be required, in relation to the criminal capacity of a child, who is 10 years and older, but under 14 years;
- Consider whether the child was used by adults to commit crime; and
- Provide any other relevant information regarding the child, which the probation officer may regard to be in the best interest of the child, or which may further any of the objectives of the Child Justice Act (RSA 2008; Schoeman, 2016).

2.11. Summary

The researcher provided the rationale for the study through an overview of the existing body of literature on risk and need assessment instrument development and validation. Examples of risk and need assessment instruments that measure general offending, violent offending, and sexual offending, were provided. The notion of multicultural instrument development was also discussed. In addition, the application of the RNR model and Validity theory were provided.

In the following chapter, the researcher focuses on the theoretical frameworks that underpin this current study, namely, the Validation theory and the RNR model.

CHAPTER THREE

THE RISK-NEED-RESPONSIVITY MODEL AND VALIDATION THEORETICAL FRAMEWORK

3.1. Introduction

Research involves the process of generating knowledge to find answers to problems or questions. The theoretical framework of a study acts as the supporting mechanism that is developed from an existing theory, or a combination of theories, to understand the issues underlying the phenomenon to be investigated. A theoretical framework aids a researcher to identify and determine problem areas, as well as research questions to be addressed, and the relevant design that could be used to conduct the study (Babbie, 2013; Creswell, 2014). As explicated in Chapter 1, an instrument, based on a theoretical model, is necessary to measure the risk and need assessment of CCL in the South African context (Roestenburg, 2012; Smith, 2013; Van der Merwe & Dawes, 2007). In this chapter, the researcher aims to elucidate how the instrument was developed, as well as the principles for test construction that guided the construction.

The theoretical frameworks that underpin this current study are the RNR and the Validation Theory. The RNR model, which merits further exploration, is the dominant theoretical framework used in the development of offender risk assessment instruments to predict recidivism (Baglivio, 2009; Bonta & Andrews, 2017; Schwalbe, 2007). The RNR model was used as a framework to identify the dimensions to be included in the instrument. It also provided a framework, in which to explore the construction of accurate scales, to conduct internally valid research, and will be discussed in detail.

The RNR model contains four basic principles of rehabilitation, namely, *the risk principle*, *the need principle*, *the responsivity principle*, and *professional discretion*. The *risk principle* indicates a need for evidence-based risk instruments and the reliable prediction of reoffending. In addition, it suggests that CCL with higher levels of risk of reoffending, require higher levels of service, hence the need to identify the match between levels of risk posed by CCL, with the

amount of treatment they receive. The *need principle* asserts that programmes should target criminogenic needs, specifically, those needs that are correlated with reconviction. In turn, the *responsivity principle* prescribes the need for the delivery of treatment programmes in a style and mode that is consistent with the ability and learning style of the CCL. The fourth principle is *professional discretion*, which occurs when the assessor deviates, after obtaining substantial and compelling evidence (Bonta & Andrews, 2017; McKenzie, 2018). RNR has been used with increasing success to risk-assess and risk-manage CCL around the world (Bonta & Andrews, 2017; McKenzie, 2018; McGrath et al., 2018; Viglione, 2019). At the crux of the RNR model is the use of a scientifically validated risk and needs assessment tool. The researcher contends that there is no justification to develop an entirely new theoretical model, but instead, to extend or modify the RNR model, to incorporate the multicultural context of the South African society.

3.2. Risk principle

The risk principle presupposes that child offending can be predicted, and reoffending can be reduced, if the level of treatment services, provided to the child offender, is proportional to the risk to reoffend. It informs service providers regarding who should receive, what type of service (Bonta & Andrews, 2017; Brogan et al., 2015; Taxman & Smith, 2020; Viglione, 2019). It comprises two parts, namely, the level of treatment, and the offender's risk to reoffend. In practice, this requires that the level of service be matched to the offender's risk of reoffending. Specifically, more intensive services should be provided to high-risk offenders. This is because the practice of mixing low-risk offenders with high-risk CCL exacerbates the criminality of the low-risk group (Bonta & Andrews, 2017; McKenzie, 2018). Viglione (2019) posits that the risk principle emphasises that criminal behaviour can be predicted reliably, and that treatment/intervention should focus on the higher risk CCL.

Risk factors are variables that predict an increased probability of future offending. Risk factors have been classified into two categories broadly: static and dynamic. Static risk factors include historical factors, as well as those that do not change (for example, age at first offence, gender, prior offence history). Dynamic risk factors are typically individual, social, or situational factors that often do change, or can change over time [for example, attitudes, beliefs, drug use and peer group factors] (Bonta & Andrews, 2017; De Kock, 2010; Farrington & Welsh, 2007; Taxman & Smith, 2020). Currently, there is now an accumulated body of knowledge because

of longitudinal and life-course research (Farrington & Welsh, 2007; Moffit, 1993; Souverein et al., 2015), which has led to the identification of factors that appear to be important in understanding the likelihood of both offending and reoffending. Of practical relevance is the fact that the risk principle of the RNR model inspired scale developers to develop risk assessment tools that could be used with CCL.

3.3. Need principle

The need principle makes a distinction between criminogenic and non-criminogenic needs. Non-criminogenic needs, which are derived from personality variables, such as personal distress and self-esteem, are considered less relevant targets for intervention, as their resolution has a lower impact on reoffending. Non-criminogenic needs, also known as static risk factors, can only change in one direction, namely, increased risk, and are immutable to intervention. Conversely, criminogenic or dynamic risk factors are directly linked to criminal behaviour and could vary (Bonta & Andrews, 2017; McGrath et al., 2018; McKenzie, 2018; Viglione, 2019). According to Bonta and Andrews (2017), criminogenic needs consist of the following: a history of antisocial behaviour (involvement in antisocial acts from a young age); temperamental and antisocial personality (impulsive, adventurous, pleasure-seeking, weak self-control, restless and/or aggressive); pro-criminal attitudes, values, and beliefs; cognitive and emotional states of rage, anger, resentment, and defiance; pro-criminal associates and isolation from pro-social individuals; family factors (criminality, low levels of affection, caring, and cohesiveness; poor parental supervision and discipline, neglect and abuse); low level of educational, vocational, and/or financial achievement; little involvement in pro-social leisure activities; as well as the abuse of alcohol, and/or drugs. The researcher suggests that an analysis of criminogenic needs should be considered and utilised, when POs conduct a risk and need assessment of CCL.

The phrase, *needs assessment*, refers to a method by which a child offender's individual needs are identified (Bonta & Andrews, 2017). After those needs are identified, the proper agency in South Africa (for example, DSD, the Department of Constitutional Affairs and Justice, the National Prosecuting Authority, the courts) could determine ways of redressing them. Examples include, but are not limited to, diversion, substance treatment programmes, or anger management counselling (Gxubane, 2021; Safodien, 2010; Smith, 2013). In practice, needs assessments attempt to profile individual, family, or other problems that currently affect the

CCL. Based on those assessments, appropriate interventions are designed to help reduce the likelihood of the child offending further. The needs assessment in the *risk literature* is compatible with the strengths-based assessment paradigm followed in South Africa, deduced by the researcher (Gxubane, 2021; Smith, 2013). The researcher cautions that needs assessments should not merely be descriptive, but should also be evidence-based, and in-depth. The researcher recommends that needs assessments must translate into interventions, which are beneficial, or at least caring, for the CCL. Bonta and Andrews (2017) succinctly summarised that the combined assessment of risks and needs improves the ability to predict the likelihood of offending, and outlines which interventions should be implemented to reduce the risk of the CCL.

3.4. Responsivity principle

Responsivity demands the need for the delivery of treatment programmes, in a style and mode that is consistent with the ability and learning style of the CCL. It refers to manner in which the treatment should be provided to CCL (Bonta & Andrews, 2017; Brogan et al., 2015; McGrath et al., 2018). Importantly, it is necessary to engage with participants effectively, to maximise the likelihood that a programme would have its expected impact. Smith (2013) explicates the responsivity principle, and recommends, as well as describes how the treatment/intervention should be provided. Responsivity indicates that cognitive, social learning interventions are the most effective way of teaching individuals new behaviours, regardless of the type of behaviour. Therefore, successful intervention programmes should: (1) match the treatment approach with the learning style and personality of the child offender; (2) match the characteristics of the CCL with those of the treatment provider; and (3) match the skills of the treatment provider with the type of programme. The responsivity principle is based, in part, on what is known about adolescent development, as well as brain development. According to this principle, programmes have the most significant impact, when they deliver services in a respectful, caring, and collaborative manner, while providing input to the youth, regarding the focus of the intervention. Programmes also have a significant impact when strategies from cognitive, social learning are used, such as modelling and reinforcement (Bonta & Andrews, 2017; Haqanee et al., 2015; McGrath et al., 2018; Taxman & Smith, 2020).

The responsivity principle comprises two parts, namely general and specific responsivity. General responsivity dictates that practitioners employ behavioural, social learning, cognitive-behavioural influence, and skills-building strategies. Specific responsivity dictates that POs adopt the style and mode of service, according to the service setting, as well as relevant characteristics of individual offenders, such as their strengths, motivations, preferences, personality, age, gender, ethnicity, cultural identifications, and other factors. Responsivity factors refer to the characteristics of CCL and their circumstances. Although not directly related to their criminal activity, responsivity should be considered in terms of planning by POs. Examples include reading ability, motivation to change, and emotional maturity of CCL. Strength or protective factors, such as the availability of a co-operative parent, or an interest in sport, could be included. The responsivity principle of case classification states that the choice of interventions should reflect these factors. For example, the reading ability of CCL may not influence their antisocial behaviour; however, it would have to be considered when selecting a treatment programme that requires the comprehension of written materials (Bonta & Andrews, 2017; Haqanee et al., 2015).

3.5. Professional discretion

Bonta and Womirth (2018, pp. 69) caution that the *Nike* approach, *Just do it*, remains inadequate, and since correctional officers may have access to, and use the most developed instruments to determine risk, the need for professional discretion and judgment is a key element.

Although there is ample evidence that statistically based approaches to offender risk assessment are superior to subjective, clinical approaches in the prediction of recidivism, there is continued interest in the clinical tradition. One means of accommodating clinical judgment is the structured professional (or clinical) judgment (SPJ) approach popularized in the 1990's. SPJ structures the process of clinical judgment by ensuring that the assessor systematically considers an array of risk factors, ensuring that each of them is reviewed in a thorough clinical fashion.

This approach cautions that the professional and clinical discretion of service-providers should be considered in a composite manner, along with all the risk assessment tools across the various

generations of instrument development. The array of criminogenic factors and other contextual issues could be utilized, by integrating this knowledge about juvenile offenders, to accurately address recidivism realities.

3.6. Principles of RNR

In South Africa, various forms of intervention/treatment provide CCL with the opportunity to resolve the problems that brought them into conflict with the law in the first instance (Roostenburg, 2012). For example, in the Western Cape, POs conduct mediation between CCL and victims, based on Ubuntu principles (RSA, 2019). The researcher asserts that when POs recognise the personal difficulties and environmental condition of CCL, they may eliminate those risk factors that reinforce the CCL weakness for criminal behaviour, by referring them for appropriate intervention. When POs assess the needs of CCL, they should simultaneously ascertain whether some form of intervention (social work) or treatment (medical, psychological) exists that would modify their behaviour, in order to conform to the law and increase public protection. In summary, the researcher propagates the view that the RNR principles should be considered and incorporated, when POs conduct risk assessments with CCL. Andrews and Bonta (2010) recommend that successful rehabilitative interventions with offenders, informed by the RNR, should be based on the following 15 critical principles:

- Respect for the person and the normative context.
- Psychological theory (a general personality and cognitive, social learning approach is recommended).
- General enhancement of crime prevention services.
- Introduce human services into the justice context.
- Risk: Match the intensity of service with the risk level of cases.
- Need: Target criminogenic needs predominately.
- General responsivity: Utilise behavioural, social learning and cognitive behavioural influence and skills-building strategies.
- Specific responsivity: Adapt the style and mode of service according to the setting of the service and the relevant characteristics of individual offenders.

- Breadth: Target a number of criminogenic needs relative to non-criminogenic needs.
- Strength: Assess strengths to enhance prediction, and specific responsivity effects.
- Structured assessments: Use structured and validated assessment instruments.
- Professional discretion: Deviate from recommendations only for specific reasons.
- Community-based services: Community based services are preferred, but RNR also applies within residential and institutional settings.
- Core correctional staff practices: Effectiveness of interventions is enhanced by staff with high-quality relationship skills combined with high-quality structural skills.
- Management: Should promote the selection, training, and clinical supervision of staff according to RNR and introduce monitoring, feedback, and adjustment systems.

In different parts of the world, various instruments are tailored in accordance with these above-mentioned 15 principles for adults, male, female, children, different races, and mentally unwell offenders (Baglivio, 2009; Bonta & Andrews, 2017; McGrath et al., 2018). Andrews and Bonta (2010) refer to the central eight major risk/need factors, namely: the history of antisocial behaviour; antisocial personality pattern; antisocial cognition; anti-social associates; family/marital relationship; school/work; leisure/ recreation; and substance abuse. Internationally many scales are based on the central eight, implying that the central eight were used as *domains* or *subscales* of standardised instruments. An overview of the central eight risks/need factors, incorporating the *big four*, are presented in Table 3.1.

Table 3.1: The central eight

THE BIG FOUR
History of antisocial behaviour. This risk/need factor refers to early participation in a number and a variety of settings (home, community). Primary indicators are being arrested at a young age, many previous offences. The CCL places little weight on the seriousness of the offence and the injury imposed by the current offence.
Antisocial personality pattern. This construct refers to impulsive, adventurous, pleasure-seeking behaviour and agitatedly aggressive and callous disregard for others.
Anti-social cognition. Refers to attitudes, values, beliefs, and rationalisations favourable to crime. The cognitive-emotional states associated with crime are anger and feeling irritated, resentful and/or defiant. Specific indicators include identification with criminals, negative attitudes toward the law and justice system, a belief that crime will yield reward and excuses that specify a broad range of conditions under which crime is justified. For example, the victim deserved the offence of rape.
Antisocial associates. This risk/need factor refers to both association with pro-criminal others and relative isolation from anti-criminal others.

THE MODERATE FOUR

Family/marital circumstances. The two key parenting variables are caring and supervision. CCL who care about their parents and heed parents' opinions. In the case of marriage/equivalent, assess high-quality relationships (mutual caring, respect and interest) combined with anti-criminal expectations within the family.

School/work. Assess the quality of the interpersonal relationships within the educational or work setting. The risk factors for CCL are low levels of performance, involvement and low levels of rewards and satisfaction at work or school.

Leisure/recreation. This concept refers to low levels of involvement and satisfaction in anti-criminal free time activities.

Substance abuse. This risk/ need factor refers to problems with alcohol and other drugs. Current problems with drugs indicate a higher risk for the propensity to commit the crime by CCL.

Adapted from Andrews and Bonta (2010, pp. 59–60).

As reported previously, the most widely used standardised risk assessment tool (YLS/CMI), employed internationally, utilises the central eight as *domains* or *subscales* (Bonta & Andrews, 2017; Cuervo & Villanueva, 2018; McGrath et al., 2018).

3.7. The Psychology of Criminal Conduct (PCC)

Criminal behaviour is discussed in relation to contributions made from different disciplines, and is considered a subfield of both criminology and human psychology (Bonta & Andrews, 2017). The objective of the Psychology of Criminal Conduct (PCC) is to understand both *inter-individual* and *intra-individual* variations in the criminal behaviour of CCL (Bonta & Andrews, 2017; Bonta & Wormith, 2013). A theoretical and practical understanding of criminal conduct is needed to predict future criminal behaviour, effective interventions, and treatment, as criminal behaviour is complex, and the aetiology stems from a broad range of factors, namely, social structure to individual differences (Bonta & Andrews, 2017; Ziv, 2016).

The RNR model is linked to the Psychology of Criminal Conduct (PCC). Andrews and Bonta (2010), Ward et al. (2007), and Ziv (2016) attempt to integrate various disciplines (biology, sociology, and psychology) and provide a theory based on the empirical evidence generated from the three approaches. PCC is guided by specific values and principles, namely, a respect for the complexity of human behaviour, which includes respect for individual differences, as well as a search for a holistic understanding of human behaviour (Bonta & Andrews 2017; Bonta & Wormwith, 2013). PCC supporters accept the contributions of social structure made by sociologists to explain criminal behaviour, for example, ethnicity, gender, and social class, as well as the contributions of biology and psychology, namely, individual differences,

including biology, personality, cognition, behavioural history, relationships in the home, school, work, and leisure).

3.8. Personal, Interpersonal and Community-Reinforcement

The personal, interpersonal, and community-reinforcement (PIC-R) is a broad social learning perspective on deviant human conduct (Bonta & Wormith, 2013; Ward et al., 2007; Ziv, 2016). PIC-R has evolved comprehensively from the principles of behavioural and social learning theories that explain behaviour empirically. PIC-R recognises that factors of the personal, interpersonal, and community levels, contribute to criminal behaviour. PIC-R is a scientific approach to explaining criminal behaviour, as it employs empirically supported correlates of criminal behaviour, and organises them in a coherent, rational manner (Bonta & Andrews, 2017; Bonta & Wormith, 2013; Ward et al., 2007).

Andrews and Bonta (2010) postulate that the strongest correlates of criminal behaviour are *antisocial attitudes*, *antisocial associates*, *criminal history*, and *antisocial personality*, also referred to as the *big four*. The *big four* provide a basis to investigate of the aetiology of criminal behaviour; however, other factors include individual differences, such as biology, family, and social class (Bonta & Andrews, 2017; Bonta & Wormith, 2013). The principles of behavioural analysis, according to PIC-R, are outlined in Andrews and Bonta (2010). The basic tenet of PIC-R is that all behaviour is learned in the same manner. Criminal behaviour is learned in the same manner as non-criminal behaviour, and both are guided by the same principles. PIC-R also maintains that all behaviour is under the control of antecedent and consequent factors, while inter-and intra-individual variations of behaviours are due to variations in the rewards and costs for that behaviour. These reward/cost contingencies are influenced broadly by social structures, such as the economy, culture, and politics (Bonta & Andrews, 2017; Ward et al., 2007). Additionally, previous circumstances and penalties for the behaviour arise from four sources, namely, *the individual* (personally mediated events), *other persons* (interpersonally mediated events), *the act itself* (non-mediated, automatic, and habitual events); and *other aspects of the situation*. An essential premise of PIC-R is the density of reinforcement, namely, rewards and costs (Bonta & Andrews, 2017; Ward et al., 2007).

The physical, cognitive, and developmental individual differences, as well as the impact of these on a child's source of control, are well-known; for example, interaction with the

environment is influenced by the child's cognitive abilities. Consequently, a child, who is cognitively low-functioning, will experience different interactions with the environment, and have a different capacity from the sources of control, than a cognitively high-functioning child. In summary, PIC-R acknowledges contributions from:

- Radical behaviourism (rewards/costs and antecedent/subsequent control);
- Social learning and differential association (the influence of acquaintances, sources of control, and the principle that all behaviour is learned in the same manner);
- General psychology (individual differences);
- Sociology (a social structure, such as politics, culture, and economics), and biology (cognition, temperament) are acknowledged (Bonta & Andrews, 2017; Bonta & Wormith, 2013; Ward et al., 2007).

In view of the abovementioned opinions, the PIC-R provides an interdisciplinary elucidation of criminal conduct.

3.9. General Personality and Cognitive Social Learning (GPCSL)

The RNR model is also linked to the General Personality and Cognitive Social Learning (GPCSL) perspective of criminal behaviour. Ziv (2016) argues that Andrews and Bonta (2010) were strongly influenced by the social psychology approach to human behaviour and, in particular, by social learning theory. The GPCSL represents a broad theoretical framework and critical theory that could account for crime in a scientifically defensible manner (Bonta & Wormith, 2013; Ziv, 2016). GPCSL reflects a personality predisposition and the learning of criminal behaviour, governed by the expectations of the CCL, and the actual consequences of their behaviour; specifically, behaviour that is rewarded, or that the CCL assumes will be rewarded, is likely to occur, and behaviour that is punished, or expected to be punished, is unlikely to occur (Bonta & Wormith, 2013; Ward et al., 2007; Ziv, 2016). GPCSL is applicable in the following:

- The identification of effective clinical practices and interpersonal influence strategies of broad applicability;

- The specification of major RNR factors in the analysis, as well as prediction of criminal and non-criminal alternative behaviour;
- Ready integration with biological/neuropsychological perspectives, as well as broader social structural, and cultural perspectives;
- The flexibility to incorporate new conceptions and strategies, namely, motivational interviews (Bonta & Andrews, 2017; Bonta & Wormwith, 2013).

Criminal behaviour is likely when the rewards and costs for crime outweigh the rewards and costs for prosocial behaviour. Various individuals deliver rewards and costs, for example, family, friends, teachers, gangsters, employers and co-workers. Rewards and costs could be produced from within, for example, feelings of pride and shame, while, on occasion, they arise, automatically, from the behaviour itself, for example, a relaxed feeling after using a drug, or the feeling of excitement when breaking into a house (Bonta & Andrews, 2017; Bonta & Wormwith, 2013). Ward et al. (2007) propound that the GPCSL perspective motivated the RNR model of offender assessment and rehabilitation. When POs conduct risk assessments of CCL, they, essentially, are sampling the rewards and costs associated with criminal conduct, which raises the following questions: “Does the child in conflict with the law have criminal friends?”; “Does the child in conflict with the law perform poorly academically at school?”; Do the CCL belong to gangs? In South Africa, it is highly likely that the CCL will receive rewards and encouragement for criminal behaviour (De Kock, 2010; Smith, 2013). Conversely, when a child shows a commitment to positive academic achievement, and displays a positive attitude, as well as a definite commitment to school, rewards are available for prosocial behaviour (Farrington & Welsh, 2007).

General personality, with respect to criminal behaviour, refers specifically to an antisocial personality pattern, which is comprehensive, capturing the history of generalised rule violation and trouble, as well as some of the personality factors that function as criminogenic needs [impulsivity, self-centredness], and responsivity factors [need for excitement, shallow affect] (Bonta & Andrews, 2017; Bonta & Wormwith, 2013). The cognitive aspect of the theory includes deliberate, self-conscious self-regulation, and automatic self-regulation, which highlights the importance of pro-criminal attitudes, values, and beliefs, as causes of criminal

behaviour (Andrews & Bonta, 2010). Social learning highlights the importance of learning within the social context of friends, family, school, work, and leisure (Omar, 2012). Assessments of the rewards and costs for criminal and prosocial behaviour, within these social contexts, along with automatic rewards and costs associated with some behaviours, for example, drug use, provide a comprehensive survey of criminogenic needs and strengths (Andrews & Bonta, 2010; Bonta & Wormith, 2013).

3.10. Critique against the RNR model

Like all theoretical models, the RNR model has been subjected to scrutiny and critique. The RNR model has been challenged by a perspective, developed by Tony Ward, Shadd Maruna, and others, referred to as the *Good Lives Model*. Based partly on desistance research and positive psychology, this model proposes the rehabilitation of offenders, by emphasising and building on the strengths that offenders possess (Ward & Maruna, 2007). Ziv (2016) asserts that these scholars view the RNR model as more of a deficit model. The RNR model's incomplete theoretical development, as an approach to offender rehabilitation, leads to practice approaches that are focused too narrowly on the role of risk factors in generating criminal acts. In addition, it leaves practitioners with little guidance on how these risk factors work, individually, in interaction with each other, in interaction with other contextual and situational situations, as well as how they cause offending. Ultimately, it limits the practitioners' ability to manage the clusters of risk factors that CCL present (which is likely to be counterproductive), undermines the motivation of the CCL to change, and destroys the development of the critical *therapeutic alliance* between the practitioner and the CCL (Andrews & Bonta, 2010; Ward & Maruna, 2007; Ziv, 2016). A detailed discussion on Validity Theory is provided in the following section.

3.11. Validity theory

The Validity theory guided this current research, in the aim to develop and validate the new instrument (Arendse, 2009; Carels, 2012; Florence, 2014; Isaacs et al., 2017). South African social work scholars, Faul (1995), Roestenburg (2012), and Van Breda (2004), employed various forms of validity, using the *classical theory* when developing scales. Traditionally, *validity* refers to how accurately a method measures what it is intended to measure (Babbie, 2013; Roestenburg, 2012). Previously, an instrument was regarded as valid, when it correlated

with Cronbach and Meehl (1955), as the focus was on the instrument as a whole, and only criterion-related, as well as content validity were assessed to establish the validity of an instrument (Hubley & Zumbo, 2011). However, these procedures of validity are difficult to assess when the constructs are difficult to define, as in the case with social constructs that are, in general, not directly, seen, felt, or heard, because they are theoretical entities, which are hypothesised, or inferred (Delpont & Roestenburg, 2011; Florence, 2014). Consequently, it was concluded that the construct validity is only as adequate as the acceptability of the construct, which led to the next phase in the understanding of validity assessment (Florence, 2014; Hubley & Zumbo, 2011; Katalayi, 2014). Construct validity has become the overriding objective of validity, which focuses on whether the scores serve a useful purpose, and have positive consequences when used in practice (Hubley & Zumbo, 2011).

The modern concept of *construct validity* is described by Mesick (1989) as a unitary notion, which explores multiple sources of evidence. This unified construct views validity as an argument; specifically, validity can never be assumed, instead, it must be established through an argument that is related to the theory, predicts relationships, and empirical evidence, to suggest scale score interpretations, in such a manner that this relation is meaningful (Hubley & Zumbo, 2011). A fundamental notion in the validity argument is the concept of *score interpretations*, as delineated by the works of Kane (2004, 2011). Validity is a measurement notion that has undergone many changes over several decades.

Measurement scholars have described historical changes in the definitions of validity (Kane, 2004, 2011; Messick, 1989). Messick (1989, p. 41) defines validity as “an integrated evaluative judgment of the degree to which the empirical evidence and the theoretical rationale support the adequacy and appropriateness of inferences and actions based on test scores and other modes of assessment.” When researchers refer to construct validity studies, they are primarily referring to simultaneous tests of psychological theories and psychological measures (Cronbach & Meehl, 1955). At this juncture, therefore, the researcher contends that the interpretive argument is pivotal to any validation study.

Several types of validity (content, criterion-related, and construct validity) are currently perceived as the various facets of a single unified form of construct validity (Kane, 2001;

Messick, 1989). In most cases, construct validity should be demonstrated from several perspectives, according to Florence (2014) and Katalayi (2014). It could be argued that, regardless of how construct validity is defined, there is no single best way to study it. Messick (1989) introduced six types of evidence that should be gathered to support the validity argument, as follows:

1. Content (construct relevance and representativeness);
2. Structure (the internal structure of the instrument has to be consistent with the internal structure of the construct domain);
3. External factors (the extent to which the relationship between the instrument score and other measures reflects relations in the construct);
4. Generalisability (representative coverage of the content and processes of the content domain);
5. Substantive (appropriate domain content and processes), and
6. Consequential aspects of validity (accumulation of evidence supporting positive consequences) (Hubley & Zumbo, 2011).

In validity studies, arguments have to be provided for not engaging with any of these types of evidence. Hubley and Zumbo (2011), as well as Messick (1989) argue vigorously that validity cannot rely solely on any one of these complementary forms of evidence, in isolation from the others. The six types of evidence, therefore, are discussed, in more detail, in the following section.

3.11.1. Content evidence

Content validity evidence examines whether the operationalisation of the construct is a good reflection of that construct (Brualdi, 1999; Messick, 1998). Content evidence is based on the subjective judgements of experts in the field, regarding the degree of relevance of the constructs, and appropriate for the given population (Messick, 1998). Content evidence gathering, in general, is a non-statistical systematic examination of content, to determine whether it covers the psychological domain of the construct measured (Brualdi, 1999). For example, Carels (2012) quantitatively conducted target population reviews of content relevance and representation, using frequency distributions

to analyse the data. Munnik (2018) provided her subject matter experts with a copy of the scale and its administration. Additionally, Florence (2014) explicates that instrument reviewers, in general, test for sufficiency, clarity, relevance, the match between items, the definition of the construct, and often bias. This procedure pertaining to validity evidence is crucial for the validity argument of nearly all measures.

During the development of scales, subject matter experts are employed to evaluate the items against the instrument specifications. Before valid items could be written to measure a construct, a thorough examination of the subject domain is necessary (Baker, 2004; Boateng et al., 2018; DeVellis, 2017). For example, Hill et al. (2013) have identified 2573 items for the South African Personality Inventory from nine clusters. Of these, 2268 items were valid and reliable representations of the South Personality Inventory facets. This intensive work and these procedures always improve the content validity of the instrument, by ensuring that the items cover a representative sample of the item domain (Florence, 2014; Van Breda, 2008). Two commonly used judgmental measures of inter-rater agreement, the Content Validity Index (Polit & Beck, 2007), and the Average Deviation Mean Index (Smith-Crowe et al., 2013), could be used by scale developers to evaluate an expert's agreement on the ratings of the various scale elements. These two measures provide very different types of information and should be viewed as complementary.

Generally, the content validity index indicates the proportion of subject matter experts that endorse an element as content valid. On the other hand, the average deviation designates the degree of disagreement among experts in the response option selected, regardless of whether they, as a group, endorse an element or not. Therefore, the content validity index values should be examined first, to determine whether the experts have endorsed an item or not, and thereafter, the level of agreement among the experts, by examining the average deviation mean (Polit & Beck 2007; Smith et al., 2013). The content evidence of validity demands a good, detailed definition of the construct, and the ability to check the operationalisation against this definition (Clark-Carter, 2010; DeVellis, 2017). The technical quality of the standardised scale forms part of this procedure of validity evidence, namely, formats, phrasing, reading level, guidelines regarding

administration and scoring (Babbie, 2013; Faul, 1995; Florence, 2014; Nunnally & Bernstein, 1994). This researcher deduced that the aforementioned were evaluated traditionally, as part of the face validity of an instrument. Faul (1995) and De Vellis (2017) place the scaling of items after the design of the items, in the process model of scale development. However, Van Breda (2008) indicates that *scaling* should precede *item design*, as the choice of scale determines the required format of the items.

Consequently, the author recommends that scale developers should first determine the method of scaling, and thereafter design the items within that framework. DeVellis (2017), as well as Delpont and Roestenburg (2012) concur that this is a relatively weak measure of construct validity, as it relies on subjective judgements. However, Florence (2014) argues that, if it is conducted systematically, it could make a valuable contribution to construct validity.

3.11.2. Structural evidence

Structural evidence delineates the internal structure of the measure that is examined, to determine whether it is consistent with the theory, which it is hypothesised to represent. The internal components of the measure match the construct, while the theory should guide the selection of items, as well as the development of scoring criteria. In turn, scoring should be guided by the knowledge of how the processes, underlying a behaviour, combine to produce an effect (Brualdi, 1999; Messick, 1989).

Structural evidence is gathered by examining the relationships between the items, as well as the relationships between the items and the scale totals. The internal structure of the instrument must resemble the internal structure of the construct domain, for the instrument to be valid (Messick, 1998). Messick (1989) explains that, if several related constructs measuring an underlying construct are included in a measure, correlational methods, such as factor analysis, path analysis, and structural equation modelling, are employed to examine the internal structure of the measure.

Reliability can be measured by examining the internal consistency among the items (Clark-Carter, 2010). Although essential to the validity argument, it is not enough

evidence on its own (Florence, 2014; Taliep & Florence, 2012). Scale development studies utilise EFA and CFA to assess the factor structure first (Taliep & Florence, 2012), and subsequently, confirm it (Florence, 2014). However, Fok and Tsang (2005) used a principal components analysis for item selection, as well as assess the factor structure.

3.11.3. External factors

External factors reveal the extent to which the relationship between the instrument score and other measures reflects relations in the construct. External patterns of correlations are accounted for by the construct (Brualdi, 1999). Hubley and Zumbo (2011) indicate that the operationalisation should function in predictable ways, in relation to other operationalisations, based on the same theory. The performance of the operationalisation is tested by evaluating the correlation between the instrument total, and a criterion variable (Florence, 2014). Messick (1995) postulates that the external factors procedures of validity evidence include the traditional criterion-related validity (concurrent and predictive validity), and traditional aspects of construct validity (convergent and discriminant validity).

Concurrent validity refers to the ability of operationalisations to distinguish between groups that could be differentiated, theoretically. For example, CCL with a higher risk are expected to score higher on a risk assessment scale. Accordingly, stronger concurrent validity will demonstrate that the measure can distinguish between groups that are very similar. In turn, predictive validity refers to the ability of operationalisations to predict what it should be able to predict, theoretically (Foxcroft & Roodt, 2009; Van Breda, 2014). For example, CCL scoring high on a risk assessment scale should reoffend within a short timescale.

Convergent validity refers to the extent to which a measure correlates with other measures, with which it is predicted to correlate, theoretically. High correlations are evidence of convergent validity (Morton, 2011). Discriminant validity refers to the extent to which the measure does not correlate with constructs, with which it is not expected to correlate, theoretically. Low correlations are evidence of discriminant validity (Brualdi, 1999; Messick, 1995).

Group comparison studies are used to test hypotheses about the differences in scores, across groups that are theoretically predicted to perform differently on a scale (Messick, 1989). Van Heerden and Roodt (2007) employed the analysis of variance to assess differential validity across genders, ages, and job levels, for a measure of a high-performance culture. Messick (1989) cautions that it is not advisable to use one indicator as a point of comparison, and suggests that the process employs multi-measures (when instrument scores are compared to different construct scores but using the same method of measurement) or multi-methods (when instrument scores are compared to different construct scores using different methods of measurement). These methods are used to discount threats to validity. Discriminant validity is useful in discounting competitive alternatives to construct interpretation.

3.11.4. Generalisability

Generalisability indicates the representative coverage of the content and processes of the content domain. Generalisability procedures of validity evidence involve the representative coverage of the content and processes of the content domain, meaning the degree to which the assessed tasks/items represent the range of tasks/items in the broader domain. Coverage should not be limited to the sample of items included in the measure (Messick, 1998). Brunaldi (1999) delineates generalisability as the reliability consistency performance across tasks/items, settings, occasions or assessors that are representative of the broader domain. Scales with fewer items may have a higher reliability; however, the restriction on items may compromise the validity of the measure, as the conflict between the depth, and the breadth of coverage, creates a trade-off between reliability and validity (Florence 2014). Messick (1995) states that generalisability underlies traditional reliability concerns and operates across occasions and assessors.

Generalisability evidence relies on the correlation of assessed tasks with other tasks that represent the construct. Group comparison tests are employed to investigate the differences in instrument structure and processes over time, or across groups, or settings (Messick, 1989). In addition, Messick (1989) further indicates that test-retest analyses also show changes over time. Florence (2014) postulates that this is examined to ensure

that the instrument scores show the same degree of stability as the construct being measured. EFA can be employed to assess generalisability.

External validity is of importance in high stake tests, such as tests of English for academic/specific purposes, which are used to evaluate the test takers' proficiency in general English for academic purposes (Alibakhshi et al., 2011). Accordingly, this current study is aimed at developing high stake instruments that could be used in a court of law, in the future.

3.11.5. Substantive validity evidence

Substantive validity evidence is linked to the appropriate domain content and processes. The substantive procedures of validity evidence involve verification of the domain processes, and generally emerge from an analysis of the test takers' responses. Substantive evidence involves an evaluation of the extent to which the tasks, or types of responses, are required to match the construct (Brualdi, 1999; Messick, 1995, 1998). This ensures the appropriate sampling of domain processes, in addition to the traditional coverage of domain content. Examples of domain processes are scoring criteria and rubrics (Florence, 2014). The scoring model should be in line with the structural relations, inherent in the behavioural manifestations of the construct (Messick 1995). A theoretical rationale for the observed performance is needed, along with the empirical evidence that response competencies and performance regularities reflect the domain processes.

Evidence is obtained by observing respondents as they perform the tasks, or by interviewing them, to determine why they responded as they did, or what their performance strategies were, or any other evidence of processes, such as think-aloud protocols (respondents think aloud as they respond to items and these are recorded), eye movement records, and correlational patterns amongst scores. When observers are involved in recording responses, an investigation of how raters use the criteria to evaluate and record performances, is required, in order to check that the criteria are being applied as intended, without the addition of irrelevant and extraneous factors. Substantive evidence, such as content evidence, also involves representative sampling. This is done by the correct choice of tasks, to simulate the construct's engagement. By using

experimental controls or correlational studies, Messick (1989) concludes that empirical research could show the differences between scores, based on instruments using diverse kinds of response formats, scoring keys, administration procedures, and measurement contexts.

3.11.6. Consequential aspects of validity

Messick (1989) defines validity as the extent to which empirical evidence and theory impact the valid interpretation (and action taken as a result) of instrument scores. Consequences give weight to the theoretical and applied use of the instrument score, and therefore, of the instrument (Brunaldi, 1999). Validity studies must consider the social consequences of an instrument for the user. What can be inferred about the instrument scores, regarding the real-world phenomena, will reveal how valid the instrument is. The measure must embrace the study of the social context of the instrument user. Social context contributes to the meaning of the instrument scores, and affects construct validity (Messick, 1989; Hubly & Zumbo, 2011).

This validity evidence considers both the positive and negative, the short- and long-term, the anticipated and the unanticipated consequences of measurement. This aspect of validity is especially important, relating to bias in instrument scoring and interpretation, as well as the unfair use of instruments. Messick (1989) postulates that the appraisal of value implications, as well as the social consequences of interpreting and using scores in a specific way, are methods of gathering empirical data to support important evidence of validity. The validity theory, introduced by Messick (1989), and expanded by Kane (2004, 2012), is a general theory that is applicable to this current development, as well as the validation of this thesis.

3.12. Summary

In this chapter, the researcher introduced one theory and one model that provide the framework for the development and validation of the scales. Both the Validity theory and the RNR model were explained in detail, including a discussion of all their components. Subsequently, the researcher demonstrated how the RNR model fitted into the process of scale development, and explained how the validity theory was applied in this current study. Additionally, the researcher

discussed the various types of evidence that could be gathered to construct a valid argument, and presented the views of how these are usually measured. In the following chapter, the researcher provides an introduction to scale development in social work in South Africa, an orientation in multicultural scale development in South Africa, steps followed in developing this scale, and a description of the development of the constructs (domains) and items.



CHAPTER FOUR

THEORETICAL CONSIDERATIONS IN THE DEVELOPMENT OF THE INSTRUMENT

4.1. Introduction

In this chapter, the researcher introduces the notion of *measurement* in the social sciences, the steps followed in the development of the instrument, as well as a description of the development of the constructs (domains) and items. In addition, the researcher illuminates the concepts of *scaling formats*, *scale partitions*, the number of *scale partitions*, the *construct validity*, as well as the *reliability* of the scales. *Measurement* is an essential activity in the social sciences, as it enables researchers to acquire knowledge about people, objects, events, and processes (DeVellis, 2017). Measurement instruments are useful tools that attribute scores in some numerical dimension to phenomena that cannot be measured directly (Clark-Carter, 2010; DeVellis, 2017).

In the social sciences, a researcher applies specific general steps in the development of an instrument. The researcher, consequently, outlines the steps followed in the development of this current instrument, in the English language

4.2. Steps in instrument development

Numerous instruments are grounded in theory (DeVellis, 2017; Faul, 1995; Florence, 2014; Ismail, 2018; Nunnally & Bernstein, 1994). Throughout tool development, a theoretical framework allows instrument developers to think about the data in advance, and justify their selection of items (Boateng et al., 2018; Morgado et al., 2017). Instrument development studies use a theoretical model to inform the development of the domains to be included in the instrument. Clark and Watson (1995) advocate that no construct validity is possible without an articulated theoretical framework. Internationally, several CCL risk assessment instruments are grounded in theoretical models, for example, the YLS/CMI utilises the RNR model (Andrews & Bonta, 2010), while the Violence Risk Scale uses a modified application of the Transtheoretical model of change (Prochaska et al., 1992; Stockdale, 2008), and the Multiplex

Empirically Guided Inventory of Ecological Aggregates for assessing sexually abusive adolescents and children, aged 4 to 19 years of age (Miccio-Fonseca, 2013). In addition, Miccio-Fonseca (2013) used a modified application of the Ecological theory, among others.

The procedures followed in developing the new instrument in this current study are described stepwise, as follows.

- The first step in the development of the new instrument is to define the construct. The classic paper by Cronbach and Meehl (1955, p. X) referred to construct development as “the nomological net.” Several scholars posit that many scales are developed through the definition of constructs (Boateng et al., 2018; DeVellis, 2017; Faul, 1995). Therefore, no investigation regarding the development of instruments could be conducted without a discussion of constructs. The construct is a proposed attribute of a person that often cannot be measured directly; however, it could be assessed, using a number of indicators, or manifest variables. Constructs are also discussed under other labels, namely, *theoretical constructs* or *latent variables*, which are interchangeable terms. A construct is a concept that may not be directly observable, and, according to DeVellis (2017), researchers must develop measures for constructs. In addition, it is imperative to have a clear understanding of the construct, before developing a blueprint, as lucidity could be achieved with the aid of an appropriate theoretical framework (DeVellis, 2017; Florence, 2014).

The conceptualising of the construct in instrument development is a complicated and arduous process. Numerous authors (Boateng et al., 2018; De Vellis, 2017; Morgado et al., 2017; Munnik, 2018) agree that the scale development process involves complex and systematic procedures that require theoretical and methodological rigour. The scoping review assisted the researcher to identify certain constructs derived from the prevailing literature, for example, constructs such as gender, ethnicity, anti-social peers, substance abuse, referrals, parenting, education, attitudes towards offending parents, or sibling involvement in crime, victims of abuse, running away from home, and others. However, some of the constructs such as: *absconds from the CYCC as the trial-awaiting child; absconds from CYCC as a sentenced child; mixes with prison gangsters and is initiated as a prison gangster; and lives in a child-headed household without parental*

supervision; have been adapted to the South African context. Besides, the theoretical discussion in Chapter 3 refers to the central eight, which consist of the following constructs: *a history of antisocial behaviour*; *anti-social cognition*; *an anti-social personality pattern*; *family circumstances*; *leisure*; *employment/education*; *anti-social peer influence*; and *substance abuse*. Consequently, many of these constructs have been incorporated by the researcher in this current study, and are domains in the newly developed instrument.

Several researchers (Boateng et al., 2018; DeVellis, 2017; Faul, 1995; Ismail, 2018; Van Breda, 2004) have recommended an over-inclusiveness of the initial item pool, consisting of items that are broader and more comprehensive than the theoretical model of the construct of interest. A subsequent psychometric analysis could identify weak and unrelated items that should be dropped from the emerging instrument (Boateng et al., 2018; DeVellis, 2017; Ismail, 2018). The works of Clark and Watson (1995) and Florence (2014) recommend that items should be carefully worded and conceptualised. In this current study, many items were based on the literature review, SR, informal consultations with colleagues, consultations with POs, and anecdotal evidence. However, conceptualising proved to be overwhelming for the researcher, as a single researcher, and required many months of rigorous research, writing, and numerous revisions.

- The second step in the development of the new instrument is item generation, during which the researcher provides theoretical support for the initial item pool (Boateng et al., 2018; De Vellis, 2017; Florence, 2014). The methods for the initial item generation could be classified as deductive, inductive, or a combination of both (Florence, 2014; Heyns & Roestenburg, 2017; Morgado et al., 2017). Deductive methods involve item generation based on an extensive literature review, and investigation of pre-existing scales (Assink et al., 2016; Florence 2014; Heyns & Roestenburg, 2017; Isaacs et al., 2017; Van Breda, 2017). The South African Child Offender Risk Assessment Scale (SACORAS) *blueprint* for this current study was developed through a literature study and a SR (Edelstein, 2018; Florence, 2014; Heyns & Roestenburg, 2017; Munnik, 2018; Van Breda, 2017).

Consequently, the researcher spent several months designing the items for the SACORAS. Careful attention was paid to developmental factors, unique to local CCL, for instance, the importance of peers, family, parents, and school in their lives. Variables that seemed salient for CCL, or were informed by the unique South African context, were also operationalised. To accomplish this, the researcher drew on existing instruments, published in journal articles, or compendiums of measuring tools, books, thesis, and dissertations. Thereafter, the researcher modified certain items and deleted others, until several items appeared under each construct, purportedly having content validity, as well as cultural and contextual relevance. The researcher endeavoured to keep all items short and straightforward. Accordingly, the items were formulated as nominal statements (0-1) and statements scored on a five-point Likert scale (0-4). The item development process was guided by several authors, who suggested guidelines, such as using the present tense in language, limiting the use of double negatives, and indefinite qualifiers (for example, merely, seldom), and having no more than 20 words in a statement where possible (Arendse, 2009; DeVellis, 2017; Morgado et al., 2018; Van Breda, 2008).

Inductive methods base item development on qualitative information about a construct that could be obtained from the opinions of the target population via qualitative exploratory research methodologies, such as focus group discussions, expert panels, workshops, and email research (Florence, 2014; Smith, 2013; Van Breda, 2017; Van der Put, 2014). The *blueprint* for this current study was developed in conjunction with several focus groups, email consultation with national experts, and discussions during supervision (Boateng et al., 2018; Morgado et al., 2017; Munnik, 2018). Instrument developers are interested in a variety of parameters that regulate the setting of each item, subscales, and instrument. Instrument developers consider suitable scale instructions, an appropriate number of items, adequate display format, and appropriate item reduction, among others (De Villes, 2017; Florence, 2014; Ismail, 2018; Morgado et al., 2017). In the following part of the thesis, the researcher outlines the development and theoretical explanation of the construct, as well as the development of the items of the scales under construction.

4.3. Development and theoretical explanation of the construct and the development of the items of the scales under construction

The theoretical framework that underpins this current study is the RNR model. It has been used with increasing success to develop an instrument for CCL, globally (Bonta & Andrews, 2017). The RNR model contains three basic rehabilitation principles. Firstly, the *risk principle* involves matching the level of service to the offender's risk of reoffending, which implies that more intensive service should be provided to high-risk CCL. Secondly, the *need principle*, by which criminogenic needs are assessed and targeted in treatment. Thirdly, the *responsivity principle* entails maximising the offender's ability to learn by providing cognitive-behavioural treatment, and adapting the intervention to the learning style, motivation, abilities, and strengths of the offender (Bonta & Andrews, 2017; Taxman & Smith, 2020). In the subsequent sections of this dissertation, the researcher describes various domains that cover the constructs' risk, need, and the responsivity of CCL.

4.3.1. Referral status

Worldwide, this is a formalised legal process in most jurisdictions, because a court of law is involved (Assink et al., 2016; Baglivio, 2009; Baker, 2004; RSA, 2008). For example, in Scotland, the bulk of referrals for a risk assessment comes through the Children's Reporter. These reports accompany the social background report as free-standing reports, or as summaries. Other referral sources include the police, the procurator fiscal (public prosecutor), schools, and local authority social work teams from childcare, children and families, and child protection (Risk Management Authority [RMA], 2014; RSA, 2008; Smith, 2013). In the South African context, the referral of CCL to POs is regulated by the Child Justice Act (RSA, 2008). In the child justice practice in South Africa, CCL could be referred to a probation officer by the SAPS, the public prosecutor, a magistrate, regional court magistrate, or a judge of the High Court.

Many definitions were developed for the constructs and items and are summarised in Appendix 16. Considering the above discussion, the following definition for *referral status* has been developed:

“The referral status means the referral of CCL by a magistrate, state prosecutor or SAPS to a probation officer.”

It is important to note that in South Africa, a magistrate is a legally trained professional, appointed in terms of Section 10 of the Magistrate's Act (Republic of South Africa [RSA], 1993, Act No. 90 of 1993) by the Magistrate's Commission, which is a statutory body. Several items were developed, namely, the current referral only, one previous referral, two or more previous referrals, and failure to comply after referral. The following scales used the aforementioned items, namely, ASSET, PACT, WSJCA pre-screen, Y-ARAT, and Missouri Juvenile Risk Assessment Scale (Baglivio, 2009; Baker, 2004; Van der Put, 2014; Van der Put et al., 2014; Youth Justice Board (YJB), 2005). It should be noted that ASSET is not an acronym, but the name of a risk and needs instrument used in England. Additionally, a *current referral* denotes a referral of a CCL by a magistrate, state prosecutor, or SAPS to a probation officer for the present offence. *One previous referral status* indicates that a CCL was once referred by a magistrate, state prosecutor, or the SAPS to a probation officer. *Two or more previous referrals* indicates that a CCL has been referred several times by a magistrate, state prosecutor, or the SAPS to a probation officer. *Failure to comply* signifies that a CCL has failed to comply with a diversion, or court order, imposed by the Child Justice Court in South Africa (Gallinetti, 2009; RSA, 2008; Smith, 2013).

