THE UNIVERSITY OF CALGARY

A Comparison of Mothers and their Adolescents on Early Maternal Bonding

by

Donna Carey-Boulton

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE

DEGREE OF MASTER OF SCIENCE

DEPARTMENT OF EDUCATIONAL PSYCHOLOGY

CALGARY, ALBERTA

JANUARY, 1993

ISBN 0-315-83111-1

Name DONNA CAREY - BOULTON

Dissertation Abstracts International is arranged by broad, general subject categories. Please select the one subject which most nearly describes the content of your dissertation. Enter the corresponding four-digit code in the spaces provided.

SUBJECT TERM

0525 U·M·I

SUBJECT CODE

Subject Categories

THE HUMANITIES AND SOCIAL SCIENCES

COMMUNICATIONS AND THE ARTS
Architecture 0729
Art History 0377
Cinema 0900
Dance 0378
Fine Arts 0357
Information Science 0723
Journalism 0391
Library Science 0399
Mass Communications 0708
Music 0413
Speech Communication 0459
Theater 0465

EDUCATION
General 0515
Administration 0514
Adult and Continuing 0516
Agricultural 0517
Art 0273
Bilingual and Multicultural 0282
Business 0688
Community College 0275
Curriculum and Instruction 0727
Early Childhood 0518
Elementary 0524
Finance 0277
Guidance and Counseling 0519
Health 0680
Higher 0745
History of 0520
Home Economics 0278
Industrial 0521
Language and Literature 0279
Mathematics 0280
Music 0522
Philosophy of 0998
Physical 0523
Psychology 0525
Reading 0535
Religious 0527
Sciences 0714
Secondary 0533
Social Sciences 0534
Sociology of 0340
Special 0529
Teacher Training 0530
Technology 0710
Tests and Measurements 0288
Vocational 0747

LANGUAGE, LITERATURE AND LINGUISTICS
Language
- General 0679
- Ancient 0289
- Linguistics 0290
- Modern 0291

Literature
- General 0401
- Classical 0294
- Comparative 0295
- Medieval 0297
- Modern 0298
- African 0316
- American 0591
- Asian 0305
- Canadian (English) 0352
- Canadian (French) 0355
- English 0593
- Germanic 0311
- Latin American 0312
- Middle Eastern 0315
- Romance 0313
- Slavic and East European 0314

PHILOSOPHY, RELIGION AND THEOLOGY
Philosophy 0422
Religion
- General 0318
- Biblical Studies 0321
- Clergy 0319
- History of 0320
- Philosophy of 0322

Theology 0469

SOCIAL SCIENCES
American Studies 0323
Anthropology
- Archaeology 0324
- Cultural 0326
- Physical 0327

Business Administration
- General 0310
- Accounting 0272
- Banking 0770
- Management 0454
- Marketing 0338

Canadian Studies 0385
Economics
- General 0501
- Agricultural 0503
- Commerce-Business 0505
- Finance 0508
- History 0509
- Labor 0510
- Theory 0511

Folklore 0358
Geography 0366
Gerontology 0351
History
- General 0578
- Ancient 0579
- Medieval 0581
- Modern 0582
- Black 0328
- African 0331
- Asia, Australia and Oceania 0332
- Canadian 0334
- European 0335
- Latin American 0336
- Middle Eastern 0333
- United States 0337

History of Science 0585
Law 0398
Political Science
- General 0615
- International Law and Relations 0616
- Public Administration 0617

Recreation 0814
Social Work 0452
Sociology
- General 0626
- Criminology and Penology 0627
- Demography 0938
- Ethnic and Racial Studies 0631
- Individual and Family Studies 0628
- Industrial and Labor Relations 0629
- Public and Social Welfare 0630
- Social Structure and Development 0700
- Theory and Methods 0344

Transportation 0709
Urban and Regional Planning 0999
Women's Studies 0453

THE SCIENCES AND ENGINEERING

BIOLOGICAL SCIENCES
Agriculture
- General 0473
- Agronomy 0285
- Animal Culture and Nutrition 0475
- Animal Pathology 0476
- Food Science and Technology 0359
- Forestry and Wildlife 0478
- Plant Culture 0479
- Plant Pathology 0480
- Plant Physiology 0817
- Range Management 0777
- Wood Technology 0746

Biology
- General 0306
- Anatomy 0287
- Biostatistics 0308
- Botany 0309
- Cell 0379
- Ecology 0329
- Entomology 0353
- Genetics 0369
- Limnology 0793
- Microbiology 0410
- Molecular 0307
- Neuroscience 0317
- Oceanography 0416
- Physiology 0433
- Radiation 0821
- Veterinary Science 0778
- Zoology 0472

Biophysics
- General 0786
- Medical 0760

EARTH SCIENCES
Biogeochemistry 0425
Geochemistry 0996
Geodesy 0370
Geology 0372
Geophysics 0373
Hydrology 0388
Mineralogy 0411
Paleobotany 0345
Paleoecology 0426
Paleontology 0418
Paleozoology 0985
Palynology 0427
Physical Geography 0368
Physical Oceanography 0415

HEALTH AND ENVIRONMENTAL SCIENCES
Environmental Sciences 0768
Health Sciences
- General 0566
- Audiology 0300
- Chemotherapy 0992
- Dentistry 0567
- Education 0350
- Hospital Management 0769
- Human Development 0758
- Immunology 0982
- Medicine and Surgery 0564
- Mental Health 0347
- Nursing 0569
- Nutrition 0570
- Obstetrics and Gynecology 0380
- Occupational Health and Therapy 0354
- Ophthalmology 0381
- Pathology 0571
- Pharmacology 0419
- Pharmacy 0572
- Physical Therapy 0382
- Public Health 0573
- Radiology 0574
- Recreation 0575
- Speech Pathology 0460
- Toxicology 0383

Home Economics 0386

PHYSICAL SCIENCES
Pure Sciences
Chemistry
- General 0485
- Agricultural 0749
- Analytical 0486
- Biochemistry 0487
- Inorganic 0488
- Nuclear 0738
- Organic 0490
- Pharmaceutical 0491
- Physical 0494
- Polymer 0495
- Radiation 0754

Mathematics 0405
Physics
- General 0605
- Acoustics 0986
- Astronomy and Astrophysics 0606
- Atmospheric Science 0608
- Atomic 0748
- Electronics and Electricity 0607
- Elementary Particles and High Energy 0798
- Fluid and Plasma 0759
- Molecular 0609
- Nuclear 0610
- Optics 0752
- Radiation 0756
- Solid State 0611

Statistics 0463

Applied Sciences
Applied Mechanics 0346
Computer Science 0984
Engineering
- General 0537
- Aerospace 0538
- Agricultural 0539
- Automotive 0540
- Biomedical 0541
- Chemical 0542
- Civil 0543
- Electronics and Electrical 0544
- Heat and Thermodynamics 0348
- Hydraulic 0545
- Industrial 0546
- Marine 0547
- Materials Science 0794
- Mechanical 0548
- Metallurgy 0743
- Mining 0551
- Nuclear 0552
- Packaging 0549
- Petroleum 0765
- Sanitary and Municipal 0554
- System Science 0790

Geotechnology 0428
Operations Research 0796
Plastics Technology 0795
Textile Technology 0994

PSYCHOLOGY
General 0621
Behavioral 0384
Clinical 0622
Developmental 0620
Experimental 0623
Industrial 0624
Personality 0625
Physiological 0989
Psychobiology 0349
Psychometrics 0632
Social 0451

Nom _____

Dissertation Abstracts International est organisé en catégories de sujets. Veuillez s.v.p. choisir le sujet qui décrit le mieux votre thèse et inscrivez le code numérique approprié dans l'espace réservé ci-dessous.

SUJET

CODE DE SUJET

U·M·I

Catégories par sujets

HUMANITÉS ET SCIENCES SOCIALES

COMMUNICATIONS ET LES ARTS
Architecture 0729
Beaux-arts 0357
Bibliothéconomie 0399
Cinéma 0900
Communication verbale 0459
Communications 0708
Danse 0378
Histoire de l'art 0377
Journalisme 0391
Musique 0413
Sciences de l'information 0723
Théâtre 0465

ÉDUCATION
Généralités 515
Administration 0514
Art 0273
Collèges communautaires 0275
Commerce 0688
Économie domestique 0278
Éducation permanente 0516
Éducation préscolaire 0518
Éducation sanitaire 0680
Enseignement agricole 0517
Enseignement bilingue et multiculturel 0282
Enseignement industriel 0521
Enseignement primaire. 0524
Enseignement professionnel 0747
Enseignement religieux 0527
Enseignement secondaire 0533
Enseignement spécial 0529
Enseignement supérieur 0745
Évaluation 0288
Finances 0277
Formation des enseignants 0530
Histoire de l'éducation 0520
Langues et littérature 0279
Lecture 0535
Mathématiques 0280
Musique 0522
Orientation et consultation 0519
Philosophie de l'éducation 0998
Physique 0523
Programmes d'études et enseignement 0727
Psychologie 0525
Sciences 0714
Sciences sociales 0534
Sociologie de l'éducation 0340
Technologie 0710

LANGUE, LITTÉRATURE ET LINGUISTIQUE
Langues
- Généralités 0679
- Anciennes 0289
- Linguistique 0290
- Modernes 0291

Littérature
- Généralités 0401
- Anciennes 0294
- Comparée 0295
- Médiévale 0297
- Moderne 0298
- Africaine 0316
- Américaine 0591
- Anglaise 0593
- Asiatique 0305
- Canadienne (Anglaise) 0352
- Canadienne (Française) 0355
- Germanique 0311
- Latino-américaine 0312
- Moyen-orientale 0315
- Romane 0313
- Slave et est-européenne 0314

PHILOSOPHIE, RELIGION ET THÉOLOGIE
Philosophie 0422
Religion
- Généralités 0318
- Clergé 0319
- Études bibliques 0321
- Histoire des religions 0320
- Philosophie de la religion 0322

Théologie 0469

SCIENCES SOCIALES
Anthropologie
- Archéologie 0324
- Culturelle 0326
- Physique 0327

Droit 0398
Économie
- Généralités 0501
- Commerce-Affaires 0505
- Économie agricole 0503
- Économie du travail 0510
- Finances 0508
- Histoire 0509
- Théorie 0511

Études américaines 0323
Études canadiennes 0385
Études féministes 0453
Folklore 0358
Géographie 0366
Gérontologie 0351
Gestion des affaires
- Généralités 0310
- Administration 0454
- Banques 0770
- Comptabilité 0272
- Marketing 0338

Histoire
- Histoire générale 0578
- Ancienne 0579
- Médiévale 0581
- Moderne 0582
- Histoire des noirs 0328
- Africaine 0331
- Canadienne 0334
- États-Unis 0337
- Européenne 0335
- Moyen-orientale 0333
- Latino-américaine 0336
- Asie, Australie et Océanie 0332

Histoire des sciences 0585
Loisirs 0814
Planification urbaine et régionale 0999
Science politique
- Généralités 0615
- Administration publique 0617
- Droit et relations internationales 0616

Sociologie
- Généralités 0626
- Aide et bien-être social 0630
- Criminologie et établissements pénitentiaires 0627
- Démographie 0938
- Études de l' individu et de la famille 0628
- Études des relations interethniques et des relations raciales 0631
- Structure et développement social 0700
- Théorie et méthodes. 0344
- Travail et relations industrielles 0629

