# A Comparison of Direct Observation and Self-Report Measures of Parenting Behaviour

Fiona Marie Arney

Department of Psychiatry, Adelaide University

November, 2004

## **Table of Contents**

Table of Contents	iii
List of Appendices	V
List of Tables	vii
List of Figures	x
List of Abbreviations	xi
Abstract	xiv
Thesis Statement	xvi
Acknowledgments	. xvii
Preface	1
Chapter 1. Externalising Behaviour Problems and Parenting Behaviour	5
1.1 Externalising Behaviour Problems	
1.2 Parenting  1.3 Relationships between Parenting and Behaviour Problems	
Chapter 2. The Measurement of Parenting Behaviour	49
2.1 Methods Used to Measure Parenting Practices	64 d 81 d
Children's Externalising Behaviour	
Chapter 3. Methodology	94
3.1 Participants	99
Chapter 4. Sample Characteristics	
4.1 Demographic Characteristics	. 123 . 128
Chapter 5. Self-Reported Parenting Behaviour	132
5.1 Content Validity of the Self-Report Parenting Questionnaires	. 138
The mean every are the controport i dronking adoption in the minimum in the control and the co	

Chapter 6. Observed Parenting Behaviour	155
6.1 Validity of the Observed Parenting Behaviour  6.2 Inter-Observer Reliability of the Observed Parenting Behaviour  6.3 Mean Scores for the Observed Parenting Behaviours	161
Chapter 7. Level of Agreement Between Self-Reported and Observed Paren	ting
Behaviour	177
7.1 Correlations Between Self-reported and Observed Parenting Domains	Observed
Chapter 8. Relationships between Parenting Behaviour, Family Risk Variable	es and
Children's Behaviour	190
8.1 Relationships between Parenting Behaviour and Family Characteristics	aviour
Chapter 9. Summary, Study Limitations and Conclusion	218
9.1 General Summary and Recommendations	236
Appendices	249
References	358

## **List of Appendices**

Appendix A.1 Self-Report Measures Used to Measure Parenting Behaviour	251
Appendix A.2 Studies Using Observational Measures to Measure Parenting	
Behaviour	.254
Appendix B.1 Letter to Preschool Directors	.263
Appendix B.2 Notice For Preschool Newsletter	.264
Appendix B.3 Letter to Parents: Stage One	.265
Appendix B.4 Information Sheet: Stage One	.266
Appendix B.5 Screening Questionnaire	.267
Appendix C.1 Letter to Parents: Stage Two	.276
Appendix C.2 Information Sheet: Stage Two	.277
Appendix C.3 Telephone Protocol	.278
Appendix C.4 Parent Consent Form	.279
Appendix C.5 Consent Form for Teacher Participation	280
Appendix C.6 Reference Sheet for Parents	.281
Appendix D.1 Activity Sheet	.282
Appendix E.1 Parenting Scale	.284
Appendix E.2 Child-Rearing Practices Questionnaire	287
Appendix F.1 Observation Questionnaire	.289
Appendix F.2 Observation Summary Sheet	.291
Appendix F.3 Observation Global Ratings	.292
Appendix F.4 Observation Coding Sheets	.293
Appendix F.5 Observation Coding Definitions	.297
Appendix G.1 Short Childhood Temperament Questionnaire-Australian Version	301
Appendix G.2 General Health Questionnaire	.303
Appendix G.3 Interview Schedule for Social Interaction - Short Form	305

Appendix G.4 Parent Problem Checklist312
Appendix G.5 Dyadic Adjustment Scale313
Appendix G.6 Demographic Questionnaire316
Appendix G.7 Child Behavior Checklist (6-18)319
Appendix G.8 Teacher Report Form323
Appendix H.1. Previous Factor Analyses using Parenting Scale Items327
Appendix H.2 Principal Components Analyses of Parenting Scale Items329
Appendix I.1. Verbatim Examples of Reasons for Non-Normal Interaction334
Appendix I.2 Examples of Observation Summaries336
Appendix I.3 Video Coding Protocol
Appendix I.4 Mean Frequencies of Behaviour in the Four Activities for Individual
Participants342
Appendix J.1 Distribution of Variables in the Study and Appropriate
Transformations349
Appendix J.2 Scatterplots of the Self-Reports and Observations of the Parenting  Domains
Appendix J.3 Comparison of parenting behaviour for families in which children were rated as showing higher versus lower levels of externalising behaviour353
Appendix K.1 Factor analysis to assess for common method variance354
Appendix K.2 Mean parenting behaviour scores for mothers and fathers356
Appendix K.3 Correlations between parenting behaviour and children's externalising
behaviour at preschool357