4.3.2. Conviction status

In general, the *conviction status* refers to a sentencing option applicable to CCL, as applied in different jurisdictions worldwide (Assink et al., 2016; Baglivio, 2009; Baker, 2004; RSA, 2008), implying that an appropriate court decided upon the disposal regarding CCL, resulting in them being in the criminal justice system. An instrument used in England, ASSET (YJB, 2005), refers to the conviction status as the criminal history. Under conviction status, the assessor would have reviewed the last conviction, or pre-court disposal, and captured the items as follows: (1) If the CCL were previously sentenced, or had received another disposal at any time within the last three months; (2) If it occurred between three and six months previously; (3) Previous disposals; and (4) Other disposals (fines, compensation, and discharges, etc.), according to the UK law. The Child Justice Act (RSA, 2008) makes provision for non-custodial and custodial sentences, which include the following options:

- Community-based sentences, including diversion options;

- Restorative justice sentences, such as family conferencing;
- Correctional supervision;
- Suspended sentences, not exceeding five years;
- Penalties, such as the symbolic restitution, or the payment of a fine; and
- Custodial sentences to a CYCC, or prison (Gallinetti, 2009; Smith, 2013).

The following definition for the convicted status has been developed:

“In this study, the convicted status means a child in conflict with the law was convicted in a Child Justice Court and his/her case was not diverted away from the system.”

Numerous items were developed, such as: the child has one previous conviction; the child has two previous convictions; the child was previously referred to a CYCC as a trial awaiting child; and the child was previously referred to a CYCC as a sentenced child. The following scales contain these items, namely ASSET and YLS/CMI (Baker, 2004; Schmidt et al., 2005). The concept of the *child has one previous conviction* signifies that the child was convicted by the Child Justice Court in South Africa on one occasion, while the *child has two previous convictions* denotes that the child was convicted twice by the Child Justice Court in South Africa. The *child was previously referred to a CYCC as a trial awaiting child* signifies that the child was referred by the Child Justice Court in South Africa to await trial at a CYCC, while the *child was previously referred to a CYCC as sentenced child* indicates that the child was sentenced, in terms of the CJA, to a CYCC by the Child Justice Court in South Africa as a disposition (RSA, 2008; Smith, 2013).

4.3.3. Substance abuse

Internationally, certain authors postulate that alcohol and illicit substance abuse have been observed to predict offending and reoffending in CCL (Andrews & Bonta, 2017; Baglivio, 2009; YJB, 2005). South African studies referred to substance abuse among children and youth (Florence, 2014; Masombuke & Qalinge, 2020), which they linked to child offending (Smith, 2013).

Definition: “*Substance abuse refers to the use, misuse and abuse of illegal drugs in SA by a child in conflict with the law. It refers to any drugs, including alcohol or over the counter drugs if it leads to the child committing a crime. In SA, CCL may also use several drugs simultaneously.*”

The literature consulted (Picken et al., 2019; Van Breda, 2014; YJB, 2014) confirm that the researcher employs items from an existing validated instrument, such as the substance abuse scale. In this current study, the researcher discussed this issue in supervision, and it was decided to use a public domain non-copyrighted instrument, namely, the WSJCA, which contained items, such as *past alcohol use, current alcohol use, alcohol use cause family conflict, alcohol use disrupted education, alcohol use caused health problems, alcohol use interfered with keeping pro-social friends, and alcohol use contributed to criminal behaviour*. In addition, other included items were *past drug use, current drug use, drug use caused family conflict, drug use disrupted education, drug use caused health problems, drug use interfered with keeping pro-social friends, and drug use contributed to criminal behaviour* (Washington State Juvenile Court Administrators Association [WSJCAA], 2004). The definitions of the aforementioned items are explained in the WSJCA Manual (WSJCAA, 2004). The substance abuse scale, therefore, was adapted. Additionally, the researcher added the following concepts: *admitted to alcohol rehabilitation centre; and admission to a drug rehabilitation centre*. Even though alcohol is a drug, locally, a distinction is being made between an alcohol rehabilitation centre and a drug rehabilitation centre. Being admitted to an alcohol rehabilitation centre implies that the CCL were referred to an alcohol rehabilitation centre in South Africa. Similarly, being admitted to a drug rehabilitation centre implies that the CCL were referred to a drug rehabilitation centre in South Africa.

4.3.4. Parenting

Parenting, or the lack thereof, is a major factor in the risk and need assessments of CCL, as research has consistently identified factors, for example, parental criminality, substance abuse problems, and mental health that are related to child reoffending (Andrews & Bonta, 2010; Baker, 2004; Farrington & Welsh, 2007; Heyns & Roestenburg, 2017). Numerous studies have linked many different aspects of family functioning to offending and violent behaviour in children. A *lack of parental*

monitoring, poor discipline methods, and conflict about discipline, have all been related to participation in criminal and violent behaviour, as have low levels of parental warmth, acceptance, and affection, low cohesion, high conflict, and hostility (Bonta & Andrews, 2017; Stockdale, 2008).

Hawkins et al. (2000) conducted a meta-analysis with 66 studies to examine the risk factors to youth offending. In the meta-analysis, the family domain has the resultant risk factors, namely, *parental criminality, child maltreatment, poor family management practices, low levels of parental involvement, poor family bonding, family conflict, parental attitudes favourable to substance abuse and violence, as well as parent-child separation.*

Definition: *“Parenting refers to the parenting provided by biological parents, extended family, guardians, or any other carer (caregivers) that causes child offending or not. For children, family risk factors may include caregivers providing little or no supervision or being harsh or inconsistent in their discipline, abuse or neglecting child, abusing substances, are criminals and are incarcerated amongst others.” (Andrews & Bonta, 2010; WSJCAA, 2004).*

Under the construct of *parenting*, the following items were developed: *the child has lived in a single parented family; receives insufficient parental supervision; experiences conflict with adult caregivers or parents; is subjected to harsh discipline; is the victim of adult violent behaviour in the household; and the child lives in a child-headed household without parental supervision.* Other items that were developed were: *lives in a household where one or more adults abuse drugs; has a household member who has been imprisoned before; the child has been abused sexually in the household; the child has been abused emotionally in the household; and the child has been abused physically in the household.* Additionally, further items were: *the child was abused emotionally in the household; and the child has a family member who has committed an offence or is currently committing an offence.* The following instruments contain these items: YLS/CMI, and WSJCA (Andrews & Bonta, 2010; WSJCAA, 2004).

The Missouri Juvenile Risk Assessment Scale User Manual (2005) posits that parenting refers to an *effective management style*, a *moderately ineffective management style*, a *severely ineffective management style*, *no prior incarceration of the parent*, and *prior incarceration*. The *child has lived in a single parented family* refers to the notion that the quality, type, and style of care provided by the single parent, leads to the child being in conflict with the law. Rathinabalan and Naaraayn (2017), as well as Ugwuko and Onyekach (2015), opine that single parenthood is a risk factor that may lead to child offending. Smith (2013) observed two factors in South Africa that played a significant role in provoking boys to commit crimes, namely, the single-parent family, specifically absent fathers, and a lack of appropriate support by the extended family.

The notion that a child receives insufficient (inadequate) parental supervision implies that the child in conflict with the law is subjected to a lack of supervision and rules in the family setting. In their research, Rathinabalan and Naaraayn (2017), as well as Farrington and Welsh (2007), observed that poor parental supervision is a risk factor that may lead to child offending. Both Alfrey (2010), as well as Ugwuoke and Duruji (2015) use the term, *inadequate parental supervision*. In Nigeria, Ugwuoke and Duruji (2015) observed a significant relationship between inadequate parental supervision and youth offending. Inadequate parental supervision, arising from family instability, has been presented as a risk factor for child offending. Alfrey (2010) explicates that children from fragmented families are scarcely supervised. This inadequate supervision influence children to become involved in offending. It could be argued that children are likely to become involved in crime, when their activities are not adequately monitored.

Hollin and Hatcher (2017) postulate that the family would be disrupted by parental conflict, as the children observe arguments, and even physical violence. Kader and Roman (2018) observed a significant positive relationship between family conflict, antisocial behaviour, and certain aspects of aggression, namely, hostility, physical aggression and anger. However, there is no relationship between family conflict and verbal aggression. The construct, *experiences conflict with adult caregivers or parents*, implies that the CCL experiences arguments, conflict, and skirmishes with adult caregivers, guardians, or parents in the household.

Harsh discipline refers to harsh physical, as well as harsh verbal discipline. In general, harsh physical discipline is viewed as more aggressive and intrusive, than harsh verbal discipline. According to Smith (2013) and Stockdale (2008), harsh discipline is more prevalent among boys, than among girls. In this current study, a child who is subjected to harsh discipline, implies that the CCL is subjected to punitive and violent discipline from parents, guardians, or caregivers.

The Children's Act (RSA, 2005: p. 40) defines a child-headed household as "... a parent or primary caregiver of a household is terminally ill or has died; there is no adult family member available to provide care for the children in the household; and a child has assumed the role of a primary caregiver in respect of a child or children in the household in terms of providing food, clothing and psychological support". The child who lives in a child-headed household without adequate supervision refers to a CCL who lives in a child-headed household, and because of the lack of appropriate supervision, care, and guidance provided by a caregiver, the child ends up engaging in offending behaviour.

The item *the child lives in a household where one or more adults abuse drugs* was also developed by the researcher. Smith (2013) elucidates that if a child lives in a household where adults abuse drugs, the risk increases for children to become involved in crime. Similarly, Rathinabalan and Naaraayn (2017) observed that parental substance abuse is a risk factor that might lead to child offending. ASSET (YJB, 2005) has items, such as evidence of family members or carers with whom the young person has been in contact with over the last six months being involved in heavy alcohol misuse, as well as evidence of family members or carers with whom the young person has been in contact with over the last six months being involved in drug or substance misuse.

In the well-known Cambridge Study, having a convicted parent, or a convicted older sibling by the tenth birthday, were among the strongest predictors of young offenders' convictions (Farrington & Welsh, 2007; Stockdale, 2008). Stockdale (2008) posits that when a child lives in a household with a member, who has been imprisoned previously, the probability that they will engage in child offending behaviour is higher. The construct *has a household member who was imprisoned before* is described in the WSJCA Manual

(WSJCA, 2004) as follows: A history of jail/imprisonment of persons who were involved in the household for at least three months: ASSET (YJB, 2005) has an item named *evidence of family members or carers with whom the child has been in contact over the last six months being involved in criminal activity.*

The Children's Act (RSA, 2005), as well as the Criminal Law (Sexual Offences and Related Matters) Amendment Act (Republic of South Africa [RSA], 2007, Act 32 of 2007), describe sexual abuse as sexually molesting, or assaulting a child, or allowing a child to be sexually molested or assaulted, encouraging, inducing or forcing a child to be used for the sexual gratification of another person. Further examples of sexual exploitation mentioned in these acts are: using a child in, or deliberately exposing a child to, sexual activities like pornography, procuring or allowing a child to be procured for commercial sexual exploitation, or in any way participating, or assisting in the commercial sexual exploitation. The WSJCA Manual (WSJCA, 2004) posits that a CCL that was sexually abused in the household, entails a history of sexual abuse, including suspected incidents of abuse, whether substantiated, but excluding reports proven to be false.

According to the World Health Organisation and International Society for the Prevention of Child Abuse and Neglect (WHO & ISPCAN, 2006, p. 10), emotional and psychological abuse “involves both isolated incidents as well as a pattern of failure over time on the part of a parent or caregiver to provide a developmentally appropriate and supportive environment. Act may have a high probability of damaging the child's physical or mental health, or its physical, mental, spiritual, moral or social development.” The Children's Act (RSA, 2005) indicates that emotional abuse means exposing or subjecting a child to behaviour that may harm the child psychologically or emotionally. A child has been emotionally abused in a household, according to the WSJCA Manual (WSJCA, 2004), means: A child has been emotionally abused in a household, includes suspected incidents of neglect, whether substantiated, but excludes reports proven to be false.

The item, *the child has a family member who has committed an offence or is currently committing an offence*, was also included in the instrument. In the well-known Cambridge Study, having a parent or older sibling by the tenth birthday involved in crime, were among the strongest predictors of the probability that children will become involved in crime (Farrington & Welsh 2007; Stockdale 2008). Hollin and Hatcher (2017) explain that both parents and siblings' criminality are risk factors that may lead to a child offending. ASSET (YJB, 2005) contains the following items: *evidence of family members or carers with whom the young person has been in contact over the last six months being involved in criminal activity; the young person looks up to an older brother who is criminally active, but yet there is no evidence of them offending together or of the brother trying to involve him/her in offending directly; there is a close family member who is criminally active and is involving him/her in offending.*

The Children's Act (RSA, 2005) stipulates that physical abuse includes assaulting a child, or inflicting any other form of deliberate injury on a child. *A child has been abused physically in a household* is itemised in the WSJCA Manual (WSJCA, 2004) as follows: a history of physical abuse includes suspected incidents of abuse, whether substantiated, but excludes reports proven to be false. Importantly, Fox et al., (2015) observed that *experiencing physical abuse as a child* is correlated with an increase of 58 per cent in the odds of becoming a serious, violent, and chronic child offender, and *experience of household violence* was correlated with a 23 per cent increase in these odds (both significant at the 0.05 level, controlling for gender, race, family income, impulsivity, and anti-social peers).

The researcher also developed the construct, *victim of adult violent behaviour in the household*. Smith (2013) opines that exposure to domestic violence is a serious and important risk factor that results in many children joining gangs in South Africa, and offending. ASSET (YJB, 2005) has an item, *witnessing other violence in family context*.

4.3.5. Absconding

According to Smith (2013), absconding is a risk factor for CCL in South Africa. Absconding derives from the Latin word, *abcondere*, meaning, *to hide away*. Bowden,

Lambie, and Willis (2015) observed the following risk factors that lead to youth running away in New Zealand namely: to stay connected with significant others outside; to avoid difficult relationships with staff or peers within the residence; boredom; feeling that their freedom or autonomy was stifled in care; no smoking rules; and the lack of information about their placements and care. In South Africa, absconding from home implies, a child disappears from home for a period of 24 hours. Section 170 of the Children's Act (RSA, 2005) describes absconding as an act that entails a child running away from a foster placement, absconding from a CYCC, or when a child has been granted leave of absence from the CYCC and that said child, who on cancellation or expiration of such leave of absence, fails to return to the CYCC (Baker, 2004; Baglivio, 2009; RSA, 2005; RSA, 2008; Van der Put, 2014; YJB, 2005). The following scales used the aforementioned items, namely, ASSET, PACT, WSJCA pre-screen, Y-ARAT (Baker, 2004; Baglivio, 2009; Van der Put, 2014).

Definition: *Absconding is defined as running away from home for a period of more than 24 hours, absconding from a foster placement or from a CYCC or after leave of absence from CYCC failed to return on cancellation or expiration of such leave of absence (Baglivio, 2009; RSA, 2008).*

Here the following items were developed: *leaves home without parents knowing where he/she is; sleeps out of home without adult permission; leaves home without parent caregiver's permission; absconds from foster placement; absconds from CYCC as a trial awaiting child; absconds from a CYCC as a sentenced child (Baglivio, 2009; RSA, 2008; Van der Put, 2014).*

4.3.6. Peer relations

Peer influences are a major risk factor that may lead to child offending. Association with siblings and peers who offend, as well as rejection by peers, may lead to the child committing an offence (Bonta & Andrews, 2017). Peer pressure is a contributing factor to involvement in crime, as children lack the life skills that could help them cope effectively with peer demands. Their ability to make informed decisions and choices is limited, and they are always under pressure to gain the approval of offending friends (Assink et al., 2016; Baker, 2004; Baglivio, 2009; Farrington & Welsh, 2007). De Kock

(2005) posits that the influence of friends, or the peer group, in conjunction with poverty, have the most significant influence on child offending.

Research has established strong links between antisocial peer factors and criminal recidivism in CCL. Negative peer associations have also been observed to be a consistent and robust predictor of general reoffending in CCL (Andrews & Bonta, 2010; Assink et al., 2016; Bonta & Andrews, 2017). Hawkins et al. (2000) conducted a meta-analysis with 66 studies that examined risk factors for youth violence. In the peer-related domain, the following risk factors have been identified: offending siblings, offending peers, and gang membership.

Definition: *Peer relations refer to the relationships that CCL have with offending siblings and friends and how these relationships link CCL engaging in offending behaviour. Antisocial peers and siblings can encourage antisocial behaviour, criminal conduct and reward it increasing the likelihood that CCL will commit future criminal acts (Bonta & Andrews, 2017).*

The following items were developed: *He or she associates with friends who commit offending behaviour; shows admiration for friends doing things that are generally regarded as wrong; mixes with other children known to have committed offences; takes the lead in doing wrong things with friends; hangs out with friends known to be gangsters in the community.* In additional: *he or she refers to him/herself as a gangster; is a member of street gang that has its own identifying marks; mixes with persons who are prison gangsters, who live in the community and has been initiated as a prison gangster in the community.* The following scales contain these items: YARAT-FO; ASSET; PACT (Assink et al., 2016; Baglivio, 2009; Baker, 2004). The *Missouri's Juvenile Offender Risk & Needs Assessment and Classification System - User Manual* (Missouri Office of State Courts Administrator [OSCA], 2005) postulates the following peer relations: Neutral influence, negative influence, and strong negative influence. *Associates with friends who commit offending behaviour* implies that CCL mix with peers who commit offences in the community. *He/she shows admiration for friends doing things that are generally regarded as wrong*, implies that the CCL admires peers who are involved in

anti-social behaviour. *S/he mixes with other children known to have committed offences* implies that the CCL mix with peers, who live in the community and commit crime. *S/he takes the lead in doing wrong things with friends* implies that the CCL takes the lead when engaging in anti-social behaviour in the community.

Gangsterism is a serious social problem in South Africa, as well as elsewhere, and many CCL in South Africa are involved in gangsterism (Baker, 2004; Bonta & Andrews, 2017; Magidi et al., 2016; Ugwuko & Duruji, 2015). The literature consulted concurs that a common factor in all the definitions regarding gangs, is the use of the term, *group*, highlighting the view that despite the overlapping activities, gangs generally operate on the principle of a group of more than three individuals (Magidi et al., 2016). In England, the legal definition used for a gang, in terms of the Policing and Crime Act (United Kingdom [UK], 2009) is:

Definition: *Violence or a threat of violence which occurs in the course of, or is otherwise related to, the activities of a group that consists of at least three people; uses a name, emblem or colour or has any other characteristic that enables its members to be identified by others as a group; and is associated with a particular area.*

The National DSD Anti-Gangsterism Strategy for Children and Youth at Risk and in Conflict with the Law (Republic of South Africa [RSA], Department of Social Development [DSD], 2017) defines CYCC gangs as an organised association of children and youth that results in a disordered culture in CYCCs. In South Africa, a unique phenomenon exists, namely, *prison gangs* or *the numbers gangs*, because of their form of operation, nation-wide organisation, and historical roots. These gangs are not spontaneous cliques banding together, as they have a structure, ranking, and disciplinary code that pre-dates the South African Correctional Services (Albertse, 2007). Albertse (2007) explicates that the so-called *numbers gangs* (the 26s, 27s, and 28s) are about 100 years old. They originated in the jails, mine compounds, and informal settlements, from the turn-of-the-century Johannesburg, and at present, they constitute a formidable force in every prison across South Africa. The reason for referencing the aforementioned phenomenon, is because, in the researcher's experience, child offenders aspire to become

members of the *numbers gangs* in their future. Due to the researcher's professional experience, as well as the recommendations of colleagues, the items, *friend with gangsters*, and *initiated as a gangster*, were include in the instrument.

4.3.7. Aggression

Altbeker (2007) coined the phrase that South Africa is a country that is described as *at war with itself*, while many authors agree that a *culture of violence* persists (Coetzee & Bezuidenhout, 2016; Smith, 2013). In South Africa, many CCL commit serious and violent crimes that must be risks and needs assessed by a probation officer.

Definition: *Aggression can be defined as any aggression towards other persons and animals, which includes physical, verbal aggression, violence and threats of violence and destruction of property. It can also be sexual aggression committed against any victim* (Oliphant & Pavlic, 2012; RSA, 2008; YJB, 2005).

The following items were developed: *displaying a weapon; bullying others; threatening other persons; destroys other people's property; violently assaulting other people; animal cruelty; use of a weapon to commit a crime; assaultive behaviour causing serious injury; sexual assault; and causing the death of another person*. The following instruments contain the aforementioned items: ASSET, PACT, SAVRY, YARAT-FO (Assink et al., 2016; Baglivio, 2009; Meyers & Schmidt, 2008; YJB, 2005). The item, *displaying a weapon*, implies that CCL openly carry and display their weapon/s in public. However, during the survey, the CCL informed the researcher that they do *carry weapons* mostly, but do not necessarily display them. *Bullying others* implies that CCL bully adults, as well as children in the community, or a CYCC. ASSET (YJB, 2005) explains that bullying behaviour could include name-calling and teasing, physical violence, threats, as well as isolating individuals from group activities. *Threatening other persons* refers to a CCL intimidating adults, as well as other children in the community, or CYCC. *Violently destroys other people's property* refers to the violent destroying the property of other adults and children within the community, or CYCC. *Animal cruelty* refers to the killing or injury of animals by CCL within the community. Baglivio et al. (2017) define

a violent offender as any CCL, who has a history of felony, and/or a firearm weapon charge in the United States of America.

ASSET (YJB, 2005) posits that assault entails aggression towards others, which includes physical, verbal aggression, violence, and threats of violence. Such aggression may be directed towards peers, family, staff, and people known to the child, or strangers (Baker, 2004). According to Martinez et al. (2007), a sexual re-offense is committed, when there is reliable evidence (namely, self-report, arrest records, or reported by the probation/parole officer, school authorities, Child Protective Services, a parent, or other family member) that the CCL had committed an additional sexual offence, after the initial intake. Importantly, Oliphant and Pavlic (2012) define a child sexual offender, in the South African context, as a person between the ages of six and seventeen years, who commits a sexual offence against a victim/victims, who are persons younger than 18.

4.3.8. Spending of free time

Bonta and Andrews (2017) indicate that children, who spend their free time in pro-social and constructive activities, are at a lesser risk of offending. Conversely, research has revealed that children, who have no interest in any of these activities, are at a higher risk (Baker, 2004; Schmidt et al., 2005; YJB, 2005).

Definition: *CCL who have a great deal of unstructured free time and spend their free time in antisocial activities are more likely to be drawn to antisocial people, illegal activities and then become involved in crime (Bonta & Andrews, 2017).*

The following items were developed: *the child offender is involved in one or more recreational activity*; and *the child offender is involved in no recreational activity*. The following scales contain these items: ASSET, YLS/CMI, and WSJCA (Andrews & Bonta, 2010; Baker, 2004; WSJCA, 2004). The risk here refers to low levels of involvement in prosocial and satisfaction in anti-criminal leisure activities.

4.3.9. Behaviour

Behaviour in the offending child context, refers to participation of a CCL in illegal behaviour, or the behaviour of a minor child that is characterised by criminal activities, persistent antisocial behaviour or disobedience, which the child's parents are unable to control. Internationally, various jurisdictions have unique legal systems in which they address child offending behaviour (Assink et al., 2016; Baglivio, 2009; Baker, 2004; Human, 2018; Li et al., 2017).

Definition: *Many higher risk CCL are impulsive and take risks, acting with little thought of the consequences. CCL tend to make poor choices and commit crimes* (Baglivio, 2009; Baker, 2004)

The following items were developed: *the child offender is aggressive at home; the child offender is aggressive at school; the child offender is aggressive in the community; the child is verbally aggressive; the child throws tantrums; the child offender harms himself; the child offender harms other people; and the child offender is harmed by other people.* Instruments such as ASSET, PACT and Y-ARAT-FO contain these items (Assink et al., 2016; Baglivio, 2009; Baker, 2004; Van der Put, 2014).

According to the *Missouri's Juvenile Offender Risk & Needs Assessment and Classification System - User Manual* (Missouri OSCA, 2005), behaviour can be: *no significant behaviour problem; a mild behaviour problem; a moderate behaviour problem; and a severe behaviour problem.* A *child offender is aggressive at home*, implies that the child is aggressive towards parents, foster carers, caregivers, guardians, siblings, and other family members at home. A *child offender is aggressive at school*, implies that the child is aggressive towards teachers, as well as other learners at school. A *child offender is aggressive in the community*, implies that the child is aggressive towards adults, as well as other children in the community. A *child is verbally aggressive* implies that the child is verbally aggressive towards adults, as well as other children at school, in the community, or the CYCC. A *child throws a tantrum* implies that the child has a bad temper, is attention-seeking or grumpy in the home, school, community, or the CYCC.

The *risk of harming other people* is the probability of the child committing crimes that are likely to inflict harm to others (Baker 2004; YJB, 2005). The *risk of serious harm* implies that a child presents a risk of serious harm to others, which includes violence, sexual violence, and death, towards another person (Baker, 2004; YJB, 2005). The *risk of self-harm* implies that CCL will be harmed by their own actions, or by the actions, and omissions of other people (Baker 2004; YJB, 2005). Shepherd et al. (2018) postulate that the risk of self-harm is intentional self-injurious behaviour with or without suicidal intent. Shepherd et al. (2018) and Hettiarachi et al. (2018) agree that the risk factors for self-harm are a history of adversity in childhood, mental illness, and substance abuse, which are disproportionality prevalent in child offenders. ASSET (YJB, 2005) contains items such as: *a youth court has specifically requested that the pre-sentence report risk assessment should contribute to the court's assessment of 'dangerousness,' to determine whether to remit the case to the Crown Court for sentencing; He or she has been convicted of a serious specified offence; and he/she is being sentenced in the Crown Court for a specified offence.*

4.3.10. Orientation to crime

One of the most important and consistently identified factors linked to criminal conduct is antisocial values and beliefs. CCL tend to minimise, deny, or excuse their behaviour more frequently, and across a broader range of situations, than non-offenders. Typically, statements include negative comments about the law, courts, police, current activities or practices in general, conventional people, as well as statements that suggest a lack of empathy for the victim. They may attempt to diminish the impact of the offence, for example, the CCL may deny responsibility, deny that any injury was done, blame the victim, or claim that they had to commit the crime to protect someone else (Baglivio, 2009; Van der Put, 2014; YJB, 2005).

According to South African literature consulted (De Kock, 2005; Edelstein, 2018; Smith, 2013), children, who reside in areas where community members have criminally-oriented attitudes and beliefs, or areas where residents see crime as an acceptable way of reaching one's goals, may be at higher risk of engaging in unlawful behaviour, because they may perceive crime to be a normal phenomenon. In addition, they will frequently be exposed

to negative role models in their communities, which could result in children being conditioned that crime or violence is viable in particular situations. Subsequently, they could start to believe that crime is a quicker and more effortless way of reaching their goals. Maree (2018) posits that many South Africans, regardless of their culture, see crime as acceptable, *as long as one does not get caught*.

Definition: *In this study, the notion orientation to crime refers to perceptions by CCL that crime and violence are acceptable. CCL have certain attitudes and beliefs, such as that crime is an essential part of life, which may lead to a belief that crime is a way of life (Bonta & Andrews, 2017).*

For this subscale, the following items were developed: *the child offender does not take responsibility for the crime; and the child offender excuses him/herself from involvement in criminal incidents*. Other items are: *the child offender does not understand the impact the crime has on victims; the child blames others for committing a crime; the child offender is preoccupied with crime; the child offender lacks empathy for the victim; and the child offender perceives him/herself as having a criminal identity*. The following scales, ASSET, PACT and Y-ARAT contain these items (Baglivio, 2009; Baker, 2004; Van der Put, 2014).

The instrument, ASSET, contains the following item: *the CCL displays discriminatory attitudes towards others*. The researcher regularly deals with CCL with a xenophobic life orientation, which inspires them to commit the crimes. The child offender perceives him/herself as having a criminal identity. This item examines the child offender's mindset and how s/he perceives his/her future role in society. It pertains to the way in which a child offender perceives offending as an essential part of life. CCL, with this perspective, may see crime as their future *career*, and accept the risk of arrest and sentencing, as a necessary part of this lifestyle (Moffit, 1993; Smith, 2013; Sovereign et al., 2015). Andrews and Bonta (2010) included five factors constituting a pro-criminal orientation, namely: *negative attitudes towards the law; courts and police; approval for a rule violation; identification with offenders; and continuing to seek out high-risk situations*.

4.3.11. Attitudes to offending

Attitudes to offending is a major risk factor in child offending, in South Africa, as well as worldwide. A pro-criminal attitude implies that criminal conduct is acceptable (Andrews & Bonta, 2010; Baglivio, 2009; Schmidt et al., 2005). Andrews and Bonta (2010) assert that specific indicators constituting pro-criminal attitudes are negative attitudes towards the law, courts and police, acceptance of rule violation, identification with offenders, and continuing to seek out high-risk situations. In general, most people will deny responsibility for, or minimise the impact of negative behaviour, when placed in a painful, or embarrassing situation. However, CCL tend to minimise, deny, or excuse their behaviour more frequently, and across a broader range of situations, than non-offenders. Typically, statements include negative comments about the law, courts, police, current activities, conventional people, as well as statements that suggest a lack of empathy for the victim, in an attempt to diminish the impact of the offence. For example, the CCL may deny responsibility, deny that any injury was done, blame the victim, or blame the system.

Attitudes have a crucial effect on criminal behaviour, and researchers have documented a positive association between pro-criminal, pro-violent attitudes, and actual violent behaviour in children (Bonta & Andrews, 2017; Bonta & Wormith, 2013). In this regard, Jung and Rawana (1999) observed that the most substantial difference between reoffending and non-reoffending children across eight risk/need factors, was in the domain of antisocial attitudes and orientations. Souverein et al. (2015) observed that children, who emanate from families that harbour one or more adults with a prison record, exhibited more violent and severe antisocial behaviour, and are almost twice as likely to be in the group identified as possible life-course persistent offenders.

Definition: *This concept refers to CCL denying responsibility for committing a crime, providing excuses for their offending behaviour or minimising the impact of the criminal behaviour on the victims of crime (Bonta & Andrews, 2017).*

The following items were developed: *the child offender is nervous when committing a crime; the child offender is indecisive when committing a crime; the child is excited when*

committing a crime; and the child brags about committing a crime. Additional items are: *the child offender does not accept responsibility for involvement in the offence; the child offender minimises the harm caused to victims; the child offender is proud of his/her criminal behaviour; the child offender has a lack of empathy for harm caused to victims.* The item *the child offender is nervous when committing a crime* implies that the child offender is still anxious and panics when s/he commits a crime. *The child offender is indecisive when committing a crime,* implies that the CCL is uncertain about whether s/he should commit the crime, or not. Alternatively, *the child is excited when committing a crime* implies that the CCL is animated when s/he commits a crime.

ASSET (YJB, 2005) contains the following items: *denial of the seriousness of his/her behaviour; reluctance to accept responsibility for involvement in the most recent offence/s; a lack of understanding about the impact of his/her behaviour on victims.* Additional items are: *a lack of remorse; a lack of understanding of the impact of his/her behaviour on family/carers; a belief that certain types of offences are acceptable; a belief that certain people/groups are acceptable 'targets' of offending behaviour; and, lastly, further offending is inevitable.* The *Missouri's Juvenile Offender Risk & Needs Assessment and Classification System - User Manual* (Missouri OSCA, 2005) indicates that attitudes to offending imply: *motivated to change/accept responsibility; generally uncooperative; defiant; not motivated to change; very negative attitude; and resistant to change.*

The following scales used the aforementioned items, namely, ASSET, PACT, The Model Risk Assessment Instrument, WSJCA pre-screen, Y-ARAT and YASI (Andrews & Bonta, 2010; Baglivio, 2009; Baker, 2004; Miller & Lin, 2007; Schmidt et al., 2005).

4.3.12. Mental health status

Mental health is a widely debated topic with many interpretations and definitions. Morris (2014) posits that defining mental health difficulties in CCL is even more difficult. There are a number of definitions of mental health, mental health difficulties, and mental illness, and these terms are also used interchangeably. The World Health Organisation (WHO) defines mental health as: "...a state of well-being in which every individual realizes his

or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to her or his community” (WHO, 2004, 10). Compared to the general population of adolescents, CCL have higher prevalence rates of depression, anxiety, anger problems, somatic complaints, trauma, substance use, and borderline personality traits. Disorders, such as suicidal ideation, hopelessness, and impulsivity, could lead to suicide-related behaviour (Morris, 2014). Internationally, many specialist scales, with which to assess the mental health of CCL are in use. For example, in the United States of America, the MAYSI-2 is a mental health screen, specifically designed to assess mental health symptoms among CCL (Cauffman & MacIntosh, 2006). In South Africa, mental health is a risk factor in many CCL (Allers, 2012; Heyns & Roestenburg, 2017). Locally, Heyns and Roestenburg (2017) describe a contextual South African tool, to assess mental health issues of CCL, who reside in a CYCC.

In South Africa, POs are not expected to make a mental health diagnosis, or conduct a mental health assessment, as these are the expertise of psychiatrists and psychologists. However, during a risk assessment of the child offender, a probation officer is called upon to assess the mental health within the scope of the probation profession. The construct “criminal capacity must be assessed” is based on the following literature. A child, who is under the age of 10 years at the time of the alleged offence, is presumed not to have a criminal capacity (*doli incapax*), and cannot be prosecuted, but must be dealt with in terms of section 9 of the Child Justice Act (RSA, 2008). In South Africa, the matter relating to criminal capacity must be proven beyond a reasonable doubt. Therefore, it can be argued that, in the eyes of the law, children between the age of 10 and 14 years lack criminal capacity, and criminal capacity should only be evident in exceptional cases. These exceptional cases only exist in instances where a child is found to be more mature than other children of the same age group. The test for criminal capacity, according to section 11(1) of the Child Justice Act (RSA, 2008), requires an assessment of whether a particular child could, firstly, distinguish between right and wrong, and secondly, act in agreement with this appreciation. Section 11(3) of the Child Justice Act (RSA, 2008) stipulates that the inquiry magistrate may order a report by a suitably qualified person, which *must* include an assessment of the cognitive, moral,

emotional, psychological, and social development of the child. The prosecutor, or child's legal representative, may also request such an evaluation. In accordance with section 97(3) of the Child Justice Act (RSA, 2008). In South Africa, it was determined that only a psychiatrist and clinical psychologist are deemed to be suitably competent to conduct criminal capacity evaluations.

In the *Missouri's Juvenile Offender Risk & Needs Assessment and Classification System - User Manual* (Missouri OSCA, 2005), mental health status is captured as: *no mental health disorder; mental health disorder with treatment; mental health disorder with no treatment*. ASSET (YJB, 2005) deals with the mental health of CCL as follows: *Has there been any formal diagnosis of mental illness? Any other contact with, or referrals to, mental health services?* The following items were developed at this point: *child offender has current mental health issues; Criminal capacity assessment must be done for this child; child offender has mental health disorder with treatment; child offender has mental health disorder without treatment; child offender was admitted to a mental health facility*. The following scales used the aforementioned items, namely, ASSET, APSD, MAYSI-2, and WSJCA (Baker, 2004; Cauffman & MacIntosh, 2006; Li et al., 2016; WSJCAA, 2004).

4.3.13. Education

Research generally supports the notion that bonding at, or with the school, is a protective factor against crime and violence (Bonta & Andrews, 2017; Stockdale, 2008). On the other hand, a lack of commitment to the school, as evidenced by aspects such as truancy, not completing assignments, difficulty in maintaining passing grades, and viewing education as unimportant, have been linked to violence and crime (Bonta & Andrews, 2017; Smith 2013). Andrews and Bonta (2010) explicate the notion that, regarding school/work, the risk/need factors to watch out for are low levels of performance and involvement, and low levels of reward and satisfaction. Hawkins et al. (2000) conducted a meta-analysis with 66 studies that examined risk factors to youth offending. In the school domain, the following risk factors were identified: *academic failure; low bonding in school; truancy; dropping out of school; and frequent school transitions*.

Definition: *CCL who lack educational success may find it challenging to obtain legitimate, satisfying work that provides a living wage. This may contribute to an inability to support themselves, and the involvement in crime with negative consequences.*

The following items were developed: *Truancy at school; committing crimes at school; fighting with other learners at school; being suspended from school; and being expelled from school.* The following scales contain these items, namely, ASSET, YLS/CMI, The Missouri Juvenile Risk Assessment Scale, WSJCA (Andrews & Bonta, 2010; Baker, 2004; WSJCAA, 2004). According to the *Missouri's Juvenile Offender Risk & Needs Assessment and Classification System - User Manual* (Missouri OSCA, 2005), education means: No or only minor problem/s, moderate problems, and severe problems. On the other hand, ASSET (YJB, 2005) has items such as, engagement in education, training, or employment as follows: *Is the young person of compulsory school? How many hours of ETE are arranged each week? How many hours of ETE is s/he currently engaged in/receiving each week? Is there evidence of non-attendance?*

Truancy at school implies that the CCL absent themselves from certain classes, or leave school early. *Committing crimes at school* implies that the CCL are involved in several crimes at school, such as smuggling drugs, stealing school property, destroying infrastructure, carrying weapons to school, intimidating other learners, sexually abusing fellow learners, and hiding weapons, among others. *Fighting with teachers at school* implies that the CCL assault teacher/s at school. *Fighting with learners at school* implies that the CCL assault fellow learners at school.

In accordance with Section 9 of the South African Schools Act (Republic of South Africa [RSA], 1996c, Act 84 of 1996, p. 9, line 37), suspension from school is defined as follows: “**Suspension and expulsion from public school:** 9. (I) Subject to this Act and any applicable provincial law. The governing body of a public school may, after a fair hearing, suspend a learner from attending the school, (a) as a correctional measure for a period not longer than one week; (b) pending a decision as to whether the learner is to be expelled from the school by the Head of Department.” Being expelled from school is also a risk factor that leads to child offending in South Africa. According to Section 9 of the

South African Schools Act (RSA, 1996c, p. 9, line 42), “(2) Subject to any applicable provincial law, a learner at a public school may be expelled only – (a) by the Head of Department, and (b) if found guilty of serious misconduct after a fair hearing. (3) The Member of the Executive Council must determine by notice in the Provincial Gazette – (a) the behaviour by a learner at a public school which may constitute serious misconduct; (b) disciplinary proceedings to be followed in such cases; (c) provisions of due process safeguarding the interests of the learner and any other party involved in disciplinary proceedings. (4) A learner or the parent of a learner who has been expelled from a public school may appeal against the decision of the Head of Department to the Member of the Executive Council. (5) If a learner who is subject to compulsory attendance in terms of section 3(1) is expelled from a public school, the head of the department must make an alternative arrangement for his or her placement at a public school.”

4.3.14. Employment

The risk factor research indicates that children, who have not been successfully employed, and have not developed good relationships with their employer(s), as well as fellow workers are at high risk of offending and reoffending (Bonta & Andrews, 2017; Baglivio, 2009). The *Missouri’s Juvenile Offender Risk & Needs Assessment and Classification System - User Manual* (Missouri OSCA, 2005) contains the following items: *full-time employment; part-time employment; unemployed and not applicable*, which means the CCL, is aged 15 years, or younger.

Definition: *CCL who lack stable, legitimate employment often have a great deal of unproductive time and may be vulnerable to antisocial or illegal activity* (Bonta & Andrews, 2017; WSJCA, 2004).

The following items were developed at this stage: *child offenders work for known criminals and child offenders; the child offender’s employment status changed often*; and the child offender is unemployed. The following tools contain these items, namely, ASSET, YLS/CMI, WSJCA 2004, The Missouri Juvenile Risk Assessment Scale (Andrews & Bonta, 2010; Baker, 2004; The Missouri Juvenile Risk Assessment Scale 2005; WSJCAA, 2004). In summary, based on the literature consulted, through a SR, the use of constructs and items in various standardised instruments, consultation with POs,

email data collection, and discussion in supervision of the constructs (domains) and items were included in the draft SACRANAS.

4.4. An overview of the scale design

In this section, the researcher focuses on an overview of the scale design, describing scaling items, scaling formats, scale partitions, number of scale partitions, and the labelling of the partitions.

4.4.1. Scaling items

Measurement, in general, consists of rules for allocating symbols to objects to: (1) represent quantities of attributes numerically (scaling); (2) define whether the objects fall into the same or different categories, with respect to a given attribute (classification) (Stockemer, 2019). There are many methods and techniques for converting attributes, experiences, and other social phenomena into numbers. These methods are referred to as *scaling* (DeVellis, 2012; Van Breda, 2017). DeVellis (2012) and Faul (1995) placed the scaling of items after the design of the items in their process model of scale development. Scaling can be divided into four sections: (1) Scaling formats; (2) Scale partitions; (3) Number of partitions and (4) Labelling the partitions (Boateng et al., 2018; Stockemer, 2019). Please refer to Appendix 14.

4.4.2. Scaling formats

Several scaling formats exist, namely, Likert scaling, forced choice scaling, binary options scaling, semantic differential scaling, Guttman scaling, and Thurstone scaling (DeVellis, 2017; Stockemer, 2019). Internationally, many instruments employ Likert scales (Meyers & Schmidt, 2006; Van der Put, 2014, Van der Put et al., 2014). Additionally, South African researchers, namely, Edelstein (2018), Munnik (2018), and Roostenburg (2012), employed Likert scales when they developed instruments.

4.4.3. Scale partitions

Scale developers need to determine the basis for the partitioning of a scale. Though the response categories on Likert scales, historically, measure the degree of agreement (for example, 1=strongly disagree, 2=disagree, 3=neutral/undecided, 4=agree, 5=strongly

agree), any other categories could be used (Clark-Carter, 2010; Hill et al., 2013). In the developed scale, the higher the risk or need of CCL, with the involvement of the law, is linked to the item, the higher the score.

4.4.4. Number of scale partitions

When the type of scale partition is selected, the scale developer needs to decide how many partitions, or response categories are necessary (De Vellis, 2017; Florence, 2014; Munnik, 2018). Faul, (1995), as well as Fischer and Corcoran (1994) recommend that the number of partitions should be 7 ± 2 . In this current study, for practical reasons, the partitions were between two and seven per domain.

4.4.5. Labelling the partitions

South African scholars, such as Faul (1995), Roestenberg (2012), and Van Breda (2004), postulate that one of the difficulties with developing scales for multicultural use, is finding labels for the response categories that have the same meaning across cultures and languages. Combining words and numbers in response categories was adopted in this current study. The processes culminated in the SACRANAS, which consists of a 100-item draft instrument (Appendix 15) that covers 14 domains of risk, need, and responsivity factors for CCL. The SACRANAS displays the CCL's identifying particulars, such as, name, surname, alias, date of birth, gender, identity number, age verification, age verification source, population, nationality, religion, health status, injuries, first school attended, name of current school, date last attended, school address, grade completed, year, and caregiver's or parents' details.

Additionally, the SACRANAS instrument consists of 16 subscales on a 0-4-point Likert scale. An overall rating (on a 0-4 basis) for each section is required, which should reflect the link between any identified problems, and the future likelihood of offending. The domains are as follows: (i) Referral status; (ii) Conviction status; (iii) Substance abuse; (vi) Parenting; (v) Absconding; (vii) Peer relations (viii) Aggression, (xi) Behaviour; (x) Orientation to crime; (xi) Attitudes towards offending (xii) Mental health; (xiii) Education (xiv) Employment. The items of the SACRANAS are scored on a scale of 0 to 4. The higher the score, the higher the risk of child offending, and the greater the

intervention required by the DSD, courts, National Prosecuting Service, and SAPS. Conversely, the lower the score, the less intervention to be provided by professionals and service providers in South Africa.

In the second step, usually referred to as the *theoretical analysis*, the researcher assesses the content validity of the new scale, ensuring that the initial item pool reflects the desired construct (Florence, 2014; Munnik, 2018). A content validity assessment is required because inferences are made, based on the final scale items. The item content must be deemed valid to instil confidence in all consequent inferences (Florence, 2014; Van Breda, 2017). To ensure content validity, the researcher seeks opinions about the operationalised items. The opinions could be those of experts in the development scales (key informants), experts in the target construct (POs), or target population CCL in Gauteng (potential users of the scale), enabling the researcher to ensure that the hypothesis, elaborated in the research, appropriately represents the construct of interest (Boateng et al., 2018; Munnik, 2018).

In the last step, psychometric analysis, the researcher should assess whether the new scale has construct validity and reliability (Boateng et al., 2018; Morgado et al., 2017). Construct validity could be assessed with the use of EFA, confirmatory factor analysis, or with convergent, discriminant, predictive/nomological, criterion, internal, and external validity (Boateng et al., 2018; Isaacs et al., 2017). Conversely, reliability is a measure of score consistency, usually measured by the use of internal consistency, test-retest reliability, split-half, item-total correlation/inter-item reliability, and inter-observer reliability (Boateng et al., 2018; Morgado et al., 2017).

To ensure construct validity and reliability, the data should be collected in a large and appropriately representative sample of the target population. The work of Anastasi and Urbani (2006) recommends as little as five items per domain, and a scale with a minimum of 50–60 items. For statistical analysis purposes, it is a common rule of thumb that there should be at least 10 participants for each item of the scale, building an ideal of 15:1 or 20:1 (Boateng et al., 2018; Clark & Watson, 1995; Morgado et al., 2017).

4.5. Summary

In this chapter, the researcher provided an introduction to scale development in social work in South Africa, an orientation in multicultural scale development in South Africa, steps followed in developing this scale, and a description of the development of the constructs (domains) and items. The concepts of *scaling formats*, *scale partitions*, *number of scales partitions*, *the construct validity* and *reliability of the scales* were also illuminated. In the following chapter, the methodology and its application are presented, with the focus on the manner in which the methodology was implemented.

CHAPTER FIVE

METHODOLOGY

5.1. Overview of the chapter

This current study is located in the field of validity theory and the RNR model. It is focused specifically on the development of a valid instrument that could be used to conduct risk and need assessments of CCL. In this chapter, the researcher provides an overview of the chapter, the study design used, the concept of *mixed-methods*, including the pragmatic approach, and sequential exploratory design. The researcher reports on the research aims, the data collection methods, and provides a schematic presentation of the chapter.

The development and validation processes transpired in three distinct phases, namely:

- Phase one: The systematic exploration of literature, as well as the construct's risk, needs, and responsivity, with objectives 1 and 2, including the exploration of the CCL risk and needs assessment, conducted on a qualitative basis with POs, who work in the field.
- Phase two: The instrument development, with objectives 3, 4, and 5, which involve the development of a blueprint with domains, the population of each domain, and the cognitive testing of the instrument through interviews, based on the qualitative data collected in Phase 1.
- Phase three: The validation of the instrument, with objectives 6 to 11: assessing the face and content validity of the instrument, qualitatively, after consultation with POs and the key informers; field testing of the instrument; illuminating the reduction of the item characteristics and the factor structure; exploring the factor structure, employing EFA; assessing the dimensions of the instrument, utilising EFA; as well as the consistency of the instrument, using Cronbach's Alpha. Additionally, this phase includes a description of the data analysis protocols, utilised to extract relevant information from the various data sources, as well as the data management and analytical steps of the survey, with

reference to the Statistical Programme for the Social Sciences (SPSS, version 26.0) package.

Consequently, the different research activities are discussed within the ambit of these three phases (see Table 5.1), in order to provide a comprehensive account of the different strategies employed. Thereafter, the data verification, reflexivity, and the ethical issues of the study are explained.

5.2. Study design

The researcher employed *explorative-sequential and contextual research designs*. The research design was an explorative sequential design, as the researcher first conducted the qualitative phase, and thereafter, the quantitative phase of this current study (Creswell, 2014, Creswell & Plano Clarke, 2011). Grinnel and Unrau (2018) assert that three contextual factors serve as the foremost shaping forces for all social work research, namely, the social work programme (standardized risk and need assessments of CCL), the social work profession (POs), and the social workers themselves (POs who conduct standardised risk and need assessment of CCL in Gauteng). South Africa comprises nine provinces, one of which is Gauteng. Due to practical and financial reasons, the researcher was only able to conduct a survey with CCL, who had been assessed for risk and needs by POs in that province. Anecdotal evidence suggests the context of risk and need assessments in all the provinces in South Africa are diverse, due to race, culture, extent, and gangsterism, among others. Consequently, only a sample of CCL in Gauteng acted as the unit of analysis.

As introduced in Chapter 1, a modified Boateng et al. (2018) model for instrument development, comprising three phases and eight separate steps, was used in this current study:

Phase 1: Exploring the construct

- Objective 1: To explore literature pertaining to the measurement of CCL risk and need assessment systematically to describe the best practice models used for the development and validation of a standardised CCL risk and needs assessment instrument.
- Objective 2: To explore the construct of CCL risk and need assessment qualitatively with POs working in the field.

Phase 2: Instrument development

- Objective 3: To develop a blueprint for the instrument that includes the domains and operational definitions for each domain, based on the literature reviewed and the qualitative data collected in phase 1 of the study.
- Objective 4: To populate each domain with items based on the qualitative data collected in phase 1 of the study.
- Objective 5: To cognitively test the instrument.

Phase 3: Instrument validation

- Objective 6: To assess the face and content validity of the risk and need assessment instrument qualitatively in consultation with the POs and key informants.
- Objective 7: To conduct field testing with the instrument by conducting a survey,
- Objective 8: To reduce items by exploring item characteristics and factor structure,
- Objective 9: To explore the factor structure of the instrument using EFA
- Objective 10: To assess the dimensionality of the instrument using EFA
- Objective 11: To test the internal consistency of the instrument utilising Cronbach's alpha

5.3. Mixed-methods

In this current study, mixed-methods (MM) was the most appropriate method for this current study, to achieve the goals, objectives, and purpose of the study. Creswell and Plano Clark (2018, p. 41) outlines the duties of a researcher during the execution of a MM research project:

- collects and analyses both qualitative and quantitative data rigorously, in response to research questions and hypotheses;
- integrates (mixes or combines) the two forms of data and their results;
- organizes these procedures into specific research designs that provide the logic and procedures for conducting the study; and
- frames these procedures within theory and philosophy.