Transports 0709
Travail social 0452

SCIENCES ET INGÉNIERIE

SCIENCES BIOLOGIQUES
Agriculture
- Généralités 0473
- Agronomie. 0285
- Alimentation et technologie alimentaire 0359
- Culture 0479
- Élevage et alimentation 0475
- Exploitation des pâturages 0777
- Pathologie animale 0476
- Pathologie végétale 0480
- Physiologie végétale 0817
- Sylviculture et faune 0478
- Technologie du bois 0746

Biologie
- Généralités 0306
- Anatomie 0287
- Biologie (Statistiques) 0308
- Biologie moléculaire 0307
- Botanique 0309
- Cellule 0379
- Écologie 0329
- Entomologie 0353
- Génétique 0369
- Limnologie 0793
- Microbiologie 0410
- Neurologie 0317
- Océanographie 0416
- Physiologie 0433
- Radiation 0821
- Science vétérinaire 0778
- Zoologie 0472

Biophysique
- Généralités 0786
- Medicale 0760

SCIENCES DE LA TERRE
Biogéochimie 0425
Géochimie 0996
Géodésie 0370
Géographie physique 0368
Géologie 0372
Géophysique 0373
Hydrologie 0388
Minéralogie 0411
Océanographie physique 0415
Paléobotanique 0345
Paléoécologie 0426
Paléontologie 0418
Paléozoologie 0985
Palynologie 0427

SCIENCES DE LA SANTÉ ET DE L'ENVIRONNEMENT
Économie domestique 0386
Sciences de l'environnement 0768
Sciences de la santé
- Généralités 0566
- Administration des hôpitaux 0769
- Alimentation et nutrition 0570
- Audiologie 0300
- Chimiothérapie 0992
- Dentisterie 0567
- Développement humain 0758
- Enseignement 0350
- Immunologie 0982
- Loisirs 0575
- Médecine du travail et thérapie 0354
- Médecine et chirurgie 0564
- Obstétrique et gynécologie 0380
- Ophtalmologie 0381
- Orthophonie 0460
- Pathologie 0571
- Pharmacie 0572
- Pharmacologie 0419
- Physiothérapie 0382
- Radiologie 0574
- Santé mentale 0347
- Santé publique 0573
- Soins infirmiers 0569
- Toxicologie 0383

SCIENCES PHYSIQUES
Sciences Pures

Chimie
- Généralités 0485
- Biochimie 487
- Chimie agricole 0749
- Chimie analytique 0486
- Chimie minérale 0488
- Chimie nucléaire 0738
- Chimie organique 0490
- Chimie pharmaceutique 0491
- Physique 0494
- PolymÇres 0495
- Radiation 0754

Mathématiques 0405
Physique
- Généralités 0605
- Acoustique 0986
- Astronomie et astrophysique 0606
- Electronique et électricité 0607
- Fluides et plasma 0759
- Météorologie 0608
- Optique 0752
- Particules (Physique nucléaire) 0798
- Physique atomique 0748
- Physique de l'état solide 0611
- Physique moléculaire 0609
- Physique nucléaire 0610
- Radiation 0756

Statistiques 0463

Sciences Appliqués Et Technologie

Informatique 0984
Ingénierie
- Généralités 0537
- Agricole 0539
- Automobile 0540
- Biomédicale 0541
- Chaleur et thermodynamique 0348
- Conditionnement (Emballage) 0549
- Génie aérospatial 0538
- Génie chimique 0542
- Génie civil 0543
- Génie électronique et électrique 0544
- Génie industriel 0546
- Génie mécanique 0548
- Génie nucléaire 0552
- Ingénierie des systèmes 0790
- Mécanique navale 0547
- Métallurgie 0743
- Science des matériaux 0794
- Technique du pétrole 0765
- Technique minière 0551
- Techniques sanitaires et municipales 0554
- Technologie hydraulique 0545

Mécanique appliquée 0346
Géotechnologie 0428
Matières plastiques (Technologie) 0795
Recherche opérationnelle 0796
Textiles et tissus (Technologie) 0794

PSYCHOLOGIE
Généralités 0621
Personnalité 0625
Psychobiologie 0349
Psychologie clinique 0622
Psychologie du comportement 0384
Psychologie du développement 0620
Psychologie expérimentale 0623
Psychologie industrielle 0624
Psychologie physiologique 0989
Psychologie sociale 0451
Psychométrie 0632

THE UNIVERSITY OF CALGARY

FACULTY OF GRADUATE STUDIES

The undersigned certify that they have read and recommend to the Faculty of Graduate Studies, for acceptance, a thesis entitled, "A Comparison of Mothers and their Adolescents on Early Maternal Bonding" submitted by Donna Carey-Boulton in partial fulfillment of the requirements for the degree of Master of Science.

Dr. A. Marini, Supervisor
Department of Teacher Education
and Supervision

Dr. C. Violato
Department of Educational
Psychology and Department of
Teacher Education and Supervision

Dr. G. Labercane
Department of Curriculum and
Instruction

(DATE) Feb 12/93

Abstract

This study was carried out to determine if mothers demonstrate the same type of maternal bonding with their adolescents as they experienced with their mothers in early childhood. This hypothesis follows from Bowlby's (1953 and 1977) theory that people carry the attachment or bonding behaviours learned in early life through to adult development.

Sixty eight subjects (30 mothers and 38 adolescents between 12 and 18) completed the Parental Bonding Instrument (Parker, Tupling and Brown, 1979), being a self-report questionnaire measuring two principal characteristics of parental behaviour and attitudes: care and overprotection.

The results of this study do not support the idea that mothers bond with their adolescents in the same manner that they bonded in early childhood with their mothers. On the contrary, it was found that the adolescents have a significantly better perception of bonding with their mothers than the mothers reported from their early childhoods.

ACKNOWLEDGEMENTS

This study could not have been completed without the assistance and encouragement of many people. I am grateful to my supervisor, Dr. Anthony E. Marini for his encouragement and faith in my abilities. I also wish to express thanks to Dr. Claudio Violato for his encouragement to pursue this area of research, for participating on this committee and for his valuable suggestions and comments. Thanks is also extended to Dr. George Labercane for consenting to serve as external examiner of this thesis and for his editorial input.

Also, I wish to thank all the subjects in this study for their participation and my daughters Stephany Giroux and Jennifer Carey for their patience and support.

Lastly and most importantly, I wish to thank my husband John D'Arcy Boulton for his encouragement and continued support throughout my sojourn at University. The realization of this goal would not have been possible without him.

TABLE OF CONTENTS

LIST OF TABLES

CHAPTER I

INTRODUCTION

Attachment theory was developed by Bowlby (1953) who suggested that attachment behaviour develops in the infant as a direct result of mother's receptivity to the infant. According to this theory, the relationship that children form in early life with their mother or major caregiver, affects the later relationships that they will develop throughout the adult lifespan. If the child develops "secure" attachment in early life, it is thought that this positive bonding is carried through to later affiliations, allowing for healthy relationships. Conversely, if a child experiences "insecure" attachment or bonding with mother in early life, they are thought to carry this through to later adult relationships, possibly oscillating closer and then pulling away from others, as early insecurities dominate the relationship.

Bowlby (1953) theorized that throughout the life span a person is likely to exhibit the same pattern of attachment behaviour, moving away from those he loves for ever-increasing distances and lengths of time, yet always maintaining contact and sooner or later returning. According to Bowlby, the base from which one operates is likely to be either the family of origin or a new base which he has created for himself. Bowlby (1977) theorized that anyone without such a base is rootless and therefore at risk for later problems.

Based on this theory, the dynamics of these early bonding

experiences may have great impact on our future development, as they have the potential to affect all future relationships. The core of relationship building appears to be the ability to trust others at least to some degree, in order that the relationship can evolve from simple acquaintance, on through to friendships. In some cases, these relationships move on further to more intimate levels involving love and respect. It is thought that if our security needs are not met in early development, this can lead to later poor psychological development and ill health (Bowlby 1953).

There has been much research in the past four decades regarding attachment specifically as it pertains to the development of children and the consequence of early insecure attachment. However, there has been no research to examine what, if any, effects early insecure attachment may have on later bonding patterns in the parent/child relationship. Based on the assumptions of Bowlby's attachment theory (1953 and 1977), the aim of this study was to examine if there is a relationship between mothers' perception of early maternal attachment (also referred to as "bonding") when compared with their children's present perception of maternal bonding.

In other words, this study addressed the question as to whether there is a further consequence to early insecure attachment; more specifically, whether mothers who experienced poor maternal bonding as children reflect this in their parenting style with their children as represented by their

children's perception of the bonding experience with mother. This premise underlies Bowlby's (1953 and 1977) theory that securely attached people grow and develop into mature adults while those without secure attachment may develop into anxious, overdependent and immature adults.

Bowlby (1953) found support for the idea that insecurely attached children are at risk to develop into anxious, overdependent and immature adults. These characteristics may impede parenting skills, specifically bonding ability as these anxious, overdependent and immature adults may likely not be in a psychological position to provide a secure atmosphere for their children to explore the environment and become secure themselves.

CHAPTER II

REVIEW OF THE RELATED LITERATURE

Bowlby's Attachment Theory

Attachment theory developed by Bowlby (1953) suggests that attachment behaviour develops in the infant as a direct result of mother's receptivity to the infant. Bowlby (1977) describes attachment behaviour as "any form of behaviour that results in a person attaining or retaining proximity to some other differentiated and preferred individual, who is usually conceived as stronger and/or wiser" (p. 203). Bowlby (1980) further states that as long as the attachment figure remains accessible and responsive, the behaviour may consist of little more than checking by eye or ear on the whereabouts of the figure and exchanging occasional glances and greetings. These attachment behaviours are learned throughout childhood and persist from early development on through to adulthood.

He describes attachment behaviour as a class of behaviour with its own dynamic distinct from feeding behaviour and sexual behaviour but which is at least of equal significance in human life. Healthy attachment behaviour leads to development of affectional bonds or attachments which carry from childhood into adult life as the bonds experienced are present and active throughout the life cycle and are not confined to childhood. Attachment bonds are mediated by behavioural systems which become goal-corrected early in

development. It is a structured homeostatic system which is continually monitored by feedback for any discrepancies between initial instruction and current performance so that behaviour is modified accordingly. The goal is to maintain certain degrees of proximity to the attachment figure.

Although the attachment bond endures, the numerous forms of attachment behaviour that contribute to it are active only when required. Therefore the systems mediating attachment behaviour are activated only by certain conditions, such as strangeness, fatigue, anything frightening and unavailability or unresponsiveness. These systems are terminated by other conditions such as a familiar environment, availability or responsiveness of the attachment figure. Bowlby states that attachment behaviour has evolutionary value in that it keeps the person in touch with the caregiver which reduces risk of harm.

According to Bowlby these behaviour patterns persist into adolescence and adulthood although the frequency and intensity of such behaviour decreases, and then only becomes evident under distress, illness or when fearful. Throughout the entire life span, a person is likely to exhibit the same pattern of attachment behaviour, moving away from those he loves for ever-increasing distances and lengths of time yet always maintaining contact and sooner or later returning.