## **List of Tables**

Table 2.1 Studies directly comparing self-reports and observations of parenting
behaviour7
Table 2.2 Studies directly comparing parent-reports and observations of children's
temperament and behaviour76
Table 3.1. Reasons for refusal to participate in the observations98
Table 4.1 Demographic characteristics of the sample124
Table 4.2. Mean scores (SD) on the measures of family risk factors128
Table 5.1. Principal components analysis (with varimax rotation) of the Parenting  Scale self-report items (N=1239)
Table 5.2. T-tests comparing Screening and Stage Two scores on the Parenting Scale (N=438)
Table 5.3. Principle components analysis (with varimax rotation) of the Child-Rearing Practices Questionnaire self-report items (N=438)145
Table 5.4. Mean scale scores (SD) on the Parenting Scale
Table 5.5. Mean (SD) scores and ranges for items on the Parenting Scale used in
both the current study and the study by Reitman et al., 2001150
Table 5.6. Mean scale scores(SD) on the Child-Rearing Practices Questionnaire.152
Table 6.1. Rank-order correlations and percentage agreements between behaviour counts of the two coders (N=20)
Table 6.2 Mean frequency of behaviours per 30 second interval166
Table 6.3. Mean number of 30 second intervals (SD) in which individual behaviours corresponding to the Parenting Scale were observed
Table 6.4. Mean number of 30 second intervals (SD) in which individual behaviours corresponding to the Child-Rearing Practices Questionnaire were observed174
Table 7.1 Correlations between corresponding behaviour domains on the self-report and observed measures
Table 7.2 Rank-order correlations between global ratings and self-reports of
parenting behaviour on the original PS domains182
Table 7.3 Correlations between corresponding behaviour domains on the self-report

and observed measures (N=68)185
Table 8.1. Self-reported parenting scores and frequencies of parenting behaviour for parents in paid employment and parents not in paid employment194
Table 8.2 Correlations between measures of parenting behaviour and parent-reports on the Dyadic Adjustment Scale and the Parent Problems Checklist (N=55)196
Table 8.3 Mean(SD) frequencies of self-reported and observed parenting behaviour for parents who scored above or below the cutoff on the GHQ198
Table 8.4 Correlations (r) between scores on the Availability of Social Integration and self-reported and observed parenting behaviour scores (N=68)
Table 8.5 Correlations (r) between parent-reported child temperament and self-reported and observed parenting behaviour scores (N=68)202
Table 8.6 Correlations between parenting behaviour and externalising behaviour reported two years later
Table 8.7 The prediction of parent-reports of externalising behaviour scores on the Child Behaviour Checklist (N=59)
Table 8.8 The prediction of teacher-reports of externalising behaviour scores on the Teacher Report Form (N=54)
Table 8.9. Number of children above and below the CBCL cutoff at the two assessments
Table A.1.1 Self-report measures used to measure the parenting behaviour of parents of preschool children
Table A.2.1 Observational studies measuring the parenting behaviour of parents of preschool children
Table H.1.1 Published factor analyses using Parenting Scale Items327
Table H.2.1. Principal components analysis (with <i>oblique</i> rotation) of the Parenting Scale self-report items (N=1239)
Table H.2.2. Principal components analysis (with <i>quartimax</i> rotation) of the Parenting Scale self-report items (N=1239)
Table H.2.3. Principal components analysis (with <i>equamax</i> rotation) of the Parenting Scale self-report items (N=1239)

Table H.2.4. Principal components analysis (with <i>promax</i> rotation) of the Parenting Scale self-report items (N=1239)	
Table J.1.1 Distribution of study variables and transformations performed349	
Table J.3.1 Mean (SD) frequencies of parenting behaviour for different levels of child behaviour problems in the observation	
Table J.3.2 Number and proportion of parents displaying punitive behaviours for different levels of child behaviours in the observation353	
Table K.2.1 Self-reported parenting scores and frequencies of parenting behaviour for mothers and fathers	
Table K.3.1 Correlations (r) between parenting behaviour and reports of externalising behaviour for preschoolers	
Table K.3.2 Mean(SD) scores on the CBCL (1.5-5) and C-TRF for parents displaying different levels of punitive behaviours in the observation	