5.3.1. The pragmatic approach

Scholars like Creswell (2014), as well as Lincoln and Guba (2005), assert that worldviews differ in nature in terms of the ontology (reality), epistemology (how to gain knowledge of what is known), axiology (the role that values play in research), methodology (the process of research), and rhetoric (the language of research). Reality is viewed as both singular and multiple by a pragmatist. In this current study, a pragmatic approach was utilised, as advocated by Morgan (2007), as well as Teddlie and Tashakkori (2003), who argue that pragmatism offers a mutual approach between the quantitative (objective) and qualitative (subjective) paradigms. In this current study, two approaches were used during the data collection process: (1) a subjective approach, during which the participants were interviewed (focus groups, email interviews), and shared their perceptions; and (2) an objective approach, during which the scales were validated (survey).

5.3.2. Sequential exploratory design

Many MM designs are employed in research, and a particular MM design is selected, based on the purpose and rationale for its selection. In this current study, the sequential exploratory design was employed. In the sequential exploratory design, the researcher firstly conducts the qualitative data collection and analysis, followed by the quantitative method. The qualitative data are regarded as the more important information, while the quantitative data are used to explore, enhance, and understand the qualitative data, with little emphasis on the quantitative strand, and consequently, the strands have unequal priority in the study (Creswell & Creswell, 2018; Creswell & Plano Clark, 2011). This design is often used when the study variables are unknown, a theory is being tested, or when qualitative data are being generalised to a study population (Creswell, 2014).

5.4. Data collection methods

Several methods of data collection, across many phases, over many years, were conducted in this current study as illustrated in Table 5.1.

Table 5.1: Schematic presentation of research phases, objectives, research approach, research methods, population/s, sampling, data collection methods, data analysis, validity and reliability as well as data verification of the thesis.

	Phase 1	Phase 2	Phase 3
	Identification of domains and items	Instrument Development	Instrument Validation
Objectives:	<p>Phase 1:</p> <ol style="list-style-type: none"> 1. To explore all the literature pertaining to the measurement of CCL risk and need assessment systematically to describe the best practice models used for the development and validation of a standardised CCL risk and need assessment instrument. 2. To explore the construct of CCL risk and need assessment qualitatively with POs working in the field. 	<p>Phase 2:</p> <ol style="list-style-type: none"> 3. To develop a blueprint for the instrument that includes the domains and operational definitions for each domain based on the literature reviewed and the qualitative data collected in phase 1 of the study. 4. To populate each domain with items based on the qualitative data collected in phase 1 of the study. 5. To test the instrument cognitively. 	<p>Phase 3:</p> <ol style="list-style-type: none"> 6. To assess the face and content validity of the risk and need assessment instrument qualitatively in consultation with the POs and key informants. 7. To conduct field testing with the instrument conducting a survey. 8. To reduce items by exploring item characteristics and the factor structure. 9. To explore the factor structure of the instrument using EFA. 10. To assess the dimensionality of the instrument using EFA. 11. To test the internal consistency of the instrument utilising Cronbach's Alpha.
Research approach	Qualitative	Quantitative	Quantitative and qualitative
Research methods	Conceptualisation, SR, focus groups, email research.	Focus groups with POs and interviews with CCL	Cross-sectional survey
Populations	International and national primary and secondary literature sources. All POs conducting risk assessments in Gauteng.	All CCL who resided in a CYCC in Johannesburg in 2017.	All POs conducting risk assessments in Gauteng. All POs, academics and managers developing risk assessment scales internationally All CCL who were risk assessed by POs in Gauteng in 2019. All CCL who were in the care of BOSASA, Gauteng and who were held in a CYCC in 2019.
Sampling	Purposive sampling.	Purposive sampling; Convenient sampling	Purposive sampling; Convenient sampling
Data collection methods	Focus groups interviews, SR.	Cognitive interviews with POs and CCL	Survey
Data analysis	Thematic analysis; Content analysis	Content analysis	Content analysis; Statistical analysis
Validity & reliability	Not applicable	Not applicable	Construct validity, EFA, Cronbach's Alpha
Trustworthiness	Creswell's method of verification	Not applicable	Creswell's method of verification

5.5. Phase 1: Exploring the construct – Objective 1

“To explore literature pertaining to the measurement of CCL risk and need assessment systematically to describe best practice models used for the development and validation of a standardised CCL risk and need assessment instrument.”

5.5.1. Research question

“What content should be included in a risk assessment scale with CCL who are assessed by POs?”

5.5.2. Research method

The research method employed at this stage was a scoping review (SR). Mays et al. (2001, p. 194) define an SR as:

“...swiftly mapping the key concepts underpinning a research area and the main sources and types of evidence available, and can be undertaken as stand-alone projects in their own right, especially where an area is complex or has not been reviewed comprehensively before...”

The SR has become a popular form of knowledge synthesis (Arksey & O’Malley, 2005).

5.5.3. Research setting

The SR was conducted internationally, as the search strategy included articles found worldwide. The researcher was motivated to conduct the SR worldwide, in order to identify, synthesise, and evaluate contemporary research about the development, validation, and adaptation of risk and need assessment scales for CCL. Based on many searches at the time of writing this SR, no evidence could be found that any previous SR had been conducted on the development, validation, or adaptation of a risk and need assessment instrument for CCL in South Africa.

5.5.4. Study population

All the articles describing the development, validation, and adaptation of risk assessment scales for CCL in the world, comprised the population. The researcher had to conduct an international search, as there is a dearth of articles describing the topic in South Africa.

5.5.5. Sampling

Only articles obtained from the UWC library were included because of time constraints and financial reasons. Additionally, no paid upfront articles were included in this review.

5.5.6. Measuring instrument

The measuring tools in the SR were a data extraction tool and data charting protocol. A data extraction tool was developed as a Word document, in the following format: authors; the aim of the study; the sample; the study design; the study location; the year of study; and the key outcomes. The data charting protocol in the format: the study; the instrument; the aim of the study; the description of the sample; the study location; and description of the key outcomes; was developed and is contained in the SR as an appendix (Arksey & O' Malley, 2005; Joanna Briggs Institute, 2015).

5.5.7. Data collection procedure

After ethical clearance had been granted by the UWC, the data collection process commenced. The retrieval of full-text articles was conducted by the researcher. Relevant articles were reviewed by two reviewers, to determine the studies that met the inclusion criteria. The initial search, using the relevant keywords, yielded 118 articles.

5.5.8. Data analysis

The researcher employed a narrative synthesis to synthesise the findings from multiple studies, using words to summarise, as well as to analyse the findings of the SR (Lucas et al., 2007). In this current study, the researcher developed a framework, which consisted of the following themes: validation of the instruments; development of the instruments; and adaptation of the instruments and the subthemes; the name of the instrument; the type of instrument; the target group; a brief description of the scale; a theoretical definition, domains; items; scoring; administration; and a psychometric discussion.

5.6. Phase 1: Exploring the construct – Objective 2

“To explore the construct of CCL risk and need assessment qualitatively with POs working in the field.”

Focus group discussions were used in this current study as one of the research methodologies because of its ability to generate items for the development of instruments in social work (Baker, 2004). A focus group discussion is defined as “a form of strategy in qualitative research in which attitudes, opinions or perceptions towards an issue, product, service or programme are explored through a free and open discussion between members of a group and the researcher” (Kumar, 2011, p. 124).

5.6.1. Research setting

In preparation for the data collection, the researcher received permission from the gatekeepers to provide and maintain access to study participants employed by them. The researcher applied to the following provinces; Gauteng, the Western Cape, and the Eastern Cape. Gauteng was the only provincial department that granted the researcher permission to conduct research with CCL in their care. Additionally, many CCL, who resided in that province, spoke various languages and emanated from different racial groups. For this stage of the study, the research sites were the Johannesburg and Pretoria DSD regional offices, which represent the regions where the POs were employed.

5.6.2. Study population

Bryman (2008, p. 696) defines a population as “the universe of units from which a sample is selected.” The population in this stage of the study was all the POs in Gauteng, who conducted risk and need assessments of CCL in 2017.

5.6.3. Sampling

A purposive sample of between four to ten POs was selected per focus group. Purposive sampling, which is a type of non-probability sampling, is based on the judgment of the researcher. The goal of purposive sampling is to strategically sample participants, who are relevant to the research questions being posed (Bryman, 2008). Creswell and Creswell (2018) assert that non-probability sampling is especially useful in the initial design and evaluation of an instrument. As the researcher wanted to develop a local risk and need assessment instrument, POs were preferred for the research, above other social workers. The criterion for selecting participants was as follows: POs, who conducted risk assessments with CCL, and were willing to participate in this current study in 2017. In June 2017, two focus groups were conducted in Johannesburg and Pretoria.

Table 5.2: Biographical particulars about the participants in the Johannesburg and Pretoria focus groups 1

Participants	Office	Gender	Culture group	Language	Age	Years in social work practice
P1	Johannesburg	F	White	Afrikaans	40-49	3
P2	Johannesburg	F	African	Northern Sotho	20-29	14 months
P3	Johannesburg	F	African	isiXhosa	30-39	5
P4	Johannesburg	F	African	Sotho	30=39	4
P5	Pretoria	M	Coloured	Afrikaans	50-59	15
P6	Pretoria	F	White	Afrikaans	40-49	17
P7	Pretoria	F	African	isiNdebele	20-29	2
P8	Pretoria	F	African	Setswana	30-39	6
P9	Pretoria	F	African	Setswana	50-59	20
P10	Pretoria	F	African	Setswana	20-29	4
P11	Pretoria	F	African	Sotho	40-49	5
P12	Pretoria	F	African	Sotho	30-39	4

5.6.4. Measuring instrument

A self-developed interview guide and the SACORAS were used to assess further and refine (content validate) the draft scales.

5.6.5. Data collection procedure

After obtaining ethical clearance from the UWC, permission was sought from the Gauteng Government to conduct research with the POs. After permission was granted by the Gauteng Government, the dates and times for the research to be conducted with groups of POs were set via email. The Gauteng Government DSD assisted the researcher in this regard. In line with Creswell and Creswell (2018), the logistics of the focus group discussions were planned and arranged in advance, followed by e-mails, and confirmed by telephone closer to the date.

On the selected day of data collection, information sheets (Appendix 11) were distributed and the research process was explained, in person, to the POs. Thereafter, consent forms, as well as focus group confidentiality binding forms (Appendix 12) were completed by

the POs, who had agreed to participate in the study. In addition, permission was requested to audio record the focus group sessions. After the focus group discussions, the researcher enquired whether any of the participants required debriefing. Subsequently, the recordings were transcribed verbatim by a professional transcriber.

The focus group discussions were guided by the following questions:

- Which languages are spoken mostly by CCL in Gauteng?
- Into which language/s should the developed instrument be translated?
- Which racial groups are involved in crime?

The focus group discussions were facilitated to gather the relevant information from the identified stakeholder groups, and lasted between 60 and 90 minutes. Additionally, the focus group discussions were audio-recorded by cell phone, and subsequently transcribed by a professional company. The focus group venues were determined by considering their accessibility and suitability, with regard to privacy, as well as interaction without distractions. Ultimately, they were conducted at a place and time that was convenient for the respective participant groups.

The research sites were arranged by each Gauteng DSD regional office management. The order in which the focus groups were conducted was not pre-determined, and the scheduling and timing were mainly dependent on the availability of the POs. Four POs attended the Johannesburg focus group, and eight in Pretoria (Table 5.2).

5.6.6. Data analysis

Data analysis commenced after the first focus group session. The transcripts of the collected data were analysed, using thematic analysis, which is a qualitative method used to become familiar with the data, generate the initial codes, search for themes, review themes, define and name themes, as well as produce a report (Braun & Clarke, 2006). During the analysis of each of the focus group discussions, a coding framework was devised. This was structured in terms of the main codes and themes that emerged from the focus group discussions.

5.7. Phase 2: Instrument development – Objective 3

“To develop a blueprint for the instrument that includes the domains and operational definitions for each domain based on the literature reviewed and the qualitative data collected in phase 1 of the study.”

The blueprint for this current study was developed through theoretical conceptualisation, focus group discussions with POs, an SR, and consultation with key informants via email research (Boateng et al., 2018; Florence, 2014; Ismail, 2018). As indicated elsewhere, the blueprint was called the SACORAS in 2017, and changed to SACRANAS, subsequent to the recommendations of POs, colleagues, as well as key informants in 2019. The researcher spent several months designing the items for the SACRANAS. In this current study, detailed attention was paid to developmental factors, unique to South African CCL. Items that seemed relevant for CCL were also operationalised. The item development process was guided by several authors, who suggested guidelines (DeVellis, 2017; Morgado et al., 2017).

5.8. Phase 2: Instrument development – Objective 4

“To populate each domain with items based on the qualitative data collected in phase 1 of the study.”

The review of the literature and a SR assisted in articulating the conceptual boundaries of the construct. In this current study, the population of each domain was a two-step process, which entailed: 1) a review of the literature and a SR to obtain background information on the construct of risk and need, as well as the RNR model, and to locate existing instruments, designed to measure these constructs; and 2) the identification of South African POs' perceptions of the construct. The reason for this process was that the formulation of a well-defined conceptualisation of the construct under investigation, is the foundation of instrument development (Boateng et al., 2018; Morgado et al., 2017). A well-defined description of the construct elucidates how the construct is positioned within the literature, as well as how it relates to other constructs (DeVellis, 2017).

5.9. Phase 2: Instrument development – Objective 5

“To test the instrument cognitively”.

The focus group discussions with POs, sampling, biographical particulars of participating POs, the measuring instrument, research setting, and data analysis are explicated in the following section.

5.9.1. Focus group discussions with POs

The literature recommends that researchers conduct cognitive interviews to test their interviewing design, and request participants to check the items, comment on items, delete items, as well as face validate, and test the draft instrument (Creswell, 2014; Ismail, 2018). Cognitive interviews could be used in instrument development, to inform item revision decisions, and could provide evidence of the validity, based on the test content (for example, the clarity and relevance of items), and the response processes, for example, the thought processes and operations involved in responding to an item (Castillo-Diaz & Padilla, 2013). However, in this current study, focus group discussions were conducted with 11 POs (5 from Johannesburg and 6 from Pretoria), instead of one-on-one cognitive interviews, because of time and logistics constraints. The researcher was well aware that focus groups are prone to researcher bias; therefore, a concerted effort was made to adhere to the rules and techniques of cognitive interviewing/testing, while being acutely attentive for any sign of researcher bias. Conducting the focus groups with the POs to discuss problematic question wording proved to be quite useful in this current study. Two focus groups, therefore, were conducted with POs in Johannesburg (5 participants) and Pretoria (6 participants), respectively, during 2017.

5.9.1.1. Sampling

A purposive sample of between four to ten POs was selected for each focus group discussion. The criterion for selecting the participants was: POs who conduct risk assessments with CCL and were willing to participate in this current study. Two focus groups in the following regions, namely, Johannesburg and Pretoria, were conducted in June 2017. De Kock (2010) asserts that the time (one week of data collection) and the resources usually do not allow researchers to study the whole population of interest. Conducting the research on a provincial basis would imply time, financial and logistical problems, as the participants concerned resided and were employed in Gauteng Province, while the researcher was based in the Western

Cape Province of South Africa. Consequently, the researcher only conducted focus groups in Johannesburg and Pretoria, Gauteng, for practical and financial reasons

Table 5.3: Biographical particulars about the participants Johannesburg and Pretoria focus groups

Participants	Office	Gender	Culture Group	Language	Age	Years in social work practice
P1	Johannesburg	M	African	Sotho	30-39	3
P2	Johannesburg	F	African	Tswana	20-29	5
P3	Johannesburg	F	African	Zulu	30-39	10
P4	Johannesburg	F	African	Sotho	30-39	4
P5	Johannesburg	F	African	Tswana	30-49	7
P6	Pretoria	F	White	Afrikaans	20-29	4 months
P7	Pretoria	M	African	Zulu	20-29	5 monthd
P8	Pretoria	F	African	Tswana	30-39	6
P9	Pretoria	F	African	Tswana	50-59	20
P10	Pretoria	F	African	Sotho	20-29	4
P11	Pretoria	F	White	Afrikaans	40-49	19

5.9.1.2. Measuring instrument

The measuring instrument, during this stage, was the draft instrument, named the South African Assessment of Child Offenders Risk Assessment Scale (SACORAS). The SACORAS consisted of 16 subscales on a 0 to 6-point Likert scale. An overall rating (on a 0 to 6 basis) for each section was required, which should reflect the link between any identified problems and the future likelihood of offending. The subscales were as follows: (i) Age at first referral; (ii) Referral status; (iii) Conviction status; (iv) Parenting; (v) Peer relations; (vi) Substance abuse; (vii) Assaults; (viii) Criminal gang; (ix) Absconding; (x) Recreation; (xi) Behaviour; (xii) Orientation to crime; (xiii) Attitudes towards offending (xiv) Mental health; (xv) Education (xvi) Employment. The items of the SACORAS were scored on a scale of 0 to 7 (Appendix 14).

5.9.1.3. Research setting

For this part of this current study, the research sites were the DSD Johannesburg and Pretoria regional offices in Gauteng. The Gauteng DSD granted permission for

the researcher to conduct research in the whole province; however, due to financial reasons, the researcher could only conduct research in those two regions.

5.9.1.4. Data analysis

Data analysis commenced after the first focus group session. Open-ended questions were posed to the group, while the sessions were recorded, using a cell phone, after which, they were transcribed verbatim by the researcher. Generally, there are two types of content analysis. Firstly, *conceptual analysis* is focused on the number of times a concept occurs in a set of data, and is generally involves explicit data. A frequency analysis could be conducted, during which the term's frequency in the data is assessed. Specifically, *conceptual analysis* brings quantitative analysis into qualitative analysis. Secondly, *relational content analysis*, on the other hand, takes a more holistic view by focusing more on implicit data, in terms of context, surrounding words and relationships. There are three types of relational analysis: (1) Affect extraction, (2) Proximity analysis and (3) Cognitive mapping. In this current study, the researcher utilised conceptual analysis and proximity analysis.

The following section is focused on the cognitive interviews with CCL, the research setting, the study population, the sampling, the biographical particulars of the CCL, the measuring instrument, and the data analysis.

5.9.2. Cognitive interviews with CCL

The researcher also conducted cognitive testing with a group of CCL, which entailed administering the draft instrument to test the questions. Cognitive interviewing involves the examination of item performance with small samples, but provides a flexible and in-depth approach to examining cognitive issues and alternative item wording, when difficulties arise during the interviews (Boateng et al., 2018; Johnson & Onwuegbuzie, 2004; Tashakkori & Teddlie, 1998). The researcher employed cognitive interviewing when testing the developed instrument. In 2017, the researcher conducted cognitive testing with seven CCL in a CYCC in Gauteng (Boateng et al., 2018).

5.9.2.1. Research setting

This part of the study was conducted in Gauteng, South Africa, and the research site was a CYCC that was managed by the Gauteng DSD, in the Johannesburg region. Importantly, the Gauteng DSD granted permission for the researcher to conduct a pilot study at this CYCC only, as the risk and need assessments of child participants are viewed as a sensitive topic. The researcher, therefore, had to abide by the rules of the gatekeeper (Creswell & Creswell 2018). The interview venues were quiet, generally free of distraction, and conducive to the conducting of the interviews.

5.9.2.2. Study population

A research population, generally, is a large collection of individuals or objects that are the main focus of a scientific investigation (Creswell & Creswell, 2018). The population in this part of the research project was all children awaiting trial, or sentencing, in a CYCC managed by the Gauteng DSD.

5.9.2.3. Sampling

In convenience sampling, the most common form of non-probabilistic sampling, is a method of collecting samples [CCL] that are conveniently located around a location [CYCC] (Creswell, 2014). A convenience sample was drawn from the population (CCL in CYCC in Gauteng) in 2017 for the cognitive interviews. During this phase of the data collection process, the allocated CYCC only allowed the researcher to interview ten CCL. The researcher gained permission from gatekeepers to provide and maintain access to study child participants, who met the criteria to participate in the research (Creswell & Creswell, 2018). This permission was granted to safeguard the children, as well as for logistical reasons, and safety issues.

However, only seven participants were interviewed due to their challenging behaviour in the CYCC. The inclusion criteria were CCL, who were willing to participate, were assessed by POs in the employ of the Gauteng DSD, spoke and understood English, and whose parents or guardians granted permission for them

to participate. In Table 5.4, the biographical details of the seven CCL, who were interviewed by the researcher are provided.

Table 5.4. Biographical detail of CCL

Age	Race	Language
14	White	English
16	Coloured	Afrikaans
15	African	Sotho
15	African	Zulu
16	African	Zulu
16	African	Setswana
17	African	Setswana
29 August 2019	Data collection Data collection	Krugersdorp Soshanguwe

The table indicates that the majority of CCL were African (5), aged between 14 and 17 years; however, the following racial groups, namely, White (1) and Coloured (1) were also represented in the interviews. Regrettably, no Indian/Asian child in conflict with the law participated in the interviews.

5.9.2.4. Measuring instrument

The measuring instrument here was the draft instrument, called the SACORAS, as indicated above.

5.9.2.5. Data analysis

From the onset of the cognitive interviews with the children, the researcher decided not to audio-record them. The researcher made extensive notes during the individual interviews, and the SACORAS was used as the interview document. In addition, the researcher also made use of prompting to clarify some questions, and applied an analytic technique by making notes of problems, while the participants

were speaking, after which the researcher compared these notes across interviews. Phase 3, which delineates the validation of the instrument is discussed next.

5.10. Phase 3: Instrument validation – Objective 6

“To qualitatively assess the face and content validity of the risk and need assessment instrument in consultation with the POs and key informants.”

The consultation with POs, research setting, study population, sampling, biographical particulars of participating POs, the measuring instrument, research setting, data collection, and data analysis of both POs and key informants are discussed in the following section.

5.10.1. Consultation with the POs

Focus group discussions were used in this part of the study, as one of the research methodologies. According to Baker (2004), focus groups are very useful when instrument developers need to gather qualitative information to inform the development of an instrument

5.10.1.1. Research setting

For this part of the study, the research sites were the DSD Johannesburg and Pretoria regional offices, in Gauteng, South Africa. The Gauteng DSD granted the researcher permission to conduct research in the whole province. Accordingly, the researcher approached all the regions in the Gauteng Province, in which to conduct focus groups. Three regions responded, namely, the West Rand, Johannesburg, and Pretoria; however, although the West Rand region agreed to focus groups in their region, the focus groups did not transpire, due to miscommunication between the researcher and the regional management.

5.10.1.2. Study population

The study population was all the POs in Gauteng, who conducted the risk assessments of CCL in 2019. The researcher was not allowed to study the whole population of interest, because of time, financial, and logistical problems, as the participants concerned resided and worked in Gauteng, and the researcher was based in the Western Cape. Gauteng was selected, as it was the only DSD

department that granted permission for this study to be conducted. However, the POs came from various regions in Gauteng, and were adequately suitable professionals, who could content validate the new instrument.

5.10.1.3. Sampling

A purposive sample of between five to ten POs was selected per focus group discussion. The criterion for selecting participants was: POs who conducted risk assessments with CCL, and were willing to participate in this current study. Two focus groups were conducted in June 2019, one each in Johannesburg and Pretoria, with 6 and 5 participants, respectively. De Kock (2010) asserts that time (one month of data collection) and resources usually do not allow researchers to study the whole population of interest. Conducting the research on a provincial basis resulted in time, financial and logistical problems, as the participants concerned resided and were employed in Gauteng, while the researcher was based in the Western Cape. Consequently, the researcher only conducted focus groups in Johannesburg and Pretoria for various reasons.

Table 5.5: Biographical particulars about the participants Johannesburg and Pretoria focus group 2

Participants	Office	Gender	Culture group	Language	Age	Years in social work practice
P1	Johannesburg	F	African	Xitsonga	29	3
P2	Johannesburg	F	African	isiXhosa	41	4
P3	Johannesburg	F	African	English	38	7
P4	Johannesburg	F	African	isiZulu	50	10
P5	Johannesburg	F	African	Sesotho	32	9
P6	Johannesburg	M	African	P6	30	3
P7	Pretoria	F	African	isiNdebele	29	2
P8	Pretoria	F	White	Afrikaans	50	20
P9	Pretoria	F	White	Afrikaans	32	2 months
P10	Pretoria	F	African	isiZulu	37	6 months
P11	Pretoria	M	African	isiZulu	26	4 months

5.10.1.4. Measuring instrument

A self-developed interview guide, and the SACRANAS were used to further assess and refine (content validate) the draft scales.

5.10.1.5. Data collection procedures

After ethical clearance had been provided by UWC, the Gauteng Government was contacted to seek permission to conduct research with POs. When the Gauteng Government granted permission, the dates and times for the research to be conducted with groups of POs were determined by email. The Gauteng Government DSD offered the researcher their assistance, in this regard. The research process was explained, in person, to the POs, who were willing to participate in this current study. Information sheets (Appendix 11) were distributed, Focus Group Confidentiality Binding forms (Appendix 12) were completed, and permission was requested to audio record the focus group sessions. Subsequently, the recordings were transcribed verbatim by the researcher.

5.10.1.6. Data analysis

Thematic analysis was employed in this section of this current study. Braun and Clarke (2006) postulate that one of the advantages of thematic analysis is its theoretical freedom to be either inductive, or theory-driven. This analysis was inspired by what the qualitative research data might add to the quantitative research, as well as data on the development of an instrument for risk and need assessment, conducted in a low-income community context, other than Western contexts. The analysis adopted a semantic approach, specifically, the themes extracted were categorised according to the “surface meanings of the data” (Braun & Clarke, 2006, p. 84). In the guidelines for conducting thematic analysis (Braun & Clarke, 2006), all data are coded, and codes are gathered into numerous abstract codes, until they represent a theme, or a pattern. After the initial coding, the codes were merged into units, organising those that were similar in meaning and content. The merging of the codes into units continued until only a few remained. The next step in the analysis involved integrating the codes into themes.

5.10.2. Consultation with key informants

Instrument developers often need to consult key informants. The researcher conducted a data collection process via e-communication (e-mail), to collect data from the recruited participants on the topic under investigation, as some of them were geographically challenged. Researchers employ three main types of internet-based qualitative research methods: online synchronous interviews, online asynchronous (non-real time) interviews, and virtual focus groups (Meho, 2006; Roberts, 2015). In this current study, online asynchronous interviews were conducted.

5.10.2.1. Research setting

This part of the study was conducted internationally. The research sites were the USA, Canada, UK, and SA, representing the countries where the key informants resided and were employed. The time (six months of data collection), resources, and logistical problems did not allow the researcher to study the whole population, as the participants resided and were employed worldwide, and the researcher was based in SA.

5.10.2.2. Population

Bryman (2008, p. 696) defines a population as “the universe of units from which a sample is selected.” Consequently, for this part of the study, the population was delineated as all professionals, who risk assess child offenders internationally, as well as POs and academics involved in the subject matter of risk and need assessment instrument development for CCL.

5.10.2.3. Sample

The same ethical considerations were followed as for the sampling of the focus group participants. The sampling was executed by the researcher, in consultation with the study supervisors. Twenty (20) prospective respondents were purposively approached via e-mail. The aims and objectives of this current study, as well as the research process, were explained to them in the emails. An information sheet (Appendix 4), explaining the process in English, was also included in the e-mail. After five (5) respondents indicated via e-mail that they understood the process,

and were willing to participate, they were requested to sign the consent form (Appendix 5), which was also done via e-mail. The key informants were professionals, skilled in the risk assessments of CCL in SA, USA, and UK, as well as an academic involved in developing standardised instruments, and a director of research.

Table 5.6: Biographical particulars about the key informants

Participants	Country	Gender	Profession	Position	Age	Years in practice
P1	South Africa	M	White	Academic	40-49	30
P2	South Africa	M	Coloured	Director of research	50-60	32
P3	England	M	Coloured	Social Work Manager	50-60	35
P4	South Africa	F	African	Probation Officer	50-6-	30
P5	USA	F	White	Scale developer	40-50	25

5.10.2.4. Data collection

The SR and the personal experience of the researcher, as a probation officer, were used to formulate the interview questionnaire (Appendix 6). The self-administered interview questionnaire for the key informants, with open-ended questions, was sent via e-mail. Physical appointments with key informants posed a problem, as they resided in various countries, and the researcher was based in SA, resulting in time, financial, and logistical problems; consequently, the use of e-mails was practical and economical.

The key informants were requested to indicate their replies, by using simple notations, such as an 'x' or 'tick' in a box. Regarding the open-ended questions, they were asked to type in their answers. Subsequently, they were requested to return their completed questionnaires to the researcher (Bryman, 2008). Upon receipt of a completed questionnaire from the respondents, the researcher deleted their identifying details, and allocated a number, chronologically, to the interview questionnaire.

5.10.2.5. Data analysis

The responses from the key informants were compiled by the researcher, and content analysed. Babbie (2013, p. 295) defines content analysis as “the study of recorded human communications such as books, websites, printings and laws”. Qualitative content analysis was used in a descriptive manner, with the key informants commenting on the domains and items contained in the SACORAS (Polit & Beck, 2007). Specifically, only a manifest content analysis transpired. Objective 7 that explained the field testing of the instrument is discussed next.

5.11. Phase 3: Instrument validation – Objective 7

“To conduct field testing with the instrument conducting a survey.”

In this part of this current study, the field testing of the developed instrument, including the research design, the research setting, the target group, the sample group, the respondent group, the instrument, the recruitment procedures, the data collection plan, the time schedule, the data collection, and data analysis processes, are described.

5.11.1. Research design

Survey research is a popular means of conducting a validation study. Creswell (2014, p. 201) defines a survey design as “a quantitative or numeric description of trends, attitudes, or opinions of a population by studying a sample of that population. From the sample results, the researcher generalises or draws inferences to the population.” Babbie (2013), as well as Creswell (2014), recommend survey research for the collection of data regarding persons (preferences, thoughts, behaviours). There are two basic kinds of survey designs, namely, longitudinal and cross-sectional surveys. Longitudinal surveys collect data at different points in time, to study changes in a phenomenon over time. Conversely, a cross-sectional survey design refers to data collection taken at one point in time (Creswell, 2014; Stockemer, 2019). During a cross-sectional survey, a variable is measured at one given point, including the relationships of that variable at the time of the study (Creswell, 2014, Stockemer, 2019). Accordingly, results may change at a later stage. Some South African instrument development and validation studies employed a

cross-sectional design (Florence, 2014; Ismail, 2018; Munnik, 2018). Therefore, a cross-sectional survey design was used in this current study.

5.11.2. Research setting

The study was conducted in Gauteng, and the research sites were the DSD Johannesburg, Tshwane, Ekurhuleni, West Rand regions, one CYCC managed by the former BOSASA organisation, and two CYCCs, managed by the Gauteng DSD.

5.11.3. Target group

The target group, or unit of analysis is vital in all research. The unit of analysis for this current study was CCL, between the ages of ten and eighteen years, who have been assessed by POs in Gauteng, and live in the community, or are held at a CYCC, managed by Gauteng DSD/erstwhile BOSASA. The population in this research project was defined as all CCL, who had been assessed by POs in Gauteng in 2019. According to the Gauteng DSD 2018/2019 Annual report, 2 365 CCL were assessed by POs in the province.

5.11.4. Sample

A convenience sample, employed in a cross-sectional quantitative survey, was drawn from the population. Occasionally, instrument developers use rule of thumb in some studies, to determine the sample size (Clark & Watson, 1995; DeVellis, 2017). In this part of the study, the estimated sample size was supposed to be a minimum of 1000 completed questionnaires, based on the rule of thumb that at least ten respondents should represent each item of the scale, with an ideal of 15:1 or 20:1 (Clark & Watson, 1995; DeVellis, 2017).

The data collection process in this project, however, was interrupted by the COVID-19 pandemic. The President of South Africa introduced lockdown restrictions in the country from March 2020, and at the time of the completion this current study, it was still in force. As the data collection process in this study entailed collecting questionnaires from CCL, reaching the target of 1000 planned interviews, proved to be challenging. Consequently, the researcher discussed this issue in several supervision sessions.

An application was made to the UWC Higher Degrees Committee for permission to use the 315 questionnaires that had already been collected at the time of the lockdown, as a sufficient sample for data collection. Due to the extraordinary COVID-19 circumstances that prevailed worldwide, the UWC Higher Degrees Committee granted the researcher permission to cease data collection in June 2020, and use the 315 questionnaires collected, as a sufficient sample. DeVellis (2017), as well as Clark and Watson (1995) concur that a minimum of 300 cases is acceptable when researchers develop an instrument. Additionally, Comrey and Lee (1992) suggest a grouped measure for sample sizes, when researchers develop instruments, namely, 100 is poor; 200 is fair; 300 is good; 500 is very good; above 1000 is excellent.

The current study included completed instruments from four regions and three CYCC in Gauteng. The inclusion criteria comprised both male and female child offenders in the community, who were willing to participate, had been assessed by POs in the employ of the Gauteng DSD, spoke English, and whose parents or guardians granted permission for their children to participate in this study, as well as children awaiting trial or sentencing in a CYCC managed by the former BOSASA. Additionally, CCL who were willing to participate, spoke and understood English, and whose parents/guardians granted permission, were selected to participate in this study.

5.11.5. Respondent group

The respondent group was all the POs in the employment of the Gauteng DSD, who assisted with completing the survey in 2019.

5.11.6. Instrument

As described elsewhere, the SACRANAS is an instrument that comprises two sections. Section A describes demographic variables, such as language, race, age, and gender. Section B comprises 16 subscales on a 5-point (0 to 4) Likert scale, and 0 to 1 nominal scales. An overall rating (on a 0 to 4 basis) for each section is required, which reflects the link between any identified risk and need factors and the future likelihood of offending. The participants had to score the nominal scales as *0 = Does not apply to the child offender at all* or *1 = Applies to the child offender*. In addition, the participants had

to rate the subscales on a five-point Likert scale from 0, *meaning not at all*; 1, *meaning some of the time*; 2, *meaning a good part of the time*; 3, *meaning most of the time*; and 4, *meaning all of the time*.

5.11.7. Recruitment procedures

In August 2019, all five DSD Gauteng regions that fulfilled the inclusion criteria were identified by the researcher and the study supervisors. An email was sent to the regional directors of their regions to request permission for their POs to participate in administering the survey. The email stated the intended purpose of the pilot test and a summary of what participation would entail. An ethical clearance certificate and information letters (Appendices 1, 2, 3, 4, 5, and 6) accompanied the email. Only four out of five regional directors replied to the email from the researcher and granted permission. The regional director of the Sedibeng region in Gauteng did not respond to the researcher's emails; consequently, the researcher did not conduct research in that region. In addition, the researcher travelled to the Ekurhuleni region and had a meeting with the regional director on 22 August 2019. At this meeting, the researcher explained the purpose of the meeting, and the regional director granted permission for the researcher to conduct the survey in that region.

Table 5.7: Data collection plan

19 August 2019	Meeting CYCC	Soshanguwe
20 August 2019	Workshop with Probation Team supervisors	Johannesburg
21 August 2019	Data collection	Krugersdorp
22 August 2019	Meeting with regional director Ekurhuleni region	Roodepoort
23 August 2019	Data collection	Krugersdorp
24 August 2019	Data collection	Krugersdorp
26 August 2019	Arranged data collection meetings via e mail and telephonically.	
27 August 2019	Workshop probation teams' supervisors and manager	Pretoria
27 August 2019	Data collection	Krugersdorp
28 August 2019	Workshop probation teams' supervisors and manager Workshop supervisors and POs	Roodepoort Krugersdorp
29 August 2019	Data collection Data collection	Krugersdorp Soshanguwe
30 August 2019	Data collection	Soweto

The researcher conducted workshops with probation supervisors in the towns and cities, as explicated in Table 5.7, stating the date, region, or CYCC, and place. Several POs, who were employed by DSD in the four regions, namely, Johannesburg, Tshwane, Ekurhuleni, and West Rand in Gauteng, collected data through the survey with CCL.

5.11.8. Time schedule

Data collection through the survey took place between August 2019 and December 2019 in Gauteng.

5.11.9. Data collection and process

The HOD Gauteng DSD granted permission for the POs to assist with the data collection process (Appendix 3). Subsequently, the researcher requested permission from the regional directors and the provincial director of the CYCCs in the Gauteng DSD. An email copy of the draft SACRANAS (Appendix 13), UWC Ethics approval letter (Appendix 1), and the HOD approval letter (Appendix 3) were emailed. Several meetings between the researcher and the respective probation supervisors in the regions, POs, the heads of CYCC, were scheduled at the respective DSD regional office or the CYCC. The main purpose was to provide an overview of the research, the data collection process during this survey, and what the participation of the POs would entail. At the meetings, the researcher gave a comprehensive overview of the phases preceding the survey, explained the main objectives of the survey, and allowed discussions to clarify any uncertainties. The POs, probation supervisors, and the head of the CYCCs could ask questions about the study and, more specifically, about the distribution strategy, administration, and the format of the SACRANAS. In addition, the POs were able to see the draft version of the SACRANAS, study it, and ask questions about it. Copies of the SACRANAS were left with the POs and their supervisors in the various regions, as well as the head of each CYCC, at which the research was conducted. The researcher collected data at the CYCCs only, and the POs collected data in the four regions in Gauteng.

During the administering of the survey, probation supervisors and POs were able to seek guidance telephonically, or via email, when any challenges were experienced. However, no queries were received during the administering period. The questionnaires were

completed by POs in their respective regions, and subsequently couriered by contact persons (Probation supervisors and managers in the employ of Gauteng DSD) to the researcher. The completed questionnaires reached the researcher by February 2020. The questionnaires were locked away in a safe location, to which only the researcher and the study supervisor had access.

A statistical coach was appointed by the UWC, the Division for Postgraduate Studies, in October 2019. The statistical coach provided the researcher with training to clean the questionnaires in preparation for import into Statistical Software Package for the Social Sciences (SPSS). Additionally, the statistical coach provided the researcher with training in SPSS during five contact sessions in the afternoons, as the researcher is in full-time employment. The sessions were conducted at the UWC library. The researcher downloaded SPSS-25 onto a personal computer on 29 October 2019, and developed the SPSS-25 data capturing tool; however, the SPSS-25 licence expired in 2019. In 2020, the sessions with the statistical coach continued via email support and training. The researcher downloaded SPSS-26 in March 2020, via an email sent by the UWC Information and Communication Services Service desk. Subsequently, the researcher developed a data capturing tool in SPSS-26, and emailed it to the statistical coach, to check for errors. The statistical coach checked the SPSS-26 data capturing tool, and cleared it as ready for data capturing, and importing into SPSS-26 for later data analysis. Additionally, the researcher emailed the SPSS-26 data capturing tool to the study supervisors for their comments. The supervisors checked the SPSS-26 data capturing tool and cleared it as ready for data capturing, and data importing into SPSS-26 for later data analysis.

The process involving the manual coding of all the completed questionnaires was completed by the researcher. Each questionnaire received a participant code, for example, P1, and P2. The missing data were identified with a full stop (.). The coding process was accomplished without any concerns being raised.

5.11.10. Data analysis

The SPSS-26 programme was used to analyse the data. The analysis included *descriptive statistics* (Part 1), *inferential statistics* (Part 2), and *data reduction techniques* (Part 3). The analysis aimed to fulfil four functions, namely: 1) summation of the sample characteristics; 2) testing the data set for assumptions; 3) establishing reliability estimates; and 4) data reduction procedures for establishing construct validity. A brief description of the techniques used, follows in the next section. To ensure the integrity of the analyses, the researcher performed the analyses under supervision, with the support of the statistical coach. Several emails were sent to the study supervisors to discuss the analyses and results, in order to ensure the accuracy of the interpretation.

5.11.10.1. Part 1: Descriptive statistics – Demographic data of participants

Data analysis can be conducted as descriptive and inferential statistics. In this section, descriptive statistics will be reported. Descriptive statistics provide the analysis of data that helps to describe, illustrate, or summarise data in a meaningful way, for patterns to emerge from the data. However, descriptive statistics do not allow researchers to make inferences beyond the data analysed, or conclusions reached, regarding any hypotheses that were formulated (Creswell, 2014). According to Table 5.8, three hundred and fifteen (N=315) questionnaires were completed by the researcher and POs. In addition, Table 5.8 contains a demographic profile of the child participants (unit of analysis).

Table 5.8: Demographic profile of the child participants

VARIABLE	N	PERCENTAGE
SEX		
Male	284	90.2
Female	31	9.8
AGE		
10	1	0.3
11	0	0
12	3	1.0
13	4	1.3
14	13	4

VARIABLE	N	PERCENTAGE
15	49	15.6
16	111	35.2
17	113	35.9
18	21	6.7
ETHNICITY		
African	280	88.9
Coloured	28	8.9
White	7	2.2
Indian	0	0
LANGUAGE		
Afrikaans	24	7.6
English	15	4.8
Ndebele	2	0.6
Xhosa	39	12.4
Zulu	99	31.4
Sesotho	36	11.4
Setswana	67	21.3
Tshivenda	7	2.2
Xitsonga	5	1.6
Sepedi	17	5.4
Swati	5	1.3

Table 5.8 indicates that the overwhelming majority of CCL were African (88.9%), while 8.9% were Coloured, and 2,2 % were White. No Indian CCL participated in the survey.

5.11.10.2. Part 2: Inferential statistics – Data analysis

In general, during the final phase of the instrument development process, a validation study is carried out in a large and representative development sample (Assink et al., 2016; DeVellis, 2017), to estimate the psychometric properties of the scale further (Assink et al., 2016; Munnik, 2018). In other words, after an initial pool of items has been developed, and pilot-tested (pre-tested) in a representative sample, the performance of the individual items is assessed, to select the most appropriate to include in the final scale, and to examine scale dimensionality

(Boateng et al., 2018; DeVellis, 2017). The statistical techniques used for these purposes are item analysis and factor analysis (Boateng et al., 2018; Munnik, 2018). It is recommended that instruments are administered, analysed, revised, and readministered several times, before their psychometric properties are acceptable (Boateng et al., 2018; Ismail, 2018; Li et al., 2017).

Data analysis can also be conducted by means of inferential statistics, which is the process of using data analysis to deduce properties of an underlying distribution of probability. An inferential statistical analysis infers the properties of a population, by testing hypotheses and deriving estimates (Creswell, 2014; Field, 2018). Modern quantitative studies use sophisticated statistical analyses that rely on numerous important assumptions, to ensure the validity of the results. Instrument developers need to assess the source data before actively proceeding with the test. When the tests on the statistical assumptions are satisfied, instrument developers could consider the statistical results to be relatively robust (Field, 2018). In this current study, two assumptions were assessed before conducting a statistical analysis, namely, sample adequacy, and the homogeneity of variance (Field, 2018; Osborne, 2015).

- **Assumption of sample adequacy**

The assumption of sample adequacy was developed to assess whether the size of the sample is adequate (Field, 2018). The assumption of sampling adequacy was measured by the Kaiser–Meyer–Olkin test (KMO). The KMO statistic was calculated for individual and multiple variables, and represented the ratio of the squared correlation between variables to the squared partial correlation between variables (Osborne, 2015). Field (2018) recommends that values between 0.5 and 0.7 are mediocre, values between 0.7 and 0.8 are good, values between 0.8 and 0.9 are great, and values above 0.9 are superb.

- **Assumption of homogeneity of variance**

The homogeneity of variance test assesses whether there are inter-correlations between variables, and assists in indicating whether the

correlation matrix differs significantly from an identity matrix. It is tested with Bartlett's test of sphericity (Field, 2018). When this test statistic is significant, it indicates that the correlations between variables are significantly different from zero, in general. Therefore, a significant value of this test is desirable; however, although a non-significant value of this test may be undesirable, it is essential to note that the significance of tests does not necessarily imply that the correlations are large enough to make the analysis meaningful. Low correlations on any identified variables against other variables should be considered as a reason for exclusion from the factor analysis (Field, 2018; Hoekstra, Kiers, & Johnson, 2012; Osborne, 2015). Similarly, extreme multi-collinearity (variables that are highly correlated) and singularity (variables that are perfectly correlated) is an issue in factor analysis (Field, 2018; Hoekstra et al., 2012).

The internal consistency of the instrument as an indicator of reliability was also assessed. Instruments are deemed reliable, based on the extent to which they consist of reliable items that share a common latent variable (DeVellis, 2017). The coefficient alpha corresponds closely with the classical definition of reliability, as the proportion of variance in a scale is attributable to the true score of the latent variable (Boateng et al., 2019; DeVellis, 2017). The most frequently used index of internal consistency is Cronbach's Alpha coefficient. Cronbach's Alpha usually has a value of between 0 and 1; however, scale developers have different opinions about the acceptable values of Cronbach's Alpha. For Boateng et al. (2018) and Nunnally (1978), a Cronbach's Alpha of 0.70 or more indicates good internal consistency. The classic research study by Anastasi and Urbina (1997) indicates that satisfactory Cronbach's Alpha's should range between 0.80 and 0.90. On the other hand, Hair et al. (2010) postulate that the generally agreed upon lower limit for Cronbach's Alpha is 0.70; however, it may decrease to 0.60 in exploratory research. For this current study, a Cronbach's Alpha of .60 or higher was set as a threshold value.

5.11.10.3. Part 3: Data reduction procedures

Data reduction procedures were used to establish construct validity. The primary statistical purpose of Exploratory factor analysis [EFA] is to explain the relations among a large set of observed variables using a small number of unobserved, or latent variables, called factors (Flora & Flake, 2017). Factor analysis is utilised in numerous studies for item selection and exploring, as well as confirming the nomological networks anticipated in the theories informing the construct (Flora & Flake, 2017; Florence, 2014; Munnik, 2018). DeVellis (2017) states that factor analysis was an appropriate reduction technique to: 1) determine how many latent variables underlie a set of items; 2) explain the variation among many original variables to reduce factors; and 3) define the substantive content or meaning of the factors that account for the variation among a larger set of items. Factor analysis is an analysis technique, used to reduce the number of variables in a model, or to detect relationships among variables. The goal of factor analysis is to identify the factorial structure. The main objective of factor analysis is to identify categories of similar statements, or a small set of factors that could account for the important covariation among items (Field, 2018).

EFA is generally preferred at the beginning phase of instrument development, as there are many unanticipated, however, meaningful factors influencing subsets, items, or unanticipated cross-loadings (Baglin, 2014; Field, 2018). Kline (2013) recommends an EFA as the preferred analysis, when the main aim is to arrive at a reduced set of factors that summarise and describe the structural inter-relationships among the items in a concise and understandable manner. Conversely, CFA is usually chosen when a theoretical model is identified, or developed *a priori*, specifically, before the data collection and analysis (DeVellis, 2017, Flora & Flake, 2017). Factor analysis is used typically to explore the internal structure of an instrument, which, according to the validity theory, contributes to the structural evidence of the construct validity of an instrument (Florence, 2014; Ismail, 2018). For this current study, it was decided to use an EFA.

An important decision point in factor analysis is to decide which data matrix should be analysed, namely, whether a correlation matrix versus a covariance matrix should be selected. Nunnally and Bernstein (1994) explain that a correlation matrix is a set of correlation coefficients among all the variables (items) being considered in the study, and factoring is not worthwhile, unless a substantial number of large correlations are visible. A covariance matrix (also known as auto-covariance matrix, dispersion matrix, variance matrix, or variance–covariance matrix) is a square matrix that gives the covariance between each pair of elements of a given random vector (Field 2018). In this current study, a pattern matrix was used for EFA.

A vital decision in the analysis was to identify the set of indicators to be analysed, as well as the composition and the size of the sample. In the construction phase of this current study, the domains and subdomains had already been identified and subjected to a panel of experts (POs, national experts), with the main aim of establishing face and content validity. In this current study, the sample items were revised and refined in supervision, consultation with experts, and focus group discussions with POs, before piloting. The draft instrument, with a total of 100 items across eight domains, were subjected to factorial analysis.

When conducting EFA, it is assumed that a researcher has a limited idea of the new measure's dimensionality, with no *a priori* assumptions (Boateng et al., 2018; Morgado et al., 2018). EFA was used to explore the dimensional structure of the SACRANAS. The main aim was to gain more clarity on the structure of the set of variables that were identified, and to reduce the 100 items of the instrument to a more manageable size. EFA extraction methods could be divided into either common factor analysis or principal components analysis methods (Hair et al., 2010). The decision to use one, or the other, should be based on the reason for conducting the factor analysis, as well as the amount of prior knowledge about the variance in the observations. In this current study, common factor analysis was performed, since the purpose was to investigate the dimensionality of the data.