The behaviour of parents is complementary to attachment behaviour in that the parent's role is to be responsive and

available to the child's needs and also, to provide a secure base to return to if feelings of fear or concern arise. According to attachment theory, it is how the child interacts and perceives these roles with it's caregiver in infancy and childhood, which determines in great degree whether or not he grows up to be psychologically healthy.

According to this theory, if mother's receptivity is sufficient, the child will develop "secure" attachment and conversely, if mother's receptivity is insufficient, the child will develop "insecure" attachment. If one is securely attached to his or her caregiver as a child, it is theorized that he or she may then carry the positive effects of that early secure attachment into adult life and become a mature adult. Conversely, it is theorized that insecure attachment from early development and the negative effects of that insecure attachment, may be carried through to the adult lifespan with the effect that these people may become anxious, overdependent and immature.

Maternal Deprivation

In Bowlby's early works (1953) he discusses maternal deprivation which results from a number of different situations. A child may be deemed to be maternally deprived not only when the child is removed from the major caregiver, but also when the mother or caregiver is in the home with the child but is unable to provide the loving care young children

require. In the case where mother is removed from the home, the maternal deprivation may be mild if the child is then placed in the care of another person that the child has already learned to love and trust. However, if the child is placed in a foster home with a "strange" caregiver, even though this caregiver may be responsive to loving the child, the maternal deprivation may be considerable.

Bowlby states that there are three situations arising from separation or outright rejection in which children most commonly experience maternal deprivation; when the caregiver has an unconsciously rejecting attitude underlying a loving one, when the caregiver has an excessive demand for love and reassurance, and when the caregiver unconsciously gets satisfaction from the child's behaviour while thinking that she is blaming it. These are examples of what he terms "partial deprivation" because although the child is deprived in some ways, he is also given some satisfaction by virtue of the mother figure being present. He also described a more extreme case of deprivation which he termed "complete deprivation". This is defined as a situation where the child has no one person who cares for him personally or with whom he can feel secure.

Adverse Effects of Maternal Deprivation

Bowlby (1953) discussed the adverse effects of maternal deprivation and stated that they appear to vary with the

degree of deprivation. The adverse effects of partial maternal deprivation that Bowlby (1953) lists include anxiety, excessive need for love, powerful feelings of revenge, guilt and depression. All of these symptoms may result in nervous disorders and instability of character. Complete deprivation may result in crippling the capacity to make relationships with others. In this 1953 work, he refers to a study of 102 persistent adolescent offenders in which he states it was clearly shown that these children were predisposed to respond in an antisocial way to later stresses due to earlier maternal deprivation.

Bowlby further states that direct studies in this area show clearly that the development of children is almost always retarded physically, intellectually and socially when deprived of maternal care and that physical and mental illness may appear. Some of the typical features which develop in children suffering from maternal deprivation that Bowlby outlines are as follows:

> "superficial relationships; no real feeling - no capacity to care for people or to make true friends; an inaccessibility, exasperating to those trying to help; no emotional response to situations where it is normal - a curious lack of concern; deceit and evasion, often pointless; stealing; lack of concentration at school" (p. 34)

Bowlby also states that it is clear from retrospective and follow up studies that in some cases children are gravely damaged for life. However, it is not clear why some children are damaged and others are not. It may be related to the

child's age and or the length and degree of deprivation that occurs.

In general Bowlby found the most adverse effects occurred when maternal deprivation occurred at ages when the child was not emotionally self-supporting but he cautioned that all children under seven years of age are in danger of injury through maternal deprivation. He reports that surveys of children between the ages of five and sixteen following WWII found that sufficient numbers were adversely affected by deprivation which suggests even at this age, children are not yet emotionally self-supporting.

Critical Periods

Bowlby discusses what he refers to as the "critical periods" regarding a child's relationship with his mother which affects his capacity for human relationships. The phases of development naturally merge into one another and the ages vary greatly for each child. These stages progress from the first stage where the infant is totally dependent upon mother on through to stages where the child becomes less and less dependent on the immediate environment. As the child becomes more able to plan ahead and use abstract thought, the dependence on mother for security becomes reduced.

The first phase covers the first six months of life when the infant is establishing a relationship with his mother. The next stage usually lasts until the age of three where the

child needs the mother as an ever-present companion. There are two parts to the third stage where the child becomes able to maintain the relationship with mother even when she is absent. During the fourth and fifth years of age, the relationship can be maintained only through short absences of only a few days or weeks and under favourable situations. At seven or eight years of age the relationship with mother can be maintained for longer periods of a year or more even in her absence.

After the age of nine years or so, the child begins to be more emotionally self-supporting, however children are still at risk of adverse consequences of maternal deprivation in cases of sudden loss of the major caregiver or under conditions of outright rejection and lack of care as evidenced in the study of children ages 5 to 16 years of age following WWII which was aforementioned.

Although Bowlby refers to these stages as "criticial periods" they perhaps should be referred to as "sensitive periods" because it is not certain that children can recover at a later date from the adverse effects of maternal deprivation in an earlier period. A critical period is defined as "a specific time period during an organism's development when certain experiences will have an effect, and after which the effect can no longer be obtained through exposure to the experience" (Dworetzky, 1984). The periods which Bowlby refers to would perhaps be better described as

"sensitive periods" which Dworetzky describes as "a period of time during which a particular organism is most sensitive to the effect of certain stimuli".

Psychopathology as a Consequence of Insecure Attachment

Much of the recent research has focused on examining whether insecure attachment leads to later psychopathology, which theory has generally been supported by research. It may follow then that if insecure attachment leads to later psychopathology, then these early insecurely attached individuals may later be at risk as parents.

As far as the development of psychopathology, Bowlby (1980) disputes the idea that it is due to a fixation at or a regression to, some early stage of development but states that it results from deviant psychological development, such as disturbed patterns of attachment. One of the most common forms of deviation is the over-ready elicitation of attachment behaviour, resulting in anxious attachment. The principal determinants of the patterns of attachment according to Bowlby are the experiences we have with attachment figures in infancy, childhood and adolescence.

Principal Parental Characteristics

A number of factor analytic studies (Roe and Siegelman, 1963; Schaefer, 1965, Raskin et al, 1971) suggest that parental behaviour and attitudes may be viewed as having two

principal characteristics; a care dimension and a dimension of psychological control over the child. Based on this finding and in order to define these two characteristics, Parker, Tupling and Brown (1979) designed the PBI to study reported care and overprotection given by parents. They reported that the view as put forth by a number of writers (Coopersmith, 1967; Rutter, 1976) was accepted that perceived rather than actual parental characteristics are of greater relevance.

Support for Insecure Attachment leading to later Psychopathology

Other studies using the PBI have provided support for the hypothesis that insecure attachment leads to later psychopathology.

Depression

Based on Bowlby's theory, Parker (1979a) studied the influences of principal parental characteristics or dimensions with depressive disorders. As stated above, Parker found that parental behaviour and attitudes may be viewed as having two principal characteristics: a care dimension and a dimension of psychological control over the child. These two dimensions are closely related to the behaviours related to attachment: receptivity and a secure base for exploration. Using the Parental Bonding Instrument (PBI) Parker had the depressed

subjects provide retrospective accounts of their early parent-child relationships. He found that depressed adults remembered parents as exhibiting low care and high over-protection, which he refers to as "affectionless control". Parker concludes that low parental care and/or high parental over-protection may be antecedent causes of several grades of depressive experience.

Burback, Kashani and Rosenberg (1989) studied depression in adolescents aged 14 to 16 years of age. In their analysis of the PBI items, they found that depressed adolescents and non-depressed psychiatric controls rated their parents as significantly less understanding and caring and they felt significantly less wanted by their parents than did the normal controls. Burback et al. conclude that their findings suggest that "affectionless control" and "parental bonding" play an important but non-specific role in the occurrence of adolescent psychopathology.

In further studies with depressives, (Parker, 1983; Hickie, Parker, Wilhelm & Tenant, 1991) it was found that depressives perceived themselves as having had insufficient parental care and high parental over-protection. These results were confirmed with a U.S.A. sample in a study by Plantes et al. (1988). Parker (1983) found, as did Burback et al. that the parental low care scale was a better discriminator verses parental over-protection. In a study to examine the relevance of interpersonal risk factors to

postnatal depression (PND), (Boyce, Hickie and Parker, 1991) the PBI, an intimate bond measure and an interpersonal sensitivity measure were completed. Low maternal care and paternal overprotection were predictors of PND along with low care or overcontrolling spouses and high interpersonal sensitivity of the subjects.

Parker et al (1987) found endogenous depressives did not differ from the controls on parental care and overprotection, however neurotic depressives by contrast, were more likely than controls to report parents as uncaring and overprotective.

Suicide in Adolescents

Grossi and Violato (1992) compared suicidal and non-suicidal adolescents on a number of life history and psychological variables such as the subject's birth and residential history, school and criminal history, early negative emotional trauma history and psychiatric history. As well, certain factors pertaining to the subjects' natural and present parents were examined, such as marital status, education history, occupational history, psychiatric history and suicide history.

The subjects who had attempted suicide reported more often that no one cared about them and they had earlier separation from the natural parents, as well as a number of other differences in life history variables. No differences

were found on any psychological variables.

Their analysis produced one discriminant function that differentiated between the groups. This function was labelled "stability/attachment". This included lack of emotional significant other, number of residential moves and number of grades failed. All of these factors may contribute to insecure attachment in that they relate to a lack of a secure base which perhaps relate to the number of residential moves and grades failed.

Grossi and Violato conclude that their findings are consistent with the "early loss" hypothesis and they cite the works of Ainsworth (1989), Bowlby (1977) and Diekstra (1987). It appears that seriously disturbed attachments with significant others in early development may place one at risk in later life for suicidal behaviour.

Poor Social Behaviour

There have been numerous studies which link early insecure attachment with poor later social behaviour such as friendship and school performance. Park and Waters (1989) studied 4 year olds and found that security of attachment had a relatively specific set of friendship correlates, in that insecure dyads were less harmonious, more controlling and less responsive. Cohn (1990) studied 6 year olds and the relationship between child-mother attachment and social competence at school. She reports that secure boys were more

well liked and seen as displaying fewer behavioural problems than insecure boys. Fagot and Kavanagh (1990) reported from their longitudinal study of children 10 months to 30 months, that girls classified as insecure/avoidant were classified by teachers and observers as being more difficult to deal with and as having more difficulty with peers than securely attached girls.

Borderline Personality

Melges & Swartz (1989) discuss borderline personality disordered subjects which are characterized by conflict in that they oscillate between the fear of abandonment and the fear of domination. They outline a possible theoretical hypothesis that this oscillation may result from early "anxious-resistant" attachment as defined by Ainsworth (1978) as arising from the mother-child dyad where the parent's availability, responsiveness or helplessness is uncertain and results in anxious and ambivalent attachment to the mother figure. This oscillation in attachment from the early mother-child dyad is hypothesized to carry forward to adult relationships which is in line with Bowlby's theory as above.

In a further study by Byrne, Velamoor, Cernovsky and Cortese (1990), borderline personality disordered and schizophrenic subjects were administered a childhood life events and family characteristics questionnaire (CLEQ), the Denial Scale of the Basic Personality Inventory and the PBI.