# List of Figures

from Patterson's developmental model of antisocial benaviour (figure adapted from Patterson, 1989)40
Figure 1.2 Belsky's ecological model of parenting (figure adapted from Belsky, 1984)42
Figure 3.1. Study design, number of participants and response rate at each stage of the study (as a percentage of the previous stage)95
Figure 5.1 Mean item scores for self-reported items on the Parenting Scale149
Figure 5.2 Mean item scores for self-reported items on the Child-Rearing Practices  Questionnaire153
Figure 6.1 Standardised frequencies of parenting behaviour per 30 second interval in the four activities
Figure 7.1 Correlations between observed and self-reported parenting behaviour for parents who described the interaction as normal and those who did not187
Figure I.4.1 Mean frequency of Inconsistency for individual participants across the four activities
Figure I.4.2 Mean frequency of Permissiveness for individual participants across the four activities
Figure I.4.3 Mean frequency of Overreactivity for individual participants across the four activities
Figure I.4.4 Mean frequency of Warmth for individual participants across the four activities
Figure I.4.5 Mean frequency of Reasoning for individual participants across the four activities
Figure I.4.6 Mean frequency of Punitiveness for individual participants across the four
Figure I.4.7 Mean frequency of Obedience for individual participants across the four activities

Figure J.2.1 Scatterplot of self-reported Inconsistency by the square root of observed Inconsistency
Figure J.2.2 Scatterplot of self-reported Permissiveness by observed Permissiveness
Figure J.2.3 Scatterplot of self-reported Overreactivity by the square root of observed Overreactivity
Figure J.2.4 Scatterplot of the reflected inverse of self-reported Warmth by observed Warmth
Figure J.2.5 Scatterplot of self-reported Reasoning by observed Reasoning352
Figure J.2.6 Scatterplot of self-reported Obedience by the square root of observed  Obedience

## **List of Abbreviations**

Abbreviation	Term
ADHD	Attention Deficit/Hyperactivity Disorder
APQ	Alabama Parenting Questionnaire
B:G	Ratio of boys to girls
CBCL(6-18)	Child Behavior Checklist 6-18 years
CDI	Child-Directed Interaction
CMPSSI	Child Management Problem Solving Skills Interview
CRPQ	Child-Rearing Practices Questionnaire
CRPR	Child-Rearing Practices Report
C-TRF	Caregiver-Teacher Report Form
DAS	Dyadic Adjustment Scale
DPCIS	Dyadic Parent-Child Interaction Scale
DSI	Disciplinary Style Interview
DSM-IIIR	Diagnostic and Statistical Manual of Mental Disorders Version III Revised
DSM-IV	Diagnostic and Statistical Manual of Mental Disorders Version IV
EPCS	Early Parenting Coding System
ERA	Parent Child Early Relational Assessment
FICS	Family Interaction Coding System
FOS	Family Observation System
FOS-RIII	Family Observation System – Third Revision
FRFC-P	Family Risk Factor Checklist - Parent
GHQ	General Health Questionnaire
HOME	Home Observation for Measurement of the Environment
ICD-10	International Statistical Classification of Diseases and Related Health
	Problems, 10 <sup>th</sup> Edition
IOR	Inter-observer reliability

Abbreviation	Term
ISSI-SF	Interview Schedule for Social Interaction – Short Form
IQ	Intelligence quotient
LAX	Laxness
LIFE	Living in Family Environments Coding System
Ns	Not significant
NS	Not stated
Obs	Observed
ODD	Oppositional Defiant Disorder
OVER	Overreactivity
PACIC	Parent-Child Interaction Code
PACS	Parental Account of Child's Symptoms
PAQ_R	Parental Authority Questionnaire
PBC	Parent Behaviour Checklist
P-CIPA	Parent-Child Interaction Play Assessment
PCIT	Parent-Child Interaction Therapy
PDI	Parent-Directed Interaction
PPC	Parent Problem Checklist
PPP	Positive Parenting Program
PPS	Parenting Practices Scale
PQ	Parenting Questionnaire
PS	Parenting Scale
SD	Standard deviation
SES	Socioeconomic status
SPSS	Statistical Package for the Social Sciences
TAFE	Technical and Further Education
TRF	Teacher Report Form
	I .