Regarding another decision, centred on the method of rotation, Kline (2013) explains that rotation is an integral part of any EFA, and the primary goal of the rotation is to make the meaning of factors more obvious to the researcher, as well as enhance the interpretability of the retained factors. Baglin (2014) and Kline (2013) further describe rotation as a process, during which the initial factors are re-weighted according to pre-determined statistical criteria, depending on the choice of method of rotation, with the main aim of explaining as much variance as possible in the non-overlapping sets of indicators. The specific method of rotation, used in this current study was Direct Oblimin with Kaiser Normalisation, and factor loadings were not fixed (Baglin, 2014; Kline, 2013).

The interpretation of results is generally completed by reviewing factor loadings, communalities, and factor overdeterminations. Nunnally and Bernstein (1994) posit that instrument developers should look for a substantial number of large correlations. Additionally, Comrey and Lee (1992) recommend an interpretation of the loadings as follows: .32 as poor, .45 as fair, .55 as good, .63 as very good, and .71 as excellent. A cross-loading is a variable that is observed to have more than one significant loading (Flora & Flake, 2017). Costello and Osborne (2005) described cross-loading as variables that load at .32 or higher on two or more components. Nunnally and Bernstein (1994), as well as Tabachnick and Fidell (2007) caution against researchers inferring components with only a few variables. Components with at least four loadings greater than .60, or at least three loadings greater than .80, are considered reliable. In this study, no cross-loadings occurred.

Prior to conducting the factor analysis, it was important to conduct a **missing data analysis**. The assessment indicated that the amount of missing data was negligible. Field (2018) suggests that it is safest to exclude cases listwise, when they do not result in a massive loss of data. Since the missing data were negligible, the researcher decided to exclude the cases, listwise.

5.12. Phase 3: Instrument validation – Objective 8

“To reduce items by exploring item characteristics and factor structure.”

Item analysis involves a quantitative analysis to determine whether each of the items serves the intended purpose of the scale (Boateng et al., 2018; Izard, 2005). South African scholars Florence (2014), Foxcroft (2005), and Ismail (2018) postulate that, by utilising several statistical techniques, the instrument developer could examine the characteristics of each item, as well as select and organise the final items. The aim of the item analysis is to determine which items best measure the content, or construct of interest. A good item consistently measures the same characteristic as the measure in its entirety (Boateng et al., 2018; Ismail, 2018). Ismail (2018) recommend that the Kuder-Richardson 20 is a statistic that could be used to calculate item difficulty.

Item difficulty is an index that indicates how challenging an item in a measure is for the individuals taking the measure (Boateng et al., 2018; Foxcroft, 2005). The classic work of Anastasi and Urbina (1997), as well as Boateng et al. (2018), explicate that indices usually range between 0 to 1.0, or is defined in percentage, or portion 0 to 100. Ismail (2018) explains that the item difficulty (p) is calculated by the number of participants who answered the item correctly, divided by the standardised sample of test-takers.

Item discrimination refers to the ability of an item to differentiate correctly among the respondents, based on the content, the instrument is designed to measure (Anastasi & Urbina, 1997; Boateng et al., 2018). This item discrimination power could be calculated by the item discrimination index, as well as item-total correlation (Boateng et al., 2018; Foxcroft, 2005). According to Ismail (2018), the item discrimination index (D) is a statistical index utilised to evaluate how efficiently an item discriminates between the respondents in obtaining either a high or low score on the complete measure. There are numerous methods to calculate the item discrimination index, including the Pearson product moment correlation and the point-biserial correlation.

5.13. Phase 3: Instrument validation – Objective 9

“To explore the factor structure of the instrument using exploratory factor analysis.”

Since the current study utilised an EFA approach, the researcher selected the principal axis factoring method of extraction, to determine how many factors underlie the data set, with an

oblimin rotation, and Kaiser normalization, expecting the factors to be correlated (Hair et al., 2010). The criteria used to decide on the number of factors were a combination of the eigenvalues > 1 , the scree plot, the percentage variance explained, and Horne's parallel analysis. In the section that follows, Objective 10 of this current study is highlighted.

5.14. Phase 3: Instrument validation – Objective 10

“To assess the dimensionality of the instrument using exploratory factor analysis.”

There is no generally acceptable single guideline to determine the dimensionality, as some are relevant for the common factors, others to the principal components, and mostly, to both. Many rules and tests are available; however, they do not necessarily suggest the same number. The most popular are the scree test and eigenvalues-greater-than-1 (Florence, 2014; Ismail, 2018; Munnik, 2018).

5.15. Phase 3: Instrument validation – Objective 11

“To test the internal consistency of the instrument utilizing Cronbach's Alpha.”

To investigate the reliability of the preliminary assessment measure, the internal consistency of each subscale, as well as the entire measure was evaluated. This allowed for the consistency of the responses of all items in the measure to be assessed. The internal consistency reliability for the preliminary assessment measure was explored, utilising Cronbach's Alpha, to ascertain the number of items and their strength of inter-correlations. For this current study, a liability co-efficient above .60 was regarded as displaying acceptable reliability, because the SACRANAS is a new instrument (Ismail, 2018; Munnik, 2018; Nunnally, 1978). As this current study is a mixed-methods study, it is important to report on the data verification procedures employed.

5.16. Data verification procedures

Creswell (2014) highlights eight verification procedures, and suggests that at least two of them should be utilised in any given study.

- Triangulate different data sources of information. Methodological triangulation in this current study involved using different theories to provide corroborating evidence. Data

triangulation involved interviewing various participants, over variety of periods and phases, employing diverse methods and research approaches (qualitative, quantitative, and mixed- methods).

- Use member-checking to determine the accuracy of the qualitative findings. The researcher took several drafts of the instrument back to the participants to check whether they were accurate. The researcher conducted several focus group discussions and email research, which involved academics, instrument developers, colleagues, POs and social work managers. The researcher also had many informal discussions with POs, probation supervisors, and probation managers.
- Clarify the bias the researcher brings to the study. Self-reflection (bracketing) helped the researcher to build an open and authentic story. The researcher's experience in social work in South Africa and England could be viewed as a limitation, because the years of experience might have influenced his beliefs and opinions. Additionally, the researcher has limited knowledge of the many cultures of the CCL in South Africa. The researcher dealt with this limitation through regular in-depth discussions during the supervision sessions.
- Peer debriefing to enhance the accuracy of the account was used. These processes involved locating peer debriefers, who reviewed and asked questions about the qualitative part of the study. The researcher sought input from colleagues, friends, mentors, and academics, who were experienced qualitative researchers, and who clarified the study by asking questions, reading many drafts, critically, and making suggestions over many years. The POs involved in this current study, constantly reminded and motivated the researcher to develop a tool that could be used in the field in future. Additionally, the researcher had an expert qualitative researcher as a supervisor.

Auditing was applied in this current study. The researcher left a paper trail of field notes, emails, letters, recordings of the interviews, the transcripts of the interviews, draft instruments, recordings of Zoom, Microsoft teams, google meet meetings, supervision and training, documenting decisions made along the way. Therefore, in terms of ensuring the scientific quality of the study, the researcher was able to conform to five of the eight measures proposed by Creswell (2014).

5.17. Reflexivity

Creswell and Creswell (2018) assert that, in qualitative research, inquirers reflect on how their role in the study, personal background, culture, and experiences hold the potential to shape their interpretations, as well as influence data collection, interpretation and analysis. They warn that this aspect is more than merely advancing biases and values in the study, because the background of researchers, actually, may shape the direction of the study. Therefore, it is important that researchers understand how their interactions with the participants could impact the findings and the outcomes of the research.

While conducting this current study, the researcher worked as a Probation Officer; therefore, during interactions with the participants, the researcher was self-aware of not influencing their thoughts, opinions, values, and feelings, to avoid influencing the outcomes of the research. The researcher ensured the credibility of the results, by treating the participants' information as confidential, anonymous, and with respect. The participants, therefore, provided detailed information, and completed the questionnaires.

During data collection with CCL, the researcher was sensitive to the intellectual and emotional demands that qualitative interviews could have on participants. The researcher closely observed the participants' energy levels and body language throughout the interviews, and made appropriate adjustments when required. At times, the researcher had to pause some interviews, until the participants composed themselves, and were ready to continue.

5.18. Ethical considerations

Permission and ethical clearance were obtained from the Faculty of Community and Health Sciences Research Ethics Committee of the UWC (Appendix 1). Further ethical clearance was also sought from the Research and Ethics Committees of BOSASA (Appendix 2) and DSD Gauteng (Appendix 3). The study was conducted according to ethical practices pertaining to the study of human subjects, as specified by the Faculty of Community and Health Sciences Research Ethics Committees of the UWC, the Research and Ethics Committees DSD Gauteng as well as BOSASA.

The following guidelines were followed: The purpose of the study was clearly explained by the researcher to the participants and the relevant authorities (Appendix 4). Written, signed,

informed consent was sought from all the participants and their parents, guardians, or caregivers (Appendices 8, 9, 12). The researcher stressed that participation in the study was voluntary. The participants were informed of their right to withdraw from the study at any time, without any negative consequences. The participants were treated with respect and dignity. The consent forms, information sheets, and questionnaires were made available in English.

Additionally, identification codes, using numbers, were used on the data forms to ensure anonymity. Information obtained from the participants was used for this current study only, and was handled confidentially. Numbers were used to protect participants' identities when the results were published. The researcher collected some questionnaires personally, and others were collected by the POs, who are registered with the SACSSP. The researcher was responsible for ensuring their storage in a securely locked location in the Department of Social Work, UWC. All the information collected will be kept for a minimum of five years, in accordance with the policy of the UWC, after which it will be destroyed. The researcher arranged that participants be referred to social workers, employed by the DSD Gauteng or BOSASA, for assistance, should they be traumatically affected by the data collection process. The findings of the study will be made available to all the relevant stakeholders (Babbie, 2013; Creswell, 2014).

5.19. Summary

In this chapter, the researcher provided an overview and rationale for the methodological framework used in this current study. The study design was outlined, and its aims and objectives restated, followed by a discussion of the mixed-methods, research aims, methodology of the data collection process, objectives per phase, and data verification. This chapter was also focused on the focus group discussions with the POs, cognitive interviews with CCL, email data received from the key informants, and data analysis.

To conclude this chapter, the researcher discussed reflexivity, and presented the ethical considerations and procedures that were followed, while conducting this current study. In the following chapter, the researcher discusses Phase 1, which is the systematic exploration of literature, regarding the measurement of CCL risk and need assessment.

CHAPTER SIX

PHASE 1: RESULTS EXPLORING THE CONSTRUCT IN THE LITERATURE

6. 1. Introduction

This chapter is focused on the systematic exploration of the literature on the measurement of the CCL risk and need assessments, in order to describe the best practice models used to develop and validate a standardised CCL risk and need assessment instrument. The researcher also focuses on the qualitative exploration of the construct of the risk and need assessments of CCL with POs working in the field, as well as the data analysis that was executed.

6.2. Phase 1: Exploring the construct – Objective 1

“To explore literature pertaining to the measurement of CCL risk and need assessment systematically to describe best practice models used for the development and validation of a standardised CCL risk and need assessment instrument.”

Phase 1 is presented in Chapter 1, regarding its conceptualisation, and in Chapter 2, one theory and a model are described. The RNR model was employed to delineate the construct, and the validation theory was used to discuss the various types of evidence that could be gathered to build a valid argument. Additionally, the researcher developed a systematic review [SR] that explicates the measurement of CCL risk and need assessments, to describe best practice models used for the development and validation of a standardised CCL risk and need assessment instrument. The results section of the SR is discussed below.

6.2.1. Stage 5 of SR: Collating, summarising and reporting results

Collating, summarising, and reporting the results were conducted, in accordance with the research question. The researcher made use of narrative synthesis (Lucas et al., 2007), which is an approach to SR, and the synthesis of findings from multiple studies, chiefly using words to summarise, as well as illuminate the findings of the synthesis (Lucas et al., 2017); however, methodological guidance on the conduct of narrative syntheses is limited (Popay et al., 2006).

6.2.2. Stepwise textual narrative synthesis

In this section, a description of the study grouping identified in the SR is included, as well as the study commentaries produced.

6.2.2.1. Step 1: Study grouping - instruments identified in the SR

The following instruments were identified in the SR: (1) Positive Achievement Change Tool (PACT) (Baglivio, 2009); (2) Model risk assessment instrument; (3) Youth Actuarial Risk Assessment Tool [Y-ARAT] (Van der Put, 2014); (4) Washington State Juvenile Pre-Screen Assessment [WSJCA pre-screen] (Van der Put et al., 2014); (5) The Structured Assessment for Violence Risk in Youth [SAVRY] (Meyers & Schmidt, 2008); (6) Juvenile Sex Offender Assessment Protocol–II [J-SOAPII] (Martinez et al., 2007); (7) Massachusetts Youth Screening Instrument–Second Version [MAYSI-2] (Cauffman & MacIntosh, 2006); (8) Youth Level of Service Inventory [YLS/CMI] (Schmidt et al., 2005); (9) Youth Actuarial Assessment Tool for First Time Offending [Y-ARAT-FO] (Assink et al., 2016); (10) Antisocial Process Screening [APSD] (Li et al., 2017).

6.2.2.2. Step 2: Study commentaries produced

In Table 6.1, the instruments are distinguished as follows: adaption, development and validation.

Table 6.1: Instruments depicting the categories of adaption, development, and validation

ADAPTATION	INSTRUMENT	AUTHOR
1.	WSJCA pre-screen	Van der Put et al., 2012
2.	PACT	Baglivio, 2009
3.	APSD	Li et al., 2016
DEVELOPMENT	INSTRUMENT	AUTHOR
1.	Y-ARAFAT-FO	Assink et al., 2016
2.	Y-ARAFAT	Van der Put, 2014
VALIDATION	INSTRUMENT	AUTHOR
1.	YLS/CMI	Schmidt et al., 2005
2.	MAYSI-2	Cauffman and MacIntosh, 2006
3.	SAVRY	Meyers and Schmidt, 2008
4.	Model Risk Assessment Instrument	Miller and Lin, 2007
5.	JSOAPII	Martinez et al., 2007

The adaptation of tools included the WSCA pre-screen (Van der Put et al., 2014), the PACT (Baglivio 2009), and APSD (Li et al., 2017). Secondly, the development of tools included the Y-ARAFAT-FO (Assink et al., 2016), and the Youth Actuarial Assessment Tool (Van der Put, 2014). Thirdly, the validation of tools comprised the YLS/CMI (Schmidt et al., 2005), the MAYSI-2 (Cauffman & MacIntosh, 2006), the SAVRY (Meyers & Schmidt, 2008), the Model Risk Assessment Instrument (Miller & Lin, 2007), and the JSOAPII (Martinez et al., 2007).

6.2.2.3. Step 3: Narrative discussion of instruments used in SR

Three categories, namely, the adaptation, development, and validation of instruments, which emerged from the searches, are discussed below. In the following sections, the following are presented: name of the instrument, the type of instrument, the target group, a brief description of scale, a theoretical definition, domains, items, scoring, and psychometric discussion. Firstly, the category adaptation of instruments is discussed.

6.2.3. Adaptation of instruments

Firstly, the category adaptation of instruments is discussed.

6.2.3.1. Name of instrument: WSJCA pre-screen

- **Type of instrument:** Initial screening instrument.
- **Target group:** CCL in Netherlands.
- **Brief description of scale:** A 23 item instrument completed by POs.
- **Theoretical definition:** A distinction was made between three types of re-offense: total re-offense, felony reoffending, and violent felony reoffending.
- **Domains:** The instrument consists of 2 domains.
- **Items:** The instrument comprises 23 items. *Age at first offence* (years); *Misdemeanour offences:* None or one referral, two referrals, three or four referrals, five or more referrals; *Felony offences:* No felony referrals, one referral, two referrals, three or more referrals; *Weapon referrals:* No

weapon referral, one or more referrals; ***Against-person misdemeanour offences***: No against-person misdemeanour referrals, one referral, two or more referrals; ***Against-person felony offences***: No against-person felony referrals, one or two referrals, three or more referrals; ***Detention dispositions***: No detention dispositions, one disposition, two dispositions, three or more dispositions; ***Juvenile Rehabilitation Administration dispositions***: No Juvenile Rehabilitation Administration dispositions, one disposition, two or more dispositions; ***Escapes***: No history of escape, one attempt or actual escape, two or more attempts or actual escapes; ***Failure-to-appear warrants***: No pick up orders for failure to appear, one pick up order, two or more pick up orders.

Social history items: Sex Females 0 Males 1, ***School: enrolment status, conduct, attendance, and academic performance*** Enrolled and: Problems with youth's conduct reported by teachers or calls to parents, or some full-day unexcused absences, or mostly Cs and Ds, some Fs; Enrolled and: Problem with youth's conduct calls to police, or truancy petition or equivalent, or some Ds and mostly Fs; Dropped out, expelled, or suspended 2 ***Current friends*** No consistent friend or prosocial and antisocial friends ; All antisocial friends Youth is a member of or spends time with gang members; ***History of out-of-home placements***; No out-of-home placements; One or more placements; ***History of running away*** No history of running away, One instance, Two or more instances; ***Jail or imprisonment history of persons currently in household with youth***; No individual currently living in the household with the youth has an imprisonment or jail history; One or more such individuals; ***Parental authority and control***; Youth usually obeys parents and follows rules; Sometimes obeys; Consistently disobeys; ***Current alcohol/drug use***; No current alcohol/drug use; Current alcohol/drug use causing family conflict, or disrupting education, or causing health problems, or interfering with keeping prosocial friends or contributing to criminal behaviour

- ***History of physical or sexual abuse***, Has not been a victim of physical or sexual abuse, Victim of physical or sexual abuse, ***History of neglect***, Has

not been a victim of neglect, Victim of neglect, *History of mental health problems*, No history, Diagnosed.

- **Structure:** The instrument consists of 23 items across two domains.
- **Scoring:** Criminal history score is as follows 0-5= Low moderate; 6-8= Low moderate high; 9-11 =Low moderate high; 12-31 =Moderate high. Social History score= 0,1,2 giving a maximum score of 18.
- **Psychometric discussion:** The predictive validity of the WSJCA pre-screen in the Netherlands proved to be moderate, with an AUC of .625. The interrater reliability of the criminal history items was greater than the interrater reliability of the social history items. The interrater reliability of criminal history items was relatively high as this information was derived from official records. Cut scores were mentioned and statistically calculated.

6.2.3.2. Name of instrument: PACT

- **Type of instrument:** Initial screening instrument.
- **Target group:** CCL in Florida, United States of America.
- **Brief description of scale:** A rapid 46 items pre-screen. The full-assessment contains 126 items.
- **Theoretical definition:** Reoffending is operationalised as any ensuing law-breaking referral after the assessment date. The study used the subsequent offence post-assessment to capture the desired behaviour and not necessarily result in adjudication. The “success” or “failure” of a CCL is determined based on whether the youth committed a new offence within twelve months of receiving the PACT assessment for which he/she is officially referred by law enforcement to the Florida Department of Juvenile Justice.
- **Domains:** Four domains of the PACT pre-screen and the twelve domains of the full assessment. Pre-screen record of referrals, Social history, Mental health and attitude or behaviour indicators

- The full assessment domain names are; *Record of referrals; 2 Gender, 3A School history; 3B Current school status 4 A Historic use of free time, 4B Current use of free time; 5A Employment history; 5B Current employment; 6A History of relationships; 6B Current relationships; 7A Family history; 7B Current living arrangements; 8A Alcohol and drug history; 8B Current alcohol and drugs; 9A Mental health history; 9B Current mental health; 10 Attitudes/behaviours; 11 Aggression; 12 Skills.*
- **Items:** Criminal history items are as follows: (1) *Age at first offence 1 to 5 Over age sixteen, sixteen, fifteen, thirteen to fourteen, twelve or under;* (2) *Adjudicated misdemeanours 1 to 4; None or one referral, two referrals, three or four referrals, five or more referrals;* (3) *Adjudicated felonies 1 to 4 No felony referrals, one referral, two referrals, three or more referrals'* (4) *Total weapon offences 1 to 2 No weapon referrals, one or more referrals;* (5) *Total against-person.*
- Misdemeanours 1 to 3 *No against-person misdemeanour referrals, one referral, two or more referrals;* (6) *Total against-person felonies 0 to 2; No against-person felony referrals, one or two referrals, three or more referrals;* (7) *Secure detention placements 1 to 4 No detention confinements, one confinement, two confinements, three or more confinements;* (8) *Commitment placements 1 to 3 No residential commitments, one placement, two or more placements;* (9) *Total escape adjudications 1 to 3 No history of escape, one attempt or actual escape, two or more attempts or actual escapes;* (10) *Total failure to appear; Pick up orders 1 to 3 No pick-up orders for failure to appear, one picks up orders, two or more pick up orders.*
- Social history item Coded responses are as follows: (1) **Sex** 0 to 1 females, males; (2) *Current school enrolment 1 to 6; Graduated high school, enrolled full-time, enrolled part-time, suspended, dropped out, expelled;* (3) *Recent school conduct 1 to 5 Recognition for good behaviour, no problems with school conduct, problems reported by teacher, problem calls to parents, calls to police related to school conduct;* (4) *Recent academic attendance 1*

to 5; Good attendance/few absences, no unexcused absences, some partial-day unexcused, some full-day unexcused, habitual truant; (5) *Academic performance* 1 to 5; Honours student, Grade point average above 3.0; Grade point average from 2.0 to 3.0, Grade point average from 1.0 to 2.0; Grade point average below 1.0; (6) *Current friends* 0 to 2: No antisocial friends, antisocial friends, youth is or spends time with gang members; (7) *History of court-ordered or Department of Children and families placement* 1 to 4; No out-of-home placement, one placement, two placements, three or more placements; (8) *History of running away* 1 to 5; No history of running away, one instance, two or three instances, four to five instances, over five instances; (9) *Jail or imprisonment history of individuals currently in household with youth* 0 to 1; No individual currently living in the household with the youth has an imprisonment or jail history, one or more such individuals; (10) *Parental authority and control* 1 to 3: Youth usually obeys parents and follows rules, sometimes obeys, consistently disobeys; (11) *History of alcohol use* 0 to 1; No history of use, history of use; *History of drug use* 0 to 1 No history of use, history of use; *Current alcohol use* 0 to 1, No current use, current use, current drug use 0 to 1; No current use, current use; (12) *History of witnessing violence* 0 to 1: Not witnessed violence, witnessed violence; (13) *History of physical abuse* 0 to 2; Not been a victim, been a victim outside of the home, has been a victim or attacked with a weapon where the youth was residing; (14) *History of sexual abuse or rape* 0 to 1; (15); Has not been a victim, has been a victim, *History of neglect* 1 to 2; Has not been a victim, has been a victim (16); *History of mental health problems* 1 to 5; No history, diagnosed, diagnosed and medication prescribed, diagnosed and treatment prescribed, diagnosed and medication and treatment prescribed.

- **Scoring:** The scores are low, moderate, moderate-high, high. Scoring is automatic.
- **Psychometric discussion:** The first model used logistic regression to predict reoffending using only the overall risk to reoffend level as indicated by the PACT. The study also validated the PACT with respect to predicting

reoffending for both “non-White” and “White” youth to ensure there was no difference in the predictive ability of the instrument for different racial groups. Reliability was not discussed in the article. Cut scores were mentioned and statistically calculated.

6.2.3.3. Name of instrument: APSD

- **Type of instrument:** Diagnostic screening instrument.
- **Target group:** CCL in Singapore
- **Brief description of scale:** A 20- item instruments completed by psychologists.
- **Theoretical definition:** The construct of psychopathy could be distinguished by three dimensions: grandiose-manipulative traits, impulsivity, and callous unemotional traits in a non-referred population.
- **Domains:** Two domains
- **Items:** The instrument comprises 20 items, namely, *cares about schoolwork; good at keeping promises; feel bad when he/she does something wrong; concerned about others' feelings; hides feelings from others; keeps same friends; blames others for mistakes; acts without thinking; gets bored easily; does risky things; does not plan ahead; emotions are fake; brags about abilities; cons others to get what you want; teases/makes fun of others; acts charming to get things; gets angry when corrected; more important than others; engages in illegal activities; lies easily.*
- **Scoring:** The items were rated from 0 (not true at all) to 2 (definitely true).
- **Psychometric discussion:** The factorial invariance across gender was supported via a multigroup confirmatory factor analysis, suggesting that male and female school-based adolescents conceptualised psychopathic traits in a similar way. The convergent validity of the APSD was supported by its moderate association with reactive and proactive aggression and offending behaviours. The construct validity of the APSD should be further

tested in the at-risk sample. Cronbach's alpha of callous/unemotional traits improved significantly by removing items 19 and 20 in the school-based and at-risk samples. By removing items 19 and 20, the internal consistency of callous/unemotional traits became slightly more acceptable in school-based adolescents ($\alpha = .56$) and in at-risk adolescents ($\alpha = .52$), implying that both items cannot be part of callous/unemotional traits at least in the current samples. Cut scores were not mentioned in the article.

6.2.4. Development of instruments

Secondly, the category development of instruments is discussed.

6.2.4.1. Name of instrument: Y-ARAT-FO

- **Type of instrument:** Initial screening instrument.
- **Target group:** CCL in the Netherlands.
- **Brief description of scale:** A twenty-nine item instrument completed by Dutch police officers.
- **Theoretical definition:** The onset of criminal behaviour was defined as a child in conflict with the law being suspected by the police of committing an offence within a period of three years after the index incident had taken place. In the Netherlands, a child in conflict with the law being registered as a suspect means either that the said child was caught by the police in the act of committing an offence or summoned to the police station because the police were convinced that the child had committed an offence.
- **Domains:** The instrument consists of five domains.
- **Items:** Categorical independent variables: (1) male born and (2) outside the Netherlands.
- Continuous independent variables were current age, age at the first incident (all roles other than that of being a suspect), the number of incidents (all roles other than that of being a suspect), the number of incidents (being involved as a victim), the number of incidents (involved as a witness), the number of incidents (involved as a witness of violence). Other variables are

the number of incidents (involved as an aggrieved person or reporter of an offence), the number of incidents (recorded by the police, not having a specific role), the number of incidents (involved in all roles other than suspect) and the type of incident.

Further variables are a non-violent property offence, a violent property offence, a public order offence without violence, a public order offence with violence, a sex offence without violence, a sex offence with violence, other offences without violence and other violent offences. Additional variables are the number of incidents in which weapons were involved at the child's living address (the child does not need to be involved in this incident), the number of incidents involving domestic violence at the child's living address (the child does not need to be involved in this incident), the number of incidents of sexual offences at the child's living address (the child does not need to be involved in this incident).

Even more, variables are the number of incidents of child abuse at the child's living address (the child does not need to be involved in this incident), the number of incidents in which a co-occupant at the child's living address was a suspect and the number of incidents of child abuse in which a co-occupant at the child's living address was involved (in any role). Other variables are the number of incidents of neglect in which the child and/or a co-occupant at the child's living address was a victim, the number of incidents of conflicts in which a co-occupant at the CCL's living address was a victim, the number of incidents of domestic strife in which the CCL and/or an occupant at the CCL living address was a victim.

- **Scoring:** Not mentioned in the article.
- **Psychometric discussion:** Predictive validity of the Y-ARAT-FO was acceptable. It showed an acceptable predictive accuracy for the prediction of violence, property, public order and other offences. Reliability was not mentioned in this article, but cut scores were discussed and calculated statistically.

6.2.4.2. Name of instrument: Y-ARAT

- **Type of instrument:** Y-ARAT is used as a screening instrument to identify the youth in need of more comprehensive criminogenic and care needs assessments.
- **Target group:** CCL in the Netherlands.
- **Brief description of scale:** A ten-item instrument completed by Dutch police officers.
- **Theoretical definition:** Reoffending was defined as a new arrest by the police for committing an offence within a period of three years after the index offence, even without convictions.
- **Domains:** The tool consists of five items.
- **Items:** The instrument consists of the following items boy; born in the Netherlands; current age; age at the first incident (all roles); age at first incident in which the child was a suspect; the number of incidents (all roles other than a suspect); the number of incidents (involved as a victim); the number of incidents as a witness to violence. Other items are the number of incidents as the person reporting and/or injured party; the number of incidents (involved as a suspect); the number of incidents involved as a suspect, type of incidents; non-violent property; violent property; public order offence without violence; public order offence with violence; sex offence without violence. In addition, there are items, such as, sex offence with violence; other violent offences; Other offences without violence; the number of different types of incidents (involved as a suspect); the number of different types of incidents (all roles); the number of incidents (all roles) with a co-defendant.
- **Number** of incidents in which a co-occupant at the child's address was a suspect; the number of incidents of child abuse in which a co-occupant at the child's address was involved; the number of incidents relating to conflicts in which a co-occupant at the child's address was the injured party;

the number of incidents involving domestic disputes in which the child was the aggrieved party.

- **Scoring:** Very low risk, low risk, moderate risk, high risk, very high risk
- **Psychometric discussion:** The predictive validity of the Y-ARAT was “acceptable” for most of the examined subgroups (AUC values greater than .70). However, there were several subgroups for which the AUC values were less than .70, namely, for girls, 12-year-olds, and first offenders. Reliability has not been mentioned in the article. However, cut scores were mentioned and statistically calculated.

6.2.5. Validation of instruments

Lastly, the category validation of instruments is discussed.

6.2.5.1. Name of instrument: YLS/CMI

- **Type of instrument:** Screening instrument.
- **Target group:** CCL in Canada.
- **Brief description of scale:** A 42 item instrument completed by a mental health professional or probation officer.
- **Theoretical definition:** Reoffending for each child offender was measured through two outcome variables: (a) any reoffending and (b) serious reoffending.
- **Domains:** The YLS/CMI, a 42-item checklist, is divided into eight subscales: offence history, family circumstances/parenting, education, peer relations, substance abuse, leisure/recreation, personality/behaviour, and attitudes/ orientation.
- **Items:** Three or more prior convictions; Two or more failures to comply; Prior probation; Prior custody; Three or more current convictions; Occasional drug use; Chronic drug use; Chronic alcohol use; Substance abuse interferes with life; Substance use linked to offence(s); Low achievement; Problems with teachers; problems with peers; Disruptive

classroom behaviour; Disruptive behaviour on school property; Truancy; Inadequate supervision; Difficulty in controlling behaviour; Inappropriate discipline; Inconsistent parenting; Poor relations (father-youth); Poor relations (mother-youth); Lack of organised activities; Could make better use of time; No personal interests; Not seeking help; Actively rejecting help; Defies authority; Antisocial/Procriminal attitudes; Callous, Little concern for others; Lack of positive peer acquaintances; Lack of positive friends; Some offending peer acquaintances; Some offending friends; Short attention span; Poor frustration tolerance; Verbally Aggressive/Verbally intimidating; explosive episodes; Physically aggressive; Inadequate guilt feelings; Inflated self-esteem;. Unemployment/Not looking for work.

- **Scoring:** ‘Yes’ and ‘No’
- **Psychometric discussion:** Concurrent validity was investigated through correlations between the YLS/CMI total score and other behavioural measures of pathology. A strong relationship was demonstrated between the YLS/ CMI total score and parent and youth. Predictive validity was evaluated through receiver operating characteristic curves analyses, resulting in values of .61 for AR and .67 for SR. Receiver operating characteristic curves of .60 and .66 should be considered moderate and large, respectively. The predictive power of the YLS/CMI is in the moderate to large range. Interrater reliability estimates were calculated for each of the YLS/CMI subscales except for subscale 1 (offence history). This subscale was excluded from interrater reliability analysis as the multidisciplinary assessment team rated each child in conflict with the law’s Offence history using a different index offence.

6.2.5.2. Name of instrument MAYSI-2

- **Type of instrument:** Diagnostic instrument
- **Target group:** CCL in the United States of America.
- **Brief description of scale:** A 51 item instrument completed by psychologists.

- **Theoretical definition:** Mental disorders among incarcerated CCL seem to be externalising factors such as a conduct disorder, attention deficit/hyperactivity disorder, substance use and abuse. Many CCL also present with internalising disorders, such as, depression, anxiety and posttraumatic stress disorder.
- **Domains:** The MAYSI-2 identifies problems in seven domains: Alcohol/drug use, angry-irritable, depressed- anxious, somatic complaints, suicide ideation, thought disturbance and traumatic experiences.
- **Items:** The MAYSI-2 is a 52-item inventory used to identify youths 12 to 17 years old who are at risk for serious mental, emotional, or behavioural disorders and in need of clinical intervention within child justice settings. Alcohol/drug use has the following items. (1) Regrets when drunk or high; (2) People think you drink too much; (3) Gotten in trouble when high or drunk (4) Fight when high or drunk. (5) Used alcohol/drugs to feel better (6) Drunk or high at school (7) Used drugs and alcohol at the same time. (9) No memory of the event because drunk or high (10).
- Angry-Irritable has the following items (1) Lost temper easily; (2) Easily upset (3) Get back at someone you're angry at; (4) Been jumpy or hyper (5); Had too many bad moods; (6) Felt angry a lot (7) Gotten frustrated easily (8) When mad, stay mad for a long time (10) Hurt or broken something because mad.
- Depressed-Anxious consists of the following items: (1) Worried feelings keep you from doing things; (2) Nightmares that make you afraid to sleep; (3) Felt lonely too much of the time (4) Seems like a part of your body always hurts; (5) Don't have fun with friends anymore 1.06 2.6; (6) Felt angry a lot; (7) Hard to feel close to people who aren't family; (8) Given up hope for your life and (8) Had bad thoughts about a previous scary event.
- Somatic Complaints comprised the following item: (1) When nervous, he/she felt shaky; (2) When nervous his/her heart beats very fast; (3) When nervous he/she felt short of breath; (4) When nervous his/her hands felt

clammy; (5) When nervous his/her stomach was upset; (6) Had bad headaches.

- Suicide Ideation contains: (1) Wished you were dead; (2) Felt like life was not worth living; (3) Felt like hurting yourself; (4) Felt like killing yourself and (5) Given up hope for your life Thought Disturbance covers —Boys (1) Seen things other people say aren't there; (1) Heard voices other people can't hear; (2) Other people can control your thoughts; (3) Feel like you're in a dream; (4) Can make people do things by just thinking (5).
- Male Traumatic Experiences encompasses (1) People talk about you when you're not there; (2) Has something bad happened to you; (3) Ever been badly hurt?(4) Had bad thoughts about a previous scary event; (5) Ever seen someone severely injured or killed? (6) Furthermore female traumatic experiences; (7) Had something bad happen to you; (8) Ever been badly hurt? (9) Ever been raped? (10) Had bad thoughts about a previous scary event? (16) Ever seen someone severely injured or killed.
- **Scoring:** “yes” or “no” concerning whether each item has been true for them within the past few months.
- **Administration:** This self-report inventory has an United States of America fifth-grade level of readability and takes approximately 10 to 12 minutes to complete.
- **Psychometric discussion:** A statistically significant amount of misfit was found for items 10 and 24 in the Alcohol/Drug Use subscale. Both items have infit and outfit t values that exceed $+2.0$. They share a content commonality in that each asks about behaviour when high or drunk. There are also several items (23, 40, and 45) with fit values that fall below -2.0 , indicating they are statistically uninformative because the amount of observed variation in responses is significantly less than expected under the measurement model. The most problematic questions in the Angry-Irritable subscale are Items 8 and 44 and, to a lesser extent, Item 7. Question 8 asks whether the youth has been jumpy or hyper. The large maximal outfit value ($t = 9.9$) indicates many teens low on anger also unexpectedly endorsed this

item, despite the fact it is the most “severe” in the subscale, whereas many teens with a high anger score, who would be expected to affirm it, fail to do so. A similar observation may be made about Item 44 (“have you broken something because you were mad”). Item 7 asks about revenge and also shows misfit to a lesser degree. In the Depressed-Anxious subscale, Item 41 (“hard to feel close to people outside your family”) has more variation than the measurement model predicts. Item 34 (“don’t have fun with friends”) also has a statistically significant misfit. Item 43 (“have headaches”) has the largest misfit statistics for the Somatic Complaints subscale. In the Suicide Ideation subscale, fit statistics indicate Item 47 (“have lost hope for your life”) has substantial misfit with the measurement model. Some items in the Thought Disturbance subscale, which applies only to boys, also show measurement misfit. Of all the MAYSI-2 subscales considered, this is the most problematic from a measurement point of view. Items 25 (“other people able to control your brain”), 26 (“had a bad feeling that things don’t seem real”), and 32 (“make other people do things by thinking about it”) all have very large positive t values. The two items that measure hallucinations (Item 9 “see things” and Item 20 “hear voices”) have large negative fit statistics. All the items fit in the Traumatic Experiences subscale designed for girls, whereas Item 46 (“people talk about you when you’re not there”) misfits for the boys’ Traumatic Experiences subscale.

In summary, there was a gender differential item functioning in the Alcohol/Drug Use, Angry-Irritable, and Somatic Complaints subscales. Differential item functioning based on race/ethnicity was found in the subscales for Alcohol/Drug Use, Angry-Irritable, Depressed-Anxious, Somatic Complaints, Suicide Ideation, Thought Disturbance, and Traumatic Experiences (boys).

6.2.5.3. Name of instrument: SAVRY

- **Type of instrument:** Assessment instrument .

- **Target group:** CCL in Netherlands.
- **Brief description of scale:** A 24 item instrument completed by psychologists.
- **Theoretical definition:** Reoffences were classified as violent recidivism if they met criteria listed in the SAVRY manual and included offences such as murder, manslaughter, attempted murder, assault, sexual assault, robbery, possession of a weapon, and arson. Nonviolent recidivism included all other offences. General reoffending was defined as any re-offence, either violent or non-violent, that resulted in conviction.
- **Domains:** The instrument comprised three domains.
- **Scoring:** On a three-point scale (*low, moderate, high*).
- **Items:** The instrument consists of 24 items. (1) History of violence; (2) History of non-violent offending; (3) Early initiation of violence; (4) Past supervision / intervention failures; (5) History of self-harm or suicide attempts; (6) Exposure to violence in the home; (7) Childhood history of maltreatment; (8) Parental / caregiver criminality; (9) Early Caregiver disruption; (10) Poor school ; (11) Peer delinquency; (12) Peer Rejection; (13) Stress and poor coping; (14) Poor Parental management; (15) Lack of personal / social support; (16) Community disorganisation; (17) Negative attitudes; (18) Risk taking / impulsivity; (19) Substance-use difficulties; (20) Anger management problems; (21) Low empathy/remorse; (22) Attention deficit/hyperactivity difficulties; (23) Poor compliance; (24) Low Interest /commitment to school.
- **Psychometric discussion:** The SAVRY was found to possess good predictive validity in the assessment of violence risk. Both reliability and cut scores were not mentioned in the article.

6.2.5.4. Name of instrument: Model risk assessment instrument

- **Type of Instrument:** A generic risk assessment tool.

- **Target group:** CCL in the United States of America.
- **Brief description of scale:** The risk assessment tool was developed for use by family court POs writing predisposition reports on youth adjudicated as CCL.
- **Theoretical definition:** Rearrests within 18 months spent in the community (across a three-year follow-up period).
- **Domains:** Instrument consist of five domains.
- **Items:** The scale comprised 1 items. Peers; Age at first referral; Total number of referrals; School discipline or attendance; Substance abuse; Number of out-of-home placements; Parental supervision; Referrals for violence or assault; Parent or sibling criminality; Victim of abuse or neglect.
- **Scoring:** The total number of referrals is grouped into three categories of one referral (0 risk points), two or three referrals (1 point), and four or more referrals (3 points). Peer relationships covers four categories: “friends provide positive influence” (0 points), “some offending friends with negative influence,” (1 point), “most friends are offending; strong negative influence” (3 points), and “gang member/associate” (4 points).
- **Psychometric discussion:** The scale was validated and adapted in a context other than where it was developed. The validated model risk assessment instrument produced the following outcomes ($p < .10$) of 33%, 45%, 50%, and 58%. Reliability was not discussed in this article and cut scores were not mentioned in the article.

6.2.5.5. Name of instrument: J-SOAPII

- **Type of Instrument:** Diagnostic instrument.
- **Target group:** CCL in the United States of America.
- **Brief description of scale:** A 28 item scale completed by psychologists.
- **Theoretical definition:** CCL were classified as having committed a sexual reoffence if there was reliable evidence (that is, self-report, arrest records,

or reported by the probation/parole officer, school authorities, Child Protective Services, or a parent or other family member) that they had committed an additional sexual offence after the initial intake.

- **Domains:** The J-SOAP-II is a 28-item rating scale comprised of four independent subscales, Subscale 1 addresses Sexual drive/preoccupation, Subscale 2 targets Antisocial behaviour/impulsivity, Subscale 3 addresses Intervention history, and Subscale 4 targets Community stability, adjustment, or support.
- **Items:** Scale 1 comprised of the following items: (1) Number of sexual abuse victims, which measures the number of victims the juvenile has ever sexually abused; (2) Male child victim, which assesses the juvenile's history of sexually abusing a substantially younger male child; (3) Sexualised aggression, which assesses the presence of gratuitous or expressive aggression that goes beyond what was required to complete the sexual offence; (4) Sexual victimisation history, which assesses the juvenile's own history of sexual victimisation and the complexity and severity of the abuse.

Scale 2 comprised of the following items: (1) School behaviour problems; (2) Juvenile antisocial behaviour; (3) Physical assault history/exposure to family violence; (4) Caregivers prior to age ten rather than sixteen. Scale 3 (1) Empathy; (2) Remorse and guilt; (3) Quality of peer relationship. Scale 4. Management of sexual urges and desire.

- **Scoring:** Items are scored on a three-point scale, in which a score of 0 indicates the absence of the risk factor, a score of 1 suggests some evidence that the factor is present, and a score of 2 shows clear evidence that the factor is present or present to a greater degree or frequency.
- **Psychometric discussion:** Validity was assessed, using correlational analyses (point-biserial correlation coefficients) between the J-SOAP-II and subscales and the three outcome variables (sexual reoffence, any reoffence and number of treatment sessions completed). The number of

treatment sessions attended was positively skewed, according to Spearman correlations. Receiver operating characteristic curves were used to quantify the predictive accuracy of the J-SOAP-II and its subscales at identifying reoffenders.

The authors found moderate to high levels of predictive validity when analysing the relationship between J-SOAP-II scores and re-offence data and treatment outcome, with substantial variability among the subscales. Reliability was tested using the Cronbach's Alpha coefficient and item-total correlations to assess the internal consistency of the scale and subscales. Interrater reliability was calculated, based on intraclass correlation coefficients. The authors found adequate internal consistency and interrater reliability for J-SOAP-II total score and most subscale scores. There was some variability among the individual subscales. On the other hand, cut scores were not mentioned.

The ten instruments that were identified are described as follows: three are diagnostic (Caufmann & MacIntosh, 2006; Li et al., 2017; Martinez et al., 2007); while seven are screening tools (Assink et al., 2016; Baglivio, 2009, Meyers & Schmidt, 2008; Miller & Lin, 2007; Schmidt et al., 2005; Van der Put, 2014; Van der Put, Stams, Dekovic, & Van der Laan, 2014). The focus of the diagnostic tools was to measure *mental disorders* among the incarcerated youth, to measure *psychopathy* among young offenders in Singapore, and to measure sexual offending, specifically targeting minority youths in the USA (Caufmann & MacIntosh 2006; Li et al., 2017; Martinez et al., 2007).

The focus of the following screening tools: *PACT* measured *reoffending*; The WSJCA pre-screen, YLS/ CMI, the model risk assessment instrument, Y-ARAT and the SAVRY measured *violent reoffending* (Assink et al., 2016; Baglivio, 2009; Caufmann & MacIntosh, 2006; Meyers & Schmidt, 2008; Miller & Lin, 2007; Schmidt et al., 2005; Van der Put et al., 2014). The Y-ARAT/FO focuses on the onset of criminal behaviour of CCL, being suspected by the police of committing a crime in the Netherlands (Van der Put, 2014). Two to eight domains were identified in each tool, and the operational definitions, as well as the items have been closely linked to the theoretical definitions.

The instruments have been developed to be completed by professionals, namely, psychologists, social workers, POs, and police officers. The instruments' lengths vary from 10 to 126 items, and some have shorter pre-screens with lengthier full screens, while others are full screens only. All the instruments in this SR demonstrated sound psychometrics and were published in peer reviewed articles.

6.3. Phase 1: Exploring the construct – Objective 2

“To explore the construct of CCL risk and need assessment qualitatively with POs working in the field.”

This section deals with the biographical information of the participants of the focus group discussions, who were purposively selected. The POs selected for this current study included males and females. The following demographic particulars of the research participants were obtained in 2017. The female POs comprised two White and nine Africans, all aged between 20 and 59 years. No Indian probation officers participated in this current study. The POs had between 14 months and 20 years of experience. The only male probation officer was Coloured, aged between 50 to 59 years, with 15 years of experience.

The participants had experience of working in poor socio-economic communities, as well as extremely affluent communities. All the participants had experience of working with CCL from various racial groups, cultural groups, and nationalities, who communicated in several languages.

6.3.1. Data analysis of focus groups

Data analysis involves making sense of the text, preparing the data for analysis, conducting various analyses, developing a deeper understanding the data, representing the data, and interpreting the greater meaning of the data (Creswell & Creswell, 2018). The researcher, therefore, developed a systematic way of analysing the data. In this current study, the thematic data analysis commenced after the data from the first focus group had been transcribed, and continued until all the focus groups were completed. The thematic analysis of the focus group discussion transcripts identified twelve codes and six themes. A summary of the main codes, as well as the themes, is provided in Table 6.2.

Table 6.2: Overview of themes and sub-themes

Codes from focus groups	Themes from focus groups
CCL speak several languages	
Poverty leads to child offending	
Abuse in the family is a risk factor	Sexual abuse in the family; emotional abuse in the family; physical abuse in the family
Probations Service is a specialised field	
Probation officers have little experience in the risk assessment of child offenders	Some POs utilise some elements of risk assessment in our assessment
Young children commit serious crimes	
Parenting can be a risk factor	Single parenthood; No discipline; Harsh discipline; Inadequate supervision; Child headed households can be a risk factor
Substance abuse is a serious risk factor	Alcohol abuse and drug abuse
Problems in education is a risk factor	Not in education training or employment
Crime prevalent community	
Need for belonging	Peer factors are risk factors Gangsterism is a risk factor
Mental health is a risk factor in child offending	

The data from the focus groups were transcribed verbatim by a professional company, to ensure that the transcripts were representative of the written text. After the first reading, the researcher checked the transcriptions against the audio-recorded material, as well as notes that were taken during and immediately after the focus groups, and made changes where necessary. As mentioned above, the data were transcribed verbatim soon after the focus groups were completed, to facilitate the recollection of the context in which the statements were made. For the analysis, the researcher commenced by reading through all the transcripts to gain an overview, and, thereafter, re-read each transcript repeatedly. In this current study, the initial codes were both inductive and deductive, since they originated from the researcher's own theoretical understanding (SR), as well as the participants themselves (Braun & Clarke, 2006).

The codes and themes derived from the focus groups also assisted in the writing of the scales and subscales. All the recommendations made were based on the discussions that transpired with the POs, who participated in the focus groups, in this current study.

6.4. Summary

The researcher explained the systematic exploration of literature pertaining to the measurement of CCL risk and need assessment to describe best practice models used for the development and validation of a standardised CCL risk and need assessment instrument. This chapter was also focused on the qualitative exploration with POs working in the field, as well as the data analysis of the construct, risk and need assessment,. In the following chapter, the researcher presents Phase 2, which is focused mainly on the instrument development.

CHAPTER SEVEN

PHASE 2: INSTRUMENT DEVELOPMENT

7.1. Introduction

In this chapter, the instrument development and objectives that constitute Phase 2, are discussed. It includes Objective three, describing the development of a blueprint, Objective four, delineating the population of each domain, with items that were collected during Phase 1, and Objective five, describing the cognitive testing of the instrument with POs and CCL in 2017.

7.2. Phase Two: Instrument development – Objective 3

“To develop a blueprint for the instrument that includes the domains and operational definitions for each domain based on the literature reviewed and the qualitative data collected in phase 1 of the study.”

7.2.1. Development of the blueprint

Developing a blueprint is an important step in defining the construct, and specifying the areas to be assessed. Additionally, a blueprint is essential in instrument development, as it assists with the specific outlining of what is to be measured, as well as the improvement of the content validity, and the reduction of measurement errors. Instrument specifications designate the content domains, behaviours, or constructs, to be drawn on by the instrument, as well as the specific dimensions of each content domain, behaviour, or construct that will be engaged. An estimate of the number of items that the final instrument, ideally, should include for each content domain, behaviour, and/or construct, as well as the specific dimensions for each of these, are also specified (Florence, 2014; Foxcroft, 2004; Ismail, 2018). The preliminary questionnaire-planned South African Child Offender Risk Assessment Scale (SACORAS) in this current study provided a framework for the instrument specifications, the proposed format of the instrument, items, and the responses required in the assessment measure.

The researcher developed the blueprint, based on the domains and items identified by exploring the literature, as well as the variables identified in the focus group discussions and cognitive interviews through thematic analysis (see Chapter 5). The dimensions of the constructs' risk needs, and responsivity *were* added to the blueprint from the ongoing exploration of the literature on the identified constructs. The items were organised into scales, which constituted the scales of the SACORAS. The relevance and representativeness of these dimensions regarding the constructs, risks, needs and responsivity, were assessed as content evidence towards the validity of the instrument.