Borderlines reported significantly more childhood sexual and physical abuse, more early separation from mother, more paternal criminality, more paternal overprotection and less maternal care. When compared with normal populations, the borderlines received significantly less care and were significantly more overprotected by both parents.

Schizophrenia

Parker and Mater, (1986) used the PBI and the Expressed Emotion Instrument (EE) to study the extent to which parental environment places schizophrenic patients at high risk to relapse. They found that both the EE and PBI measures define a family style of considerable relevance as a risk factor in predicting the course of schizophrenia.

Anxiety Neurosis

In a study examining anxiety neurosis with respect to the early childhood-parent relationship using the PBI, Parker (1981b) found that the anxiety neurotic patients reported significantly less parental care and greater parental over-protection. He cites his 1979a study as a response to the possible explanation of these findings which may suggest that those with an anxious or neurotic temperament might tend to score their parents negatively on the PBI because they may be sensitive to negative interpersonal interaction with others. It was found in this study that neuroticism did not influence

subjects' scoring of parents on the care scale, however, there may be some influence with regard to the neurotic's scoring on the overprotection scale.

Parker suggests that low parental care and high over-protection may be an antecedent cause of greater anxiety in later life stating that there are many ways by which such parental characteristics might aid such a process. He favours the process as suggested by Ainsworth and Bowlby whereby deficient parenting interferes with the dynamic balance between attachment and exploratory behaviours, promoting what Bowlby termed "anxious attachment".

He concludes by stating that this study delineates clear disturbances in the reported maternal characteristics of anxiety neurotics, generally consistent with those found in non-clinical subjects with high levels of anxiety and confirms that parental distortions were found as well.

Emotional Autonomy and Parental Rejection

Ryan and Lynch (1989) examined the concept of emotional autonomy in adolescents. They found that both emotional autonomy and experienced parental rejection were associated with lower perceived loveworthiness. Their results support the view that facilitative relations between parents and young adults may involve both emotional closeness and felt support for developmentally appropriate tasks.

Their general finding was that attachment versus

detachment to parents is a highly important aspect of the vicissitudes of adolescence. They state that healthy adolescent growth does not necessarily require severing emotional ties or parental support, but more likely it requires continued parental support for the developmental task of adolescence in a context of family cohesion and love.

They conclude that attachment rather than detachment will optimize individuation and the capacity for relatedness to self and others. This theory is congruent with Bowlby's attachment which states that a healthy ability to attach to people, which arises from early secure attachment, will promote healthy adolescent and adult development, as it allows one to form healthy relationships. Insecure attachment from early development would impede this attachment to the parents as it would most likely produce an anxious-resistant type of attachment, which is characterized by drawing close to others and then simultaneously pulling away, as needs for dependence and independence alternate.

Conduct Disorder and Oppositional Disorder

Rey and Plapp (1990) studied conduct disordered (CD) and oppositional disordered (OD) adolescents using the PBI. They found no differences between the CD subjects and the OD subjects, however significant differences were found between the clinical groups and normal controls. The CD and OD subjects perceived their parents as more overprotective and

less caring than did the control groups.

Psychiatric Patients versus General Practice Patients

Truant et al. (1987) used the PBI to examine parental representations of general practice patients compared to psychiatric patients. It was found that the general practice patients reported comparable scores to those of nonpsychiatric subjects. However, the psychiatric subjects reported lower parental care and higher parental protection than did the nonclinical subjects.

Other Research

In a study by Stravynski et al. (1989), avoidant personality disorder (APD) subjects were compared with normal controls using three self-report measures, including the PBI. The overprotection hypothesis proposed by Parker (1983) did not predict the perceptions of APD subjects. However, they found that social introversion in subjects was related to the perceptions of parents as shaming, guilt-engendering and intolerant. Although this does not support the overprotection hypothesis, it does reflect that these subjects have a negative perception of their parents.

In a further study by Palmer et al. (1988) the PBI was used with anorexic and bulemic subjects and results were compared with Parkers normative data (1983). No differences were found on the protection scale but there were small and

inconsistent differences on the care score. They found no support for the hypothesis that eating disordered subjects had a childhood characterized by any particular pattern of parental relationship, such as overinvolvement or rigid control.

This study does not necessarily conflict with other findings that low care and high overprotection may lead to later psychopathology. Rather it stresses that certain psychopathologies such as eating disorders may result from something other than prior parental relationships or style.

Summary of Research

The above studies suggest that there is a relationship between parental characteristics such as low care and high over-protection and later psychopathology of children subjected to this type of parenting style. As above, these two dimensions of low care and over-protection are closely related to the dimensions of a secure base from which to explore and receptivity to a child's needs.

For insecure attachment the dimension of secure base also implies that the mother should not be too restrictive nor too unrestrictive, in that the child must feel able to explore when appropriate and also, must feel that he or she will be protected if need be. Over-protection most likely inhibits the child in exploring the environment and therefore, may cause uncertainty in exploring the world at later stages of

development. As well, overprotection perhaps breeds mistrust in the social and environmental world due to an experience of uncertainty in the natural need to explore as we develop.

The dimension of low care can be compared to the dimension of receptivity to the child's needs in attachment theory. If the mother is perceived to be lacking in receptivity to the child's needs, this may be internalized as lack of love and low care.

Purpose

Based on these ideas, this study attempted to look at the bonding relationships that mothers have presently with their children and compare these to the early experiences the mothers had in their childhood with their respective mothers. This research is directed by the question as to whether mothers who perceived insecure attachment as youngsters are likely to exhibit the same pattern of attachment in adult life, thereby passing on this behaviour to their children by the way the mothers bond with their children. In other words, the question is asked whether mothers who perceived early poor parental bonding are more likely to have children who experience low maternal bonding than mothers who were securely attached in childhood.

The Parental Bonding Instrument (PBI) as developed by Parker, Tupling and Brown (1979) was used to assess the subjective experiences that mothers and their children have

regarding their bonding experience with their respective mothers. The PBI was designed as a self-report questionnaire to measure self reported care and overprotection given by parents as perceived by the test taker.

The subjects in this study consisted of 30 mothers and 38 of their adolescent children between the ages of 12 and 18 years who were obtained through advertising in local newspapers and posters requesting subjects for a study on parental bonding.

Research Hypothesis

The premise that insecure attachment or poor parental bonding leads to later psychopathology has been supported in numerous studies, some of which were reviewed above. This study was concerned with examining whether early parental bonding of mothers is related to the parental bonding that their children perceive. Also the question was asked whether mothers who had early insecure attachment or poor parental bonding are more likely to have children who also experience insecure attachment to them as mother. As well, mothers who report secure parental bonding from their early experience were studied in an attempt to ascertain if their offspring also experience secure parental bonding.

Specifically, the perceived bonding experience of mothers from their early development in the first 16 years of their life is compared to the perceived experience of bonding the

mothers' offspring report. The underlying premise of this study is that the mothers carry their early bonding experience through to later adult life and into their parenting role as mother with their own children. These research questions lead to the formulation of the following hypothesis:

Hypothesis: Mothers will demonstrate the same type of maternal bonding with their adolescents as they experienced with their mothers in early childhood. This hypothesis follows from Bowlby's (1953 and 1977) theory that people carry the attachment or bonding behaviours learned in early life through to adult development.

CHAPTER III

METHODS

Subjects

There were 68 subjects who participated in this study; 30 mothers and 38 adolescents between the ages of 12 and 18 years of age. Seven of the mothers had two adolescents in the required age range who participated in the study while the other 23 only had one adolescent participant. There was one additional adolescent subject for which data has been included and in this instance, when the researcher showed up at the appointed time at the subjects' home, the mother had decided at the last moment not to participate and the father and one male adolescent child were waiting to participate in the study. The researcher allowed the father and the son to complete the questionnaire, however, for obvious reasons, the father's data was not included in this study.

One mother from the study confided to the researcher that she had been adopted at the age of 3 years however her data was included in this study notwithstanding this as she had a mother/daughter relationship with her adopted mother since the age of 3 when she was adopted. It is interesting to note that this mother did express her feeling that she did not have a strong bond with her adoptive mother and personally attributed it partially to the fact that she had missed that "early opportunity of bonding that comes closely following birth".

Demographic Information on the Subjects

According to Parker et al. (1979) the PBI is not significantly sensitive to socioeconomic factors, age or sex of the respondents, therefore this researcher was not actively collecting this information. However, it was noted by the researcher that of the total 68 subjects, 46 subjects were Caucasians living in a two parent family, 11 subjects were Caucasian single parent families with the exception that 2 of the adolescents had a Native Canadian father (absent from the home), and 9 subjects were in 2 parent families with East Indian parents, with the exception of one of these latter subjects who had an East Indian father only and a Caucasian mother.

All of the subjects lived in single family residences with the exception of 2 subjects (mother and adolescent) that lived in Married Quarters on the Canadian Armed Forces Base and 5 subjects (2 single mothers with 3 participating adolescents between them) who lived in subsidized townhouses. One of these single mothers was presently enroled as a full time undergraduate student and the other had recently completed 3 of the 4 year undergraduate degree and was currently not at University but stated that she intends to complete her degree in the near future.

Since the PBI is not affected by social class of parents or by age or sex of the respondents (Parker et al. 1979) it was not necessary to obtain random sampling of subjects.

The Research Instrument

The PBI is a written self-report instrument consisting of 25 items rated on a 4 point Likert type scale and was designed by Parker, Tupling and Brown (1979) to measure self-reported care and overprotection given by parents as perceived by the respondent. The previous review of research suggests that parental characteristics may be regarded as having two principal underlying dimensions; care versus indifference/rejection and overprotection versus encouragement of autonomy and independence. These two major dimensions of parental bonding measured by the PBI were selected by Parker on the basis of several factor analytic studies (e.g. Roe & Siegelman, 1963, Schaefer, 1965, Raskin, Boothe, Reatig, Schulterbrandt & Odle, 1971) all of which suggested that the behavioural and attitudinal components of parental bonding could be reduced to these two global dimensions of child rearing. Parker (1984 and 1985) offers further detailed support for these two dimensions.

Parker et al. (1979) state that the view put by a number of writers (Coopersmith, 1967; Rutter, 1976) has been generally accepted that "perceived" rather than "actual" parental characteristics are of greater relevance.

Validity of the Instrument

Based on the view that perceived rather than actual characteristics are of greater relevance, the questionnaire's

validity was assessed against the internal consistency of the subjects' reported experiences and not against actual behaviour (Parker, Tupling and Brown, 1979). As stated above, Parker reports that scale scores are not affected by social class of parents, or by age or sex of the respondents.

To test the concurrent validity of the scales, two raters independently assigned a "care" and an "overprotection" score for each parent in the parent study (Parker, Tupling and Brown, 1979). These independent scores were obtained at an interview with the subjects and then were correlated with those determined by the scales. The Pearson correlation for the two "care" measures were 0.77 ($P<.001$) for the one rater and .78 ($P<.001$) for the second rater. The correlations for the two "overprotection" scales were .47 ($P<.001$) for one rater and .50 ($P<.001$) for the second rater. The intercorrelation between the scores on the care and overprotection scales for 300 responses for separate parents was -.23 ($P < .001$) which suggests that scores on the two dimensions were not independent in the study group.