#### **Abstract**

The importance of parenting behaviour as a risk factor for the development and persistence of externalising behaviour problems, and as a focus for early interventions, has led to a desire for the accurate measurement of parenting attitudes and practices. Several methods of measuring parenting behaviour have been employed in theoretical research and program evaluation, including self-report and observational measures. Both of these methods have advantages and limitations, but a systematic comparison of self-reports and observations of parenting behaviour has not been conducted. This study compared self-reports and observations of parental responsiveness and control in a sample of 68 parents of preschool children in metropolitan Adelaide, South Australia. Videotaped observations of parents interacting with their children in four set tasks (free play, drawing, pack-up and no distraction) were interval-sampled using behavioural items that paralleled self-report items on the Parenting Scale and the Child-Rearing Practices Questionnaire. In addition, parents completed questionnaires about their child's behaviour and temperament, and factors associated with parenting behaviour including parental psychopathology, social support, marital adjustment, disagreements about childrearing and demographic characteristics. Reports of children's behaviour at preschool were also obtained from teachers. When the correlations between corresponding behaviour domains on the self-report and observational measures were compared, the only significant correlation was for parental warmth. Observations of parental control practices (such as permissiveness, inconsistency and overreactivity) were not significantly associated with self-reports of these behaviours. The observational system used in this study yielded observations of permissive and inconsistent parenting that had good validity and reliability, whereas self-reports of harsh and overreactive parenting practices were more validly and reliably assessed using self-report methods. Self-reports and observations of

responsive parenting practices demonstrated results that are more equivocal.

Possible explanations for these results and the implications for the use of self-report and observational measures in parenting research are discussed.

#### **Thesis Statement**

This work contains no material which has been accepted for the award of any other degree or diploma in any university or other tertiary institution and, to the best of my knowledge and belief, contains no material previously published or written by another person, except where due reference has been made in the text.

I give consent to this copy of my thesis, when deposited in the University Library, being available for loan and photocopying.

Signed: _	 		
Date:			

#### **Acknowledgments**

I would like to thank my supervisors, Professor Michael Sawyer and Associate Professor Peter Baghurst, for their guidance, support and patience over the past five years. Many thanks to Professor Margot Prior for taking the time to provide advice about the study design, and in proofreading early drafts of this thesis.

Warm thanks to my friends and family who have endured the past five years with me, providing much-needed encouragement, love and support along the way.

The staff in the Public Health Research Unit and the Research and Evaluation Unit at the Women's and Children's Hospital, South Australia, have also been wonderfully helpful and have encouraged me every step of the way. Particular thanks to Justine Whitham, for enduring the interminable role of inter-rater with such good humour!

I would like to thank Susan O'Leary, Steve Zubrick and Sheryl Hemphill for providing information and resources relevant to the materials used in this study.

Thanks also to the National Health and Medical Research Council for providing the Public Health Postgraduate Scholarship that funded two years of my postgraduate study. This research also would not have been possible without funding from the Australian Rotary Health Research Fund.

Finally, my warmest thanks go to the parents and children who participated in the videotaped observations. Without exception, the families involved in this study were generous in both in the amount of time they dedicated to this project and in the hospitality and sense of welcome I was given in each home. It was a pleasure to be given the opportunity to be involved in the lives of these families.

#### **Preface**

Persistent externalising behaviour problems of early onset in children have been identified as a precursor of antisocial, criminal and delinquent activity in later years (Greenwood, Model, Hydell, & Chiesa, 1998). Externalising behaviour disorders include undercontrolled behaviours such as noncompliance, difficulty controlling aggression and antisocial behaviour, and have been identified as costly disorders for both society and individuals (Karoly et al., 1998). Longitudinal studies show that correlates of persistent externalising problems of early onset include an increased risk of criminality, drug use, school drop-out, teen pregnancy, and receipt of government welfare benefits (Greenwood et al., 1998; Minde, 1992; Olds et al., 1997; Ramey et al., 2000; Verhulst, Eussen, Berden, Sanders-Woudstra, & van der Ende, 1993).