The researcher consulted with the POs in focus group discussions, as well as with colleagues, and discussed it during the supervision process, before deciding to use a five-point Likert Scale in the instrument with an additive scoring method. The Likert scales offered ordinal response categories, where participants could provide responses indicating the intensity of their responses (Florence, 2014; Ismail, 2018). Evidence of the content validity includes a blueprint, the definition of the content domain, an expert rater review, and a questionnaire of adequate length, to sample across the content domain (Cronbach & Meehl, 1955).

7.3. Phase Two: Instrument development – Objective 4

“To populate each domain with items based on the qualitative data collected in phase 1 of the study.”

The generation of items is an important element of the development of sound instruments (Boateng et al., 2018; Faul, 1995), and establishing content validity. Item generation is viewed as the minimum psychometric requirement for measurement adequacy, and is the first step in construct validation of a new measure (Boateng et al., 2018; Florence, 2014; Ismail, 2018). In this current study, the researcher wrote the domains and items during a supervised process. The qualitative data that were obtained via an SR, is presented in detail in Appendix 13. The data collected through the focus groups with POs, as well as the email qualitative data from the key informants, were used to highlight specific issues that needed attention, to modify the constructs and delete, add, modify, or rewrite items.

All the recommendations made were considered during supervision, and decisions were taken, regarding whether to accept them or not.

7.4. Phase Two: Instrument development – Objective 5

“To test the instrument cognitively.”

The cognitive testing with POs, data analysis thereof, steps of content analysis, analysis, conceptual data analysis and proximity analysis are discussed below.

7.4.1. Cognitive testing through focus groups with POs

Cognitive methods have limitations, but could serve a specific purpose within the researcher’s tool kit, and could be complementary to other pre-testing methods (Collins, 2003). Cognitive methods could be used to assess the relevance, coherence, and problems with wording, as well as framing of existing questions, images, and information. However, researchers should be aware that this qualitative approach cannot provide quantitative information, regarding the extent of the problem, or the “size of its impact on survey estimates” (Collins 2003, p. 236). Cognitive methods cannot confirm that the revised questions and study materials are better than the original version.

7.4.1.1. Data analysis

A content analysis includes both conceptual analysis, as well as relational analysis. Conceptual content analysis is focused on the number of times a concept occurs in a set of data (quantitative analysis in the qualitative analysis). Conversely, a relational content analysis is based on a more holistic view that focuses more on implicit data, in terms of the context, the surrounding words, and relationships. There are three types of relational analysis: (1) affect extraction, (2) proximity analysis and (3) cognitive mapping (Carley, 1993).

Affect extraction occurs when the researcher assesses concepts according to the emotional attributes. These emotions are typically mapped on scales, such as a Likert scale, or a rating scale, ranging from 1 to 5, where 1 is, *very sad*, and 5 is, *very happy*. During a proximity analysis, explicit terms and patterns are identified, in terms of how they co-occur in a text. It investigates the relationship between the

terms and aims, to group them, to extract the themes and develop meaning. Proximity analysis is utilised typically when the researcher seeks hard facts, instead of emotional, cultural, or contextual factors. Lastly, cognitive mapping involves taking different texts and comparing them in a visual format, for example, a cognitive map (Carley, 1993). The researcher employed the following steps:

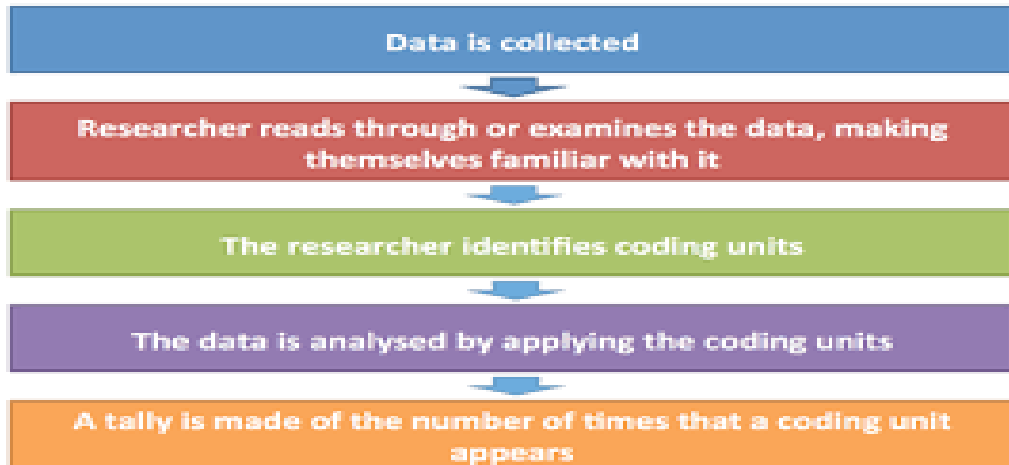


Figure 7.1: The five-step process of content analysis

Table 7.1: Conceptual data analysis depicting coding unit and percentage of POs concurring

Coding unit	% of POs concurring
Translate English instrument into IsiZulu and Setswana	100%
Change name of scale from SACORAS to include the child in conflict with the law	100%
Use a validated scale as a substance abuse scale	100%
Drug use and alcohol use items are ambiguous so rewrite them	80%
Add admission to an alcohol rehabilitation centre and add admission to a drug rehabilitation centre	100%
Refine front page as follows: make it user friendly; remove medical questions; remove educational background, remove caregivers information; remove family information section.	100%
Provide a shorter definition for probation officer	100%
Remove municipal police from the police definition	100%
Remove the item age at first referral as it does not make sense in the South African context	100%
Add bullying to the behaviour scale	100%
Add verbal aggression to the behaviour scale	100%
Add tantrums to the behaviour scale	100%

Coding unit	% of POs concurring
In absconding scale remove escape from police cells item	100%
Add access to free time resources and availability of free time resources to the free time spending scale	100%
Remove self-harm from the mental health scale	100%
Remove self-harm now from the mental health scale	100%
On the mental health scale add admission to a mental health facility	100%

Between 80% and 100% of the participants agreed upon certain changes that should be made to the developed instrument. Subsequently, the researcher also conducted a proximity analysis in this current study, delineated in Table 7.2.

Table 7.2: Proximity analysis describing codes from focus groups, themes from focus groups and an illustrative code

CODES FROM FOCUS GROUPS	THEMES FROM FOCUS GROUPS	ILLUSTRATIVE QUOTE
Child offenders in SA speak several languages		<p>“Sotho, Zulu and a few English and Afrikaans.”</p> <p>“It is Zulu and Sotho.”</p> <p>“It is Zulu, Sotho and Tshwane.”</p> <p>“Sesotho, but then we also have street slang for the Tswana and the Sotho.”</p> <p>“Mostly North Sotho Tsepedi and Tswana.”</p>
Environment leads to child offending		<p>“Most children that I work with come from the environment that is very crime prevalent.”</p> <p>“The environment that you grow up in has a major impact on the individual that you become.”</p>
Social workers with little experience are appointed as probation officers		<p>“Example, I am myself a new social worker and I was thrown into the deep end to be a probation officer, so you find new officials being appointed as POs.”</p> <p>“But she was also first-year social worker when she started on probation.”</p> <p>“New social workers that immediately then start as POs because there is a lack of social workers.”</p>
The Probation Service is becoming a specialised field		<p>“The whole process of specialisation is still hanging.”</p> <p>“We are social workers until there is a specialisation.”</p>
POs have little experience in the risk assessment of child offenders	Employed some elements of risk assessment in our assessment	<p>“Risk assessment, we don’t have much experience, it is one area that is lacking in our work.”</p> <p>“We don’t really do a risk assessment.”</p> <p>“I think when you look at some of the elements of risk assessment.”</p>
Very young children commit serious crimes		<p>“I think it should be for younger children because we have cases of boys as young as seven that rape or assault or whatever.”</p>

CODES FROM FOCUS GROUPS	THEMES FROM FOCUS GROUPS	ILLUSTRATIVE QUOTE
		"Even though children that are as young as seven commit alleged offences, the act just says they do not have criminal capacity."
Parenting can be a risk factor	Single parenthood No discipline Harsh discipline Inadequate supervision Child headed household	"Is it possible to add something like a child-headed household?" "And children growing up without a father." "No discipline in the family." "In many families supervision is poor." "Children in conflict with the law is subjected to harsh discipline."
Substance abuse is a risk factor	Alcohol Abuse Drug abuse	"Substance abuse within the home environment." "All the crimes that we assess are related to drug use." "Is definitely addicted to drugs." "Drug addiction has been a norm." "These children that we work with then resort to substance abuse."
Problems in education is a risk factor	Many child offenders are not in education training or employment	"Truancy." "Poor academic performance." "They go to school and do piece jobs just to buy bread." "We must not forget the children who have learning difficulties."
Crime prevalent in certain communities		"The environment where they come from." "So, most children that I work with come from the environment that is very crime prevalent." "The environment that you grow up in has a major impact on the individual that you become."
Gangsterism	Need for belonging	"I think it is the need for belonging, and you know these children that we work with then resort to substance abuse and crime." "When you say friends with a prison gangster and initiated as a prison gangster, is it even when they are on the outside?" "Crime is part of their identity."
Mental health is a risk factor in child offending		"I think mental status or health is very important when you look at children." "A lot of our children are patients from mental hospitals, and they use medication." "Self-harm is a psychological condition."

During this stage of the research, the researcher narrowed down the responses of the participants. In addition, a discussion was held during supervision, regarding the recommendations offered by the POs. An agreement was reached regarding the changes to implement and ones to ignore.

7.4.2. Cognitive interviews with CCL

The researcher also conducted cognitive testing with a group of CCL, administering the draft instrument, in order to test the questions. The researcher conducted cognitive testing with seven CCL in a CYCC in Gauteng (Boateng et al., 2018). The researcher planned to interview ten children, but did not succeed due to their challenging behaviour in the CYCC at the time of data collection.

7.4.2.1. Analysis

Content analysis was discussed previously, and will not be repeated here. The researcher conducted the content analysis from notes taken during the cognitive interviews with CCL, as no audio recordings were made during this part of the study. The following list reveals some of the problems and issues, according to CCL, which had to be addressed, when refining the instrument:

- Remove the word *child offenders* in the name of the instrument, to include children in conflict with the law;
- Refine the front page as follows: make it user friendly; remove medical questions; remove educational background; remove caregivers' information, and remove the family information section;
- The domain items in the peer relations domain are ambiguous; therefore, they should be rewritten;
- Drug use and alcohol use items are ambiguous; therefore, they should be rewritten;
- In the absconding scale, remove *escape from police cells* item.

Content analysis was useful for this current research, as it allowed the researcher an opportunity to make sense of patterns and themes that emerged from the data (Bryman, 2008; Carley, 1993). In addition, the researcher had an opportunity to become engaged with the data collection, as well as gain contextual experience.

7.5. Summary

This chapter was focused on Objective 3, which was the development of a blueprint for the South African Children in conflict with the law Risk and Need Assessment Scale [SACRANAS], including the domains and operational definitions for each domain, based on the literature reviewed and the qualitative data collected in Phase 1 of this current study. Objective 4 designated the population of each domain, with items, based on the qualitative data collected in Phase 1 of this current study. Lastly, the researcher reported on Objective 5 that involved the cognitive-testing of the SACRANAS through focus groups with POs and cognitive interviews with CCL.

CHAPTER EIGHT

PHASE 3: INSTRUMENT VALIDATION

8.1. Introduction

In this chapter, the researcher reports on the third phase of this current study, which involved the validation of the instrument. Objective 6 was aimed at describing the qualitative assessment of the face and content validity by the POs and the key informants. The aim of Objective 7 was to report on the field testing conducted in this current study. Objective 8 was to deal with the reduction of the items, using EFA, while Objective 9 was to explicate the exploration of the factor structure in this current study, by employing EFA. Objective 10 was aimed at reporting on the assessment of dimensionality, through EFA, in the study, and Objective 11 was to report on the reliability of the instrument.

8.2. Phase Three: Instrument validation – Objective 6

“To qualitatively assess the face and content validity of the risk and need assessment instrument in consultation with the POs and key informants.”

The focus group discussions with POs were conducted in 2019, to assess the face and content validity of the SACRANAS. The researcher conducted two focus groups, and subsequently described the biographical particulars of the participants. The female POs comprised two Whites and eight Africans, all aged between 20 and 59 years, with between two months’ and 20 years’ experience. The male POs comprised two Africans, between 26- and 30-years-of-age, with between five months’ and three years’ experience. No Indian probation officers participated in the focus groups in this study.

The participants were experienced in working with both poor socio-economic communities, as well as extremely affluent communities. All the participants were experienced in working with CCL from diverse racial groups, who spoke a variety of languages. Three participants, with only a few months’ experience in probation work, made valuable contributions during the focus groups. In Table 8.1, the researcher reports on the focus group discussions held in 2019.

Table 8.1: Focus group two discussion suggestions

Concerns and changes suggested by POs	Changes made based on concerns and suggestions
Translate English instrument into IsiZulu and Tswana	This was not implemented as the scope is too broad.
Change name of scale from SACORAS to SACRANAS	Changed name to SACRANAS
Add CYCC at higher score for previous referral to previous convictions scale	Not implemented
Add inpatient treatment as item by substance abuse scale	Implemented
Add emotional abuse, physical abuse and sexual abuse as items by parenting scale	Implemented
Add absconding from CYCC as an item to the absconding scale	Implemented
Add animal cruelty, bullying to the aggression scale	Implemented
Add verbal aggression to aggression scale	Implemented
Add tantrums to the aggression scale	Implemented
Add access to free time resources and availability of free time resources to the free time spending scale	Not implemented
Add child does not show remorse to the behaviour scale	Implemented
Attitudes to offending add child sees him/herself as a victim	Not implemented
Add the following item to the mental health scale- criminal capacity must be done with this child	Implemented
Education scale, add child taking drugs at school	Not implemented as covered elsewhere
Add child is self-employed to employment scale	Implemented
Add truancy to the education scale	Implemented
Add child leaves home without a parent knowing to the parenting scale	Implemented
Add child used by a caregiver to commit crime to the parenting scale	Not implemented
Add child mixes with other children known to use drugs	Not implemented

At this juncture, the suggestions made by the POs were compared across the discussions during the two focus groups, to ascertain whether there was a consensus. All the recommendations made were considered, based on the discussions that transpired in the focus groups with the POs. The researcher ensured that the decisions on whether to effect the suggested changes were based on the original intent of each item highlighted by the POs, the literature review, as well

as the overall purpose of the current scales. New items, or well-motivated changes were added, while the altered instrument was emailed to the supervisors for comment, and also discussed during supervision. In addition, email data were also collected from the key informants in 2019 to face and content validate the SACRANAS. In the next section, the researcher reports on the demographic particulars of key informants and email research suggestions.

8.2.1. Demographic particulars

The demographic particulars of the key informants were as follows: the all-male key informants comprised one White, one of Mixed race, and one Coloured person, between 55- and 63-years-of-age, with between 20 and 35 years' experience. The key informants were experienced in working with both poor socio-economic communities, as well as in very affluent communities. All the participants were experienced in working with CCL from diverse racial groups, who spoke a variety of languages. One key informant had worked in South Africa, as well as the United Kingdom, while the other two had worked in South Africa only. In addition, the one key informant is employed as a social work manager in England, one as a South African director of research, and the third is a South African university professor in social work. Table 8.2 contains the suggestions made by the key informants.

Table 8.2: Email research discussions suggestions

Concerns and changes suggested by key informants	Changes made based on concerns and suggestions
Consider using an existing scale for your substance abuse scale	Implemented. The researcher used a validated non copyrighted instrument, namely, the Washington State Juvenile Court Assessment Scale 2004.
Remove absconds from foster home by absconding scale	Not implemented
Remove absconds from CYCC as trial awaiting child by absconding scale	Not implemented
Remove child absconds from CYCC as a sentenced child by absconding scale	Not implemented
Remove child mixes with prison gangsters in the community by peer relations scale	Not implemented
Remove child is initiated as prison gangster by peer relations scale	Not implemented

Hsu and Sandford (2007) assert that researchers need to find appropriate methods to deal with the qualitative data. Consequently, the qualitative data in this part of the thesis were

used to highlight specific issues that required attention. At this juncture, the qualitative responses were mainly used to modify constructs, as well as delete, add, modify, or rewrite items. The researcher reflected on the qualitative responses, and used this data to revise the instrument. However, before modifying a construct, and adding, modifying, or deleting an item, the researcher first consulted with the supervisors and studied the relevant theory.

8.3. Phase Three: Instrument validation – Objective 7

“To conduct field testing with the instrument conducting a survey.”

The factorability of the data was assessed by means of the Kaiser-Meyer Olkin (KMO) measure of sampling adequacy. A KMO, at a minimum of 0.50, is acceptable; 0.50 - 0.70 is mediocre; 0.70 - 0.80 is good; 0.80 - 0.90 is outstanding, and higher than .90 is superb (Hair et al., 2010).

8.3.1. Results of the assumption of the sample adequacy

The results of the *Kaiser–Meyer–Olkin (KMO)* test of sample adequacy for the total sample are presented in 8.3 below.

Table 8.3: KMO results for sample adequacy (N=315)

KMO	RESULTS
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.728

The KMO statistics in Table 7.5 support the finding that the assumption for sample adequacy has been met. The results suggest that the study sample satisfied the criteria used for a good sample size. The above results indicate that the scale level data for this version of the instrument were factorable. Although the SACRANAS has 100 items, the sample was supposed to be a minimum of 1000 CCL. However, the researcher only interviewed 315 participants in the survey. The literature consulted, namely, Clark and Watson (1995), propose that instrument developers may use 300 respondents, after the initial pre-testing. Additionally, the COVID 19 pandemic disrupted the data collection process; therefore, due to practical reasons, the 315 collected questionnaires were deemed appropriate.

8.3.2. Results of assumption of sampling adequacy and sphericity

Bartlett's test of sphericity assesses the hypothesis that the correlation matrix is an identity matrix, which would indicate that your variables are unrelated, and therefore, unsuitable for structure detection. The KMO and Bartlett test evaluate all the available data together. A KMO value over 0.5, and a significance level for Bartlett's test below 0.05, suggest that there is a substantial correlation in the data. Variable collinearity indicates how strongly a single variable is correlated with other variables. The results of Bartlett's test of sampling adequacy and sphericity are presented in Table 8.4.

Table 8:4: Bartlett's test for total sample (N=315)

Bartlett's test of sphericity	
Approx. Chi-Square	1392.462
df	105
Sig.	.000

Bartlett's statistic in Table 8.4 supports the fact that the assumption for sample sphericity has been met. Accordingly, Bartlett's test of sphericity was significant, proving that this data was factorable and adequate for EFA.

8.4. Phase Three: Instrument validation – Objective 8

“To reduce items by exploring item characteristics and factor structure.”

Item analysis involves a quantitative analysis, to determine whether each of the items serves the intended purpose of the scale (Boateng et al., 2018; Izard, 2005). Item discrimination refers to the ability of an item to differentiate correctly among respondents, based on the content that the instrument is designed to measure (Anastasi & Urbina, 1997; Boateng et al., 2018). The item discrimination power can be calculated by the item discrimination index, as well as the item total correlation (Boateng et al., 2018; Foxcroft, 2004).

The corrected item-total correlations provide the correlation between each item and the total score, after removing the item from the total. Conceptually, these correlations reflect a tendency for CCL, who endorse an item to obtain higher scores, overall. There are no standard

guidelines for interpreting these values; however, values below .30 may suggest that an item is problematic, and could signify the need for possible deletion from the instrument (Boateng et al., 2018). The corrected item-total correlation for all the domains, are described separately in the tables that follow. It should be noted that when item-total correlations are $<.30$, they are indicated in red.

8.4.1. Correlated item-Total correlation of the domain, *Behaviour at home, school and community*

In Table 8.5, the item-total correlation for the subscale, *behaviour at home school and community*, is described. The *Corrected item-Total correlation* column specifies how significantly each item correlates with the overall questionnaire score. Correlations less than $r = .30$ indicate that the item may not belong on the scale.

Table 8.5: Item and Correlated item-Total correlation depicting the scale, *behaviour at home, school and community*

ITEM	CORRELATED ITEM-TOTAL CORRELATION
Leaves home without parents knowing where he/she is	0.643
Sleeps out of home without adult permission	0.741
Leaves home without parents/caregiver's permission	0.735
Child offender is aggressive at home	0.509
Child is verbally aggressive	0.350
Experiences conflict with parents/caregivers	0.598
Associates with friends who engage in offending behaviour	0.690
Shows admiration for friends doing things generally regarded as wrong	0.447
Mixes with other children known to have committed offences?	0.666

In this subscale, no items displayed Corrected item-Total correlations below .30. Based on the results, all these items were retained.

8.4.2. Correlated item-Total correlation of the domain, *Empathy with the victim and taking responsibility for his/her crime*

In Table 8.6, the item-total correlation for the subscale, *empathy with the victim and taking responsibility for crime*, is described. The *Corrected item - Total correlation* column specifies how significantly each item correlates with the overall questionnaire score. Correlations less than $r = .30$ indicate that the item may not belong on the scale.

Table 8.6: Item and Correlated item-Total correlation depicting the scale, *empathy with the victim and taking responsibility for his or her crime*

ITEM	CORRELATED ITEM-TOTAL CORRELATION
Child offender does not take responsibility for the crime	0.619
Child offender excuses him/herself from involvement in criminal incident	0.572
Child offender does not understand the impact the crime has on a victim	0.674
Child blames other for committing a crime	0.681
Child offender lacks empathy for his/her victims	0.645
Child offender does not accept responsibility for involvement in crime	0.624
Child offender minimises the harm caused to victims	0.562
Child offender has a lack of empathy for the harm caused to victims	0.607

In this subscale, no items displayed Corrected item-Total correlations below .3; consequently, all these items were retained.

8.4.3. Correlated item-Total correlation of the domain, *Peer relations*

In Table 8.7, the item-total correlation for the subscale, *peer relations*, is described. The *Corrected item-Total correlation* column specifies how significantly each item correlates with the overall questionnaire score. Correlations less than $r = .30$ indicate that the item may not belong on the scale.

Table 8.7: Item and correlated item total correlation portraying the scale, *Peer relations*

Item	Correlated item-Total correlation
Hangs out with friends known to be gangsters in the community	0.705
Refer to him/herself as a gangster	0.838
Is a member of a street gang that has its own identifying marks?	0.840
Mixes with persons who are prison gangsters who live in the community.	0.809
Initiated as a prison gangster in community.	0.781
Child offender is harmed by other people.	0.500
Associates with friends who commit offending behaviour.	0.690
Child offender perceives him/herself as having a criminal identity.	0.538

In the *peer relations* subscale, no items displayed Corrected item-Total correlations below .30; consequently, all the items were retained.

8.4.4. Correlated item-Total correlation of the domain, *Abuse in childhood*

In Table 8..8, the item-total correlation for the subscale, *abuse in childhood*, is described. The *Corrected item-Total correlation* column specifies how significantly each item correlates with the overall questionnaire score. Correlations less than $r = .30$ indicate that the item may not belong on the scale.

Table 8.8: Item and correlated item-total correlation showing the scale, *Abuse in childhood*

Item	Correlated item-Total correlation
Is subjected to harsh discipline	0.530
Victim of adult violent behaviour in the household	0.584
Lives in a household where one or more adults abuse substances	0.425
Has a household member that has been imprisoned before	0.285
Child was sexually abused in household	0.395
Child was emotionally abused in household	0.461
Child was physically abused in household	0.637

In the *abuse in childhood* subscale, no items displayed corrected item-total correlations below .30 besides *Has a household member that has been imprisoned before*, which was 0.285; consequently, this item was removed.

8.4.5. Correlated item-Total correlation of the domain, *Absconds from formal set-ups*

In Table 8.9, the item-total correlation for the subscale, *absconds from formal set-ups*, is described. The *Corrected item-Total correlation* column specifies how significantly each item correlates with the overall questionnaire score. Correlations less than $r = .30$ indicate that the item may not belong on the scale.

Table 8.9: Item and correlated item-total correlation portraying the scale, *Absconds from formal set-ups*.

Item	Correlated item-Total correlation
Absconds from foster placement	0.450
Absconds from CYCC as a trail awaiting child	0.747
Absconds from CYCC as a sentenced child	0.690

In the *absconding from formal set-ups* subscale, no items displayed corrected item-total correlations below .30; consequently all the items were retained.

8.4.6. Correlated item-Total correlation of the scale, *General aggressive behaviour*

In Table 8.10, the item-total correlation for the subscale, *general aggressive behaviour*, is described. The *Corrected item-Total correlation* column specifies how significantly each item correlates with the overall questionnaire score. Correlations less than $r = .30$ indicate that the item may not belong on the scale.

Table 8.10: Item and correlated item total correlation depicting the scale, *General aggressive behaviour*

Item	Correlated item-Total correlation
Child offender is aggressive in the community	0.670
Child throws tantrums	0.130
Child offender harms other people	0.656
Aggressive behaviour causes injury to other people	0.590
Child offender is proud of criminal behaviour	0.149

In the *general aggressive* subscale, no items displayed Corrected item-Total correlations below .30 except *Child throws tantrums* and *Child offender is proud of criminal behaviour*, which were 0.130 and 0.149; consequently, the researcher removed these items.

8.4.7. Correlated item-Total correlation of the domain, *Serious aggressive behaviour*

In Table 8.11, the item-total correlation for the subscale, *serious aggressive behaviour*, is described. The *Corrected item-Total correlation* column specifies how significantly each item correlates with the overall questionnaire score. Correlations less than $r = .30$ indicate that the item may not belong on the scale.

Table 8.11: Item and correlated item-total correlation depicting the scale, *Serious aggressive behaviour*

Item	Correlated item-Total correlation
Fire setting	0.349
Aggressive behaviour causing serious injury to other people	0.411
Animal cruelty	0.496
Injures animals	0.477

In the *serious aggressive behaviour* subscale, no items displayed Corrected item-Total correlations below .30; consequently, all the items were retained

8.4.8. Correlated item-total correlation of the scale Aggressive behaviour in education

In Table 8.12, the item-total correlation for the subscale, *aggressive behaviour in education*, is described. The *Corrected item-Total correlation* column specifies how much significantly each item correlates with the overall questionnaire score. Correlations less than $r = .30$ indicate that the item may not belong on the scale

Table 8.12: Item and correlated item-total correlation showing the scale, *Aggressive behaviour at school*.

Item	Correlated item-Total correlation
Committing crimes at school	0.430
Suspended from school	0.571
Expelled from school	0.557
Child Offender is aggressive at school	0.464

In the education subscale, no items displayed Corrected item-Total correlations below .30; consequently,, all the items were retained.

In summary, in each subscale, the following items displayed Corrected item-Total correlations below 0.30, namely: *Has a household member that has been imprisoned before* in subscale, *Abuse in childhood*, and *Child throws tantrum as well as Child offender is proud of criminal behaviour* in the subscale, *General aggressive behaviour*, indicating that with the exception of these three items, all the other items on each subscale correlated with the score for each subscale. The exploration of the factor structure, employing EFA is discussed next.

8.5. Phase Three: Instrument validation – Objective 9

“To explore the factor structure of the instrument using exploratory factor analysis.”

The researcher decided to explore the factor structure by utilising EFA. The factor structure matrix represents the correlations between the variables and the factors. The factor pattern matrix contains the coefficients for the linear combination of the variables. In Table 8.13, the rotation employed is an oblimin rotation.

Table 8.13: Pattern matrix

Eight-factor PA Oblimin <.40 suppressed									
Pattern Matrix ^a									
	Factor								
	1	2	3	4	5	6	7	8	
LIK_Absc_3 Leaves home without parents/caregiver's permission	0.756								Behaviour at home school and community
LIK_Absc_1 Leaves home without parents knowing where he/she is	0.733								
LIK_Absc_2 Sleeps out of home without adult permission	0.701								
LIK_Beh_1 Child offender is aggressive at home	0.572								
LIK_Par_3 Experiences conflict with adult caregivers/ parents	0.548								
LIK_PeerR_2 Shows admiration for friends doing things, generally regarded as wrong	0.526								
LIK_Agr_4 Threatening other people	0.514								
LIK_Agr_3 Bullying other people	0.487								
LIK_PeerR_1 Associates with friends who commit offending behaviour	0.465								
LIK_Edu_1 Commits truancy at school	0.454								
LIK_PeerR_3 Mixes with other children known to have committed offences?	0.431								
LIK_Beh_4 Child is verbally aggressive	0.430								
LIK_Agr_1 Displaying a weapon									
LIK_Agr_2 Use a weapon to commit a crime									
LIK_Par_2 Receives insufficient parental supervision									
LIK_Peer_R4 Takes the lead in doing wrong things with friends?									
LIK_Par_1 Has lived in a single-parented family									
LIK_Att_8 Child offender has lack of empathy for harm caused to victims		0.751							Empathy with the victim and taking responsibility for crime
LIK_Orien_4 Child blames others for committing a crime		0.741							
LIK_Orien_6 Child offender lacks empathy for victims		0.716							
LIK_Att_5 Child offender does not accept responsibility fr involvement in crime		0.714							
LIK_Orien_3 Child offender does not understand the impact the crime has on the victim		0.680							

Eight-factor PA Oblimin <.40 suppressed								
Pattern Matrix ^a								
	Factor							
	1	2	3	4	5	6	7	8
LIK_Att_6 Child offender minimises the harm caused to victims		0.643						
LIK_Orien_1 Child offender does not take responsibility for the crime		0.623						
LIK_Orien_2 Child offender excuses him/herself from involvement in a criminal incident		0.560						
LIK_Orien_5 Child offender is preoccupied with crime								
LIK_Beh_7 Child offender harms himself								
LIK_Peer_R7 Is a member of a street gang that has its own identifying marks?			0.770					
LIK_Peer_R6 Refer to him/herself as a gangster			0.763					
LIK_Peer_9 Initiated as a prison gangster in community			0.729					
LIK_Peer_R8 Mixes with persons who are prison gangsters who live in the community			0.708					
LIK_Peer_R5 Hangs out with friends known to be gangsters in the community			0.578					
LIK_Beh_9 Child offender is harmed by other people			0.471					
LIK_Orien_7 Child offender perceives him/herself as having a criminal identity			0.448					
LIK_Att_4 Child brags about committing a crime								
LIK_Par_11 Child was physically abused in household				0.648				
LIK_Par_10 Child was emotionally abused in household				0.572				
LIK_Par_5 Victim of adult violent behaviour in the household				0.560				
LIK_Par_9 Child was sexually abused in household				0.507				
LIK_Par_7 Lives in a household where one or more adults abuse substances				0.466				
LIK_Par_4 Is subjected to harsh discipline				0.454				
LIK_Par_8 Has a household member that has been imprisoned before				0.428				
LIK_Att_1 Child offender is nervous when committing a crime								
LIK_Att_2 Child offender is indecisive when committing a crime								
LIK_Par_12 Has a family member who has committed and offence								

Eight-factor PA Oblimin <.40 suppressed										
Pattern Matrix ^a										
	Factor									
	1	2	3	4	5	6	7	8		
LIK_Absc_6 Absconds from CYCC as sentenced child					0.859					Absconds from formal set-ups
LIK_Absc_5 Absconds from CYCC as a trial awaiting child					0.794					
LIK_Absc_4 Absconds from foster placement					0.453					
LIK_Par_6 The child lives in a child-headed household without parental supervision										
LIK_Agr_9 Sexual aggression										
LIK_Beh_8 Child offender harms other people										General Aggressive behaviour
LIK_Agr_7 Aggressive behaviour causing injury to other people										
LIK_Beh_5 Child throws tantrums										
LIK_Beh_3 Child offender is aggressive in the community										
LIK_Att_7 Child offender is proud of criminal behaviour										
LIK_Agr_8 Aggressive behaviour causing serious injury to other people										Serious aggressive behaviour
LIK_Beh_6 Injures animals										
LIK_Agr_6 Firesetting										
LIK_Agr_11 Animal cruelty										
LIK_Agr_10 Aggressive behaviour causing the death of other people										
LIK_Att_3 Child is excited when committing a crime										
LIK_Agr_5 Violently destroy other people's property										
LIK_Edu_5 Suspended from school										Aggressive behaviour at school
LIK_Edu_6 Expelled from school										
LIK_Beh_2 Child offender is aggressive at school										
LIK_Edu_2 Committing crimes at school										
LIK_Edu_4 Fighting with teachers at school										
LIK_Edu_3 Fighting with other learners at school										

Extraction method: Principal axis factoring.
Rotation method: Oblimin with Kaiser Normalization.
a. Rotation converged in 28 iterations.

The initial factor analysis yielded an eight-factor solution. The extraction method employed was principal axis factoring, the rotation method was Oblimin with Kaiser Normalisation, and the rotation converged in 28 iterations. In this round of EFA, the researcher identified several items that failed to load significantly on any factor, namely: *Displays a weapon; Uses a weapon to commit a crime; Receives insufficient parental supervision; Takes the lead in doing wrong things; Has lived in a single parented family; Child offender is preoccupied with crime; Child offender harms himself; Child brags about crime; Child offender is nervous when committing a crime; Has a family member who has committed an offence; The child lives in a child-headed household without parental supervision; Violently destroys other people's property; Fights with teachers at school; Fights with other learners at school.* Consequently, these items were removed. Additionally, a nine-factor solution was also explored, to enhance the rigour of the study, but it did not make as good theoretical sense as an eight-factor solution.

Items that loaded significantly on Factor 1 are related to *behaviour at home, school and community*, and therefore, named accordingly. Factor 2 is labelled *empathy with victim and taking responsibility for crime*, because the items that loaded on this subscale, all relate to attributes of attitude towards the victim and taking responsibility for crime by CCL. Factor 3 is labelled *peer relationships*, as the items that loaded on this subscale refer to how the relationships with peers contributed to the involvement off CCL in crime. Items that loaded significantly on Factor 4 are all related to *abuse in childhood*, and on Factor 5 are related to *absconding to formal settings*. Factor 6 is labelled *general aggressive behaviour*, as it is related to the aggressive conduct by CCL. Factor 7 is related to *serious aggressive crime*, and therefore, the researcher labelled the factor, *serious aggressive behaviour*. Lastly, Factor 8 is related to *challenging conduct at school*, and accordingly, is labelled *aggressive behaviour at school*.

The factor, *Behaviour at home, school and community*, contains the following items: *Leaves home without parents/caregivers' permission; Leaves home without parents knowing where s/he is; Sleeps outside home without adult permission; Child offender is aggressive at home; Experiences conflict with adult caregivers /parents; Shows admiration for friends doing things, generally regarded as wrong; Threatens other people; Bullies other people; Associates with friends who engage in offending behaviour; Commits truancy at school; Mixes with other*

children known to have committed offences; Child is verbally aggressive. The factor, *Empathy with the victim and taking responsibility for crime*, contains the following items: *Child offender has a lack of empathy for harm caused to victims; Child blames others committing crimes; Child offender lacks empathy for victims; Child offender does not accept responsibility for involvement in crime; Child offender does understand the impact the crime has on the victim; Child offender minimises the harm caused to victims; Child offender does not take responsibility for crime; Child offender excuses him/herself from involvement in a criminal incident.*

The factor, *Peer relationships*, contains the following items: *Is a member of a street gang that has its own identifying marks; Refers to him/herself as a gangster; Initiated as a prison gangster in the community; Mixes with persons who are prison gangsters, and live in the community; Hangs out with friends known to be gangsters in the community; Child offender is harmed by other people; Child offender perceives him/herself as having a criminal identity.*

The factor, *Abuse in childhood*, contains of the following items: *Child was physically abused in the household; Child was emotionally abused in the household; Victim of adult violent behaviour in the household; Child was sexually abused in the household; Lives in a household where one or more adults abuse substances; Is subjected to harsh discipline; Has a household member that has been imprisoned before.*

The factor, *Absconds from formal setups*, contains the following items: *Absconds from CYCC as a sentenced child; Absconds from CYCC as a trial awaiting child; Absconds from foster placement.* The factor, *General aggressive behaviour*, contains the following items: *Child offender is aggressive in the community; Child throws tantrums; Child offender harms other people; Aggressive behaviour causing injury to other people; Child offender is proud of criminal behaviour.*

The factor, *Serious aggressive crime*, contains the following items: *Firesetting; Aggressive behaviour causing serious injury to other people.* The factor, *Aggressive behaviour at school* contains the following items: *Commits crime at school; Suspended from school; Expelled from school; and Child offender is aggressive at school.*

The eight factors or subscales represent salient dimensions of the construct, the risk and need assessment of CCL in South Africa; therefore, the instrument has been labelled the SACARANAS.

8.6. Phase Three: Instrument validation – Objective 10

“To assess the dimensionality of the instrument using exploratory factor analysis”

In the ensuing section, the researcher reports on the eigen values, scree plots, the total variance of the first 19 factors, and the parallel analysis conducted in this current study.

8.6.1. Eigenvalues and scree plots

Eigenvalues represent the substantive importance of a factor, and is a measure of the condensed variance in a correlation matrix. Diverse criteria have been recommended for the determination of whether to retain a factor (Zwick & Velicer 1982). Ismail (2018), as well as Zwick and Velicer (1982) recommend that factors with eigenvalues greater than one be retained. A scree plot is a graphic representation of each eigenvalue, against the factor with which the specific variable is associated. This demonstrates the relative importance of each factor. The scree plot is also affected by sample size (Florence, 2014; Ismail, 2018).

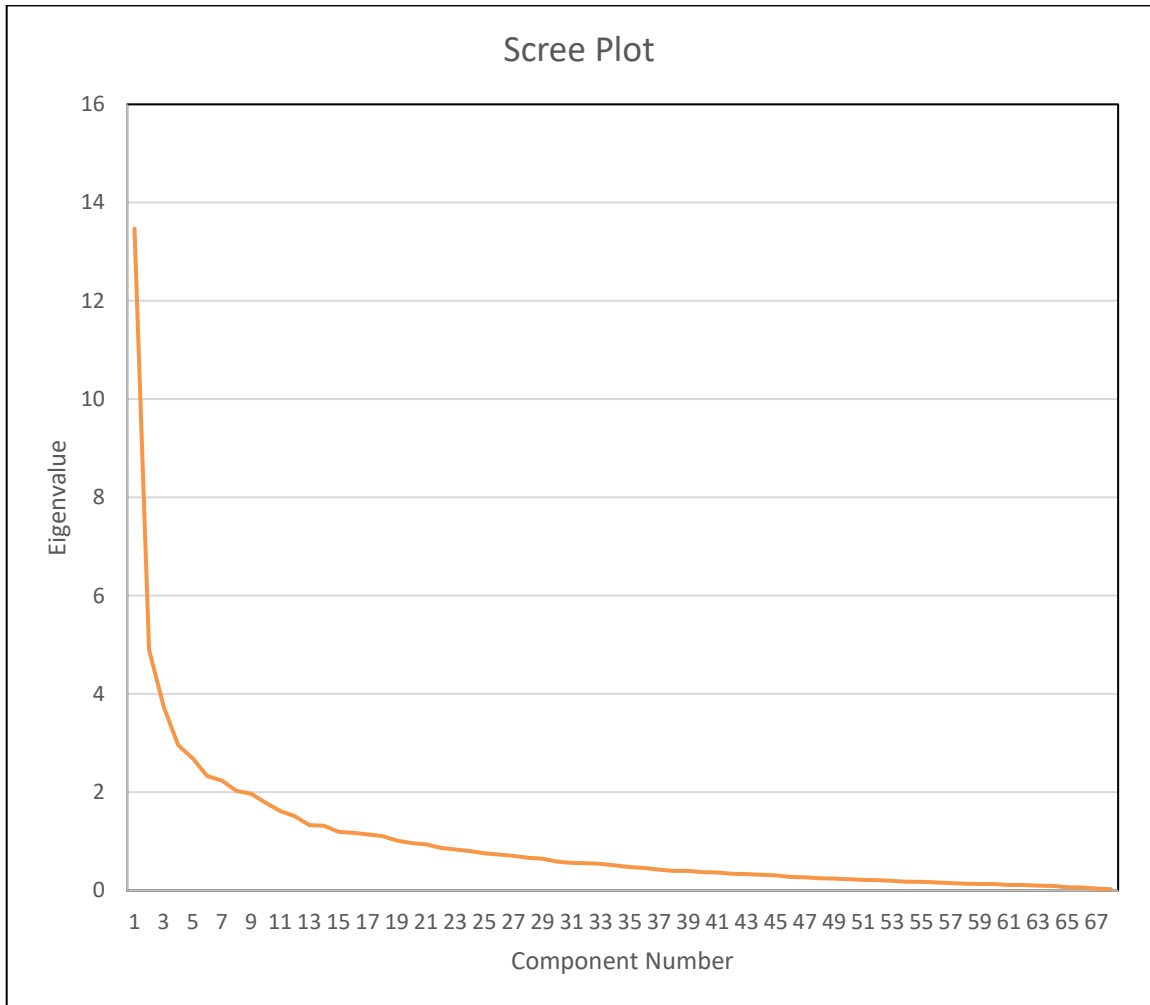


Figure 8.1: Scree-plot of the risk and need assessment factor analysis

To determine the number of factors to retain, the researcher examined the scree plot, as well as the eigenvalues with a score of one and greater than one. The results from the eigenvalues and scree-plot produced an interpretation, with eight factors displaying eigenvalues greater than 1 (see Figure 8.1). Upon inspecting the scree plot initially, it appeared as if there were many eigenvalues; however, on review, it appeared that the flattening started somewhere between 7 and 9.

A popular and intuitive index of goodness of fit in multivariate data analysis is the percentage of explained variance: the higher the percentage of variance a proposed model manages to explain, the more valid the model seems to be. In Table 8.14, the variance explained the factors with an eigenvalue larger than 1.

Table 8.14: Total variance explained for the first 19 factors

TOTAL VARIANCE EXPLAINED						
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	13.472	19.811	19.811	13.472	19.811	19.811
2	4.899	7.204	27.016	4.899	7.204	27.016
3	3.735	5.493	32.508	3.735	5.493	32.508
4	2.960	4.352	36.861	2.960	4.352	36.861
5	2.689	3.954	40.815	2.689	3.954	40.815
6	2.331	3.427	44.242	2.331	3.427	44.242
7	2.239	3.292	47.534	2.239	3.292	47.534
8	2.028	2.983	50.517	2.028	2.983	50.517
9	1.967	2.893	53.410	1.967	2.893	53.410
10	1.786	2.626	56.037	1.786	2.626	56.037
11	1.620	2.382	58.418	1.620	2.382	58.418
12	1.513	2.226	60.644	1.513	2.226	60.644
13	1.332	1.959	62.603	1.332	1.959	62.603
14	1.317	1.937	64.540	1.317	1.937	64.540
15	1.194	1.756	66.295	1.194	1.756	66.295
16	1.177	1.731	68.027	1.177	1.731	68.027
17	1.140	1.676	69.703	1.140	1.676	69.703
18	1.108	1.630	71.333	1.108	1.630	71.333
19	1.016	1.494	72.827	1.016	1.494	72.827

The first column, after the list of components column, contains the eigenvalues. The percentage of the variance column contains the ratio, expressed as a percentage, of the variance accounted for by each component to the total variance in all the variables. The cumulative percentage column contains the percentage of variance accounted for by the first n components. Evidently, 19 factors had eigenvalues of more than one, which is not a practical factor solution, in terms of practicality (the number of items per factor) and also in relation to the underlying theoretical framework.

Horne's parallel analysis was also conducted to augment the eigenvalue rule, and to test dimensionality in this current study. This is a statistical method used to determine the

number of components to retain in a PCA, or factors to retain in an EFA. It is based on random data generation, which is parallel to the actual data set, using the Monte Carlo Simulation Technique, to determine the number of factors and the comparison of eigenvalues of those two data sets. In Table 8.15, the Horne’s parallel analysis, conducted in this current study, is outlined.

Table 8.15: Parallel analysis

No. of variables: 68 – No. of subjects: 315 – No. of replications: 100		
Eigenvalue #	Random Eigenvalue	Standard Dev
1	2.0538	.0574
2	1.9695	.0402
3	1.8993	.0387
4	1.8427	.0340
5	1.7952	.0319
6	1.7429	.0296
7	1.6947	.0240
8	1.6547	.0217
9	1.6169	.0228
10	1.5792	.0219
11	1.5435	.0217
12	1.5111	.0188

The researcher compared the eigenvalues in Table 8.14 with the parallel analysis in Table 8.15, and assessed the eight eigenvalues greater than the above eight factors. A parallel analysis is one of the methods that helps to determine the number of factors in EFA (Liu & Rijmen, 2008). The underlying rationale for a parallel analysis is that the eigenvalues of the salient factors from the real data with a valid latent factor structure, should be larger than the eigenvalues of the corresponding factors, which are generated from random data (Liu & Rijmen, 2008)

8.7. Phase Three: Instrument validation – Objective 11

“To test the internal consistency of the instrument utilizing Cronbach’s Alpha.”

The internal consistency of the entire measure, namely the SACRANAS, as well as the internal consistency of each subscale, was evaluated. This enabled the assessment of the consistency of responses of all items in the measure. The internal consistency of each of the subscales was assessed by means of Cronbach's Alpha, and was calculated for the final subscales, as well as the entire measure, as an indication of their psychometric properties. The internal consistency assessment assisted with selecting the final items and scales for the SACRANAS.

Cronbach's Alpha was calculated for each of the eight subscales. The subscales delivered mixed results, with the Cronbach's Alpha scores ranging from 0.629 to 0.900. Subscales 1 and 5 displayed very good reliability, with Cronbach's Alpha ranging between 0.800 and 0.900. Subscale 3 displayed excellent reliability, with a Cronbach's Alpha score of 0.900, while subscales 4, 5, and 8 displayed good reliability with a Cronbach's Alpha score of 0.716 and 0.781, respectively. Subscales 6 and 7 displayed a poor reliability, with a Cronbach's Alpha score of 0.625 and 639, respectively.

8.8. Reliability statistics

Usually instrument developers seek item-total correlations larger than 0.3, as items that do not attain this correlation, may not work well on the theoretical scale, as they are supposed to. However, an item may not load very well on its original factor, but may work very well in combination with other items to form a factor. Therefore, a decision to delete an item was taken, in combination with several other factors. In Table 8.16, the Cronbach's Alphas are summarised.

Table 8.16: Cronbach's Alphas of the SACRANAS

Scale /Subscale	Cronbach's alpha
Behaviour at home school and community	0.866
Empathy with victims and taking responsibility for a crime	0.865
Peer relations	0.900
Abuse in childhood	0.740
Absconds from formal setups	0.781
General aggressive behaviour	0.635
Serious aggressive behaviour	0.629

Scale /Subscale	Cronbach's alpha
Aggressive behaviour at school	0.716

Although the scales *aggressive behaviour* (0.635) and *serious aggressive behaviour* (0,629) had low reliability scores, the researcher decided to keep them. In the literature consulted, Hair, Black, Babin, and Anderson (2010) confirm that a Cronbach's Alpha of 0.6 is acceptable in exploratory research. Additionally, aggressive behaviour by CCL in South Africa has a major impact on society, communities, families, and the CCL themselves. Consequently, it is argued that no instrument purporting to assess the risks and needs of CCL should be developed without the inclusion of an aggressive scale.

Subsequently, an item analysis was conducted on each subscale of the SACRANAS. The item analysis was conducted on the eight subscales, in order to assess whether individual items correlated with the score of each subscale, respectively. The results of the item analysis are presented in Table 8.17.