The lower inter-rater validity indicated for the overprotection scale suggests some difficulty in defining this measure. Parker et al. (1979) state that the two dimensions do not appear to be independent as the scores correlate negatively in both the principal study and in the general population study. The results showed that overprotection is lined with lack of care.

Reliability of the Instrument

To obtain some measure of the reliability of the responses of the sample, Parker et al. (1979) had two identical items included in the principal study questionnaire consisting of 48 items. Responses to these two items were intercorrelated producing a Pearson correlation coefficient of .70 ($P<.001$) in a non-clinical sample. Test-retest reliability produced a Person correlation coefficient of .76 ($P<.001$) for the care scale and .62 ($P<.001$) for the overprotection scale.

A split-half reliability was performed resulting in a Pearson correlation coefficient of .87 ($P<.001$) for the care scale and .73 ($P<.001$) for the overprotection scale.

After joint interviews with 65 of the subjects, two raters independently assigned a care and an overprotection score for each subject. The inter-rater reliability coefficient on the care dimension was .85 ($P<.001$) and .69 ($P<.001$) on the overprotection dimension over a three week period.

Wilhelm and Parker (1990) reviewed further studies regarding short-term and long-term reliability of the PBI. They cite Parker's (1983a) study with a sample of depressives who were initially depressed and then significantly improved. Much higher correlation coefficients ranging from .87 to .92 were returned over a nine week interval. The U.S. study of depressed outpatients by Plantes et al. (1988) showed no

significant change over four to six weeks intervals with coefficients ranging from .90 to .96.

Test-retest reliability has been supported with schizophrenic subjects as well. Wilhelm and Parker (1990) cite the Parker, Fairley, Greenwood and Silove (1982) study with schizophrenics where the test-retest reliability ranged from .58 to .77. The less impressive results were judged to be a reflection of the sample in that the initial scoring was taken when subjects were first admitted to hospital and with an exacerbation of their schizophrenia, impairing judgment and ability to complete the questionnaire. This interpretation is supported by a further American study of schizophrenics (Warner and Atkinson, 1988) who were assessed while not in a relapse. In this study, correlation coefficients of .79 to .88 were found.

Wilhelm and Parker (1990) cite the Richman and Flaherty (1987) study where medium term test-retest reliability of .79 to .81 was reported for periods of 7 months. In their 1990 study, Wilhelm and Parker found the long term reliability for the PBI over an 11 year period to be extremely impressive. The mean correlation coefficients were .74 (1978-1983), .77 (1983-1988) and .65 (1978-1988). Additionally, they compared the reliability of the PBI to individual personality tests on the basis that if personality is immutable, then self-report measures of personality should show high levels of consistency, weakened only by response biases and state

effects (ie. depression). The personality tests that were compared on test-retest reliability were the Eysenck Personality Inventory neuroticism scale, the Rosenberg self-esteem scale, the dependency scale from the Depressive Experiences Questionnaire and the Costello-Comrey trait depression scale. The correlation coefficients for the PBI were superior to each individual personality test.

Wilhelm and Parker (1990) conclude that the test-retest reliability of the PBI is clearly impressive, both intrinsically when correlation coefficients are examined and secondly, in comparison to the four personality tests which were used as a comparative base.

Scoring of the Instrument

The PBI and its' scoring is appended (Appendix "A"). Of the 25 items, 12 questions measure the care dimension and 13 items measure the overprotection dimension. Each question can be answered as "very like", "moderately like", "moderately unlike" and "very unlike" and each question has a weight from 0 to 3. For instance, question number 1 reads as follows: "Spoke to me with a warm and friendly voice". If the subject answered "very like", a score of 3 points on the care dimension would be added to other care question scores. If the subject answered "moderately like" a score of 2 would be added. If "moderately unlike" was the response chosen, then 1 point would be added and finally, if the subject answered

the question with the response "very unlike" then a zero would be used for that response. An example of a overprotection question is "Did not want me to grow up".

The maximum score one could obtain in the care dimension is 36 (if 12 questions were answered with the response having 3 points being the highest score on any dimension). The highest score that could be obtained on the overprotection scale is 39 (13 questions times the maximum score of 3 points on each item).

Classification into Groups

The variables being compared in this study are the perceptions of bonding which are determined by the PBI, which are classified into groups referred to as optimal bonding (high care/low overprotection), affectionate constraint (high care/high overprotection), absent or weak bonding (low care/low overprotection) and affectionless control (low care/high overprotection). The scores obtained from the PBI were scored as set out by Parker et al. (1979) on both care and overprotection scales using the mean for each dimension as a cut off point. The mean for the care scale is 24.9 and 13.3 for the overprotection scale. Any score lying above the mean for each dimension was considered high in that scale and if the score lay below the mean, it was considered low in that scale. Thus, scores could place each subject into one of our categories as set out in Table 1.

As well, the scores obtained from the care and overprotection scales were are used to place the subject diads (mother/adolescent) into four classifications on the dimensions of secure or insecure attachment; secure mother/secure child, secure mother/insecure child, insecure mother/secure child and insecure mother/insecure child.

Table 1

Classifications of groups using the Parental Bonding Instrument (PBI)

---

high overprotection

affectionless control

affectionate constraint

low care * high care

absent or weak bonding

optimal bonding

low overprotection

The first classification of secure mother/secure child was the only group to be classified as a "secure group" as both the mother and her adolescent child reported an optimal bonding experience as measured by the PBI regarding their early relationships with their respective mothers. These diads both scored above the mean of 24.9 on the care dimension

and below the mean of 13.3 on the overprotection dimension, which places them into the "optimal bonding" group on the PBI instrument. All of the other three classifications (insecure/insecure, insecure/secure and secure/insecure) are termed "insecure" classifications because either the mother or the adolescent child or both, reported an insecure bonding experience regarding their mother/child relationship as measured by the PBI.

DATA COLLECTION PROCEDURES

Parker, Tupling and Brown (1979) claim that the PBI is not affected by social class of parents, or by age or sex of the respondents therefore, it was assumed that the groups did not have to be successfully matched on these factors.

Recruitment of Subjects

Subjects were recruited until there were 30 mother/adolescent diads which included 30 mothers with at least one adolescent between the age of 12 and 18 years participating in the study. If the mother had more than one adolescent between the age of 12 and 18 years, then convenience sampling was used in that whichever adolescent child in that age group who wanted to participate, was used as a subject. In the event that more than one of the adolescents in this age group from one mother wanted to participate, then questionnaires were given to all of these adolescents.

There were no instances where more than 2 adolescents of one mother participated in the study. In these cases where there were two adolescents from one mother who participated in the study, the researcher randomly marked the back of one questionnaire with "heads" and the other with "tails". A coin was then tossed and if tails came up, then the subject's questionnaire referred to as tails was then included in the diad with that mother for the data requiring diads. The remaining adolescent's questionnaire was scored and numerically coded so that it could be ascertained which mother that adolescent belonged to, but those individual adolescent's scores were not used in comparison of pairs of mothers and adolescents but were only used for statistical analysis where pairs were not required.

There were 7 mothers who each had 2 adolescents who participated in the study and the data from the father's adolescent child (as explained above) was also used, for a total number of subjects for this study of 68 subjects.

Advertisement for Subjects

Subjects were recruited by running an advertisement in two community newspapers, The Calgary Mirror (Appendix "B") and the Neighbours Newspaper (Appendix "C") both in Calgary, Alberta, both of which are distributed city wide. The Calgary Mirror advertisement ran on September 5, 1992 covering the North West, South West, South East and North East quadrants of

the City. The Neighbours advertisement ran on September 16, 1992, and also was distributed over the four quadrants of the city (6 zones).

As well, a poster (Appendix "D") was placed on an information board at the University of Calgary in the Education Department and on the bulletin board at the Family Support Centres at both Currie Barracks and Harvie Barracks (Canadian Forces Base).

All advertisements and posters requested that mothers with at least one child between the age of 12 and 18 years, contact the researcher to participate in a study on parental bonding. It was confirmed that the study would be completed at the subjects' convenience and subjects were asked to contact the researcher by telephone to arrange a convenient time to complete a questionnaire.

Consent Forms

Consent forms (Appendices "E" and "F") were obtained from all subjects, both mothers and adolescent children. In the case where the adolescent was not of the age of 18 years, the mother signed the consent form on behalf of the adolescent child. Where the adolescent child was 18 years of age, he or she signed the consent form on her or his own behalf to participate in the study.

Administration of Instrument

The PBI was administered to both the mother and her adolescent or adolescents participating during one home visit by the researcher. A convenient time for the home visit was arranged by phone between the researcher and the mother.

The mother was told on the phone upon the original contact that the study was being conducted as a thesis study and that it involved completing a 25 item questionnaire which would be completed by the mother, as it pertained to her experience with her mother in her first 16 years. The mother was also told that her adolescent child or children would also be required to complete the same questionnaire as it pertains to the adolescent's present experience with her or his mother.

The PBI instrument used for the mother was in the original form however reference to father was removed. The form used is shown in Appendix "G". The form used for the adolescent subjects was amended only to change the tense of the questions from past tense to present tense (Appendix "H"). For instance, the first item was changed from "Spoke to me with a warm and friendly voice" to read "Speaks to me with a warm and friendly voice". No other changes were made to the questions other than to change a word from past tense to the present tense of that same word. It seemed to the researcher that the adolescent subjects would be more able to answer the questions accurately if they were put into the present tense

as these subjects were all still residing with their mothers at the time the questionnaire was administered. Past tense questions however seemed appropriate for the mothers as they had to recall their past relationship with their mothers and the PBI was developed by Parker et al. (1979) to assess adult's perception of their past parental bonding.

In the original pilot and principal studies performed by Parker et al. (1979) the items had been given to medical and psychiatric nursing students with a mean age of 27 years and in a further study to obtain more normative data, 500 subjects were used with a mean age of 36 years of age.

At the home visit, the description of the study was once again explained in front of both the mother and the child or children between 12 and 18 years of age who wished to participate in the study. The subjects were told that they would be participating in a study regarding parental bonding and the consent form was explained to both parent and adolescent child or children before it was signed by the mother and adolescents.

More specifically, the subjects were told that their participation was voluntary and that they could withdraw from the study at any time throughout or after the study with no consequence to them if they did decide to withdraw. They were also given assurances that their identities would not at any time be disclosed and that their participation would be coded in a numerical fashion. It was further confirmed to the

subjects that only the researcher would have a list of the subjects' names and addresses which would be kept in safekeeping and in confidence. The only other person that may have access to this information would be the researcher's supervisor at the University of Calgary who was supervising this thesis research project.

The researcher explained to all subjects how to take the PBI questionnaire by explaining that the subject should read the question, think about her or his relationship with her or his mother and then try to answer the question to the best of their ability.

If the item was very much like the subject's mother, a check should be placed in the "very like" column. If the item was "kind of like" the subject's mother, then a check should be placed in the "moderately like" column. On the other hand, if the item was not at all like the mother, the subject was told that they should put a check in the column labelled "very unlike" and if the item was "moderately unlike" the mother, then a check should be placed in that column. Mothers were specifically told to think of their relationship with their mother during their first 16 years of life rather than their present relationship with their mother.