Cross-sectional and longitudinal studies have implicated various aspects of parenting and parenting practices in both the development and persistence of children's externalising behaviour disorders. Behaviour management, and parental discipline strategies, in particular, is among the strongest correlates of such disorders (Campbell, 1995; Cunningham & Boyle, 2002; Keown & Woodward, 2002; Rubin, Stewart, & Chen, 1995). Other features of parenting that have consistently emerged as correlates of childhood behaviour problems include a lack of parental responsivity or warmth and inconsistent approaches to behaviour management by individual parents within a family (Campbell, 1995; Gardner, 1989; Keown & Woodward, 2002; Kochanska & Murray, 2000). Interventions that focus on changing parenting practices have repeatedly demonstrated positive outcomes for children's behaviour (Bor, Sanders, & Markie-Dadds, 2002; Kazdin, 1997; Marshall & Watt, 1999).

The importance of parenting behaviour as a risk factor for the development and persistence of externalising behaviour problems, and as a focus for early interventions has led to a desire for the accurate measurement of parenting attitudes and practices. Several methods of measuring parenting behaviour have been employed in theoretical research and program evaluation, including self-report and observational measures. However, the degree of concordance between the methods, and how well either approach measures the constructs of interest are still largely unknown (Gardner, 2000; Holden & Edwards, 1989; O'Connor, 2002).

Because of their ease of administration, their low cost, and the ability to compare large numbers of parents on such measures, there has been a reliance on self-report questionnaire measures to assess parenting attitudes and behaviour (Holden & Edwards, 1989). However, parents' responses to items on self-report questionnaire measures of parental behaviour may not be a true reflection of their actual behaviour with their children on a day-to-day basis (Mrazek, Dowdney, Rutter, & Quinton, 1982).

The direct observation of behaviour is generally considered more objective than self-report methodologies in that the actual behaviours are observed, rather than relying on parents' perceptions of their actions in particular situations (Banister, Burman, Parker, Taylor, & Tindall, 1996). However, direct observation methods also have their disadvantages. Behaviour can only be observed in a limited number of settings and participants may react to the process of being observed (for example, by displaying only socially desirable behaviours or exhibiting nervousness). Furthermore, observation of participants is expensive and time consuming to conduct and code. Direct observation requires extensive training, with some programs requiring weeks or months of training to achieve sufficient observer reliability (Belsky, Domitrovich, &

Crnic, 1997; Belsky, Hsieh, & Crnic, 1998; Whipple, Fitzgerald, & Zucker, 1995). Because of its expense and time requirements, direct observation of parenting behaviour is usually restricted only to small or clinic-based samples (Arnold, O'Leary, Wolff, & Acker, 1993; Banister et al., 1996).

This thesis compares two methodologies (self-report questionnaire and direct observation) for measuring parenting techniques that are commonly investigated in studies of associations with childhood behaviour problems. Within these methods, there are several options for measurement of parental behaviours. The two self-report parenting questionnaires employed in this study were chosen because they assess a wide range of behaviours using different response formats. The direct observations were designed to allow the observation of parenting behaviours that were operationalised directly from the self-report items.

The major aim of this study was to better understand the relationships between selfreported and observed parenting behaviour and children's behavioural development. The specific aims of the study were to:

- Assess the degree of agreement between self-report questionnaire and direct observation measures of parental responsivity and control;
- Directly compare the relationships between the different measures of parenting behaviour and family characteristics (e.g., parent gender, child gender, socioeconomic status, marital satisfaction, parental psychological functioning and social support, and child temperament); and
- 3. Examine the relationships between the different measures of parenting behaviour and parent- and teacher-reports of children's externalising behaviour.

This thesis is divided into nine chapters. The first two chapters review the literature

describing children's externalising behaviour, parenting behaviour and the measurement of parenting styles. Chapter 3 describes the methodology employed in this study. Chapters 4 to 8 present the results of the study, examining: sample characteristics (Chapter 4); the reliability and validity of the self-report scales used (Chapter 5); the reliability and validity of the observational tool developed for the study (Chapter 6); direct relationships between the self-reported and observed data (Chapter 7); and the relationships between the parenting measures, family risk factors and children's behaviour (Chapter 8). The results of the study are discussed in each of these chapters, and a more general summary is presented in Chapter 9. This final chapter also presents the limitations of the study as well as recommendations for future research.