Table 8.17: Item analysis of the SACRANAS

Subscale 1	Corrected item-total correlation	Cronbach's Alpha if item deleted
LIK_Absc_1 Leaves home without parents knowing where he/she is	0.840	0.848
LIK_Absc_2 Sleeps out of home without adult permission	0.714	0.840
LIK_Absc_3 Leaves home without parents/caregiver's permission	0.735	0.838
LIK_Beh_1 Child offender is aggressive at home	0.509	0.860
LIK_Beh_4 Child is verbally aggressive	0.350	0.871
LIK_Par_3 Experiences conflict with adult caregivers/parents	0.598	0.852
LIK_PeerR_1 Associates with friends who commit offending behaviour	0.690	0.843
LIK_PeerR_2 Shows admiration for friends doing things generally regarded as wrong	0.447	0.865
LIK_PeerR_3 Mixes with other children known to have committed offences	0.666	0.845
Subscale 2	Corrected item-total correlation	Cronbach's Alpha if item deleted
LIK_Orien_1 Child offender does not take responsibility for crime	0.619	0.850

Subscale 1	Corrected item-total correlation	Cronbach's Alpha if item deleted
LIK_Orien_2 Child offender excuses him/herself from involvement in a criminal incident	0.572	0.856
LIK_Orien_3 Child offender does not understand the impact the crime has on a victim	0.674	0.842
LIK_Orien_4 Child blames others for committing a crime	0.681	0.842
LIK_Orien_6 Child offender lacks empathy for victims	0.645	0.846
LIK_Att_5 Child offender does not accept responsibility for involvement in crime	0.624	0.848
LIK_Att_6 Child offender minimises the harm caused to victims	0.562	0.854
LIK_Att_8 Child offender has a lack of empathy for harm caused to victims	0.607	0.850
Subscale 3	Corrected item-total correlation	Cronbach's Alpha if item deleted
LIK_Peer_R5 Socialises with friends known to be gangsters in the community	0.705	0.887
LIK_Peer_R6 Refers to him/herself as a gangster	0.838	0.870
LIK_Peer_R7 Is a member of a street gang that has its own identifying marks?	0.840	0.869
LIK_Peer_R8 Mixes with persons who are prison gangsters who live in the community	0.809	0.873
LIK_Peer_9 Initiated as a prison gangster in community	0.781	0.879
LIK_Beh_9 Child offender is harmed by other people	0.500	0.911
LIK_Orien_7 Child offender perceives him/herself as having a criminal identity	0.538	0.902

Subscale 4	Corrected item-total correlation	Cronbach's Alpha if item deleted
LIK_Par_4 Is subjected to harsh discipline	0.530	0.691
LIK_Par_5 Victim of adult violent behaviour in the household	0.584	0.678
LIK_Par_7 Lives in a household where one or more adults abuse substances	0.425	0.720
LIK_Par_8 Has a household member that has been imprisoned before	0.285	0.756
LIK_Par_9 Child was sexually abused in household	0.395	0.732
LIK_Par_10 Child was emotionally abused in the household	0.461	0.712
LIK_Par_11 Child was physically abused in the household	0.637	0.666
Subscale 5	Corrected item-total correlation	Cronbach's Alpha if item deleted
LIK_Absc_4 Absconds from foster placement	0.450	0.886

LIK_Absc_5 Absconds from CYCC as a trial-awaiting child	0.747	0.555
LIK_Absc_6 Absconds from CYCC as sentenced child	0.690	0.633
Subscale 6	Corrected item-total correlation	Cronbach's Alpha if item deleted
LIK_Beh_3 Child offender is aggressive in the community	0.670	0.513
LIK_Beh_5 Child throws tantrums	0.130	0.734
LIK_Beh_8 Child offender harms other people	0.656	0.522
LIK_Agr_7 Aggressive behaviour causing injury to other people	0.590	0.562
LIK_Att_7 Child offender is proud of criminal behaviour	0.149	0.726
Subscale 7	Corrected item-total correlation	Cronbach's Alpha if item deleted
LIK_Agr_6 Fire setting	0.349	0.596
LIK_Agr_8 Aggressive behaviour causing serious injury to other people		
LIK_Agr_8 Aggressive behaviour causing serious injury to other people	0.411	0.591
LIK_Agr_11 Animal cruelty	0.496	0.510
LIK_Beh_6 Injures animals	0.477	0.537
Subscale 8	Corrected item-total correlation	Cronbach's Alpha if item deleted
LIK_Edu_2 Committing crimes at school	0.430	0.695
LIK_Edu_5 Suspended from school	0.571	0.611
LIK_Edu_6 Expelled from school	0.557	0.623
LIK_Beh_2 Child offender is aggressive at school	0.454	0.680

The following items showed item-total correlations below .30 namely: *Has a household member that has been imprisoned before* (in subscale 4); *Child throws tantrums* and *Child offender is proud of criminal behaviour* (in subscale 6); indicating that with the exception of these items, all other items on each subscale, correlated with the score for each subscale. Consequently, these items were removed from the instrument.

8.9. Summary of chapter

In this chapter, the researcher presented the third phase of the study that involved the validation of the instrument. Objective 6 described the qualitative assessment of the face and content validity of POs and key informants; Objective 7 reported on the field testing done in this current study; Objective 8 delineated the reduction of items using EFA; Objective 9 explicated the

exploration of the factor structure in this study, employing EFA. Regarding Objective 10, the researcher reported on the assessment of the dimensionality, via EFA in the study. Lastly, Objective 11 explicated the reliability of the instrument.

CHAPTER NINE

DISCUSSION

9.1. Introduction

The application of three phases, within the mixed-methods design, allowed for the integration of the qualitative and quantitative methods at this stage of this current study, in which the qualitative phase of the study was complemented by the quantitative phase. The complete sequential exploratory design of the study compensated for the weaknesses, and complemented the strengths of each phase in the design, to answer one overarching question: “What content should be included in a standardised risk and needs assessment scale for CCL who are assessed by POs?” This overarching question was augmented by several sub-questions that were explicated per objective.

The aim of the study was to develop and conduct the initial validation, namely, to establish the content and construct validity and internal reliability of a locally developed instrument (SACRANAS) to assess the risks and needs of CCL. The SACRANAS, a 55-item measure, was developed through an interactive process, comprising multiple phases that included the conceptualisation, a literature study, an SR, focus group discussions with POs, email research with key informers, and individual interviews with CCL, in the construction of the items and a draft questionnaire. The developed items were validated by the POs and key informants, while the instrument was administered to a convenience sample of CCL (n=315), to establish the internal consistency reliability and factor structure of the instrument. It is anticipated that the development of a new instrument would assist in overcoming two shortcomings of current risk and need assessment measures: (a) the SACRANAS will be the first known generic, standardised instrument, developed in South Africa, with which to conduct a standardised risk and need assessments of CCL; and (b) the resulting instrument would assist POs, the courts, researchers, and instrument developers, to identify different levels of risk of CCL, namely, low, medium, and high risk.

In this chapter, the researcher references the overall aims of this current study, as well as the three phases: Phase one – the systematic exploration of the literature and exploration of the construct’s risk needs and responsivity; Phase two – the instrument development, including the development of a blueprint, the population of domains, and the cognitive testing of the instrument with POs and CCL; and Phase three – the validation of the SACRANAS by discussing the qualitative assessment of POs and key informants, the field testing of the instrument, the reduction of items, the exploration of the factor structure, the assessment of the dimensionality via EFA, and the calculation of Cronbach’s Alpha. In addition, the nine research objectives are delineated.

9.2. Phase 1: Identifying the domains and items, as per objectives 1 and 2

Objective 1 was aimed at exploring all the literature pertaining to the measurement of CCL risk and need assessments, systematically, to describe the best practice models used for the development and validation of a standardised CCL risk and need assessment instrument. This was covered in Chapter 1, as well as through a SR. It could be concluded that the exploration of the literature in Chapter 1 assisted with the conceptualisation of the instrument. The purpose of the SR was to examine the best practice models used when researchers develop standardised CCL risk assessment instruments, with which to assess CCL. The SR examined the constructs and items that should be included when researchers aim to develop and validate a risk assessment instrument for CCL. In addition, it assisted in exploring the extant literature pertaining to the development, validation, and adaptation of the standardised risk and need assessments of CCL. An important first step in instrument development is the conceptualisation and operationalisation of the construct. This involves defining the construct to be measured, and providing operational definitions for the construct. Foxcroft (2004) and Smith (2013) recommend that, when developing an instrument in a multicultural and multilingual context, it is of vital importance to observe the unique situation and realities of the South African context.

Objective 2 was focused on exploring the construct of CCL risk and need assessment qualitatively with POs working in the field. Consultation with the POs was prudent in the development of the SACRANAS, as they could assist in the contextualisation of South Africanised items, and face endorsing items that were derived from international instruments and literature. The literature consulted revealed that South African POs should be consulted

when developing a local risk and need assessment tool, with which to assess CCL (Smith, 2013; Van der Merwe and Dawes, 2007)

9.3. Phase 2: Illuminating the development of the instrument, as per objectives 3, 4, and 5

Objective 3 was to develop a blueprint for the instrument that included the domains and operational definitions for each domain, based on the literature reviewed, as well as the qualitative data collected in phase 1 of the study. The blueprint was developed, based on the domains and items identified by exploring the literature and items identified in the focus group discussions and interviews after the thematic analysis (see Chapter 5). The domains and items derived from the SR were extracted and incorporated into a draft instrument. The themes extracted from the focus group discussions were examined and compared to the RNR model. Additionally, the dimensions of the construct's risks, needs, and responsivity, were added to the blueprint from the ongoing exploration of the literature on the identified constructs. The items were organised into domains, and constituted the scales of the developed instrument. The blueprint also included operational definitions of each of the domains and items that purported to measure the constructs, which included the various scales of the instrument, as well as an estimated number of items for each of these scales. This blueprint provided the structure for the item writing (Chapter 3).

Objective 4 populated each domain with items, based on the qualitative data collected in phase 1 of this current study. Boateng et al. (2018) argue that the generation of items is an important element of establishing sound instruments, as well as establishing content validity. Various authors (Boateng et al., 2018; Florence, 2014; Ismail, 2018) viewed item generation as the minimum psychometric requirement for measurement adequacy, and was the first step in the construct validation of a new instrument. In this current study, qualitative data were collected via an SR, focus group discussions with POs, and email data collection with key informants. The qualitative data that were obtained via an SR was discussed, in detail, in Chapter 4. The email qualitative data were used to highlight specific issues that needed attention, to modify the constructs, and delete, add, modify, or rewrite items. All the recommendations made, were related to the discussions that transpired in the focus group discussions with the POs.

Objective 5 involved the cognitive testing of the instrument through focus group discussions with POs (cognitively) and cognitive interviews with CCL. The researcher conducted cognitive testing with seven CCL, administering the draft instrument, in order to test the questions. Words that the South African CCL found difficult to understand were rephrased. The layout of the interview schedule, including the racial classification, was accepted by all the CCL. The researcher also conducted cognitive testing of the instrument through focus group discussions with POs. The researcher conducted the cognitive testing with many POs, and engaged in consultations about the draft instrument, to test the questions. The domains and items that the South African POs found difficult to understand were rephrased. The layout of the interview schedule, including the racial classification, was accepted by all the POs before inclusion.

9.4. Phase 3: Validating the instrument, as per objectives 6 to 11

This phase was focused on establishing the psychometric properties of the SACRANAS, through a pilot study with a convenience sample of 315 CCL in Gauteng, and were subjected to analyses. The pre-assumptions of sample adequacy, as well as the homogeneity of variance were met.

Objective 6 pertained to the face and content validity of the risk and need assessment instrument, in consultation with the POs and key informants, qualitatively. Focus group discussions with POs were conducted in 2019 to face, and content validate the SACRANAS. Care was taken that decisions to effect the suggested changes, were based on the original intent of each item highlighted by POs and key informants. New items, or well-motivated changes were added upon consultation in supervision. Additionally, the email data collection was conducted in 2019 to face, and content validate the SACRANAS. Once again, the researcher ensured that decisions to effect the suggested changes, were based on the original intent of each item highlighted by key informants, the literature review, as well as the overall purpose of the current scales. New items, or well-motivated changes were added in a supervised process.

Of particular note, is the fact that the response rate in the email study was a limitation. In this current study, several international invitees declined to participate in the email study without providing a reason. Only one international academic offered assistance, but wanted compensation in USA dollars, which the researcher could not afford. Only two international

experts indicated that they were too busy to assist in this research project. On a positive note, the key informants provided detailed feedback on the psychometrics, the domains, and the items of the blueprint. Additionally, they face, and content validated the blueprint, thereby enhancing the rigour of the study. The consultation with the POs and key informants at this stage, was an attempt to respond to the recommendation to consult with stakeholders as a vital step in the construction of any assessment instrument (Laher & Cockcroft, 2013; Smith 2013).

Objective 7 was aimed at field testing the instrument, by conducting a survey. A cross-sectional survey was conducted in 2019, in Gauteng, with 315 CCL. The unit of analysis for this current study was CCL, between the ages of ten and eighteen years, who had been assessed by POs in Gauteng and lived in the community, or had been confined in a CYCC, managed by the Gauteng DSD, as well as the erstwhile BOSASA. The survey was analysed, using SPSS Version 26.

Objective 8 was aimed at reducing the items by exploring item characteristics and the factor structure. Item analysis involves a quantitative analysis to determine whether each of the items serves the intended purpose of the scale (Boateng et al., 2018; Izard, 2005). Item discrimination power was calculated in terms of item-total correlation (Boateng et al., 2018). The Corrected item-Total correlation is summarised in the next section. In the following scales: *behaviour at home school and community*; *empathy with the victim and taking responsibility for crime*; *peer relations*; *absconding from formal set-ups*; *the serious aggressive subscale*; as well as the *education subscale*; none of the items displayed corrected item-total correlations below .30. However, in the *abuse in childhood* scale, the item, *Has a household member that has been imprisoned before* was 0.285, the *child throws tantrums* was 0.130, and the *child offender is proud of criminal behaviour* was 0.149.

Objective 9 was aimed at evaluating the factor structure and the internal consistency reliability of the draft version of the SACRANAS. EFA was employed to evaluate the factor structure of the draft version of the instrument. The factor analysis revealed eight latent subscales that represented the multidimensional concept of *the risk and need assessment of CCL*. These domains/subscales were: 1) Behaviour at home, school, and community; 2) Empathy with victims and taking responsibility for the crime; 3) Peer relations; 4) Abuse in childhood; 5)

Absconds from formal setups; 6) General aggressive behaviour; 7) Serious aggressive behaviour; and 8) Aggressive behaviour at school.

The aim of Objective 10 was to explore the factor structure of the instrument, using EFA. As this study focused on the development and the initial validation of the SACRANAS, the researcher decided to explore the factor structure by utilising EFA. The factor structure matrix represents the correlations between the variables and the factors. The factor pattern matrix contains the coefficients for the linear combination of the variables with Oblimin rotation.

Objective 11 was aimed at testing the internal consistency of the instrument utilising Cronbach's Alpha. The internal consistency reliability of the entire instrument, the SACRANAS, and the internal consistency of each subscale, were evaluated. This allowed for the assessment of the consistency of responses of all items in the measure. Accordingly, Cronbach's Alphas were calculated for the final subscales, as well as for the entire instrument. The internal consistency of the SACRANAS was good in this sample of CCL. Cronbach's Alpha reflects the proportion of common variance accounted for by the measure. The SACRANAS accounts for 49 per cent of common variance.

9.5. The eight-factor structure

The final instrument consists of 55 items, measuring eight domains related to risk and need. The factor analysis revealed an eight-factor structure, which accounted for 49 percent of the common variance in the risk and need construct of CCL. What this implies is that, within the South African context, the construct risk and need incorporates the latent dimensions of the following domains/subscales: 1) Behaviour at home, school, and community; 2) Empathy with victims and taking responsibility for crime; 3) Peer relations; 4) Abuse in childhood; 5) Absconds from formal setups; 6) General aggressive behaviour; 7) Serious aggressive behaviour; and 8) Aggressive behaviour at school.

9.6. RNR model

The RNR model is probably the most influential model for the assessment and treatment of CCL (Bonta & Andrews, 2017; Ward et al., 2007). The RNR model has been elaborated upon,

and contextualised within a general personality and cognitive social learning theory of criminal conduct (Andrews & Bonta, 2010).

The social learning theory, and particularly the General Personality and Cognitive-Social Learning (GPCSL), described by Andrews and Bonta (2010), have been influential in the development of offender assessment instruments. The GPCSL posits multiple risk factors, of varying degrees of importance, associated with criminal behaviour. There are eight central risk/need factors, and at the top are the big four (the best predictors of criminal behaviour). Of special note is that mental health indicators, central in forensic mental health theories, do not appear on this list. An important hypothesis from the GPCSL is that it is a *general* theory of criminal conduct, implying that, the central eight are viewed as applicable to a wide variety of child offenders.

Andrews and Bonta (2010) refer to the central eight major risk/need factors, namely: *the history of antisocial behaviour; antisocial personality pattern; antisocial cognition; anti-social associates; family/marital relationships; school/work; leisure/recreation; and substance abuse*. Internationally, many scales are based on the central eight. The central eight forms *domains* or *subscales* of standardised instruments (Bonta & Andrews, 2017; Baglivio et al., 2017; Meyers & Schmidt, 2008; Schmidt et al., 2005). In the following section, the researcher describes the big four (1-4), and subsequently, the moderate four (5-8), as well as whether the SACRANAS contain these subscales, or not.

9.6.1. History of antisocial behaviour

The history of antisocial behaviour is a risk/need factor that refers to early participation in a number and variety of settings (home, community). Primary indicators are, being arrested at a young age, and many previous offences. CCL place little weight on the seriousness of the offence, and the injury imposed by the current offence. This domain was covered in the following scale of the SACRANAS: The factor *behaviour at home, school, and community* has the following items, namely: *leaves home without parents/caregivers permission; leaves home without parents knowing where s/he is; sleeps outside the home without adult permission; the child offender is aggressive at home; experiences conflict with adult caregivers /parents; shows admiration for friends*

doing things generally regarded as wrong; threatens other people; bullies other people; associates with friends who engage in offending behaviour; commits truancy at school; mixes with other children known to have committed offences; the child is verbally aggressive.

9.6.2. Antisocial personality pattern

Antisocial personality pattern refers to *impulsive, adventurous, pleasure-seeking behaviour, as well as agitatedly aggressive and callous disregard for others.*

9.6.3. Anti-social cognition

Anti-social cognition refers to attitudes, values, beliefs, rationalisations that are favourable to crime. The cognitive emotional states associated with crime are anger, and feeling irritated, resentful, and/or defiant. Specific indicators include: *identification with criminals; negative attitudes toward the law and the justice system; a belief that crime will yield rewards; and the rationalisations that specify a broad range of conditions under which crime is justified.* An example is, *the victim deserved it during the offence of rape.* The current developed instrument includes the factor *empathy with the victim and taking responsibility for the crime* that contains the following items: *the child offender has a lack of empathy for harm caused to victims; the child blames others when committing a crime; the child offender lacks empathy for victims; the child offender does not accept responsibility for involvement in crime; the child offender does not understand the impact the crime has on the victim; the child offender minimises the harm caused to victims; the child offender does not take responsibility for crime; the child offender excuses him/herself from involvement in criminal incidents.*

9.6.4. Antisocial associates

The term, *antisocial associates*, refers to both association with pro-criminal others, and relative isolation from anti-criminal others. The factor, *peer relationships*, contain the following items: *is a member of a street gang that has his own identifying marks; refers to him/herself as a gangster; has been initiated as a prison gangster in the community; mixes with persons who are prison gangsters who live in the community; hangs out with friends known to be gangsters in the community; the child offender is harmed by other people; the child offender perceives him/herself as having a criminal identity.*

9.6.5. Family/marital relationships

Family/marital relationships have two key parenting variables that are *nurturance/caring* and *monitoring/supervision*. CCL look for those who care about their parents and care about their parent/s' opinions. The factor *behaviour at home, the school and the community* contains the following items, namely: *leaves home without parents'/caregivers' permission; leaves home without parents knowing where he/she is; sleeps outside the home without adult permission; the child offender is aggressive at home; experiences conflict with adult caregivers /parents; shows admiration for friends doing things generally regarded as wrong; threatens other people; bullies other people; associates with friends who engage in offending behaviour; commits truancy at school; mixes with other children known to have committed offences; the child is verbally aggressive.*

9.6.6. School/work

School/work refers to risk factors for child offenders, such as low levels of performance, involvement, and low levels of rewards and satisfaction at work or school. The current developed instrument has the domain, *Aggressive behaviour at school* that contains of the following items: *commits a crime at school; suspended from school; expelled from school; and child offender is aggressive at school.*

9.6.7. Leisure/Recreation

The concept of leisure/recreation refers to low levels of involvement and satisfaction in anti-criminal free-time activities. This domain in the RNR model was not included in the newly developed instrument.

9.6.8. Substance abuse

This risk/need factor refers to problems with alcohol and other drugs. In this current study, this risk need factor that was assessed by The Washington State Juvenile Court Assessment [WSJCA] contains these items (Washington State Juvenile Court Administrators Association, 2004). The following items were developed: *past alcohol use; current alcohol use; alcohol use cause family conflict; alcohol use disrupted education; alcohol use caused health problems; alcohol use interfered with keeping pro-*

social friends; and alcohol use contributed to criminal behaviour; past drug use; current drug use; drug use cause of family conflict; drug use disrupted education; drug use caused health problems; drug use interfered with keeping pro-social friends; and drug use contributed to criminal behaviour. In addition to the current developed instrument, this scale was incorporated to assess convergent validity, comprising 16 items, an bringing the total SACRANAS to 71 items.

9.7. Concluding validity argument for the SACRANAS

The findings of this current study have contributed to the validity argument for the SACRANAS, in terms of the content, as well as the construct validity. Content validity is the extent to which the set of items within the assessment measure (SACRANAS), represents all the facets of the construct, namely, *the risk and need assessment of CCL* being measured. The SACRANAS content validity was addressed at multiple stages of the development process.

Firstly, an SR and a literature study were conducted to ascertain descriptions and definitions of risk and need assessment of CCL. In this regard, the SR examined the best practice models used, when researchers developed standardised CCL risk assessment instruments. The SR clarified the constructs and items that should be included, when researchers intend to develop and validate a risk assessment instrument for CCL.

Secondly, POs and CCL were consulted for their perceptions and understanding of the construct risk and need assessments of CCL. Thirdly, academic experts and POs reviewed the descriptions and understanding of the construct risk and need assessments of CCL, as well as the item pool, developed for the SACRANAS. Fourthly, the draft version of the SACRANAS was administered in a pre-pilot test to a small group of CCL, to ascertain qualitative information regarding the face validity and comprehensibility of the items, in terms of literacy, language, and clarity of the instructions. Content validity was an integral part of the SACRANAS development process, demonstrating both the representativeness and relevance of the domain being assessed.

Construct validity is the extent to which the items, or subscales within an assessment tool, measure the broad construct (risk and need assessments of CCL) that they were intended to

measure. The SACRANAS construct validity was examined, utilising EFA, to evaluate the factors underlying the instrument's items. The study findings indicated that the SACRANAS is a reliable measure of the construct risk and need assessments among CCL in Gauteng. The SACRANAS also displayed construct validity.

9.8. Summary of the chapter

The SACRANAS is a 55 variables (eight factors) model that was developed in Gauteng, South Africa, through this current research. The instrument has demonstrated good overall validity and reliability in the current sample. The SACRANAS provides a measure to assist POs to identify the risk and need assessment of CCL in South Africa. The RNR theoretical model was an appropriate model that examined constructs, such as *aggression orientation to crime, parenting, and education*, as well as *their effect on child offending behaviour*. The RNR model is a model of rehabilitation, assessment, and management, when working with CCL. The researcher used an adequate sample ($N = 315$) to develop an instrument of risk and need assessment for CCL in South Africa. Subsequently, the 100-item draft SACRANAS was reduced to 55 items via PCA, with its eight-factor structure. This structure runs counter to the existing scholarship related to the RNR, which proposes eight factors with 42 items. In the next and final chapter, the researcher provides a brief summary of the key findings of the study, and its contribution to the field of the risk and need assessment instrument development for CCL in South Africa. In Chapter 10, the use of the mixed-methods design and the pragmatic approach as a framework, to guide the development of the SACRANAS, is highlighted.

CHAPTER TEN

SUMMARY OF THE RESEARCH REPORT, OVERALL CONCLUSIONS, AND RECOMMENDATIONS

10.1. Introduction

The main aim of this current study was to develop and validate a contextual standardised risk and need risk assessment instrument for CCL. In this study, the researcher applied a mixed-methods sequential exploratory design (entailing a qualitative phase followed by a quantitative phase), which allowed for the integration of the findings by answering the objectives of the study. The study was conceptualized, using a pragmatic approach that was deemed appropriate for this research, and consisted of the following phases: Phase 1: Identification of domains and items; Phase 2: instrument development; and Phase 3: instrument validation.

The RNR model was used as the theoretical framework to identify the domains to be included in the scales. In this current study, the validity theory was employed to guide the procedures pertaining to the construct validation, during the development and validation of the scales. The validity theory propositions a well-designed process, with clearly defined steps, to assist the instrument developer with the conceptualisation, construction, and validation of the proposed instrument.

In this chapter, the researcher provides a platform for the discussion of the results, according to the different phases. The findings that are discussed are aligned with the aims and objectives of the study, as well as the conceptual framework, as discussed in Chapter 1. The limitations of the study are also highlighted, and recommendations offered for further improvement of the instrument, as well as several recommendations for further research in the area.

10.2. Phase one

The first phase was primarily concerned with the identification of the domains and items of the developed instrument. This was accomplished by: 1) The conducting of an SR that described the best practice models utilised for the development and validation of standardised CCL risk

and need assessment instruments; 2) consultation with POs in focus groups, when writing the items of the instrument; 3) consultation with POs, doing face and content validation in focus groups, when developing the risk and need assessment instrument; 4) consultation with key informants, via individual email interviews, doing face and content validation in developing the risk and need assessment instrument.

Objective one, namely the SR, resulted in what is acknowledged from the extant literature, regarding the development, validation, and adaptation of child offenders in the international setting. The focus of the SR embraced the empirical studies of the CCL risk assessment instrument processes, such as adaptation, development, and validation. Conducting the SR assisted with the formulation of the domains and items to be used in the development of the present instrument.

Objective two was focused on the focus group data collection with the key POs, the data analysis of the data, and the conclusions. Several POs, who participated in 2017, responded in-depth, and provided contextual information pertaining to the development of the present instrument. These findings and recommendations were incorporated in the development of the present instrument.

Objective three involved consultation with POs, regarding the execution of face and content validation in focus groups during the development of the present risk and need assessment instrument. Objective four was focused on the email data collection with the key informants, the data analysis of the data, and the conclusions. Only a few key informants responded; however, their contributions were vital for the development of the instrument, as they provided South Africanised items, as well as academic rigorous advice and recommendations, which assisted with the face and content validity of the instrument.

10.3. Phase 2: Instrument development

This phase was focused on the pre-testing of the questions of the SACRANAS, during focus groups with the POs and interviews with CCL. The exploration of item characteristics and the reduction of items, via PCA, as well as the extraction of factors, using factor analysis, occurred during this phase.

10.4. Phase 3: Instrument validation

This phase was focused on establishing the psychometric properties of the SACRANAS, via a survey, with a convenience sample in Gauteng. A total of 312 questionnaires were collected and subjected to analyses. The pre-assumptions of the sample adequacy and the homogeneity of variance were met. High levels of internal consistency, as indicated by Cronbach's Alpha statistics, were established. The EFA provided eight retained components. A decision was taken to retain the eight domains of the SACRANAS.

10.5. Conclusion

In this current study, the researcher used a multiphase process to construct a screening instrument, with which to assess the risks and needs of CCL in South Africa. Each of the three phases of the study contributed to the empirical underpinning of the construction process. Methodological rigour was applied to the conceptualisation of the instrument, including well-established methodologies, such as SR, focus group discussions, interviews, email data collection, and survey research for validation.

The purpose of the SR was to examine the best practice models used, when developing standardised child offender risk assessment instruments. The studies reviewed emanated from the USA (5), the Netherlands (4), Canada (4), and Singapore (1). Of significance was the fact that all the studies were conducted in high-income countries, while South Africa is a developing, and multicultural country. As South Africa comprises a multicultural and multilingual society, theoretically, it is more appropriate to examine the complete instrument development and validation measures, with the existing CCL instruments, utilised internationally, as reference points (Edelstein, 2018; Ismail, 2018; Roestenburg, 2012)

The construction process consolidated the extant literature on the risk and need assessments of CCL prompted stakeholders' (POs, CCL, academics) input and expert validation. The *education* domain was defined and operationalised separately, including the sub-domains. The sub-domains of education included *suspended from school and expelled from school*. *Aggression* was another domain. The sub-domains of aggression were *aggressive behaviour causing injury to other people*, and *aggressive behaviour causing serious injury to other people*. *Orientation to crime* was also a domain. The sub-domains of *orientation*, included the

following: *the child offender does not understand the impact the crime has on victims; the child blames others for committing a crime; and the child offender lacks empathy for victims.* Parenting was yet another domain. The sub-domains were as follows: *is subjected to harsh discipline; is a victim of adult violent behaviour in the household; and the child was physically abused in the household.*

In this current study, contextual sensitivity and relevance were enhanced through consultation with stakeholder groups in the conceptualisation and construction phases. The POs and CCL, who participated in the focus group discussions and interviews, represented diverse cultural orientations, and could operationalise these understandings in their contributions. The panel of multi-disciplinary experts in the email interview stage of this current study, also represented diverse cultural groupings, and therefore, could comment on constructs from their own perspectives.

The POs recommended that the instrument include a developmental assessment framework. The resultant instrument was entitled, the SACRANAS. The aim of the SACRANAS is to assess the risk and need assessments of CCL. Importantly, the face and content validity were endorsed by means of focus groups, interviews, and email research. The results from the survey reported good internal consistency in the eight domains, suggesting that the SACRANAS is a reliable tool. The EFA produced an eight-factor structure. The theoretical model for the SACRANAS was adopted with caution, based on the empirical process followed during the construction of the instrument. Further piloting is recommended to test the revisions of the SACRANAS.

10.5.1. Reliability of the newly developed assessment tool

The primary aim of this current study was the development and validation of a psychometric assessment tool to determine the risk and need assessment of CCL within the South African context. The first criterion, against which the SACRANAS was evaluated, was validity. The second criterion, against which the SACRANAS was evaluated, was reliability.

Internal consistency is reliability across items within a scale, or whether items that are purported to measure a single construct, yield consistent scores. Based on the initial study findings, the SACRANAS was found to be internally consistent, and a reliable measure of risk and need assessment, advocating the future use of this measure. Fifty-five items were found to correlate with the construct risk and need assessment and, therefore, retained in the final version of the SACRANAS. Overall, the current study has yielded promising evidence of reliability and validity for the SACRANAS. Upon further refinement, this instrument could be utilised as an effective tool for the assessment of risks and needs of CCL in South Africa.

10.6. Significance of the study

This current study has made a significant contribution to the growing literature on standardised risk and need assessments of CCL in South Africa. The resultant screening tool, the SACRANAS, has the potential to serve as a tool to aid local POs to conduct fourth generation, legally defensive, risk and need assessments with CCL. The accessibility and user-friendliness of the instrument could be realised as a step towards making assessments accessible and affordable for POs in South Africa.

Additionally, this current study started to address the identified scarcity of locally designed, contextually appropriate, risk and need assessment instruments, as assessment measures for CCL in South Africa (Smith, 2013). A rigorous instrument development process was engaged to establish psychometric properties that followed the best practice. The findings of this current study revealed sound psychometric properties that addressed the need for psychometrically sound, local instruments. A brief discussion ensues, regarding this study's contribution, at the level of practice and application, research methodology and policy.

10.6.1. Contribution to the practice and application

This research has contributed to the practice, as it produced a contextual draft instrument, with which to assess the risk and need of CCL in South Africa, which constitutes new knowledge. The tool has been designed to be easily accessible, easy understandable, user-friendly to complete, score, and interpret. The SACRANAS has a good basis for adoption

as a screening instrument in the South African probation practice context. The screening results could be used to classify CCL into low, medium, and high-risk persons.

10.6.2. Contribution to the research methodology

The construction of the SACRANAS was guided by multiple methodologies, as part of a coherent whole, to triangulate, as well as strengthen the resultant theoretical model and screening instrument. The process involved three stages, each with its own methodology. This proved to be a thorough process that demonstrated methodological rigour and coherence, despite being time challenging, overwhelming, and intense.

The methodological choices in this current study contributed to the establishment of a contextually appropriate standardised risk and need instrument, designed for the South African context. As mentioned previously, this was identified as an area that needed urgent attention (Roestenburg, 2012; Smith, 2013). This current study also contributed to the limited research conducted in South Africa on instrument construction, in general, and the design of instruments to measure the risk and need of CCL, in particular. In addition, it contributed to addressing the lack of reliable and valid instruments, resulting from adaptations, test designs, or piloting (Florence, 2014; Munnik, 2018).

It is important to highlight that this current study was a collaboration between the DSD, Gauteng, and the UWC, as an Institution of Higher Education, demonstrating the collaboration that could result from such initiatives. It has established important stakeholder relationships that paved the way for further adaptation and refinement of the resultant standardised instrument, ongoing collaborative research, as well as the knowledge translation of standardised assessment principles for the target group.

However, this current study focused on one province, namely, Gauteng. In order to allow the national department to understand the standardised risk assessments of CCL, a national study should be conducted, which should guide the DSD further in its interventions pertaining to standardised risk assessments of CCL in South Africa. The adaptation and translation of the SACRANAS should be included as part of a post-doctoral project.

10.6.3. Contribution to policy

The South African policy on the standardised risk and need assessment of CCL could be established through this current study. POs would be able to assess CCL as being at low, medium, or high risk of reoffending, and posing a risk of harm to themselves and others, by augmenting their clinical skills with the use of the SACRANAS.

10.7. Limitations of the study

The limitations were evident in both the qualitative and quantitative phases of this current study. Accordingly, the selection of stakeholders, such as CCL, POs, and key informants for the development of the SACRANAS was both constructive and disadvantageous. In this case, the selection of the key informants and their response rate was disadvantageous. The POs were constructive, in the sense that they were well-informed about the risk and need assessment of CCL, and consequently, were able to provide rich information about the constructs and items needed for the South African context.

South Africa is a multilingual society, and English is not the mother tongue of the majority of CCL. Consequently, when an instrument is administered in an unfamiliar language, it is difficult to determine whether some answers in the assessment are the result of language and communication difficulties, or because the participants have a low level of understanding of the construct being assessed (Foxcroft, 2004; Smith 2013; Van Breda, 2008). In the pilot study, the administered SACRANAS was available only in English, which probably influenced the internal consistency of some of the scales, as is evident in some of the low Cronbach's Alpha scores. For two SACRANAS factors, namely *general aggressive behaviour* (0.635), and *serious aggressive behaviour* (0,629), the Cronbach factors were relatively low.

Since the SACRANAS was a newly-developed instrument, and subjected to initial validation methods, the limitations were not expected to affect the validity and reliability of the study seriously. The originality of the study lies in the applied pragmatic approach and the application of risk and need assessment of CCL, as a theoretically grounded construct ,within the South African context. Additionally, the development of the SACRANAS comprised a combination of various methods, as well as qualitative and quantitative procedures. Importantly, the rigorous

compilation of the instrument development processes, sets the foundation to guide and inform future studies.

10.8. Recommendations for further study/research

These research outcomes include the provision for future research, and the recommendations are based on the findings. This current study is concluded with the following recommendations for further research.

- A pilot study should be conducted with the revised version of the SACRANAS, to test the underlying factor structure.
- The SACRANAS should be translated into the other ten/eleven official South African languages.
- The current study was limited to a specific urban geographical area in Gauteng. After the proposed revision of the SACRANAS, and the re-establishment of its psychometric properties, replications in different geographical locations are recommended to cross-validate the findings. In addition, these studies should include samples from other provinces and rural areas to improve heterogeneity.
- A shortened version of the SACRANAS could prove to be beneficial in addressing time constraints, as well as the pressurised environment in which POs operate in South Africa.
- The development of an instruction manual and scoring guidelines should be considered.
- Liaison with governmental structures, namely the National DSD, is recommended. Additionally, the inclusion of the SACRANAS with existing assessment tools should be investigated. The support of the broader governmental structures, namely the National DSD, would not only enhance the participation of provincial departments in the research, but also ultimately lead to more representative standardised assessment and intervention strategies, as well as the wider adoption of the developed instrument.
- The SACRANAS has been developed in English only. Participants in the focus groups recommended multilingual versions of the SACRANAS in isiZulu, Tswana, Afrikaans etc. The adaptation of the assessment measures is essential in a multicultural and multilingual society like South Africa (Ismail, 2018; Smith, 2013; Van Breda, 2004).

- The multi-cultural instrument adaptation and translation studies of the SACRANAS into all official languages in SA, is highly recommended.
- Further validation of its measurement properties may be required, to determine the extent to which the reported levels of reliability are consistent across populations.
- Further design, by adding new items to less well-performing subscales, may be required to strengthen the measurement properties of the SACRANAS.
- The development of clinical cutting scores could enhance the clinical utilisation of the SACRANAS significantly.
- Confirmatory factor analysis should be conducted, post doctoral.

10.9. Concluding remarks

The overarching aim of this doctoral study was to develop a culturally and contextually relevant assessment instrument, with which to assess the risk and need of CCL in South Africa. Additionally, the setting in which the study occurred was an important aspect of the research, and the participants were CCL and POs from Gauteng, South Africa. Many items in the SACRANAS, are based on the perceptions and understanding of the POs, regarding the cultural and contextual milieu.

In conclusion, the SACRANAS is a tool that is strongly rooted in the RNR model, and designed, as well as validated for use with CCL in South Africa. The validation results, together with the proposed ongoing use of the instrument in research, suggest that this is a tool that could have a valuable research and practice application.

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APPENDICES

APPENDIX 1: Ethics approval letter



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05 December 2018

Mr EE Smith
Social Work
Faculty of Community and Health Sciences

Ethics Reference Number: HS18/7/32

Project Title: The development, validation and adaptation of Child Offender Risk Assessment Scales for Probation Officers in South Africa.

Approval Period: 23 November 2018 – 23 November 2019

I hereby certify that the Humanities and Social Science Research Ethics Committee of the University of the Western Cape approved the methodology and ethics of the above mentioned research project.

Any amendments, extension or other modifications to the protocol must be submitted to the Ethics Committee for approval.

Please remember to submit a progress report in good time for annual renewal.

The Committee must be informed of any serious adverse event and/or termination of the study.

A handwritten signature in black ink, appearing to read 'Patricia Josias', is written over a faint background of a sunflower.

*Ms Patricia Josias
Research Ethics Committee Officer
University of the Western Cape*

HSSREC REGISTRATION NUMBER - 130416-049

FROM TOPIC TO ACTION THROUGH KNOWLEDGE

APPENDIX 2: BOSASA research approval letter



Mogale Business Park Windsor Road | Luipaardsvlei | Mogale City | Gauteng | South Africa

Private Bag 2002 | Krugersdorp | 1740 | Gauteng | South Africa **GPS:** S 26° 06.830' E 27° 46.943' **Tel:** +27(0)11 662 6090 **Fax:** +27(0)11 662 6098 **National Number:** +27(0)86 181 1911 www.watsonibl.com

19 April 2016

Dear Edgar Smith

RE: CONDUCTING RESEARCH WITH CHILDREN PLACED AT THE BOSASA YOUTH DEVELOPMENT CENTRES

This communication serves to inform you that your application to conduct research with children placed at the Bosasa Youth Development Centres has been approved.

We trust that all ethical requirements in interviewing the children at the Bosasa Child and Youth Care Centres will be upheld when validating the risk assessment scale.

Kindly contact Mr Mornay Johnson, Unit Manager of the Horizon Child and Youth Care Centre and Mrs Julie Williams, Regional Coordinator for the Western and Northern Cape to arrange the facilitation of the interview schedules.

Kind regards

Dr L Scholtz

Director Education-Watson Corporate Academic

APPENDIX 3: Gauteng DSD research approval letter



Enquiries: Dr. Sello Mokoena
Tel: 082 331 0786
File no.: 12/01/68

Dear EE Smith

RE: APPLICATION TO CONDUCT RESEARCH IN THE GAUTENG DEPARTMENT OF SOCIAL DEVELOPMENT

Thank you for your application to conduct research within the Gauteng Department of Social Development.

Your application on the research on *"The Development, Validation and Adaptation of Child Offender Risk Assessment Scales for Probation Officers in South Africa"* has been considered and approved for support by the Department as it was found to be beneficial to the Department's vision and mission. The approval is subject to the Department's terms and conditions as endorsed on the 13th February 2019.

May I take this opportunity to wish you well on the journey you are about to embark on.

We look forward to a value adding research and a fruitful co-operation.

With thanks

Ms Amanda Hartmann
Deputy Director General: Support Services
Date: 2019/02/18

APPENDIX 4: Key informants information sheet



UNIVERSITY OF THE WESTERN CAPE

Private Bag X 17, Bellville 7535, South Africa

Tel: +27 21-959 2277, Fax: 27 21-959 2845 ; E-mail: smedg4@aol.com

INFORMATION SHEET KEY INFORMANTS

Title of Research Project:

The development validation and adaptation of Child Offender Risk Assessment Scales for Probation Officers in South Africa

What is this study about?

This research is being conducted by Edgar Smith of the Social Work Department at the University of the Western Cape. You have been invited to participate in the research because as an expert you have been developing and validating risk assessment scales specifically for child/youth offenders. The purpose of this research is to develop a scale that will help probation officers conduct risk assessments with children in conflict with the law. This will contribute to a better understanding of the problem in this area of Probation Officers conducting valid, reliable risk assessments of child offenders in South Africa.

What will you be asked to do if you agree to participate?

You will be asked to answer questions on a questionnaire. You will be e mailed the questionnaire by the researcher and you will be given a chance to answer the questionnaire and will need to e mail it back with opinions.

Would your participation in this study be kept confidential?

We will ensure that your personal information is kept confidential. We will need to record information like your age and gender, but your name will not appear on the questionnaire or the record that will be kept of the information. The researcher and supervisors will be the only

people who will have access to the results. If we write a report or article about this research, your identity (as well as your job) will be protected.

What are the risks of this research?

You are filling in this questionnaire so that we can collect information about risk assessment of children in conflict with the law in general. At this stage we are only interested in the development of the questionnaire so the information that will be collected will be used to ensure that it is a valid questionnaire.

Do I have to be in this research, and may I stop participating at any time?

If you decide to participate in this research, you may stop at any time. If you decide not to participate in this research or if you stop participating at any time, there will not be any consequences.

Do I have to be in this research and may I stop participating at any time?

If you decide to participate in this research, you may stop at any time. If you decide not to participate in this research or if you stop participating at any time, there will not be any consequences.

Is any assistance available if I am negatively affected by participating in this study?

Should you be negatively affected by this research, you can contact Edgar Smith who will do everything possible to refer you for support and assistance. If the questionnaire or any part of this process results in any emotional discomfort, counselling will be arranged by the researcher without cost

What if I have questions?

If you have any questions about the research itself, please contact **Edgar Smith (021-9592277) smedg4@aol.com**. Should you have any questions regarding this research and your child's rights as a research participant or if you wish to report any problems you have experienced related to the research, please contact: The Head of the Social Work Department: **Dr M Londt (021-959 2277) mlondt@uwc.ac.za** OR The Dean of the Faculty of Community and Health Sciences: **Prof Rhoda (021-959 2631) chs-deansoffice@uwc.ac.za**. This research has been

approved by the University of the Western Cape's Humanities and Social Sciences Research Ethics Committee.

APPENDIX 5: Key informants consent form



UNIVERSITY OF THE WESTERN CAPE

Private Bag X 17, Bellville 7535, South Africa

Tel: +27 21-959 2277 ; *Fax:* 27 21-959 2845 ; *E-mail:* smedg4@aol.com

KEY INFORMANTS CONSENT FORM

Title of Research Project:

The development validation and adaptation of Child Offender Risk Assessment Scales for Probation Officers in South Africa

The research has been described to me in language that I understand and I freely and voluntarily decided to participate. My questions about the research have been answered. I understand that my identity will not be disclosed and that I may withdraw from the research at any time without giving a reason and this will not negatively affect ME in any way.

Participants' name.....

Participants' signature.....

Date.....

What if I have questions?

If you have any questions about the research itself, please contact **Edgar Smith (021-9592277)** smedg4@aol.com. Should you have any questions regarding this research and your child's rights as a research participant or if you wish to report any problems you have experienced related to the research, please contact: The Head of the Social Work Department: **Dr M Londt (021-959 2277)** [mlondt @uwc.ac.za](mailto:mlondt@uwc.ac.za) OR The Dean of the Faculty of Community and Health Sciences: **Prof Rhoda (021-959 2631)** chs-deansoffice@uwc.ac.za.

This research has been approved by the University of the Western Cape's Humanities and Social Sciences Research Ethics Committee

APPENDIX 6: Key informants interview schedule



UNIVERSITY OF THE WESTERN CAPE

Private Bag X 17, Bellville 7535, South Africa

Tel: +27 21-959 2277, Fax: 27 21-959 2840 ;E-mail: smedg4@aol.com

KEY INFORMANTS INTERVIEW SCHEDULE

Title of Research Project:

The development validation and adaptation of Child Offender Risk Assessment Scales for Probation Officers in South Africa

Please answer the following questions:

SECTION A: BIOGRAPHICAL DATA (To be completed by the participant)

Please complete the following personal particulars. Where required please answer in writing.

A-1: Please indicate your age:

A-2: Please indicate your gender:

A-3: Please indicate your profession:

A-4: Please indicate your qualification/s

A-5: How many years' experience do you have in your profession?

PLEASE COMMENT ON ATTACHED SCALE

APPENDIX 7: Parental information sheet



UNIVERSITY OF THE WESTERN CAPE

Private Bag X 17, Bellville 7535, South Africa

Tel: +27 21-959 2277 ; Fax: 27 21-959 2845 ; E-mail: smedg4@aol.com

PARENTAL INFORMATION SHEET

Title of the research project:

The development validation and adaptation of Child Offender Risk Assessment Scales for Probation Officers in South Africa

What is this study about?

This research is being conducted by Edgar Smith of the Social Work Department at the University of the Western Cape. This project has been approved by the University of the Western Cape's Senate Research and Ethics Committee. Your child has been invited to participate in the research because he/she is between the ages of 12 and 18 years. The purpose of this research is to develop a questionnaire that will help us find out how to do better risk assessments of children in conflict with the law. This will contribute to a better understanding of the problem in South Africa and could lead to better assessments by Probation Officers.

What will your child be asked to do if s/he agrees to participate?

Your child will be asked to answer questions on a questionnaire. The kind of questions that will be asked is, for example, "Do you have friends who belong to a gang?". Your child will be given the questionnaire by trained researchers in the Child and Youth Care Centre (previously arranged with social workers and the manager of Child and Youth Care Centre), and s/he will be given a chance to answer the questionnaire and hand it back during that session.

Would my child's participation in this study be kept confidential?

We will ensure that your child's personal information is kept confidential. We will need to record information like his/her age and gender, but his/her name will not appear on the

questionnaire or the record that will be kept of the information. The researchers will be the only people who will have access to the results. If we write a report or article about this research, your child's identity (as well as the name of the Child and Youth Care Centre) will be protected.

What are the risks of this research?

Your child is filling in this questionnaire so that we can collect information about risk assessment in general. At this stage we are only interested in the development of the questionnaire so the information that will be collected will be used to ensure that it is a valid questionnaire. Children will only be interviewed on an individual basis in an office away from distractions. Children will only be interviewed in the presence of a parent or guardian. The information collected will not be used in their current court case. The data collection team will keep their information confidential and only the research team and the academic supervisors will have access to the information. No identifying information will be taken from child participants but only their age race and language as this is a contextual study. All questionnaires will be allocated a number and no names of children will be written on the questionnaires.

Does my child have to be in this research and may s/he stop participating at any time?

If your child decides to participate in this research, s/he may stop at any time. If your child decides not to participate in this research (or you decide not to grant permission for him/her to participate in the research) or if s/he stops participating at any time, there will not be any consequences.

Is any assistance available if my child is negatively affected by participating in this study?

Should your child be negatively affected by this research, you can contact Edgar Smith who will do everything possible to refer you for support and assistance. If the questionnaire or any part of this process results in any emotional discomfort to your child, counselling will be arranged by the researcher without cost.

What if I have questions?

If you have any questions about the research itself, please contact **Edgar Smith (021-9592277) smedg4@aol.com**. Should you have any questions regarding this research and your child's rights as a research participant or if you wish to report any problems you have experienced related to the research, please contact: The Head of the Social Work Department: **Dr M Londt**

(021-959 2277) mlondt@uwc.ac.za OR The Dean of the Faculty of Community and Health Sciences: **Prof Rhoda(021-959 2631) chs-deansoffice@uwc.ac.za**

This research has been approved by the University of the Western Cape's Humanities and Social Sciences Research Ethics Committee.

APPENDIX 8: Parental consent form



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Tel: +27 21-959 2277,;Fax: 27 21-959 2845 ;E-mail: smedg4@aol.com

PARENTAL CONSENT FORM

Title of Research Project: The development validation and adaption of Child Offender Risk Assessment Scales for Probation Officers in South Africa

The research has been described to me in language that I understand and I give permission freely and voluntarily for my child to participate. My questions about the research have been answered. I understand that my child's identity will not be disclosed and that s/he may withdraw from the research at any time without giving a reason and this will not negatively affect him/her in any way.

Parents/ guardian's name.....

Parents/guardian's signature.....

Date.....

What if I have questions?

If you have any questions about the research itself, please contact **Edgar Smith (021-9592277)** smedg4@aol.com. Should you have any questions regarding this research and your child's rights as a research participant or if you wish to report any problems you have experienced related to the research, please contact: The Head of the Social Work Department: **Dr Londt (021-959 2277)** mlondt@uwc.ac.za OR The Dean of the Faculty of Community and Health Sciences: **Prof Rhoda (021-959 2631)** chs-deansoffice@uwc.ac.za: This research has been approved by the University of the Western Cape's Humanities and Social Sciences Research Ethics Committee .

APPENDIX 9: Child information sheet



UNIVERSITY OF THE WESTERN CAPE

Private Bag X 17, Bellville 7535, South Africa

Tel: +27 21-959 2277 ;Fax: 27 21-959 2845 ;E-mail: smedg4@aol.com

CHILD INFORMATION SHEET

Title of the research project: The development validation and adaptation of Child Offender Risk Assessment Scales for Probation Officers in South Africa

What is this study about?