The researcher told the subjects that if they had any questions at any time while completing the questionnaire, that they were free to ask the researcher for assistance and that the researcher would try to help the subject. If either the

mother or the adolescent child or children had any questions or difficulties in completing a question, the researcher either explained meaning of a word that the respondent was questioning or told the subject to try to answer the question in a general sense rather than focusing on a specific occasion or occurrence. The mother was asked to complete the questionnaire in a separate room from her adolescent child or children who were also completing the questionnaire. Once the mother and subject were in separate rooms, the researcher once again gave instructions to each subject and again instructed the mothers on completing the questionnaire by reading the following instructions:

> This questionnaire lists various attitudes and behaviours of parents. As you remember your mother in your first 16 years would you place a tick in the most appropriate bracket next to each question".

The researcher read the instructions to the adolescent subjects as follows:

> "This questionnaire lists various attitudes and behaviours of parents. Would you place a tick in the most appropriate bracket next to each question as it pertains to your MOTHER".

All subjects were advised that no one other than the researcher and possibly the researcher's supervisor would see the answered questionnaire and that at no time would names be placed on the questionnaire but that the questionnaires would be assigned a number for identification.

When the questionnaires were completed the researcher asked each subject if there were any questions and whether the

subject had decided that they did not want their questionnaires to be included in the study. At no time did any subject object to the use of their questionnaires for the purpose of this study.

The researcher then thanked the subjects for their participation in the study and left the subjects' home.

CHAPTER IV

RESULTS

Preliminary Analyses

Parker, Tupling and Brown (1979) state that the PBI scales are not affected by social class, age or sex of the respondents, therefore for the purpose of this study, it is not necessary to determine if the two groups are successfully matched.

Descriptive Statistics

Care and Overprotection

The first preliminary analysis that was carried out involved examining descriptive statistics on both the care and overprotection scales for this sample; the results are shown in Table 2.

As indicated previously, the highest scores that could be obtained on the two dimensions of the PBI are 36 on the care dimension and 39 on the overprotection scale. The results for this sample indicate that the mothers had lower mean care scores and higher mean overprotection scores than the mean scores found when the PBI was standardized. As well, the adolescent's mean care score was higher than the mean score on the PBI and their mean overprotection scores were lower than the PBI mean overprotection scores.

This would suggest that the adolescent's perception of

Table 2
Mean scores on care and overprotection scales (mothers n = 30, adolescents n = 30) as compared to the mean scores on the standardized PBI (n = 150):

	Care	Overprotection
Mean:		
Mothers' mean score (sample)	20.067	17.167
Adolescents' mean score (sample)	29.600	11.933
PBI mean scores (standardized)	24.900	13.300
Range: *		
Mothers (sample)	32.000	30.00
Adolescents (sample)	18.000	25.00
Standard Deviation: *		
Mothers in this sample	9.479	8.530
Adolescents in this sample	5.049	6.335
Mode: *		
Mothers in this sample	2, 11, 14, 19, 22, 23, 32, 33 (2)	21 (5)
Adolescents in this sample	33 (5)	5 (4)

* standard deviation, range and mode scores were not given by Parker, Tupling and Brown (1979) when the PBI was standardized.
(frequencies are shown in brackets)

their bonding with their mothers' is more positive (high

care/low overprotection) than what the mothers perceived their early bonding with their respective mothers had been. In general, the adolescents reported a high care and low overprotection experience of bonding with their mother which Parker categorizes as the "optimal bonding" experience. On the other hand, the mothers generally appeared to have a bonding experience categorized by low care and high overprotection, which Parker categorized as "affectionless control".

The range for the adolescent's care scores is smaller (18.0) than the mothers' (32) which might suggest more congruency in the adolescent's perception of their maternal bonding. The median care scores also reflect higher adolescent's scores (adolescents = 31.5, mothers = 20.5).

On the care scale the mode for the adolescents is 33 while for mothers the mode is not useful as the frequencies are so spread out that the highest frequency is 2 for the values of 2, 11, 14, 19, 22, 23, 32 and 33.

On the overprotection scale the mode for the adolescents is 5 while for mothers it is 21 which again suggests the adolescent's perception of the bonding with mother is less overprotective than what the mothers perceive from their early relationship with their mothers. The skewness for mothers on the overprotection scale is -.251 while for adolescents it is +.520 which again highlights the fact that mothers have higher scores on the overprotection scale than the adolescents.

These findings suggest that adolescents have a more positive perception of bonding with their mothers than their mothers had of their perception of early maternal bonding. The adolescents reported higher care and lower overprotection in their self-reports which Parker has found to be related to optimal bonding.

A problem arose when reviewing the descriptive statistics in that Parker et al. (1979) did not report the standard deviations, mode or range scores found in his study. Therefore, these descriptive statistics from this study can not be compared to the study by Parker, Tupling and Brown (1979) in which they report the data from when the PBI was standardized, but can only be reported for information purposes from this study.

Bonding

The bonding categories were calculated using the total care and total overprotection scores for each subject, which would place them into a category as set out in Table 1. Again the results as shown in Table 3 are striking in that there is almost an inverse placement in categories when looking at mothers verses adolescent's placement in this category.

There is a large percentage of mothers at the low end of the bonding category (affectionless control = 43.3%) and a high percentage of adolescents at the high end of the bonding category (optimal bonding = 56.7%). The mothers' bonding

scores are positively skewed at .57 while the adolescent's bonding scores are negatively skewed at -1.35 which again indicates the placement of adolescents in the higher (more positive) bonding categories.

Table 3

Percentages shown for the perception of bonding for Mothers (n = 30) and Adolescents (n = 30):

	Mothers	Adolescents
Affectionless Control (high overprotection/low care)	43.3%	13.3%
Absent or weak bonding (low overprotection/low care)	23.3%	3.3%
Affectionate constraint (high overprotection/high care)	23.3%	26.7%
Optimal bonding (low overprotection/high care	10.0%	56.7%

Once again, there is a problem with the way in which the statistics were reported by Parker et al. (1979) when the PBI was standardized. As Parker did not report the descriptive statistics found in his pilot study and later study, the subjects from this study are simply categorized into the four categories of affectionless control, absent or weak bonding, affectionate constraint and optimal bonding, by using the mean

scores reported by Parker as a cut off point.

If a subject's score on the care dimension was above the mean found by Parker, (ie. 24.9) then that subject was classified as being in the "high care" dimension. The overprotection score was then looked at and if that subject's score was higher than the mean for overprotection found by Parker (ie. 13.3) then that subject was classified as being in the "high overprotection" dimension. This example would place the subject in the high care/high overprotection category, being defined by Parker as the "affectionate constraint" category.

As Parker did not account for standard deviations or standard error in the scores, there was no procedure available to account for error in the scores but there was simply a cut off point whereby the subject was either above the mean or below, which resulted in classifying into the four categories. This could be seen as a problem for those subjects whose scores were very close to the mean on either dimension.

Security

In this study, a category was created which was referred to as "security" where each mother/adolescent diad was placed into a category of secure or insecure bonding. For this category, any mother or adolescent whom had obtained a score placing that subject into the "optimal bonding" category, was referred to as "secure" in their experience of maternal

bonding. The other three categories (affectionless control, affectionate constraint and absent or weak bonding) were considered to be insecure experiences of the maternal bonding perception of that subject. Percentages were then reviewed to see how the diads placed in the four security categories, which are shown in table 4.

The categories where the mothers in the diad are "secure" represent only 10% of all subjects, however the groups where mothers are "insecure" represent 90% of the total subjects. Interestingly, the third group which represents "insecure mothers and secure adolescents" represents 50% of the sample. Again this suggests that there is some improvement in present day parental bonding when compared to bonding that took place in the last generation, ie. mothers in this group.

Table 4

Classification by percentage of the mother/adolescent diads into four categories of security:

	Percent	Cumulative Percent
Mother secure/adolescent secure	6.7	6.7
Mother secure/adolescent insecure	3.3	10.0
Mother insecure/adolescent secure	50.0	60.0
Mother insecure/adolescent insecure	40.0	100.0

Ninety percent of the subjects are placed in the two groupings that include "insecure mothers" with 50% of those having adolescents who perceive secure bonding in their present relationships with their mothers. Forty percent of the insecure mothers have adolescents who perceive insecure bonding with their mothers.

Primary Analyses

Correlation between care and overprotection

The correlation between care and overprotection was examined using a one tailed test and a significance level of .01. Mothers' care was found to be correlated with mothers overprotection at -.44 ($P < .01$). The adolescents' care was found to be correlated with the adolescent's overprotection at -.47 ($P < .01$). These correlations are congruent with the finding of Parker, Tupling and Brown (1979) that as care increases, overprotection tends to decrease which explains the negative correlations that were found.

Correlation between bonding and security

When bonding and security were examined, a correlation of .56 ($P < .001$) was found between mothers bonding and security (both mothers and adolescents). A correlation of .60 ($P < .001$) was found between adolescents' bonding and security (for both mothers and adolescents).

These results suggest that both security and bonding are

related. It would be expected that as the perception of positive bonding increases that security would also increase.

The correlation for bonding between mothers and adolescents was not significant at .19 suggesting that adolescent's bonding with their mother's can not be predicted from or attributed to mother's perception of bonding. The correlations between the mothers and adolescents on the security dimension were not informative as each security dimension score was comprised of categories for mother/adolescent diads, therefore a perfect correlation of 1.0 was indicated on the security dimension when using mothers security compared to adolescents' security.

Paired samples t-tests

In order to ascertain if there were actual differences between the perception of maternal bonding of mothers and adolescents, paired samples t-tests were performed on the two separate groups for both the care and overprotection scores as well as for the bonding categories of affectionless control, absent or weak bonding, affectionate constraint and optimal bonding. The results are shown in Table 5.

The t-test for the care scores was found to be -5.01 which is significant at an alpha level of .001 indicating that there is a significant difference between mothers and adolescents on the care score. The t value is negative because mother's care score was less than the adolescent's

care score.

On the overprotection scale, a t value of 2.84 was found which was found to be significant (2 tailed test) at .008. Again this suggests that there is a significant difference between the two groups (mothers and adolescents) on the overprotection scale.

Table 5

Results of paired sample t-test for maternal bonding of mothers and adolescents for care and overprotection scores and bonding category:

	(Difference) Mean	Standard Deviation	Standard Error	t value
Care	-9.5333	10.421	1.903	-5.01 **
Overprotection	5.2333	10.098	1.844	2.84 *
Bonding	-1.2667	1.337	.244	-5.19 **

* p < .008
** p < .001

The t value on this scale is positive because mothers overprotection scores are higher than the adolescent's.

The t value found on the bonding scale was -5.19 which is significant at an alpha level of .001 indicating that there are differences between the two groups.

As the above results clearly show that there are significant differences between the mothers and adolescents on care, overprotection and bonding, the effect size of the differences were calculated. The effect size for the t value found when mothers' mean care scores were compared with the adolescent's was -1.85. For the comparison on the mean overprotection scores, the effect size was 1.05 and on the comparison with mothers and adolescents mean bonding scores, the effect size was -1.92.