This research is being conducted by Edgar Smith of the Social Work Department at the University of the Western Cape. You have been invited to participate in the research because you are between the ages of 12 and 18 years. The purpose of this research is to develop a questionnaire that will help Probation Officers. This will contribute to a better understanding of the problem in this area of conducting better risk assessments of children in South Africa.

What will you be asked to do if you agree to participate?

You will be asked to answer questions on a questionnaire. The kind of questions that will be asked is, for example, “is this your first offence?”.

You will be given the questionnaire by trained researchers in the Child and Youth Care Centre (previously arranged with social workers and the Manager at the Child and Youth Care Centre), and you will be given a chance to answer the questionnaire and hand it back during that session. Participation in the research is NOT compulsory.

Would your participation in this study be kept confidential?

We will ensure that your personal information is kept confidential. We will need to record information like your age and gender, but your name will not appear on the questionnaire or the record that will be kept of the information. The researchers will be the only people who

will have access to the results. If we write a report or article about this research, your identity (as well as the name of the Child and Youth Care Centre) will be protected.

What are the risks of this research?

You are filling in this questionnaire so that we can collect information about risk assessment of children in conflict with the law in general. At this stage we are only interested in the development of the questionnaire so the information that will be collected will be used to ensure that it is a valid questionnaire. Children will only be interviewed on an individual basis in an office away from distractions. Children will only be interviewed in the presence of a parent or guardian. Child participants will be informed that they participate of own free will and have the right not to answer any sensitive questions or any questions at all. Participants will be able to withdraw at any stage and that it will not be held against them. The information collected will not be used in their current court case. The data collection team will keep their information confidential and only the research team and the academic supervisor will have access to the information. No identifying information will be taken from child participants but only their age race and language as this is a contextual study. All questionnaires will be allocated a number and no names of children will be written on the questionnaires

Do I have to be in this research and may I stop participating at any time?

If you decide to participate in this research, you may stop at any time. If you decide not to participate in this research or if you stop participating at any time, there will not be any consequences. Your decision to participate or not participate in this research project will not affect or influence the length of your sentence, your court case, or any other aspect of your placement. Also, if you decide to participate and then leave the study before it is over, that will not affect or influence the length of your sentence, your court case, or any other aspect of your placement.

Is any assistance available if I am negatively affected by participating in this study?

Should you be negatively affected by this research, you can contact Edgar Smith who will do everything possible to refer you for support and assistance. If the questionnaire or any part of this process results in any emotional discomfort, counselling will be arranged by the researcher without cost

What if I have questions?

If you have any questions about the research itself, please contact **Edgar Smith (021-9592277)** smedg4@aol.com. Should you have any questions regarding this research and your child's rights as a research participant or if you wish to report any problems you have experienced related to the research, please contact: The Head of the Social Work Department: **Dr Londt (021-959 2277)** mlondt@uwc.ac.za OR The Dean of the Faculty of Community and Health Sciences: **Prof Rhoda(021-959 2631)** chs-deansoffice@uwc.ac.za

This research has been approved by the University of the Western Cape's Humanities and Social Sciences Research Ethics Committee.

APPENDIX 10: Child assent form



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CHILD ASSENT FORM

Title of Research Project: The development validation and adaptation of Child Offender Risk Assessment Scales for Probation Officers in South Africa

The research has been described to me in language that I understand and I freely and voluntarily agree to participate. My questions about the research have been answered. I understand that my identity will not be disclosed and that I may withdraw from the research at any time without giving a reason and this will not negatively affect me in any way.

Participant's name.....

Participant's signature.....

Date.....

Parents or guardian's name:

Parents or guardian's signature:

Date:

What if I have questions?

If you have any questions about the research itself, please contact **Edgar Smith (021-9592277)** **smedg4@aol.com**. Should you have any questions regarding this research as a research participant or if you wish to report any problems you have experienced related to the research, please contact: The Head of the Social Work Department: **Dr Londt (021-959 2277)**

mlondt@uwc.ac.za OR The Dean of the Faculty of Community and Health Sciences: **Prof Rhoda(021-959 2631) chs-deansoffice@uwc.ac.za**.

This research has been approved by the University of the Western Cape's Humanities and Social Sciences Research Ethics Committee.

APPENDIX 11: Probation officer information sheet



UNIVERSITY OF THE WESTERN CAPE

Private Bag X 17, Bellville 7535, South Africa

Tel: +27 21-959 2277 ;*Fax:* 27 21-959 2845 ;*E-mail:* smedg4@aol.com

PROBATION OFFICER INFORMATION SHEET

Title of Research Project:

The development validation and adaptation of Child Offender Risk Assessment Scales for Probation Officers in South Africa

What is this study about?

This research is being conducted by Edgar Smith of the Social Work Department at the University of the Western Cape. This project has been

approved by the University of the Western Cape's Humanities and Social Sciences Research Ethics Committee.

You have been invited to participate in the research because you are a Probation Officer living and working in Gauteng conducting risk assessments of child offenders. The purpose of this research is to develop a standardised questionnaire that will help Probation Officers. This will contribute to a better understanding of the problem in this area of Probation Officers conducting better risk assessments of children in conflict with the law in Gauteng.

Would your participation in this study be kept confidential?

We will ensure that your personal information is kept confidential. We will need to record information like your age and gender, but your name will not appear on the questionnaire or the record that will be kept of the information. The researchers will be the only people who will have access to the results. If we write a report or article about this research, your identity (as well as your job) will be protected.

What will you be asked to do if you agree to participate?

You will be asked to answer questions on a questionnaire. You will be given the questionnaire by the researcher (previously arranged with yourself) and you will be given a chance to answer the questionnaire during that session. Participation in the research is NOT compulsory.

What are the risks of this research?

You are filling in this questionnaire so that we can collect information about risk assessment of children in conflict with the law in general. At this stage we are only interested in the development of the questionnaire so the information that will be collected will be used to ensure that it is a valid questionnaire.

Do I have to be in this research and may I stop participating at any time?

If you decide to participate in this research, you may stop at any time. If you decide not to participate in this research or if you stop participating at any time, there will not be any consequences.

Is any assistance available if I am negatively affected by participating in this study?

Should you be negatively affected by this research, you can contact Edgar Smith who will do everything possible to refer you for support and assistance. If the questionnaire or any part of this process results in any emotional discomfort, counselling will be arranged by the researcher without cost.

What if I have questions?

If you have any questions about the research itself, please contact Edgar Smith (021-9592277) smedg4@aol.com. Should you have any questions regarding this research and your child's rights as a research participant or if you wish to report any problems you have experienced related to the research, please contact: The Head of the Social Work Department: Dr Londt (021-959 2277) mlondt@uwc.ac.za OR The Dean of the Faculty of Community and Health Sciences: Prof Rhoda(021-959 2631) chs-deansoffice@uwc.ac.za

APPENDIX 12: Focus group confidentiality binding form



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Tel: +27 21-959 2277 ; Fax: 27 21-959 2845 ;E-mail: smedg4@aol.com

FOCUS GROUP CONFIDENTIALITY BINDING FORM

Title of research project:

The development validation and adaptation of Child Offender Risk Assessment Scales for
Probation Officers in South Africa

The study has been described to me in a language that I understand. My questions about the study have been answered. I agree to participate of my own choice and free will. I understand that my identity will not be disclosed to anyone. I understand that I may withdraw from the study at any time without giving a reason and without fear of negative consequences or loss of benefits. I understand that confidentiality is dependent on participants' in the focus group maintaining confidentiality. I hereby agree to the following: I agree to uphold the confidentiality of the discussions in the focus group by not disclosing the identity of other participants or any aspects of their contributions to members outside of the group.

Participants Name:

Participants Signature:

Date:

What if I have questions?

If you have any questions about the research itself, please contact **Edgar Smith (021-9592277)** smedg4@aol.com. Should you have any questions regarding this research as a research participant or if you wish to report any problems you have experienced related to the research,

please contact: The Head of the Social Work Department: **Dr Londt (021-959 2277)**
mlondt@uwc.ac.za OR The Dean of the Faculty of Community and Health Sciences: **Prof**
Rhoda (021-959 2631) chs-deansoffice@uwc.ac.za.

This research has been approved by the University of the Western Cape's Humanities and
Social Sciences Research Ethics Committee

Focus Group Confidentiality Binding Form

Version Date: 15 Septembe

Appendix 13: Scoping review

SCOPING REVIEW

Introduction

There is no agreement on a definition for scoping review (SR) (Arksey and O'Malley 2005; Levac et al., 2010). For example, Mays, Roberts and Poppay (2001, p. 194), define an SR as "swiftly mapping the key concepts underpinning a research area and the main sources and types of evidence available and can be undertaken as stand-alone projects in their own right, especially where an area is complex or has not been reviewed comprehensively before." On the other hand, Daudt et al., (2013:2) posit that scoping studies aim to map the literature on a specific topic and provide an opportunity to ascertain key notions, gaps in the research, forms and sources of evidence to enlighten practice, policymaking and research.

The purpose of this SR was to examine the best practice models used when researchers develop standardised CCL risk assessment instruments with which to assess CCL. The SR examined which constructs and items should be included when researchers want to develop and validate a risk assessment instrument for CCL. For this reason, knowledge-synthesis was used. Knowledge synthesis is defined by Kastner et al. (2012, p. 1) as "efforts to summarize all relevant studies on a specific question, to expand the understanding of discrepancies in diverse evidence and to identify gaps in research evidence to define future research agendas."

In general, there is an ordering of knowledge synthesis methodologies. Evidence mapping requires explicit questions in a systematic search for evidence and reports tabular summaries of the nature and findings of the studies. An SR maps the literature on a specific topic and provides an opportunity to ascertain key notions, gaps in the research, forms and sources of evidence to enlighten practice, policymaking and research. Systematic reviews ask a narrow question and provides an evaluation of the quality of the evidence and recommendations based on a qualitative synthesis of all the evidence or only the high-quality evidence. In turn, a meta-analysis is a statistical analysis that combines the results of multiple scientific studies (Dijkers, 2015). Amongst the above knowledge-synthesis methodologies the SR has gradually become more popular as a form of knowledge synthesis (Arksey & O'Malley 2005; Colquhoun, Levac,

O'Brein, Tricco, Perrier, Kastner & Moher 2014; Daudt, von Mossel & Scott 2013; Levac, Colquhoun & O'Brien 2010).

The researcher investigated what is acknowledged and can be learned from the extant literature about the research subject. The researcher was motivated to conduct the SR in order to identify, synthesise and evaluate the contemporary research on the development, validation and adaptation of the risk and need assessment scales for CCL. Based on many searches at the time of writing this SR, no evidence could be found that any previous SR was conducted on the development, validation or adaptation of risk assessment instrument for CCL in SA.

As described in Chapter 1, in many parts of the world, the assessment of the risks and needs of CCL is an essential part of probation work. Consequently, countries such as Canada, the United States of America (USA), the United Kingdom (UK) and New Zealand, amongst others, formalised the process of assessing the risk of CCL by using a structured decision-making tool (Baker 2012; Bonta & Andrews 2017; Viglione 2019). Countries, such as Canada, USA and Singapore, use the YLS/CMI (Bonta & Andrews 2017; Chua, Chu, Yim, Chong & Teoh 2014; Viglione 2019).

Smith (2013) found that a window of opportunity has arisen for the probation profession to develop and validate a generic standardised risk assessment tool with which to assess risk in CCL. While CCL risk and need assessment, instruments were developed internationally (Andrew & Bonta 2010), these instruments were first developed for adult offenders, and only then for CCL (Andrews & Bonta 2010, Miccio-Fonseca 2021). Specifically, they were mostly developed and validated with white male CCL (Smith 2013).

Methods

A SR of both national and international research was conducted to inform the development of the instrument in English (Joanna Briggs Institute 2015, Levac et al., 2010). The Arksey and O' Malley (2005) model with its canonical five stages will be used, namely, (1) Identifying the research question; (2) Identifying the relevant studies; (3) Study selection; (4) Charting the data and (5) collating summarizing and reporting the results (Colquhoun et al., 2014).

Stage 1: Identifying the research question

The first step in conducting an SR is to develop and identify the research question (Arksey & O'Malley 2005). To address the first objective of the study ‘‘To conduct a SR and describe the best practice models used for the development, validation and adaptation of standardised CCL risk and need assessment scales’’. the following research questions were selected.

- How do we develop the standardised risk and need assessment scales of CCL?
- How do we validate and adapt the standardised risk and need assessment tools of CCL?
- Which constructs should be included when researchers want to develop and validate a standardised risk assessment instrument for CCL?
- Which items should be included when researchers want to develop and validate a standardised risk assessment instrument for CCL?
- What are the psychometric properties of the instruments reportedly measuring the risk and need of CCL?

Stage 2: Identifying relevant studies

The following databases were chosen for the SR: namely Science Direct, EBSCOhost, SAGE Journals, Springer and Google Scholar. The reasons behind these choices, are as follows: (a) Science Direct is considered one of the largest scientific databases available.; b) EBSCOhost provides a platform to access over 24 different database platforms.; c) SAGE Journals include widely published journal articles that cover over 560 journals in different academic fields and d) Springer and Google Scholar include widely published journal articles.

Inclusion and exclusion criteria

The inclusion criteria utilised in the SR entailed the following: Only studies written in the English language should be used; the year of publication should be 2004 onwards; all the outputs should have been published in international journals; greater weight is given to articles since they are more substantive and mostly peer reviewed or assessed. Only articles obtained

from the UWC library will be included because of time constraints and financial reasons. Methodology was not a criterion of interest in this SR. Additionally, no paid upfront articles were included in this review.

Search terms

Preliminary search terms were developed by the researcher to reflect a number of core notions. The studies should contain concepts such as ‘the development, validation and adaptation of instruments studies and synonyms.’ The final search strategy was implemented during July 2017 with the assistance of a research librarian. The keywords that were used in the various Boolean phrases in the search in EBSCOhost included: ‘child offender risk assessment tools,’ ‘youth offender risk assessment tools’ ‘juvenile risk assessment tools.’ In addition, all the variations of these terms including spelling, were also considered.

Furthermore, the search terms were constructed after the initial review of the relevant literature by the researcher and included “child offender risk assessment,” “youth offender risk assessment,” “juvenile risk assessment,” “development of risk assessment instruments for child offenders,” “development of risk assessment instruments for youth offenders,” “development of risk assessment instruments for juveniles,” “development of risk assessment tools for child offenders,” “development of risk assessment tools for youth offenders,” “development of risk assessment tools for juveniles,” “validation of risk assessment instrument for child offenders”, “validation of risk assessment instrument for youth offenders,” “validation of risk assessment instrument for juveniles,” “adaptation of risk assessment tools for child offenders,” “adaptation of risk assessment tools for youth offenders,” “adaptation of risk assessment tools for juveniles,” amongst others.

Stage 3: Study selection

The retrieval of full text articles was conducted by the researcher. The relevant articles were reviewed by two reviewers (namely the researcher and the co-supervisor) in order to determine which studies adhered to the inclusion criteria and should be included.

The initial search yielded 118 articles for the keywords. Subsequently, 65 articles that were duplications were removed, leaving 53 articles. Next, 43 were excluded after applying title and

abstract screening and the remaining sample comprised ten retrieved articles. The researchers reviewed the abstracts and if transpired that the article was of interest, they read it. The final ten full text articles were included in the SR. These articles were read in full independently and evaluated to determine whether they should be included in the SR. Consensus was reached between the researcher and supervisors via email. Consequently, data mining was employed by conducting this SR.

Stage 5 of SR: Collating, summarising and reporting the results

Collating, summarising, and reporting the results were carried out in accordance with the research question. In this regard, the researcher made use of narrative synthesis (Lucas, Baird, Arai, Law & Roberts 2007). A narrative synthesis is an approach to SR and the synthesis of the findings from multiple studies chiefly using words to summarise and illuminate the findings of the synthesis (Lucas et al., 2017), however, methodological guidance on the conduct of narrative syntheses is limited (Poppay et al., 2006).

Stepwise textual narrative synthesis

In the following part the study grouping of instruments identified is described. Then the instruments are tabulated in terms of the categories of adaption, development and validation.

Step 1: Study grouping - Instruments identified in the SR

The following instruments were identified in the SR. (1) Positive Achievement Change Tool (PACT) Baglivio (2009) (2) Model risk assessment instrument, (3) Youth Actuarial Risk Assessment Tool (Y-ARAT) (Van der Put (2013) (4) Washington State Juvenile Pre-Screen Assessment (WSJCA pre-screen) (Van der Put et al., (2012), (5) The Structured Assessment for Violence Risk in Youth (SAVRY) (Meyers &Schmidt 2008), (6) Juvenile Sex Offender Assessment Protocol–II (J-SOAPII) Martinez et al. , (2007) , (7) Massachusetts Youth Screening Instrument–Second Version (MAYSI-2), (Cauffman & MacIntosh 2006) (8) Youth Level of Service Inventory (YLS/CMI) Schmidt et al., 2005, (9) Youth Actuarial Assessment Tool for First Time Offending (Y-ARAT-FO) (Assink et al., 2016) , (10) Antisocial Process Screening (APSD) Li et al. (2016).

The table below distinguishes between the instruments in terms of adaptation, development and validation.

Table 1

Adaptation	Instrument	Author
1.	WSCA pre-screen	Van der Put et al., 2012
2.	PACT	Baglivio 2009
3.	APSD	Li et al., 2016
Development	Instrument	Author
1.	Y-ARAFAT-FO	Assink et al., 2016
2.	Y-ARAFAT	van der Put 2014
Validation	Instrument	Author
1.	YLS/CMI	Schmidt et al., 2005
2.	MAYSI-2	Cauffman and MacIntosh 2006
3.	SAVRY	Meyers and Schmidt 2008
4.	Model Risk Assessment Instrument	Miller and Lin 2007
5.	JSOAPII	Martinez et al 2007

Three categories of instruments derived from the SR as described in Table 1. The adaptation of tools included the WSCA pre-screen (Van der Put et al. 2012), the PACT (Baglivio 2009) and APSD (Li et al 2016). Secondly, the development of tools included the Y-ARAFAT-FO (Assink et al., 2016) and the Youth Actuarial Assessment Tool (Van der put 2014). Thirdly, the validation of tools comprised the YLS/CMI (Schmidt et al., 2005), the MAYSI-2 (Cauffman &MacIntosh 2006) the SAVRY (Meyers & Schmidt 2008),the Model Risk Assessment Instrument (Miller & Lin 2007) and the JSOAPII (Martinez et al., 2007).

Step 2: Study commentaries produced

Three categories of instruments derived from the SR are depicted in Table 1. The adaptation of tools included the WSCA pre-screen (Van der Put et al. 2012), the PACT (Baglivio 2009) and APSD (Li et al., 2016). Secondly, the development of tools included the Y-ARAFAT-FO

(Assink et al., 2016) and the Youth Actuarial Assessment Tool (Van der Put, 2014). Thirdly, the validation of tools comprised of the YLS/CMI (Schmidt et al., 2005), the MAYSI-2 (Cauffman & MacIntosh, 2006), the SAVRY (Meyers & Schmidt, 2008), the Model Risk Assessment Instrument (Miller & Lin, 2007) and the JSOAPII (Martinez et al., 2007).

Step 3 Narrative discussion of the instruments used in the SR

Three categories, namely, the development, validation, and adaptation of instruments, transpired from the searches are discussed below. In particular, the following are presented: name of instrument, type of instrument, target group, brief description of scale, theoretical definition, domains, items, scoring, and psychometric discussion.

Adaptation of instruments

1. Name of Instrument: WSJCA pre-screen

- **Type of Instrument:** Initial screening instrument.
- **Target group:** CCL in Netherlands.
- **Brief description of scale:** A 23-item instrument completed by probation officers
- **Theoretical definition:** A distinction was made between three types of recidivism: total recidivism, felony recidivism, and violent felony recidivism.
- **Domains:** Instrument consists of two domains.
- **Items:** Instrument comprises 23 items. *Age at first offence (years); Misdemeanour offences None or one referral, two referrals, three or four referrals, five or more referrals; Felony offences No felony referrals, one referral, two referrals, three or more referrals; Weapon referrals No weapon referral, one or more referrals; Against-person misdemeanour offences ; No against-person misdemeanour referrals, one referral, two or more referrals; Against-person felony offences No against-person felony referrals, one or two referrals, three or more referrals; Detention dispositions No detention dispositions, one disposition, two dispositions, three or more dispositions; JRA dispositions No JRA dispositions, one disposition, two or more dispositions; Escapes No history of escape, one attempt or actual escape, two or more attempts or*

actual escapes; Failure-to-appear warrants No pick up orders for failure to appear, one pick up order, two or more pick up orders.

- **Social history items:** *Sex Females 0 Males 1, School: enrolment status, conduct, attendance, and academic performance Enrolled and: Problems with youth's conduct reported by teachers or calls to parents, or some full-day unexcused absences, or mostly Cs and Ds, some Fs; Enrolled and: Problem with youth's conduct calls to police, or truancy petition or equivalent, or some Ds and mostly Fs; Dropped out, expelled, or suspended 2 Current friends No consistent friend or prosocial and antisocial friends ; All antisocial friends Youth is or spend time with gang members ; History of out-of-home placements; No out-of-home placements; One or more placements; History of running away No history of running away, One instance, Two or more instances; Jail or imprisonment history of persons currently in household with youth; No individual currently living in the household with the youth has an imprisonment or jail history; One or more such individuals; Parental authority and control ;Youth usually obeys parents and follows rules; Sometimes obeys; Consistently disobeys ; Current alcohol/drug use; No current alcohol/drug use; Current alcohol/drug use causing family conflict, or disrupting education, or causing health problems, or interfering with keeping prosocial friends or contributing to criminal behaviour*
- **History of physical or sexual abuse,** *Not been a victim of physical or sexual abuse, Victim of physical or sexual abuse, History of neglect, Not been a victim of neglect, Victim of neglect, History of mental health problems, No history, Diagnosed.*
- **Structure:** *Instrument consists of 23 items across 2 domains.*
- **Scoring:** Criminal history score is as follows 0-5= Low Moderate; 6-8= Low Moderate High; 9-11 =Low Moderate High; 12-31 =Moderate High. Social History score= 0,1,2 giving a maximum score of 18.
- **Psychometric discussion:** The predictive validity of the WSJCA pre-screen in the Netherlands proved to be moderate, with an AUC of .625. The interrater reliability of the criminal history items was greater than the interrater reliability of the social history items. The interrater reliability of criminal history items was relatively high as this information was derived from official records. Cut scores were mentioned and statistically calculated.

2. Name of Instrument: PACT

- **Type of Instrument:** Initial screening instrument.
- **Target group:** CCL in Florida, USA.
- **Brief description of scale:** A rapid 46 items pre-screen. The full-assessment contains 126 items.
- **Theoretical definition:** Reoffending is operationalized as any ensuing law-breaking referral after the assessment date. The study used the subsequent offence post-assessment, as it is capturing the behaviour that desired and not necessarily resulting in adjudication. The “success” or “failure” of a CCL is determined based on whether the youth committed a new offence within twelve months of receiving the PACT assessment for which he/she is officially referred by law enforcement to the Florida Department of Juvenile Justice.
- **Domains:** Four domains of the PACT pre-screen and the twelve domains of the full assessment. Pre-screen Record of referrals, Social history, Mental health and Attitude or behaviour indicators
- The full assessment domain names are; Record of referrals; 2 Gender, 3A School history; 3B Current school status 4 A Historic use of free time, 4B Current use of free time; 5A Employment history; 5B Current employment; 6A History of relationships; 6B Current relationships; 7A Family history; 7B Current living arrangements; 8A Alcohol and drug history; 8B Current alcohol and drugs; 9A Mental health history; 9B Current mental health; 10 Attitudes/behaviours; 11 Aggression; 12 Skills
- **Items: Criminal history** items are as follows: (1) *Age at first offence 1 to 5 Over age sixteen, sixteen, fifteen, thirteen to fourteen, twelve or under* (2) *Adjudicated misdemeanours 1 to 4 None or one referral, two referrals, three or four referrals, five or more referrals* (3) *Adjudicated felonies 1 to 4 No felony referrals, one referral, two referrals, three or more referrals* (4) *Total weapon offences 1 to 2 No weapon referrals, one or more referrals;*(5) *Total against-person*
- **Misdemeanours 1 to 3** *No against-person misdemeanour referrals, one referral, two or more referrals;* (6) *Total against-person felonies 0 to 2 No against-person felony referrals, one or two referrals, three or more referrals* (7) *Secure detention placements*

1 to 4 No detention confinements, one confinement, two confinements, three or more confinements (8) Commitment placements 1 to 3 No residential commitments, one placement, two or more placements (9) Total escape adjudications 1 to 3 No history of escape, one attempt or actual escape, two or more attempts or actual escapes (10) Total failure to appear Pick up orders, 1 to 3 No pick-up orders for failure to appear, one pick up order, two or more pick up orders.

- **Social history item** Coded Responses are as follows: (1) Sex 0 to 1 females, males
- (2) Current school enrolment 1 to 6 Graduated high school, enrolled full-time, enrolled part-time, suspended, dropped out, expelled (3) Recent school conduct 1 to 5 Recognition for good behaviour, no problems with school conduct, problems reported by teacher, problem calls to parents, calls to police related to school conduct (4) Recent academic attendance 1 to 5 Good attendance/few absences, no unexcused absences, some partial-day unexcused, some full-day unexcused, habitual truant (5) Academic performance 1 to 5 Honour student, GPA above 3.0, GPA from 2.0 to 3.0, GPA from 1.0 to 2.0, GPA below 1.0 (6) Current friends 0 to 2 No antisocial friends, antisocial friends, youth is or spends time with gang members (7) History of court-ordered or DCF placement 1 to 4 No out-of-home placement, one placement, two placements, three or more placements; (8) History of running away 1 to 5 No history of running away, one instance, two or three instances, four to five instances, over five instances (9) Jail or imprisonment history of individuals currently in household with youth 0 to 1 No individual currently living in the household with the youth has an imprisonment or jail history, one or more such individuals (10) Parental authority and control 1 to 3 Youth usually obeys parents and follows rules, sometimes obeys, consistently disobeys; (11) History of alcohol use 0 to 1 No history of use, history of use, History of drug use 0 to 1 No history of use, history of use Current alcohol use 0 to 1 No current use, current use Current drug use 0 to 1 No current use, current use (12) History of witnessing violence 0 to 1 Not witnessed violence, witnessed violence (13) History of physical abuse* 0 to 2 Not been a victim, been a victim outside of the home, been a victim or attacked with a weapon where the youth was residing (14) History of sexual abuse or rape 0 to 1 (15) Not been a victim, been a victim, History of neglect 1 to 2 Not been a victim, been a victim (16) History of mental health problems 1 to 5 No history, diagnosed, diagnosed and medication prescribed,

diagnosed and treatment prescribed, diagnosed and medication and treatment prescribed

- **Scoring:** The scores are low, moderate, moderate-high, high. Scoring is automatic.
- **Psychometric discussion:** The first model used logistic regression to predict reoffending using only the overall risk to reoffend level as indicated by the PACT. The study also validated the PACT with respect to predicting reoffending for both “non-White” and “White” youth to ensure there was no difference in the predictive ability of the instrument for different racial groups. Reliability was not discussed in the article. The cut scores were mentioned and were calculated statistically.

3. Name of Instrument: APSD

- **Type of Instrument:** Diagnostic screening instrument.
- **Target group:** CCL in Singapore
- **Brief description of scale:** A 20 item instruments completed by psychologists.
- **Theoretical definition:** The construct of psychopathy could be distinguished by three dimensions including grandiose-manipulative traits, impulsivity, and callous unemotional traits in a non-referred population.
- **Domains:** Two domains
- **Items:** The instrument comprises 20 items, namely: *Cares about schoolwork; Good at keeping promises; Feel bad when do something wrong; Concerned about others’ feelings; Hides feelings from others; Keeps same friends; Blames others for mistakes ; Acts without thinking; Gets bored easily ; Does risky things; Does not plan ahead; Emotions are fake; Brags about abilities; Cons others to get what you want; Teases/makes fun of others; Acts charming to get things; Gets angry when corrected; More important than others; Engages in illegal activities; Lies easily.*
- **Scoring:** The items were rated from 0 (not true at all) to 2 (definitely true).
- **Psychometric discussion**
- The factorial invariance across gender was supported via a multigroup CFA, suggesting that male and female school-based adolescents conceptualised

psychopathic traits in a similar way. The convergent validity of the APSD was supported by its moderate association with reactive and proactive aggression and offending behaviours. The construct validity of the APSD should be tested further in the at-risk sample. Cronbach's alpha of the CU traits has been improved significantly by removing items 19 and 20 in the school-based and at-risk samples. By removing items 19 and 20, the internal consistency of the CU traits became much better and slightly more acceptable in school-based adolescents ($\alpha = .56$) and in at-risk adolescents ($\alpha = .52$), implying that both items cannot be part of the CU traits at least in the current samples. The cut scores were not mentioned in the article.

Development of instruments

1. Name of Instrument: Y-ARAT-FOn

- **Type of instrument:** Initial screening instrument.
- **Group:** CCL in the Netherlands.
- **Brief description of scale:** A twenty-nine item instrument completed by Dutch police officers.
- **Theoretical definition:** The onset of criminal behaviour was defined as a child in conflict with the law being suspected by the police of committing an offence within a period of three years after the index incident had taken place. In the Netherlands, a CCL being registered as a suspect means either that the CCL was caught by the police in the act of committing an offence or that a CCL was summoned to the police station because the police was convinced that the CCL had committed an offence.
- **Domains:** The instrument consists of five domains.
- **Items:** Categorical independent variables: (1) Male born and (2) outside the Netherlands.
- The continuous independent variables were *Current age*, *Age at first incident (all roles other than suspect)*, *Number of incidents (all roles other than suspect)*, *Number of incidents (involved as victim)*, *Number of incidents (involved as witness)*, *Number of incidents (involved as witness of violence)*, *Number of incidents (involved as aggrieved*

person or reporter of an offence), Number of incidents (recorded by the police, not having a specific role), Number of incidents (involved in all roles other than suspect), type of incident, Non-violent property offence, Violent property offence, Public order offence without violence, Public order offence with violence, Sex offence without violence, Sex offence with violence, Other offence without violence, Other violent offence, Number of incidents in which weapons were involved at the juvenile's living address (the CCL does not need to be involved in this incident), Number of incidents involving domestic violence at the CCL's living address (the CCL does not need to be involved in this incident), Number of incidents of sexual offences at the CCL's living address (the CCL does not need to be involved in this incident), Number of incidents of child abuse at the CCL's living address (the child does not need to be involved in this incident), Number of incidents in which a co-occupant at the CCL's living address was a suspect, Number of incidents of child abuse in which a co-occupant at the CCL's living address was involved (in any role), Number of incidents of neglect in which the CCL and/or a co-occupant at the CCL's living address was a victim, Number of incidents of conflicts in which a co-occupant at the CCL's living address was a victim, Number of incidents of domestic strife in which the CCL and/or an occupant at the CCL living address was a victim.

- **Scoring:** Not mentioned in the article.
- **Psychometric discussion:** The predictive validity of the Y-ARAT-FO was acceptable. It showed an acceptable predictive accuracy for the prediction of violent, property, public order and other offences. Reliability was not mentioned in this article, but the cut scores were discussed and calculated statistically.

2. Name of instrument: Y-ARAT

- **Type of instrument:** Y-ARAT is used as a screening instrument to identify youth in need of more comprehensive criminogenic and care needs assessments.
- **Target group:** CCL in Netherlands.
- **Brief description of scale:** A ten item instrument completed by Dutch police officers.

- **Theoretical definition:** Reoffending was defined as a new arrest by the police for committing an offence within a period of three years after the index offence, even without convictions.
- **Domains:** The tool consists of 5 items.
- **Items:** The instrument consists of the following items *Boy; Born in the Netherlands ; Current age; Age at first incident (all roles) ; Age at first incident in which the CCL was a suspect ; Number of incidents (all roles other than a suspect); Number of incidents (involved as victim); Number of incidents as witness to violence; Number of incidents as person reporting and/or injured party; Number of incidents (involved as a suspect); Number of incidents involved as a suspect, type of incidents; Nonviolent property; Violent property; Public order offence without violence ; Public order offence with violence; Sex offence without violence ; Sex offence with violence ; Other violent offence; Other offence without violence ; Number of different types of incidents (involved as suspect); Number of different types of incidents (all roles); Number of incidents (all roles) with a co-defendant; Largest number of incidents as a suspects of one of the co-defendants; Number of incidents in which a co-occupant at the CCL's address was a suspect ; Number of incidents of child abuse in which a co-occupant at the CCL's address was involved; Number of incidents relating to conflicts in which a co-occupant at the CCL's address was the injured party; Number of incidents involving domestic disputes in which the CCL was the aggrieved party.*
- **Scoring:** Very low risk, low risk, moderate risk, high risk, very high risk
- **Psychometric discussion:** The predictive validity of the Y-ARAT was “acceptable” for most of the examined subgroups (AUC values greater than .70). However, there were several subgroups for which the AUC values were less than .70, namely, for girls, 12-year-olds, and first offenders. Reliability has not been mentioned in article. However, the cut scores were mentioned and were calculated statistically.

Validation of instrument

1. Name of instrument MAYSI-2

- **Type of instrument:** Diagnostic instrument

- **Target group:** CCL in USA.
- **Brief description of scale:** A 51-item instruments completed by psychologists.
- **Theoretical definition:** Mental disorders among incarcerated CCL seem to be externalising factors such as conduct disorder, attention deficit/hyperactivity disorder, substance use and abuse. Many CCL also present with internalising disorders such as, depression, anxiety and posttraumatic stress disorder (PTSD).
- **Domains:** The MAYSI-2 identifies problems in seven domains: Alcohol/Drug Use, Angry-Irritable, Depressed- Anxious, Somatic Complaints, Suicide Ideation, Thought Disturbance and Traumatic Experiences.
- **Items:** The MAYSI-2 is a 52-item inventory used to identify youths 12 to 17 years old who are at risk of serious mental, emotional, or behavioural disorders and in need of clinical intervention within child justice settings. **Alcohol/Drug Use** has the following items (1) *Regrets when drunk or high;* (2) *People think you drink too much;* (3) *Gotten in trouble when high or drunk* (4) *Fight when high or drunk.* (5) *Used alcohol/drugs to feel better* (6) *Drunk or high at school* (7) *Used drugs and alcohol at the same time.* (9) *No memory of event because drunk or high* (10).
- **Angry-Irritable** has the following items (1) *Lost temper easily;* (2) *Easily upset* (3) *Get back at someone you're angry at;* (4) *Been jumpy or hyper* (5); *Had too many bad moods;* (6) *Felt angry a lot* (7) *Got frustrated easily* (8) *When mad, stay mad for a long time* (10) *Hurt or broken something because mad.*
- **Depressed-Anxious** consists of the following items: (1) *Worried feelings keep you from doing things;* (2) *Nightmares that make you afraid to sleep* (3) *Felt lonely too much of the time* (4) *Seems like part of your body always hurts;* (5) *Don't have fun with friends anymore* 1.06 2.6 (6) *Felt angry a lot* (7) *Hard to feel close to people who aren't family* (8) *Given up hope for your life and* (8) *Had bad thoughts about a previous scary event.*
- **Somatic Complaints** comprised the following items such as: (1) *When nervous he/she felt shaky;* (2) *When nervous he/she heart beats very fast* (3) *When nervous he/she felt short of breath* (4) *When nervous him/her hands felt clammy* (5) *When nervous him/her stomach has been upset* (6) *Had bad headaches.*

- **Suicide Ideation contains:** (1) *Wished you were dead*; (2) *Felt like life was not worth living*; (3) *Felt like hurting yourself* (4) *Felt like killing yourself* and (5) *Given up hope for your life* Thought Disturbance covers —Boys (1) *Seen things other people say aren't there*; (1) *Heard voices other people can't hear*; (2) *Other people can control your thoughts* (3) *Feel like you're in a dream* (4) *Can make people do things by just thinking* (5).
- **Male Traumatic Experiences** encompasses (1) *People talk about you when you're not there* (2) *Had something bad happen to you* (3) *Ever been badly hurt* (4) *Had bad thoughts about a previous scary event* (5) *Ever seen someone severely injured or killed*; (6) *Furthermore female Traumatic Experiences* (7) *Had something bad happen to you* (8) *Ever been badly hurt* (9) *Ever been raped* (10) *Had bad thoughts about a previous scary event* (16) *Ever seen someone severely injured or killed*.
- **Scoring:** “yes” or “no” depending on whether each item has been true for them within the past few months.
- **Administration:** This self-report inventory has a USA fifth-grade level of readability and takes approximately 10 to 12 minutes to complete.
- **Psychometric discussion:** The MAYSI-2 has been found to have good psychometric properties, as evaluated within a True Score Theory framework, and has to be correlated with both the MACI (correlations between .35 to .65) and the Child Behaviour Checklist–Youth Self-Report (CBCL; correlations between .40 to .60) (Grisso et al., 2001). For example, each of the four MACI scales correlated more highly with its parallel MAYSI-2 subscale than with any other MAYSI-2 subscales (that is, Substance Abuse Proneness on the MACI and Alcohol/Drug Use on the MAYSI-2: males $r = .64$ and females $r = .60$; Suicidal Tendency on the MACI and Suicide Ideation on the MAYSI-2: males $r = .61$ and females $r = .65$). This type of concurrent validity was also observed between the MAYSI-2 and the CBCL (Aggressive Behaviour on the CBCL and Angry-Irritable on the MAYSI-2: males $r = .48$ and females $r = .40$; Anxious-Depressed on the CBCL and Depressed-Anxious on the MAYSI-2: males $r = .55$ and females $r = .60$). Reliability has been discussed and summarised as follows. The MAYSI-2 identifies problems in 7 domains: Alcohol/Drug Use ($\alpha = .86$), Angry-Irritable ($\alpha = .82$), Depressed

- Anxious ($\alpha = .70$), Somatic Complaints ($\alpha = .70$), Suicide Ideation ($\alpha = .83$), Thought Disturbance ($\alpha = .62$, males only), and Traumatic Experiences (male $\alpha = .52$, female $\alpha = .72$). The cut scores were not mentioned in the article.

2. Name of Instrument: J-SOAPII

- **Type of Instrument:** Diagnostic instrument.
- **Target group:** CCL in the USA .
- **Brief description of scale:** A 28-item scale completed by psychologists.
- **Theoretical definition:** CCL were classified as having committed a sexual re-offence if there was reliable evidence (that is, self-report, arrest records, or reported by the probation/parole officer, school authorities, the Child Protective Services, or a parent or other family member) that they had committed an additional sexual offence after the initial intake.
- **Domains:** The J-SOAP-II is a 28-item rating scale comprised of four independent subscales, Subscale 1 addresses Sexual Drive/Preoccupation, Subscale 2 targets Antisocial Behaviour/Impulsivity, Subscale 3 addresses Intervention History, and Subscale 4 targets Community Stability, Adjustment, or Support.
- **Items:** **Scale 1:** comprised of the following items: (1) *Number of Sexual Abuse Victims, which measures the number of victims the juvenile has ever sexually abused*, (2) *Male Child Victim, which assesses the juvenile's history of sexually abusing a substantially younger male child*, (3) *Sexualized Aggression, which assesses the presence of gratuitous or expressive aggression that goes beyond what was required to complete the sexual offence*, and (4) *Sexual Victimization History, which assesses the juvenile's own history of sexual victimization and the complexity and severity of the abuse*. **Scale 2:** (1) *School Behaviour Problems* (2) *Juvenile Antisocial Behaviour* (3) *Physical Assault History/Exposure to Family Violence* (4) *caregivers prior to age 10 rather than 16*. **Scale 3 :**(1) *Empathy* (2) *Remorse and Guilt* (3) *Quality of Peer Relationships*. **Scale 4.** *Management of Sexual Urges and Desires*.
- **Scoring:** Items are scored on a three -point scale, in which a score of 0 indicates the absence of the risk factor, a score of 1 suggests some evidence that the factor is present,

and a score of two shows clear evidence that the factor is present or present to a greater degree or frequency.

- **Psychometric discussion:** Validity was assessed using correlational analyses (point-biserial correlation coefficients) between the J-SOAP-II and subscales and the three outcome variables (sexual reoffence, any re-offence and number of treatment sessions completed). Number of treatment sessions attended was positively skewed according to Spearman correlations. Receiver operating characteristic curves were used to quantify the predictive accuracy of the J-SOAP-II and its subscales at identifying reoffenders. Authors found moderate to high levels of predictive validity when analysing the relationship between J-SOAP-II scores and re-offence data and treatment outcome, with substantial variability among the subscales. Reliability was tested using Cronbach's coefficient alpha and item-total correlations to assess the internal consistency of the scale and subscales. The interrater reliability was calculated based on intraclass correlation coefficients. The authors found adequate internal consistency and interrater reliability for the J-SOAP-II total score and most subscale scores. There was some variability among the individual subscales. On the other hand, the cut scores were not mentioned.

3. Name of Instrument: SAVRY

- **Type of Instrument:** Assessment instrument
- **Target group:** CCL in Netherlands
- **Brief description of scale:** A 24- item instrument completed by psychologists
- **Theoretical definition:** Re-offences were classified as violent recidivism if they met the criteria listed in the SAVRY manual and included offences such as murder, manslaughter, attempted murder, assault, sexual assault, robbery, possession of a weapon, and arson. Nonviolent recidivism included all other offences. General reoffending was defined as any re-offence, either violent or nonviolent, that resulted in conviction
- **Domains:** The instrument comprised 3 domains.
- **Scoring:** On a three-point scale (*low, moderate, high*).

- **Items:** The instrument consists of 24 items. (1) *History of violence*; (2) *History of non-violent offending*; (3) *Early initiation of violence*; (4) *Past Supervision / Intervention Failures* (5) *History of Self-Harm or Suicide Attempts* (6) *Exposure to Violence in the Home* (7) *Childhood History of Maltreatment* (8) *Parental/Caregiver Criminality* (9) *Early Caregiver Disruption* (10) *Poor School Achievement* (11) *Peer Delinquency* (12) *Peer Rejection* (13) *Stress and Poor Coping* (14) *Poor Parental Management* (15) *Lack of Personal / Social Support* (16) *Community Disorganization* (17) *Negative Attitudes* (18) *Risk Taking / Impulsivity* (19) *Substance-Use Difficulties* (20) *Anger Management Problems* (21) *Low Empathy/Remorse* (22) *Attention Deficit / Hyperactivity Difficulties* (23) *Poor Compliance* (24) *Low Interest / Commitment to School*.
- **Psychometric discussion:** The SAVRY was found to possess good predictive validity in the assessment of violence risk. Both reliability and cut scores were not mentioned in the article.

4. Name of instrument: Model risk assessment instrument

- **Type of Instrument:** A generic risk assessment tool.
- **Target group:** CCL in USA
- **Brief description of scale:** The risk assessment tool was developed for use by family court POs writing predisposition reports on youth adjudicated as CCL.
- **Theoretical definition:** Rearrests within 18 months spent in the community (across a three-year follow-up period).
- **Domains:** Instrument consist of five domains.
- **Items:** The scale comprised ten items. *Peers*; *Age at first referral*; *Total number of referrals*; *School discipline or attendance*; *Substance abuse*; *Number of out-of-home placements*; *Parental supervision*; *Referrals for violence or assault*; *Parent or sibling criminality*; *Victim of abuse or neglect*.
- **Scoring:** The total number of referrals is grouped into three categories of one referral (0 risk points), two or three referrals (1 point), and four or more referrals (3 points). Peer relationships covers four categories: “friends provide positive influence” (0

points), “some offending friends with negative influence” (1 point), “most friends are offending; strong negative influence” (3 points), and “gang member/associate” (4 points)

- **Psychometric discussion:** The scale was validated and adapted in a context other than where it was developed. The validated MRAI produced the following outcomes ($p < .10$) of 33%, 45%, 50%, and 58%. Reliability was not discussed in this article and cut scores were not mentioned in the article.

5. Name of Instrument: YLS/CMI

- **Type of Instrument:** Screening instrument.
- **Target group:** CCL in Canada.
- **Brief description of scale:** A 42-item instrument completed by mental health professional or probation officer.
- **Theoretical definition:** Reoffending for each child offender was measured through two outcome variables: (a) any reoffending and (b) serious reoffending.
- **Domains:** The YLS/CMI, a 42-item checklist, is divided into eight subscales: offence history, family circumstances/parenting, education, peer relations, substance abuse, leisure/recreation, personality/behaviour, and attitudes/orientation.
- **Items:** *Three or More Prior Convictions; Two or more failures to comply; Prior Probation; Prior Custody; Three or More Current Convictions; Occasional Drug Use; Chronic Drug Use; Chronic Alcohol Use; Substance Abuse Interferes with Life; Substance Use Linked to Offence(s); Low Achievement; Problems with Teachers; Problems with Peers; Disruptive Classroom Behaviour; Disruptive Behaviour on School Property; Truancy; Inadequate Supervision; Difficulty in Controlling Behaviour;. Inappropriate Discipline; Inconsistent Parenting; Poor Relations (Father-Youth); Poor Relations (Mother-Youth); Lack of Organized Activities; Could Make Better Use of Time; No Personal Interests; Not Seeking Help; Actively Rejecting Help; Defies Authority; Antisocial/Procriminal Attitudes; Callous, Little Concern for Others; Lack of Positive Peer Acquaintances; Lack of Positive Friends; Some Offending Peer Acquaintances; Some Offending Friends; Short Attention Span; Poor Frustration*

Tolerance; Verbally Aggressive/Verbally Intimidating; Explosive Episodes; Physically Aggressive; Inadequate Guilt Feelings; Inflated Self –Esteem;. Unemployment/Not Looking for Work

- **Scoring:** ‘Yes’ and ‘No’
- **Psychometric discussion:** Concurrent validity was investigated through correlations between the YLS/CMI total score and other behavioural measures of pathology. A strong relationship was demonstrated between the YLS/ CMI total score and parent and youth. Predictive validity was evaluated through ROC analyses, resulting in values of .61 for AR and .67 for SR. ROC curves of .60 and .66 should be considered moderate and large, respectively. The predictive power of the YLS/CMI is in the moderate to large range. Interrater reliability estimates were calculated for each of the YLS/CMI subscales except for subscale 1 (offence history). This subscale was excluded from interrater reliability analysis as the multidisciplinary assessment team rated each CCL Offence history using a different index offence.

The ten instruments that have been identified are described as follows. three are diagnostic (Caufmann & MacIntosh 2006; Martinez et al., 2007; Li et al., 2016) and seven are screening tools (Assink et al., 2016; Baglivio 2009, Meyer & Schmidt 2006; Miller & Lin 2007; Schmidt et al., 2005; Van der Put 2014; Van der Put et al., 2013). The focus of the diagnostic tools was to measure mental disorders among the incarcerated youth, to measure psychopathy amongst young offenders in Singapore and measuring sexually offending specifically targeting minority youth in USA (Caufmann & MacIntosh 2006; Li et al., 2016; Martinez et al., 2007). The focus of the following screening tools was measuring reoffending PACT, the WSJCA pre-screen, YLS/ CMI, the Model risk assessment instrument, Y-ARAT and the SAVRY measured violent reoffending (Assink et al., 2016; Baglivio 2009; Caufmann & MacIntosh 2006; Meyer & Schmidt 2006; Miller & Lin 2007; Schmidt et al., 2005; van der Put et al., 2013). The Y-ARAT/FO focussed on the onset of criminal behaviour of the CCL being suspected by the police of committing a crime in the Netherlands (Van der Put ,2014). Two to eight domains were identified in each tool and the operational definitions and items were closely linked to the theoretical definitions. The instruments was developed to be completed by professionals such as psychologists, social workers, probation officers and police officers. The instruments’ lengths vary from ten items to 126 items and some have shorter pre-screens with lengthier full

screens while others are full screens only. The plethora of instruments are reported above under the heading items for each instrument. All the instruments in this SR, demonstrated sound psychometric properties and were published in peer reviewed articles.

Results The following figure presents the flow chart of the study selection procedure used.

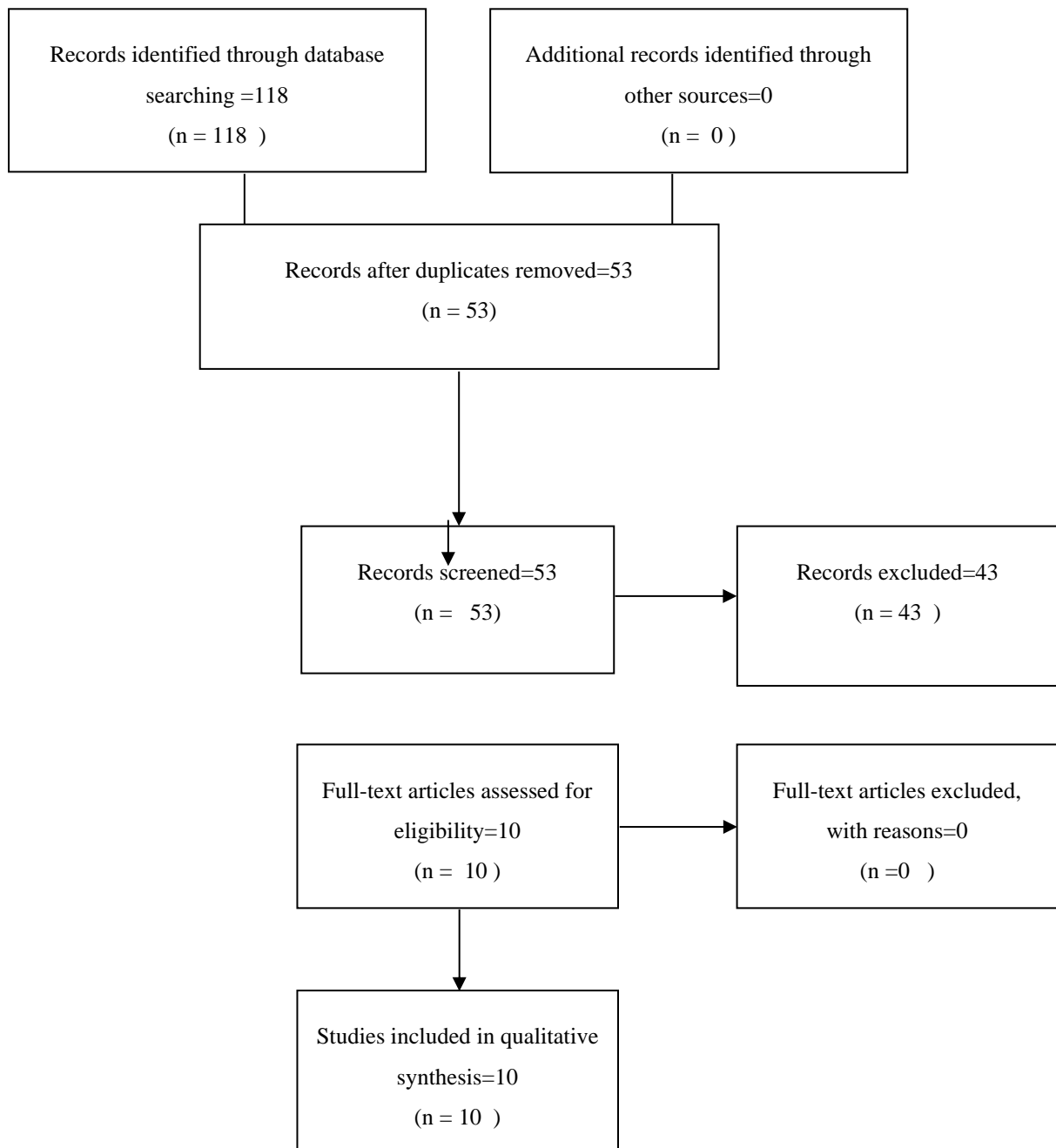


Figure 1: PRISMA Flow chart of the study selection procedures

Stage 4: Charting the data

It was decided in supervision to conduct a pilot study of the review with ten articles. The researcher and the co-supervisor reached consensus pertaining to the search strategies, the search terms and agreed on the data charting protocol via email. The review processes started after the piloting of the review. The researcher discussed the notion SR in-depth in supervision in July 2017. This SR process started in July 2017 and ended in December 2017

Table 2 describes the data charting protocol in terms of the following items: *Study, Instrument, Aim of the study, Description of Sample, Study location and Description of Key Outcomes* (Arksey & O’ Mally 2005, Joanna Briggs Institute 2015).

Table 2: Data charting protocol

Study	Instrument	Aim of the study	Description of sample	Location	Description of Key Outcomes
Assink et al., (2016)	Youth Actuarial Assessment Tool for First Time Offending (Y-ARAT-FO)	To examine whether a valid and reliable actuarial risk screening instrument could be developed for predicting the risk for onset of offending behaviour among child non-offenders by Dutch police officers without substantial clinical experience.	Sample consisted of 2,254 juveniles between the ages of 12 and 18 years who were registered in official Dutch police records in 2007 because they were involved in an offence.	Netherlands.	The (Y-ARAT-FO) was developed by conducting an Exhaustive CHAID analysis, which yielded a risk classification scheme that can be used to classify new cases into 1 of 10 different risk groups from which the predicted probability for child offending behaviour can be derived. The instrument provides a quick, consistent, interpretable and cost-effective initial screening of the risk for onset of child offending. The predictive validity of the tool was acceptable. The tool can only be used by Dutch police officers as a preliminary screening instrument in the initial stage of risk assessment. There are numbers of false positive and false negative test results at each cut-off score of the instrument.
Baglivio, (2009).	Positive Achievement Change Tool (PACT)	To examine the predictive ability of an assessment instrument used by the Florida Department of Juvenile Justice. To determine a referred CCL risk to reoffend and tracking CCL for twelve months post administration providing gender comparisons for instrument effectiveness.	The study contained 111,450 assessments. The data included 88,670 pre-screen assessments and 22,780 full assessments.	USA	Overall risk to reoffend and race was significant predictors of subsequent referral. Minority CCL in USA are more likely to reoffend. Male CCL tracked over 12 months indicate the relationship into reoffending was slightly stronger for race than overall risk to reoffend. For female CCL, overall risk to reoffend had a stronger relationship to recidivism than race. PACT is predicting reoffending for males and females equally well within a 12-month follow-up.

Cauffman and MacIntosh 2006	Massachusetts Youth Screening Instrument–Second Version (MAYSI-2)	To review the racial and gender differential item functioning in a newly developed screen specifically designed for CCL. To evaluate the racial/ethnic and gender differential item functioning of the MAYSI-2 using the Rasch Model.	Data from 3,906 assessments of male and female child offenders between 13 and 17 years of age incarcerated in the California Youth Authority were used.	USA	Several the 52 items were found to exhibit a statistically significant level of gender or racial/ethnic DIF that is sufficiently large to cause concern. Conducting focus groups with CCL to discuss problematic question wording are useful. The tool was not designed to obtain clinical diagnoses. The tool was designed to identify quickly and efficiently children most likely to require psychological services. Study provides insight into the utility of the MAYSI-2 screening tool when applied to serious child offenders. Authors have also raised concerns about certain subscales of the MAYSI-2. A number of items were found to exhibit significant misfit and/or differential functioning on the basis of gender and/or race/ethnicity, leading the researchers to raise concerns about several subscales including, the Thought Disturbance, Angry-Irritable, Alcohol/Drug Use, Traumatic Experiences, and Suicide Ideation subscales.
Li et al., (2016)	Antisocial Process Screening Device (APSD)	This study aimed to validate the APSD in Singapore.	The School-Based Sample was 1027 adolescents ranging between Grade 7 and Grade 9. The At-Risk Sample was 113 at-risk adolescents aged 11 to 16.	Singapore	The construct of psychopathy could be distinguished by three dimensions including GM traits, impulsivity, and CU traits in a non-referred population. Study suggests a strong need for early intervention in the treatment of psychopathic traits in adolescents. Male and female school-based adolescents intellectualised psychopathic traits in a similar way. This study validates a sound instrument for measuring psychopathic traits and makes the early screening and identification of adolescents with psychopathic traits possible. There is a significant relationship between psychopathy and reactive and proactive aggression. There are significant associations between psychopathic traits and child offending. Impulsivity leads to criminal behaviour for many psychopaths. The study augments the understanding of psychopathic traits in Asian adolescents.
Martinez, Flores and Rosenfeld 2007	Juvenile Sex Offender Assessment Protocol–II (J-SOAPII)	.To study the validation of procedures sexually offending minority youth in USA.	Sixty males aged between 12-18 admitted to a community-based adolescent sex-offender treatment program between 1996 and 2004.	USA	Empirically guided risk-assessment instruments with child sexual offenders is recommended. Study found support for the predictive ability of the J-SOAP-II in an ethnically diverse sexually offending sample. A significant limitation of their study was that raters were not blind to recidivism status which brings into question the validity of these findings. Identifying factors that predict re-offence among child sex offenders is critical to determining appropriate sentences, public safety and appropriate levels of intervention.

Meyers and Schmidt 2008	The Structured Assessment for Violence Risk in Youth (SAVRY),	To investigate the predictive validity of the SAVRY.	Sample consists of 121 child offenders referred by a court to a multi-disciplinary mental health team consisting out of psychiatrist, psychologists and social worker.	Canada	The predictive validity of the SAVRY risk levels, results for both the 1-year and 3-year follow-up periods demonstrated that the SAVRY risk levels significantly predicted violent risk. The instrument demonstrated good predictive validity for both genders but only during a longer follow-up.
Miller and Lin 2007	Model Risk Assessment Instrument	To examine the application of a generic risk assessment to a context different to the one in which it was developed.	Sample comprised of 730 CCL between 7 and 15 years old referred by the court in New York in 2000.	Canada	A generic tool is less predictive than a locally developed tool. The generic tool performs poorer than unassisted clinical judgement even after this tool has been validated and adapted locally
Schmidt, Hoge and Gomes 2005	Youth Level of Service Inventory (YLS/CMI)	To explore the YLS/CMI's reliability and validity in CCL who were court-referred for mental health assessments.	Sample encompassed of 107 child offenders with mental health issues.	Canada	The predictive power of the YLS/CMI was in the moderate to high range. Higher-risk youth, regardless of gender, were found to commit more re-offences and take a shorter time to reoffend. The tool is valid in predicting reoffending patterns across gender. This instrument was found to possess reliability and adequate concurrent and predictive validity for use within the general child offending population.
Van der put 2014	Youth Actuarial Risk Assessment Tool- Y-ARAT	To examine whether an actuarial risk assessment instrument could be developed based solely on police records. To make an initial assessment of the risk of general recidivism among large groups of CCL by a police officer without clinical expertise.	The Y-ARAT was developed on a sample of 2,501 CCL and validated on another sample of 2,499 CCL between 12 and 18 years old who came into contact with the police.	Netherlands	Study found it was possible to develop an actuarial risk assessment instrument to predict general reoffending on the basis of police records. The instrument has satisfactorily high predictive power to justify its use as a screening instrument for the police.
Van der Put, Stams, Dekovic and van der Laan 2012	Washington State Juvenile Pre-Screen Assessment (WSJCA pre-screen)	To examine the predictive validity of the WSJCA pre-screen in the Netherlands	The sample comprised 520 child offenders 19% girls and 81% boys 12 to 18 years old	Netherlands	The predictive validity of the WSJCA pre-screen in the Netherlands proved to be moderate. The predictive validity of both the WSJCA pre-screen and the modified scoring procedure is higher for girls than for boys. The results show that the AUC of the WSJCA pre-screen can be significantly improved by modifying the scoring procedure resulting in a more accurate prediction of reoffending. The modified scoring procedure leads to an increase in predictive validity and substantial time saving when completing the WSJCA pre-screen.

The following table summarises the statistics that were used in the SR.

Table 3: Statistics utilised in the SR articles

Authors	Instrument /s	Statistic
Martinez et al., (2007), Schmidt et al., (2005) and Van der Put et al., (2014).	JSOAP II SAVRY WSJCA pre-screen	Inter-rater reliability
Martinez et al., (2007)	JSOAPII	Internal consistency
Meyers and Schmidt (2006) as well as Schmidt et al., (2005)	SAVRY YLS/CMI	MANOVA
Meyers and Schmidt (2006), Schmidt et al., (2005), Baglivio (2009) and Martinez et al., (2007).	JSOAP II SAVRY YLS/CMI	Receiver operating curve
Meyers and Schmidt (2006), Schmidt et al., (2005), Van der Put et al., (2014), Van der Put (2013), Baglivio (2009), Assink et al., (2016) and Martinez et al., 2007	JSOAP II SAVRY YLS/CMI WSJCA pre-screen Y-ARAT-FO PACT	The area under the curve
Van der Put et al., (2014), Van Der Put (2013), Assink et al., (2016).	WSJCA pre-screen Y-ARAT-FO YARAT	Chi Square Analysis
Van der Put et al., (2014), Van Der Put (2013), Assink et al., (2016).	WSJCA pre-screen Y-ARAT-FO YARAT	CHAID Analysis
Schmidt et al., 2005, Van der Put et al., 2013 & Martinez et al., 2007.	YLS/CMI WSJCA pre-screen JSOAPII	Predictive Validity
Schmidt et al., (2005).	YLS/CMI	Concurrent Validity
Li et al., (2016).	APSD	Convergent Validity
Li et al., (2016).	APSD	Exploratory Factor Analysis
Li et al., (2016)	APSD	Confirmatory Factor Analysis
Baglivio (2009), Miller and Lin (2007).	PACT Model risk assessment instrument	Logistical regression
Martinez et al., 2007	JSOAP II	Correlational analysis
Cauffman and MacIntosh 2006.	MAYSI-2	RASCH Analysis

Discussion

The purpose of this SR was to examine the best practice models used when developing standardised child offender risk assessment instruments. It further investigated what domains and items should be included when researchers want to develop, validate and adapt a risk assessment instrument for CCL as stated previously. The SR had timeframes attached and the articles were sourced from various databases, as previously declared in this study. The SR focused on studies internationally. The studies reviewed were from the USA 5, Netherlands 4, Canada 4 and Singapore 1. Of significant importance all the studies were conducted in high income countries such as USA, Canada, Netherlands, and Singapore while SA is a developing country and multi-cultural. As SA is a multicultural and multilingual society it is theoretically, more appropriate to go through the complete instrument development and validation measures with existing CCL instruments utilised internationally as reference points (Edelstein, 2018; Ismail, 2018; Roestenburg, 2012)

Significantly the study samples included white male CCL (Martinez et al., 2007; Miller & Lin 2007; Schmidt et al., 2005) then male and females (Baglivio 2009; Cauffman & MacIntosh 2006) and other race groups Li et al., (2016). This researcher deduces scale development in the field of risk and need assessments of CCL is still dominated by the "white paradigm". The researcher argues that the existing instruments are not tested, normed adapted, and validated on the African continent for the risk assessment of CCL. Based on the realities in probation work in SA at present the development, validation and adaptation of a screening instruments should be done at present as PO locally do not diagnose CCL but only assess them.

A common theme in the SR illuminated that many studies employed existing scales (Baglivio, 2009; Cauffman & MacIntosh, 2006; Li et al., 2013; Martinez et al., 2007; Meyer & Schmidt 2006; Miller & Lin 2007; Schmidt et al., 2005; van der Put et al., 2013). However, in two studies newly developed scales were described (Assink et al., 2016; van der put 2014). It is significant that only two of the ten articles reported on the development of new scale. The researcher deduced that scale developers only develop new scales if there is a gap or need to develop them such as the development of novel scales, cross cultural scales and multi-cultural scales. Yet, since SA is a multi-racial and multi-cultural country there exists a need to develop a new instrument that can be used multi-culturally.

The SR confirmed that the YLS/CMI, PACT, the WSJCA pre-screen and the SAVRY (Baglivio, 2009; Meyers & Schmidt, 2008; Schmidt, 2008) is based on the RNR model. Another common theme in the SR was that while most of the instruments discussed in the SR were actuarial the study of Van der Put (2013) is described as a structured professional judgement tool. All studies revealed the instruments are administered by professionals conducting a face-to-face semi structured interview with CCL. The SR indicated that many instruments employed Likert scales (Meyer & Schmidt 2006, Van der Put et al., 2014, van der put 2014). The SR confirmed that many instruments (Li et al., 2016; Martinezz et al., 2007; Meyers & Schmidt 2006; Miller & Lin 2007; Van der Put et al., 2014) were ‘paper and pencil’ administered instruments and some others electronic platform instruments (Assink et al., 2016; Baglivio 2009; Cauffman & MacIntosh 2006; Van der put 2014).

Outcomes

Many instruments with which to conduct risk assessments with CCL were designed as a semi-structured interview protocol. Items were generated based on the literature in all the studies. In the work of Cauffman and MacIntosh (2006) conducting focus groups with adolescents to discuss problematic question wording were proven to be valuable. Translation from English to Dutch was employed in the study of Van der Put et al., (2014).

Implications for research

There are several implications for research regarding the development validation and adaptation on risk assessment scales with which to assess CCL. Instrument development in the field of risk and need assessments for CCL are still dominated by high income countries. Cross-cultural scale development in the child offending field is developing worldwide and should also develop in SA especially by social workers. Little research is still done in relation to multi-cultural scale development in the field of CCL. Locally, CCL are still being assessed using the clinical method and no valid, reliable and standardised instruments are used. South African researchers debates as follows: Smith (2013) as well as Roestenburg and Van Breda (2003), reported many new instruments need to be developed for different contexts. As reported in Chapter 1 Van Der Merwe and Dawes (2007) postulated that little research exists within SA of how social workers, PO’s and psychologists conduct risk assessments with CCL. Further

Hesselink (2012) and Smith (2013) agreed many scales that are used daily by practitioners are not standardised for the South African context. Hence this study attempted to develop and validate a local risk and need assessment and instrument. Some specialised instruments exist which assess sexual offending, violence and mental health of CCL which must be explored in SA. Many scales are paper versions, and a few are electronic tools. Based on the practice in South African social work it would be practical to employ pen and paper tools. All scales are administered with assessors conducting a semi structured interview. Based on the SA conditions it would be practical to conduct a semi structured interview when using the present instrument.

The YLS/CMI is a general scale that assess the risk and need of CCL in many parts of the world thus as a start it is suggested that a general tool should be developed. The YLS/CMI, PACT, WSJA-pre-screen and the SAVRY (Baglivio 2009; Meyers & Schmidt 2008; Schmidt et al., 2008) is based on the RNR model. The RNR model is the most widely used model to developed standardised, valid and reliable instruments to assess CCL (Andrews & Bonta 2010; Mckenzie 2018, Smith 2013). The RNR model provides an empirically validated structure guiding modern risk assessments instruments in achieving two main goals. First, all basic risk assessments seek to determine the level of risk for re-offense. The secondary goal of an RNR-based risk assessment is to evaluate the mechanisms by which the probability of re-offense can be mitigated by identifying the factors that influence the likelihood of the individual reoffending. Hence it would be prudent to employ the RNR model as theoretical model.

Many instruments (Meyer & Schmidt 2006, Van der Put et al., (2014), van der put 2014) are Likert type scales. The researcher employed Likert scales because it was recommended by Probation Officers and practical. In the article by Cauffman and MacIntosh (2006) focus groups were utilized. In this research several focus groups discussions were held to develop the present instrument. Meyer and Schmidt (2006) and Van der Put (2013) recommend the combined use of clinical and actuarial methods in a holistic approach to risk assessment is supported as the method most likely to enhance both the predictive accuracy and usefulness of risk assessments for CCL. The development and validation of the present instrument and the clinical skill that PO in SA already possess will enhance their risk assessment skills bringing it in line with international best practice. All the articles identified in the SR used instructions in

how to score the items in all the studies. Thus the development of instructions in this PhD project is an ongoing process

Limitations

Like in all research there were some limitations associated with this scoping review. The review only used articles written in the English language as it is easy to source in UWC library. Due to time constraints and financial reasons, only articles obtained from the UWC library without paying for it were used. However, the researcher investigates what is recognised and can be learned from the existing literature about the development validation and adaptation of risk and need scales for CCL and reported on it (Arksey & O'Malley 2005; Munnik 2018). Although the review used the articles only if it assisted in identifying the main sources and types of substantiation available in an area that is complex and not been reviewed comprehensively hitherto (Mays et al., 2001).

Conclusion

As part of this phase and objective the researcher reports the results of a SR on what is acknowledged from the accessible literature about the development, validation and adaptation of CCL in the international setting. The focus of the SR was the empirical studies of CCL risk assessment scales processes such as adaptation, development, and validation. The SR assisted in the formulation of domains and items to be used in the development of the present instrument. After the review process was completed the synthesised findings were collated and presented in article format and was submitted for publication as part of the dissemination of findings step of the review process.

APPENDIX 14: SACORAS blueprint

SACORAS-BLUEPRINT

Probation Officer:

Office Address:

Probation Officer Telephone Number:

Additional Contact Information:

Magisterial District:

Court:

Court case number:

CAS Number:

Supervisor name:

Assessment date: /...../...../

PERSONAL DETAILS [CHILD]

Name:

Surname:

Alias:

Address:

Date of Birth:/...../.....

Confirmation of Date of Birth: Y/N

Gender: Male / Female (Please circle)

Identity number:

Age verification/ Estimation:

Age verification Source:[baptismal certificate, school report, clinic card, Road to Health Card]

Population Group: Asian, Black, Coloured, White (Please circle)

Other (specify).....

Nationality:

Religion:

Section B: MEDICAL INFORMATION

Health Status (Physical):

Injuries:

Medication:

Future Medical Appointments:

Section C: EDUCATIONAL BACKGROUND

First school Attended: [Grade 1]

Name of Previous Schools Attended:

Name of Current School:

Date Last Attended:

School Address:

Grade Completed:

Year:

Name of Educator:

Section D: PRIMARY CAREGIVER INFORMATION

Name:

Surname:

Relationship:

Residential address:

Years with current caregiver:

Years:

Work Address:

Telephone (H):

Telephone

(W):

Cell:

Section E: FAMILY INFORMATION

Mothers name:

Fathers name:

Guardian/s:

South African Assessment Child Offenders Risk Assessment Scale

Items are explained in Appendix A of the South African Assessment of Child Offenders Assessment Scale

RISK	
Age at first referral (Please circle)	
17-Child was 17 at first referral	1
16- Child was 16 at first referral	2
15- Child was 15 at first referral	3
14- Child was 14 at first referral	4
Under 14- Child was under 14 at first referral	5
Referral status (Please circle)	
Current referral only	1

One previous referral	2
Two or more previous referrals	3
Failure to comply after referral	4
Conviction status (Please encircle)	
One previous conviction	1
Two or more previous convictions	2
Previous referral to CYCC	3
Previous custody in prison	4
Parenting (Please circle)	
Single parent	1
Child headed household	2
Difficulty in controlling behaviour	3
Poor parental supervision	4
Poor relations father/child	5
Poor relations mother/child	5
Harsh discipline	6
No discipline	7
Peer relations (Please circle)	
Strong positive influence	0
Neutral Influence	1

Negative influence	2
Strong negative influence	3
Substance Abuse	
Drug use (options) (Please circle)	
Occasional	1
Periodic	2
Daily	3
Chronic	4
Admission to drug rehabilitation facility	5
Alcohol use (options) (Please circle)	
Occasional	1
Periodic	2
Daily	3
Chronic	4
Admission to alcohol abuse facility	5
Assaults (Please circle)	
Involvement with assault	1
Assault without a weapon	2
Assault with a weapon	3
Assault without a weapon inflicting serious injury	4

Assault with a weapon inflicting serious injury	5
Sexual assault	6
Rape	6
Culpable homicide	6
Murder	7
Criminal gangster in community (Please circle)	
Friends with gangsters outside in community	1
Active gangster in community	2
Friends with prison gangster in community	3
Initiated as prison gangster in community	4
Absconding (Please circle)	
Absconded from CYCC as trial awaiting child	1
Absconded from CYCC as sentenced child	2
Escape from SAPS cells	3
NEED	
Recreation (Please circle)	
Involved in one or more recreational activities	0
Interested in a recreational activity	1
Not interested in any recreational activity	2
Behaviour (Please circle)	
Tantrums	1
Verbally aggressive	2
Threatening people	3
Involved in bullying	4

Physical aggressive	5
Orientation (Please circle)	
Child has difficulties with self-identity	1
Child has general mistrust of others	2
Child sees him/herself as victim	3
Child displays discriminatory attitudes towards other	4
Child perceives him/herself as having a criminal identity	5
Attitudes to offending (Please circle)	
Child is reluctant to accept any responsibility for involvement in offence	1
Child has lack of understanding of the effect of behaviour on victim/s	2
Child shows lack of remorse	3
Child shows lack of understanding of criminal behaviour on own family	4
Child believes that certain crimes are acceptable	5
Child believes that certain people or groups are 'acceptable targets'	6
Mental health status(Please circle)	
Previous history of mental health issues	Y/N
Current mental health issues	Y/N
Diagnosed mental health issues	Y/N

Self harm in the past	Y/N
Self harm now	Y/N
Admission to mental health facility	Y/N
RESPONSIVITY	
Education (Please circle)	
Poor academic performance	1
Disruptive classroom behaviour	2
Disruptive behaviour on school property	3
Problems with other learners at school	4
Problems with teachers	5
Truancy	6
Expelled from school	7
Employment (Please circle)	
Full Time Employed	Y/N
Part time employed	Y/N
Unemployed	Y/N
Self employed	Y/N

Please add the scores under each domain.

Scores will be categorised to risk level. A score of (0 to 20) is very low, (21-50) is low, (51-80) medium, (81-110) high and (111-155) are very high

APPENDIX 15: Draft SACRANAS

SACRANAS – DRAFT INSTRUMENT

Participant code:

SECTION A: DEMOGRAPHICS

Language:

Race:

Age:

Gender:

SECTION B: SCALE

South African Children in conflict with the law Risk and Need Assessment Scale (SACRANAS) DRAFT SCALE

Introduction

Context

The information required to complete the South African Child in Conflict with the Law Risk and Need Assessment Scale (SACRANAS) will be obtained through interviews with the CCL and his/her family and reviews of case records. The scale is premised on the Risk Need Responsivity Model (Andrews & Bonta 2010). This rating scale must be completed by Probation Officers.

Purpose of the scale

The purpose of the scale is to assess, risk of reoffending, risk of harm to self and others as well as risk of serious harm. It also assesses criminogenic needs and the delivery of treatment programs, Risk classification will be low, medium, high and very high). Age groups between 10-18 will be assessed

Scoring

The (SACRANAS) is scored for each domain by a Probation Officer summing individual scores to produce a score from 0-314. Each item is scored based on severity, recency and frequency taking contextual factors into account. Higher scores indicate a higher risk of reoffending, risk of harm to self, risk of harm to others and risk of serious harm to self and others. The scale will be hand scored.

Instruction

This scale must be completed by a probation officer.

1. Please fill in all the information requested completely and accurately.
2. Score each item describing the child in conflict with the law using the definitions provided.
3. Add the scores on each item and record the total at the end.
4. If information reported by the child in conflict with the law, parent, guardian or carer conflicts with the official records (eg. SAPS, DSD, education, health) please rely on the official record.

Please read each statement and circle 0, 1

Comment on the extent to which each statement applies to the child in conflict with the law by circling the numbers: 0 = Does not apply to the child offender at all. 1=Applies to child offender.

RISK DOMAIN		
Referral Status		
Please circle: 0= Does not apply to the child offender. 1=Applies to child offender.		
To what extent are the following circumstances true for the child?		
Current referral only	0	1
One previous referral	0	1

Two or more previous referrals	0	1
Failure to comply after referral	0	1
<p>Conviction Status</p> <p>Please circle: 0= Does not apply to the child offender. 1=Applies to child offender.</p> <p>To what extent are the following circumstances true for the child?</p>		
The child has one previous conviction	0	1
The child has two previous convictions	0	1
The child has two or more previous convictions	0	1
Previously referred to a CYCC as a sentenced child	0	1
<p>Substance Abuse</p> <p>Please circle Y or N. Y=1 and N=0.</p> <p>This is a scale obtained from a validated non copy righted instrument the Washington State Juvenile Court Assessment Scale 2004. "Admitted to a alcohol abuse rehabilitation centre" and "Admitted to a drug rehabilitation centre" were added.</p> <p>To what extent are the following circumstances true for the child?</p>		
Past alcohol use	Y	N
Current alcohol use	Y	N
Alcohol cause family conflict	Y	N
Alcohol disrupted education	Y	N
Alcohol caused health problems	Y	N
Alcohol interfered with keeping pro-social friends	Y	N
Alcohol contributed to criminal behaviour	Y	N
Admitted to alcohol abuse rehabilitation centre	Y	N

Past drug use	Y	N
Current drug use	Y	N
Drug use cause family conflict	Y	N
Drug use disrupted education	Y	N
Drug use caused health problems	Y	N
Drug use interfered with keeping pro-social friends	Y	N
Drug use contributed to criminal behaviour	Y	N
Admitted to drug abuse rehabilitation centre	Y	N

Please read each statement and circle 0, 1, 2, 3, 4

Comment on the extent to which each statement applies to the child offender by circling the numbers: 0= Means not all; 1=Means some of the time; 2=Means a good part of the time; 3=Means most of the time and; 4= Means all the time.

RISK DOMAIN					
Parenting					
Comment on the extent to which each statement applies by circling the numbers: 0 meaning not at all; 1 meaning some of the time; 2 meaning a good part of the time; 3 meaning most of the time and 4 all of the time.					
To what extent are the following circumstances true for the child?					
Has lived in a single-parented family	0	1	2	3	4
Receives insufficient parental supervision	0	1	2	3	4
Experiences conflict with adult caregiver/parent/s	0	1	2	3	4
Is subjected to harsh discipline	0	1	2	3	4
Victim of adult violent behaviour in the household	0	1	2	3	4
The child lives in a child-headed household without parental supervision	0	1	2	3	4
Lives in a household where one or more adults abuse substances	0	1	2	3	4

Has a household member that have been imprisoned before	0	1	2	3	4
The child was sexually abused in household	0	1	2	3	4
The child was emotionally abused in household	0	1	2	3	4
The child was physically abused in household	0	1	2	3	4
Has a family member who has committed an offence or is currently committing an offence	0	1	2	3	4
Absconding					
Comment on the extent to which each statement applies by circling the numbers 0 meaning not at all;1 meaning some of the time;2 meaning a good part of the time; 3 meaning most of the time and 4 all of the time.					
How often does the child do the following?					
Leaves home without parents knowing where he/she is?	0	1	2	3	4
Sleeps out of home without adult permission	0	1	2	3	4
Leaves home without parent/caregiver's permission	0	1	2	3	4
Absconds from foster placement	0	1	2	3	4
Absconds from CYCC as a trial awaiting child	0	1	2	3	4
Absconds from CYCC as sentenced child	0	1	2	3	4
Peer relations					
Comment on the extent to which each statement applies by circling the numbers 0 meaning not at all;1 meaning some of the time; 2 meaning a good part of the time; 3 meaning most of the time and 4 all of the time.					
How often does the child do the following?					
Associates with friends who commit offending behaviour	0	1	2	3	4
Shows admiration for friends doing things generally regarded as wrong?	0	1	2	3	4
Mixes with other children known to have committed offences?	0	1	2	3	4
Takes the lead in doing wrong things with friends?	0	1	2	3	4
Hangs out with friends known to be gangsters in the community.	0	1	2	3	4
Refers to him/herself as a gangster	0	1	2	3	4
Is a member of a street gang that has its own identifying markings	0	1	2	3	4
Mixes with persons who are prison gangster who lives in community	0	1	2	3	4
Initiated as prison gangster in community	0	1	2	3	4

Aggression					
Comment on the extent to which each statement applies by circling the numbers 0 meaning not at all; 1 meaning some of the time; 2 meaning a good part of the time; 3 meaning most of the time and 4 all of the time.					
How often does the child do the following?					
Displays a weapon	0	1	2	3	4
Uses a weapon to commit crime	0	1	2	3	4
Bullies other persons	0	1	2	3	4
Threatens other people	0	1	2	3	4
Violently destroys other people's property	0	1	2	3	4
Fire setting	0	1	2	3	4
Aggressive behaviour causing injury to other people	0	1	2	3	4
Aggressive behaviour causing serious injury to other people	0	1	2	3	4
Sexual aggression	0	1	2	3	4
Aggressive behaviour causing the death of another person	0	1	2	3	4
Animal cruelty	0	1	2	3	4
Free time spending					
To what extent are the following circumstances true for the child?					
Please circle: 0= Does not apply to the child offender. 1=Applies to child offender.					
Child offender is not involved in any structured recreational activity	0	1			
Child offender is not involved in any unstructured recreational activity	0	1			
Behaviour					
Comment on the extent to which each statement applies by circling the numbers 0 meaning not at all; 1 meaning some of the time; 2 meaning a good part of the time; 3 meaning most of the time and 4 all of the time.					
To what extent are the following circumstances true for the child?					
The child offender is aggressive at home	0	1	2	3	4
The child offender is aggressive at school	0	1	2	3	4
The child offender is aggressive in the community	0	1	2	3	4
The child is verbally aggressive	0	1	2	3	4
The child throws tantrums	0	1	2	3	4

Injures animals	0	1	2	3	4
The child offender harms him/herself	0	1	2	3	4
The child offender harms other people	0	1	2	3	4
The child offender is harmed by other people	0	1	2	3	4
Orientation to crime					
Comment on the extent to which each statement applies by circling the numbers 0 meaning not at all; 1 meaning some of the time; 2 meaning a good part of the time; 3 meaning most of the time and 4 all of the time. To what extent is the following applicable to the child?					
To what extent are the following circumstances true for the child?					
The child offender does not take responsibility for crime	0	1	2	3	4
The child offender excuses him/her from involvement in criminal incident	0	1	2	3	4
The child offender does not understand the impact the crime has on victims	0	1	2	3	4
The child blame others for committing crime	0	1	2	3	4
The child offender is preoccupied with crime	0	1	2	3	4
The child offender lacks empathy for victims	0	1	2	3	4
The child offender perceives him/herself as having a criminal identity	0	1	2	3	4
Attitudes to offending					
Comment on the extent to which each statement applies by circling the numbers 0 meaning not at all; 1 meaning some of the time; 2 meaning a good part of the time; 3 meaning most of the time and 4 all of the time.					
To what extent are the following circumstances true for the child?					
The child offender is nervous when committing crime	0	1	2	3	4
The child offender is indecisive when committing crime	0	1	2	3	4
The child is excited when committing crime	0	1	2	3	4
The child brags about committing crime	0	1	2	3	4
The child offender does not accept responsibility for involvement in offence.	0	1	2	3	4
The child offender minimises the harm caused to victims	0	1	2	3	4
The child offender is proud of criminal behaviour	0	1	2	3	4
The child offender has a lack of empathy for harm caused to victims	0	1	2	3	4

Mental health status					
Please circle: 0= Does not apply to the child offender.1=Applies to child offender.					
To what extent are the following circumstances true for the child?					
The child offender has current mental health issues	0	1			
Criminal capacity assessment must be done for this child	0	1			
The child offender has a mental health disorder with treatment	0	1			
The child offender has a mental health disorder without treatment	0	1			
The child offender was admitted to a mental health facility	0	1			
SCORE NEEDS DOMAIN					
RESPONSIVITY DOMAIN					
Education					
Comment on the extent to which each statement applies by circling the numbers 0 meaning not at all;1 meaning some of the time;2 meaning a good part of the time; 3 meaning most of the time and 4 all of the time.					
To what extent are the following circumstances true for the child?					
Commits truancy at school	0	1	2	3	4
Commits crimes at school	0	1	2	3	4
Fights with other learners at school	0	1	2	3	4
Fights with teachers at school	0	1	2	3	4
Suspended from school	0	1	2	3	4
Expelled from school	0	1	2	3	4
Employment					
Please circle: 0= Does not apply to the child offender.1=Applies to child offender.					
To what extent are the following circumstances true for the child?					
The child offender works for known criminals	0	1			
The child offender changes employment often	0	1			
The child offender is unemployed	0	1			
SCORE RESPONSIVITY DOMAIN					
TOTAL SCORE: PLEASE ADD THE RISK SCORE +NEED SCORE+ RESPONSIVITY SCORE					

APPENDIX 16: Domains, items & definitions, and instrument table

Domain	Items and definitions	Instrument
Referral status	Current referral only means referral of a CCL by a Magistrate, State Prosecutor or SAPS to a Probation Officer for the present offence (CJA, Gallenetti, 2009)	ASSET PACT, WSJCA pre-screen, Y-ARAT and Missouri Juvenile Risk Assessment Scale
	One previous referral status means the CCL was once referred by a magistrate, state prosecutor or the SAPS to a probation officer (CJA)	ASSET PACT, WSJCA pre-screen, Y-ARAT and Missouri Juvenile Risk Assessment Scale
	Two or more previous referrals means the CCL were referred several times by a magistrate, state prosecutor or the SAPS to a probation officer. Failure to comply means a CCL has failed to comply with a diversion or court order imposed by the Child Justice Court in SA (CJA).	ASSET PACT, WSJCA pre-screen, Y-ARAT and Missouri Juvenile Risk Assessment Scale
	Failure to comply means the CCL has failed to comply with a diversion or court order imposed by the Child Justice Court in SA (CJA).	ASSET PACT
Conviction status	The child has one previous conviction means the CCL was once convicted by the Child Justice Court in SA (CJA, Gallinetti, Smith, 2013).	ASSET
	The child has two previous conviction means the CCL was once convicted by the Child Justice Court in SA (CJA, Gallinetti, Smith, 2013).	ASSET
	The child was previously referred to a CYCC as trial-awaiting, means the CCL was referred by the Child Justice Court in SA to await trial in a CYCC (CJA).	Newly developed
	The child was previously referred to a CYCC as trial awaiting, means the CCL was referred by the Child Justice Court in SA to await trial in a CYCC (CJA)	Newly developed
Substance Abuse		
Alcohol use	Past alcohol use means the CCL used alcohol in the past but not any longer.	WSJCA Manuel 2004
	Current alcohol use means the CCL use alcohol at present.	WSJCA Manuel 2004

	Alcohol cause family conflict is evidenced by conflicts over alcohol, such as running away from home, stealing at home to support use.	WSJCA Manuel 2004
	Alcohol disrupted education is evidenced by problems with attendance or poor school performance (grades).	WSJCA Manuel 2004
	Alcohol caused health problems is evidenced by emergency room visits or medical problems which resulted from alcohol use.	WSJCA Manuel 2004
	Alcohol interfered with keeping pro-social friends is evidenced by most of the CCL friends using alcohol.	WSJCA Manuel 2004
	Alcohol contributed to criminal behaviour refers to the fact that alcohol use caused offending behaviour.	WSJCA Manuel 2004
	Admitted to alcohol rehabilitation centre-Means the CCL was referred to an alcohol rehabilitation centre in SA.	Newly developed
Drug use	Past drug use means the CCL consumed drugs in the past but not any longer.	WSJCA Manuel 2004
	Current drug use means the CCL consumes drugs at present.	WSJCA Manuel 2004
	Drug use causes family conflict is evidenced by conflicts over drug use, such as running away from home, stealing at home to support use, arguing over use, or stealing drugs from home.	WSJCA Manuel 2004
	Drug use disrupted education is evidenced by problems with attendance or poor school performance (grades).	WSJCA Manuel 2004
	Drug use caused health problems is evidenced by emergency room visits or medical problems which resulted from drug use.	WSJCA Manuel 2004
	Drug use interfered with keeping pro social friends is evidenced by most of the CCL's friends using drugs.	WSJCA Manuel 2004
	Drug use contributed to criminal behaviour refers to the fact that drug use caused offending behaviour.	WSJCA Manuel 2004
	Admitted to drug rehabilitation centre- Means a child in conflict with the law was referred to a drug rehabilitation centre in SA.	Newly developed
Parenting	Has lived in a single-parented family.	YLS/CMI, WSJCA
	Receives insufficient parental supervision Parental supervision is a critical risk factor in	YLS/CMI, WSJCA

	predicting anti-social behaviour. CCL who are not supervised are free to spend time with other anti-social youth and engage in anti-social behaviour.	
	Experiences conflict with adult caregivers/parent/s. The level of conflict experienced by the CCL in the home has been linked to increased risk for problematic behaviour. CCL who are repeatedly exposed to violence and abuse are at greater risk for perpetrating acts of violence or other crime.	YLS/CMI, WSJCA
	Is subjected to harsh discipline. Overly severe punishment are related to child offending.	YLS/CMI, WSJCA
	Victim of adult violent behaviour in the household. Problem violent history of parents or adult siblings who are currently involved in the family.	YLS/CMI, WSJCA
	Lives in a child-headed household without parental supervision	Newly developed
	Lives in a household where one or more adults abuse substances	YLS/CMI, WSJCA
	Has a household member that has been imprisoned before. Refers to jail/imprisonment history of persons who are currently involved with the household:	YLS/CMI, WSJCA
	The child was sexually abused in the family. Includes suspected incidents of sexual abuse substantiated, but excludes reports proven to be false.	YLS/CMI, WSJCA
	The child was emotionally abused in family. Include suspected incidents of abuse substantiated, but exclude reports proven to be false.	YLS/CMI, WSJCA
	The child was abused physically in the family. Refers to suspected incidents of physical abuse substantiated, but exclude reports proven to be false.	YLS/CMI, WSJCA
	Has a family member who has committed an offence. Refers to criminal involvement history of family members.	YLS/CMI, WSJCA
Absconding	Leaves home without parents knowing where he/she is? Means parents are not aware of where the CCL is most of the time.	
	Sleeps outside the home without adult permission. means parents, guardians, foster	

	cares or caregivers did not provide permission for the CCL to sleep outside the home.	
	Leaves home without parent/caregiver's permission means parents, guardians, foster cares or caregivers did not provide permission for the CCL to leave home.	
	Absconds from foster placement.	
	Absconds from CYCC as trail awaiting the child. Section 170 of the Children's Act 38/2005 describes absconding as an act when a child offender has absconded from a CYCC or when a child has been granted leave of absence from the CYCC and that said child who on cancellation or expiration of such leave of absence fails to return to the CYCC.	
	Absconds from CYCC as sentenced child Section 170 of the Children's Act 38/2005 describes absconding as an act when a child offender has absconded from a CYCC .	
Peer relations	Shows admiration for friends who commits offending behaviour	Newly developed
	Mixes with other children known to have been gangsters in the community	Newly developed
	Mixed with children known to have committed offences	
	Refers to him/herself as a gangster	Newly developed
	Is a member of a street gang with his own identifying marks. Means the child is a member of street gang in SA that has its own identifying marks.	
	Mixes with prison gangsters. Means the child mixes with members of a prison gang in SA.	Newly developed
	Initiated as a prison gangster. Means the child was initiated into a prison gang in SA.	Newly developed
Aggression	Displays a weapon means the CCL shows weapon/s in the community.	ASSET, PACT, SAVRY, YARAT-FO
	Bullies others means the CCL bullies both adults and children in the community or a CYCC.	ASSET, PACT, SAVRY, YARAT-FO
	Threatens other persons means a CCL intimidates both adults and other children in the community or CYCC.	ASSET, PACT, SAVRY, YARAT-FO
	Violently destroys other people's property means the violent destruction and damaging of	ASSET, PACT, SAVRY, YARAT-FO

	both adults and children's property within community or CYCC.	
	Assaultive behaviour means the CCL assaults other persons	ASSET, PACT, SAVRY, YARAT-FO
	Animal cruelty refers to the killing or injury of animals by CCL within the community	ASSET, PACT, SAVRY, YARAT-FO
	Uses a weapon to commit crime means the CCL uses weapons as an accessory to commit crime/	ASSET, PACT, SAVRY, YARAT-FO
	Assaultive behaviour causes serious injury means the CCL assaults other persons and inflict serious injury.	ASSET, PACT, SAVRY, YARAT-FO
	Sexual assault means the CCL sexually assaults and rapes another person.	ASSET, PACT, SAVRY, YARAT-FO
Free time spending	Interested in a recreational activity means the CCL is involved in at least one recreational activity.	YLS/CMI
	Not interested in any recreational activity means the CCL is not interested in any recreational activity	YLS/CMI
Behaviour	The child throws tantrums means the CCL has a bad temper, attention seeking or grumpy behaviour in the home, school, community or CYCC.	ASSET, PACT and Y-ARAT-FO
	The child is verbally aggressive means the CCL is verbally aggressive towards both adults and other children at school, in the community or CYCC.	ASSET, PACT and Y-ARAT-FO
	The child threatens people, means the child demonstrates threatening behaviour towards both adults and other children in community.	ASSET, PACT and Y-ARAT-FO
	The child is involved in bullying, bullies both adults and other children in community.	ASSET, PACT and Y-ARAT-FO
	The child is physically aggressive means the CCL is physically aggressive in the community towards both adults and other children in the community.	ASSET, PACT and Y-ARAT-FO
	The child is aggressive at home means the CCL is aggressive towards parents, foster carers, care givers, guardians, siblings and other family members at home.	ASSET, PACT and Y-ARAT-FO
	The child offender is aggressive in the community means the CCL is aggressive in the	ASSET, PACT and Y-ARAT-FO

	community towards both adults and other children in community.	
	Injures animals means the CCL injures animals	ASSET, PACT and Y-ARAT-FO
	The CCL harms other people means the CCL injures other people.	ASSET, PACT and Y-ARAT-FO
	The CCL harms him/herself means the CCL hurt and injures themselves.	ASSET, PACT and Y-ARAT-FO
	The CCL is harmed by other people means the CCL is injured by other persons	ASSET, PACT and Y-ARAT-FO
Orientation to crime	The CCL does not take responsibility for crime	ASSET, PACT and Y-ARAT
	The CCL excuses him/herself from involvement in criminal incident	ASSET, PACT and Y-ARAT
	The child offender does not understand the impact crime has on victims	ASSET, PACT and Y-ARAT
	The child blames other for committing crimes	ASSET, PACT and Y-ARAT
	The CCL is preoccupied with crime	ASSET, PACT and Y-ARAT
	The child perceives him/herself as having a criminal identity	ASSET
Attitudes to offending	The CCL is nervous when committing crime	Y-ARAT and YASI
	The CCL is indecisive when committing crime	Y-ARAT and YASI
	The child is excited when committing crime	ASSET, PACT
	The CCL brags about committing crime	ASSET, The Model Risk Assessment Instrument
	The CCL does not accept responsibility for committing crime	ASSET, PACT, WSJCA pre-screen, Y-ARAT and YASI
	The CCL minimises the harm caused to victims	ASSET, WSJCA pre-screen,
	The CCL is proud of his/her criminal behaviour	ASSET, WSJCA pre-screen,
	The CCL feels nothing for the harm caused to victims	ASSET, WSJCA pre-screen,
Mental health status	The CCL has current mental health issues	ASSET,

	Criminal capacity assessment must be done for this child	Newly developed
	The child has mental health disorder with treatment	ASSET, APSD, MAYSI-2; WSJCA
	The child has a mental health disorder without treatment	MAYSI-2 and WSJCA
	The child was admitted to the mental health facility	MAYSI-2
Education	The child plays truant	ASSET, WSJCA2004
	Commit crimes at school	ASSET WSJCA2004
	Fights with other learners at school	ASSET, YLS/CMI, WSJCA2004
	Fights with teachers at school	The Missouri Juvenile Risk Assessment Scale 2005
	Suspended from school	ASSET
	Expelled from school	ASSET
Employment	The CCL is unemployed	The Missouri Juvenile Risk Assessment Scale 2005
	CCL works for known criminals	ASSET, YLS/CMI, WSJCA2004
	CCCL often changes jobs	ASSET, YLS/CMI, WSJCA2004

APPENDIX 17: Scaling format and descriptions table

Scaling format	Description
Thurstone scaling	Each item comprises several statements that have been ranked in order of intensity or difficulty (Babbie 2013, Clark & Watson, 1995, DeVellis 2017).
Guttman Scaling	Guttman Scaling comprises choosing all the items with which one agrees until one's level of intensity on the construct is reached (Babbie 2013)
Semantic Differential	Semantic Differential scales comprise pairs of words that either represents the opposites of an attribute (e.g. friendly and hostile) or the presence and absence of an attribute (e.g. friendly and not friendly), separated by a set of several response categories (Babbie 2013, Stockemmer 2019).
Binary Options	Binary Options requires a respondent is presented with an item (a word, statement or question) and asked to mark a dichotomous response, such as 'yes' or 'no', or 'agree' or 'disagree.' (Babbie 2013, DeVellis 2017).
Forced Choice.	In Forced Choice scaling respondents are presented with a pair of words or statements and asked to select the one that they support most strongly (DeVellis 2017, Stockemmer 2019).
Likert Scaling	Likert Scales are used in questionnaires designed to measure people's attitudes, opinions or perceptions. Participants choose from a range of possible responses to a specific question or statement. Responses include "strongly agree," "agree," "neutral," "disagree," and "strongly disagree." (Babbie 2013, DeVellis 2014).

APPENDIX 18: Editorial certificate

27 July 2022

To whom it may concern

Dear Sir/Madam

RE: Editorial certificate

This letter serves to prove that the thesis listed below was language edited for proper English, grammar, punctuation, spelling, as well as overall layout and style by myself, publisher/proprietor of Aquarian Publications, a native English speaking editor.

Thesis title

THE DEVELOPMENT AND VALIDATION OF A CHILD IN CONFLICT
WITH THE LAW RISK ASSESSMENT SCALE FOR PROBATION
OFFICERS IN SOUTH AFRICA

Author

Edgar Eben Smith

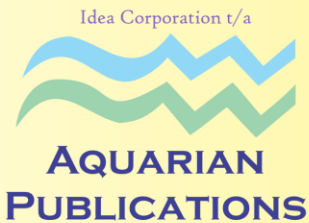
The research content, or the author's intentions, were not altered in any way during the editing process, and the author has the authority to accept, or reject my suggestions and changes.

Should you have any questions or concerns about this edited document, I can be contacted at the listed telephone and fax numbers or e-mail addresses.

Yours truly



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