The differences found between the two groups are therefore quite large in that the mothers' mean care scores are 1.85 standard deviations smaller than the adolescents' mean care scores. The mothers mean overprotection scores are 1.05 standard deviations larger than the adolescents and the mothers mean bonding scores are 1.92 less than the adolescents in this sample.

Secondary Analyses

Factor Analysis

A principle component factor analysis was carried out on the 25 PBI items as an exploratory procedure. Question numbers 2, 8, 14, 18 and 24 were recoded to take into account the negative manner in which they were worded. Consistent with this analyses, a 2 factor solution was sought. It was found that factor 1 (care) accounted for 38.6% of the variance while factor 2 (overprotection) accounted for a further 13.2%,

for a total of 51.8% of the variance with a two factor solution.

A rotated factor matrix was then carried out to ascertain whether the two factors loaded similarly to the loadings as found by Parker et al. (1979) when the PBI was standardized. The loadings found are shown in Table 6 and were similar to the loadings as found by Parker.

On questions 2, 3, 7, 9, 10, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24 and 25 there was a reversal of the direction when compared to Parker's results, however the loadings were very similar and it is the magnitude of the loadings which are important.

When looking at the way in which these factors load on both factor 1 (care) and factor 2 (overprotection), questions number 1, 3, 5, 7, 9, 10, 13, 14, 15, 21 and 25 all seem to load on both factors when using .3 as a cut off point. According to Parker et al. (1979) these questions excepting numbers 1, 5 and 14 all measure overprotection (factor 2). However, from the results of this factor analysis, it appears that they are also perhaps measuring factor 1 (care) to a small degree. Questions 1, 5 and 14 which Parker et al (1979) state measure care (factor 1), also appear to be measuring overprotection to some degree. As Parker et al. (1979) did not report the loadings for both factors on each question, it is impossible to compare how each question loaded on the alternative factor. As an example of the loading on both

factors, question 14 loads on factor 1 (care) at .58 and on factor 2 (overprotection) at .42. Parker's results simply report the loading found on factor 1 (care) of -.67.

Table 6

Factor loadings on Rotated Factor Matrix (varimax converged in 3 iterations).

QUESTIONS NO.	Factor 1 (care)	Factor 2 (overprotection)
1	.757	.307
2	.568	.058
3	.474	.468
4	-.670	.070
5	.704	.343
6	.788	-.080
7	.621	.412
8	-.157	.618
9	-.479	-.580
10	-.337	-.496
11	.758	.238
12	.860	.044
13	.499	-.635
14	.580	.422
15	.445	.623
16	-.712	-.238
17	.610	.228
18	.841	.125
19	-.095	-.424
20	-.159	-.494
21	.314	.726
22	.281	.646
23	.222	-.706
24	.663	-.018
25	.612	.376

These differences may be attributable to ambiguousness of questions but this cannot be determined without being able to compare the loadings found on both factors in this analysis

with factor loadings that may have been found on the alternative factor in Parker's study since he only reported the loading on one factor for each question, presumably the higher loading
found.

The fact that some of the PBI questions load on overprotection but also load on the care factor to a lesser degree perhaps may be due to intergenerational effects. These results are congruent with results found by both Parker (1983) and Burbach et al. (1989) where based on their findings, they suggest that the parental low care scale is a better discriminant than the parental overprotection.

Reliability Analysis

A split scale analysis was performed on the 25 questions on the PBI to determine the reliability of this test (n = 68). A correlation of .72 was found between forms. Further testing was done to correct for unequal length of the split scales and a correlation of .84 was found on the equal length Spearman-Brown.

Cultural Differences

As there were 8 subjects in this study who were of East Indian heritage, statistical analyses were performed to inquire as to any differences between the mothers and adolescents in this group. It is stressed that this analysis

was performed only as an inquiry and that because of the small size of the group, (n = 8) there is no statistical evidence or support.

Correlations were looked at between the care and overprotection scales. Results are set out in Table 7.

As with the principal study, it appears that there is a negative correlation between care and overpr otection, which is congruent with Parker, Tupling and Brown's (1979) findings that as care increases, overprotection decreases. Although

Table 7

Correlation on care and overprotection scales for East Indian subjects (n = 8):

	mothers care	adolescents care	mothers over-protection	adolescents over-protection
mothers care	-	.2834	-.5699	-.7640
adolescents care	.2834	-	-.4988	-.6382
mothers overprotection	-.5699	-.4988	-	.2393
adolescents overprotection	-.7640	-.6382	.2393	-

N = 4 in each group
1-tailed test

these findings are congruent with the findings in the

principal analysis they are not significant.

The correlations between bonding and security as shown in Table 8, are again congruent with the findings in the principal analysis, however again, they are not significant.

A t-test was performed to examine differences between the mothers and adolescents on both the care and overprotection scales. On the care scale, a t value of -.48 was found ($P < .667$) and a t value of 1.80 was found on the overprotection scale ($P < .170$). The t value found on the bonding category was -.29 ($P < .789$).

The findings for this sample are not statistically significant and are reported for information purposes only.

Table 8

Correlation on bonding and security dimensions for East Indian subjects (n = 8):

	mothers bonding	adolescents bonding	mothers security	adolescents security
mothers bonding	-	.1925	.5774	.5774
adolescents bonding	.1925	-	.7778	.7778
mothers security	.5774	.7778	-	-
adolescents security	.5774	.7778	-	-

N = 4
1-tailed test

CHAPTER V

DISCUSSION

Summary and Discussion of Results

Preliminary Analyses

The results of the descriptive statistics suggest that the adolescents have a more positive perception of maternal bonding than the mothers in this study. The results also suggest that in fact there has been an upward movement in the adolescent's perception of maternal bonding when compared to the mothers perception of maternal bonding. This leads to the question whether this upward movement in parental bonding is a function of improved parenting style in the last generation.

In the comparison of the care and overprotection scores, mothers had lower mean care scores and higher mean overprotection scores when compared to the mean scores of the standardized PBI. Conversely the adolescents had higher mean care scores and lower mean overprotection scores than the PBI standardized scores.

When bonding was compared, the results suggest that 43% of mothers in this study perceived "affectionless control" bonding (high overprotection/low care) while almost 57% of the adolescents in this study reported "optimal bonding". The finding that almost 56% of the adolescents reported optimal bonding is generally in line with the estimate reported by Grusec and Lytton (1988) that approximately 65% of American

children are securely attached.

These findings suggests that there is no relationship between mothers perception of her early maternal bonding and the adolescent's perception of maternal bonding. In fact, the results suggest that even those mothers who have experienced poor maternal bonding in their early childhood experiences are able to provide to their children a much more positive bonding experience than they had with their mothers.

In the classification of security category, only 10% of the diads of mothers/adolescents in the study were classified as "secure mothers", whereas 90% of the total subject diads included "insecure mothers". Fifty-six percent of the diads in this study included secure adolescents. These findings suggest that the adolescents have a more positive perception of security in the mother/adolescent diads.

Primary Analyses

For both the mothers and adolescents in this study, care and overprotection were negatively correlated, which is congruent with Parker, Tupling and Brown's findings (1979) that as care increases, overprotection tends to decrease. Also, there was a correlation between bonding and security which suggests that bonding and security are related. The finding that as the perception of positive bonding increases, security increases would be expected.

The correlation between mothers' and adolescents' bonding

was not significant suggesting that the adolescents' bonding cannot be attributed to or predicted from mother's bonding experience. This again supports the findings herein that the bonding of the adolescents is not related to the mothers' early bonding experience.

As well, the t-tests on the mothers and adolescents care, overprotection and bonding were all significant suggesting that there are differences in the perceptions of bonding between mothers and adolescents. In fact it appears when considering effect size for these scores that the differences between the two group are quite large in a positive direction when looking at mothers' bonding experiences and then comparing them to the present perceptions of the adolescents' bonding experiences.

Secondary Analyses

Factor Analysis

The findings on the factor analysis are congruent with Parker, Tupling and Brown (1979). Factor 1, the care factor, accounted for 38.6% of the total variance while Parker et al (1979) found the care factor accounted for 28% of the total variance. The second factor, the overprotection factor, accounted for 13.2% of the total variance in this study, while Parker et al (1979) found it accounted for 17% of the variance.

There was some ambiguousness on loadings of each item, however this may be attributable to ambiguousness of some of the questions.

Reliability Analysis

The split scale analysis to determine reliability of the test was consistent with Parker, Tupling and Brown's (1979) findings. A correlation of .84 was found when corrected for unequal length, while Parker et al. (1979) reported a Pearson correlation coefficient of .87 ($P < .001$) for the care dimension and .73 ($P < .001$) on the overprotection dimension.

Cultural Differences

The exploratory analysis obtained from the East Indian subjects in general provided support for the Parker et al. (1979) findings in that as care increased, overprotection decreased. However, these findings were not significant and were carried out for exploratory purposes only.

Summary Evaluation of Hypothesis

The hypothesis that mothers carry the bonding style learned in early development with their mothers, through to their relationship in later life was not supported, at least to the degree that they bond with their children. In fact, the results suggest the contrary; that mothers are able to bond with their adolescents in their adultlife in a much more

positive manner than the way they bonded with their mothers in their early childhood. The results from this study suggest that adolescents have a statistically higher perception of their maternal bonding with their mothers than their mothers experienced in childhood.

Although these results do not lend further support to Bowlby's theory (1953 and 1977) that we carry our bonding experiences learned in early childhood through to adulthood, they do not discount his theory that early poor maternal bonding may lead to later psychopathologies. Bowlby (1953) stressed that early poor maternal bonding may lead to adult anxiety, depression and immaturity however, this study did not address this issue as these states were not measured. One might presume these characteristics would not contribute to later positive parenting and bonding styles as a mother in adultlife, however, if these factors were present in the mothers of this study, it would appear they did not affect their ability to be more positive in bonding with their offspring than they had experienced in early childhood.

The results from this study also are not in line with the theory as put forth by Parker (1979a, (1979b, 1981a, 1981b, 1983, 1984, 1985 and 1987) where he states that low care and high overprotection in parenting style leads to later maladjustment, such as depression, anxiety, and other psychiatric disorders. It would seem that notwithstanding Parker's findings, mothers who received poor maternal bonding

in childhood are able to improve the bonding experience with their offspring later on.

There are a number of possible explanations as to the findings of this study. It may be that the mothers who experienced poor maternal bonding did develop into anxious, overdependent and immature adults as Bowlby (1953) would predict. However, in some way they were able to overcome these maladies.

One possible consideration is that in the last two decades there has been a strong movement towards examining one's childhood and working through the deficiencies of it. Just one example of this type of organization is Adult Children of Alcoholics (ACA) which is an organization that focuses on specific problems arising from being brought up in an alcoholic or otherwise "dysfunctional" family. The purpose of the ACA group in particular is to help one to come to an understanding of the past. To emphasize how widespread this type of movement is, there are presently 22 meetings weekly in Calgary. Possibly, the mothers in this study have had psychotherapy, counselling or have done something proactively or otherwise, to get beyond the consequence of their early insecure bonding.

As far as Parker's numerous findings regarding the later consequence of early insecure attachment, such as depression, anxiety and other psychopathologies, it may be that the mothers in this study did periodically suffer from some of

these disorders. Perhaps they have been able to overcome the disorders to the degree that they did not in general affect their present bonding with their adolescents.

Further studies should be performed to examine these factors. This study was conducted without examining any of the socioeconomic, environmental, psychological status of participants or past/present psychological treatment or training that the subjects may have or were presently involved in. All of these factors may have an effect on the way the mothers are able to bond with their offspring.

Another possibility which may explain the findings herein are generational effects. Perhaps there is a different "attitude" about parenting in this generation when compared to the last. If children are valued differently in this present generation, it may be that even though the mothers were affected by some of the consequences of early maternal deprivation themselves, the societal demands of "fair and just" treatment for children, may override the adverse affects of early maternal deprivation. In other words, there may be more societal pressure on the mothers to parent better or to seek help with adverse affects of their own early maternal deprivation before it begins to affect the manner in which they are parenting their children. It may be that there is a greater awareness and more resources available to the parents of this generation in the area of parenting.

Another consideration that arises from this study, is

that it may be that the adolescents in this study reported more positive bonding experiences than their mothers did, because in childhood, perhaps children hold an "idealized" view of their life. It may be that the adolescents in this study have not at this stage of development, questioned and analysed their childhood development but accept it unquestionably as being "normal". Possibly it is a task of later adult development, possibly when parenthood is pending, to critically analyse the childhood period.

Notwithstanding the above, there are a number of important findings that have emerged from the present study regarding the relationship between mothers and their adolescents as to their perceptions of maternal bonding and these results are summarized below:

1. If attachment behaviour persists from early development on through to adulthood as suggested by Bowlby (1953), it does not appear to be reflected in mother's ability to improve her bonding experience with her adolescents when compared to the mother's early bonding experience.

2. There is a significant difference between mothers' perceptions of maternal bonding when compared to their adolescents' perceptions of parental bonding.

3. Mothers in this study appear to be more positive in their

bonding with their adolescents than they perceived their mothers had been with them in their early childhood.

4. Further support for Parker's (1983) and Burback et al (1989) finding that parental low care scale is a better discriminator for bonding verses parental overprotection.

LIMITATIONS OF THE STUDY

A general problem found in this study had to do with the PBI scoring and data reported by Parker et al. (1979). A further report on Parker, Tupling and Brown's (1979) findings as to standard error and standard deviation would assist in more accurate scoring for the PBI. Presently classification into groups is problematic because only mean scores were reported and no provision was made to report standard deviations and standard error. The cut off points resulting from mean scores, can and does result in placing subjects into categories that might not be representative of that subject's bonding experience, for those subjects whose scores are very close to the mean scores on one or both of the dimensions measured by the instrument.

Criticisms of this study may be made regarding the small subject pool used and the representativeness of the subjects in this study. However, regarding the first criticism significant results were found notwithstanding the small sample size. As well, the factor analysis performed in this

study suggested factor loadings that were very in line with Parker et al.'s (1979) study which reports the standardization of the PBI.

Regarding the second criticism of representativeness of subjects, it should be noted that subjects were obtained from all quadrants of a midwestern urban city. There may be something different however, about people who answer ads to participate in a study on parental bonding. Although data was not obtained regarding SES, it is thought that the majority of the subjects in this study would be placed in a middle SES bracket and it might be suggested that these subjects may be more inclined or have more access to learning about parenting and childhood. This may explain the finding of such significant differences between the two groups in this study. Another possibility may be that the mothers who answered the ads for subjects felt that they were very good mothers and wanted to validate this by participating in the study. It may also be that they looked to validate some shortfallings they felt they had. In further studies it may therefore be helpful to attempt to ascertain the mothers' motives for participating in the study.

Nevertheless the results found in this study closely duplicate Parker, Tupling and Brown's (1979) findings as far as factor loadings, the inverse relationship of care and overprotection and the fact that care appears to be a better discriminator than does the overprotection scale. Once again,

it would be beneficial to duplicate this study using true random sampling and a larger population. However, in studies such as these it is very difficult to obtain "truly random samples", but it would be helpful to duplicate this study with a larger sample and to also carry out this study with subjects from a low socioeconomic status.

Lastly, changes in society over the last generation must be considered when looking at the bonding experiences of two generations, a factor which has not been accounted for in this study. The PBI was developed in the late 70's and no doubt, the items contained therein are more reflective of our values in that generation, which may be different from the values held by society when the mothers from this study were young children and may even be different than the values held in the early 1990's. The values reflected in the PBI contain the societal ideas of what parenting should be and the nature of the parent/child relationship in the society of the late 70's.

GENERAL CONCLUSIONS AND IMPLICATIONS FOR FUTURE RESEARCH

It is quite clear from research in the area of attachment that insecure early attachment or maternal deprivation in the early years, can have an adverse effect on children, which may continue into later adult life. The effects can be from minimal to gross, affecting the way adults develop relationships with others.

The results from this study would suggest that mothers'

early bonding experience with their mother is not necessarily carried on into their adult life at least insofar as it pertains to the way they bond with their children. This study suggests that maternal bonding has improved in one generation, at least to the degree which adolescents in this study have reported their perception of bonding with the mothers in this study. However, this research brings to light numerous further questions on this subject.

Is there something different in the parenting practices the two generations in this study have or are experiencing? Bowlby (1953) suggests that maternal deprivation can result from differing degrees of deprivation, and suggests that it may be an effect of early parenting practices of leaving infants to cry for hours, as directed by "baby books". Were these practices common in the last generation? Further research is required to address the issue as to whether there are differing values placed on children and/or parenting in this generation as compared to the last generation.

This study was conducted without examining any of the socioeconomic, environmental, psychological status of the participants or past/present psychological treatment or training that the subjects may have had or were presently involved in. All of these factors may have an effect on the way mothers are able to bond with their offspring. Specifically, future research should focus on whether mothers who had early poor maternal bonding have benefited from

psychological intervention of some sort and/or other education to overcome adverse effects of that poor early bonding. This study does not determine whether mothers who experienced early poor bonding have periodically or were continually suffering from depression, anxiety or other psychopathologies as Parker's (1984 and 1985) theory predicts. This is a possibility and it may be that these adverse effects are being medically or otherwise treated.

The possibility that there are presently more societal pressures on parents to be "better" parents in this generation could also be addressed in future research in an attempt to determine whether mothers with early poor maternal bonding are in some way able to overcome the adverse effects of that early maternal deprivation.

Further research could focus on the hypothesis that children report a more positive perception of maternal bonding than adults because evaluation of childhood and quality of bonding is an adult developmental task preceding parenthood. With respect to this, a longitudinal study of the adolescents from this study when they are the present ages of their mothers may answer this question. It may be that part of adultlife development is to examine our earlier experiences, especially in the family and with mother, in a more critical manner, in order to develop into the adult that we wish to become. Part of this process may be to become more critical of that early period of life in that through examination one

becomes more understanding of oneself.

As mentioned above, the implications of this study lead to further questions as to whether our present day value of children has increased as compared to the value held when the mothers of this study were infants and young children. These are all factors which may be involved in the finding from this study that children of this generation appear to have a more positive bonding experience with their mothers, than their mothers did from their early experiences.

These findings all point to very important implications for society. Firstly, further more rigorous studies would be required to validate the findings of this study and also to attempt to determine why there is a significant improvement in the bonding between mothers and adolescents presently than there was in the last generation. The implications of this finding could be very important both to the family, development of children and society. Further research should be conducted to determine the cause or causes of the improved bonding from one generation to the next as found in this study.

Further investigations into the reasons for the improved child/mother bonding could have implications in increasing the number of securely attached children, leading to healthy adult development. Further, Parker's numerous studies (1979a, 1979b, 1981a, 1981b, 1983, 1984 and 1985), suggest that children who experience positive bonding in early life would

be at less risk for adult depression, anxiety and other psychopathologies.

Summary

This study strongly suggests that mothers are presently bonding more positively with their adolescents than they had previously bonded with their mothers. The consequences of poor early bonding as suggested by Bowlby (1953 and 1977) and Parker (1979a, 1979b, 1981a, 1981b, 1984, 1984 and 1985) do not appear to affect the mothers ability to bond with their children in a direct manner. However as pointed out above, there are numerous other factors such as socioeconomic status, intergenerational effects, societal changes, education and psychological interventions which were not examined in this study that may be operating to reverse or offset the adverse affects of poor early bonding of mothers in relation to the manner in which they become able to bond with their children as adults.

References

Ainsworth, M.D.S., Blehar, M.D., Waters, E. and Wall, S. (1978). Patterns of attachment: a psychological study of the strange situation. New York: John Wiley & Sons.

Ainsworth, M.D., (1989). Attachments beyond infancy. American Psychologist, 44, 709-716,

Adult Children of Alcoholics (ACA). Phone information line listing weekly meetings in Calgary 269-1966.

Bowlby, J. (1953). Child care and the growth of love. Baltimore: Penguin Books.

Bowlby, J. (1977). The making and breaking of affectional bonds: aetiology of psychopathology in the light of attachment theory. British Journal of Psychiatry, 130, 201-210.

Bowlby, J. (1980). Attachment and loss; Volume III; Loss sadness and depression. London: The Hogarth Press.

Boyce, P., Hickie, I. and Parker, G. (1991). Parents, partners or personality? Risk factors for post-natal depression. Journal of Affective Disorders, 2(4), 245-255.

Burbach, D.J., Kashani, J.H. and Rosenberg, T.K. (1989). Parental bonding and depressive disorders in adolescents. Journal of Child Psychology and Psychiatry, 30(3), 417-429.

Byrne, C.P., Velamoor, V.R., Cernovsky, Z.Z, Cortese, L. (1990). A comparison of borderline and schizophrenic patients for childhood life events and parent-child relationships. Canadian Journal of Psychiatry, 35(7), 590-595.

Cohn, D.A. (1990). Child-mother attachment of six year olds and social competence at school. Child Development, 61, 152-162.

Coopersmith, S. (1967). The antecedents of self-esteem. San Francisco: W. H. Freeman.

Diekstra, R.F. (1987). The complex psychodynamics of suicide. In R.F. Diekstra & K. Hawton (eds), Suicide in Adolescence. Dordrecht/Boston: Nijhoff. 30-35.

Dworetzky, J. P. (1984). Introduction to Child Development.

(2nd edition). New York: West Publishing Company.

Fagot, B.I. and Kavanagh, K. (1990). The prediction of antisocial behaviours from avoidant attachment classifications. Child Development, 61(3), 864-873.

Grossi, V., and Violato, C. (1992). Attempted suicide among adolescents: a stepwise discriminant analysis. Canadian Journal of Behavioural Science, 24(3), 410-413.

Grusec, J.E. and Lytton, H. (1988). Social development: History, theory and research. New York: Springer-Verlag, p. 135.

Hickie, I., Parker, G., Wilhelm, K. and Tennant, C. (1991). Perceived interpersonal risk factors on non-endogenous depression. Psychological-Medicine, 21(2), 399-412.

Melges, F.T. and Swartz, M.S. (1989) Oscillations of attachment in borderline personality disorder. American Journal of Psychiatry, 146, 1115-1120.

Palmer, R.L., Oppenheimer, R. and Marshall, P.D. (1988). Eating-disordered patients remember their parents: A study using the parental-bonding instrument. International Journal of Eating Disorders, 7(1), 101-106.

Park, K.A. and Waters, E. (1989). Security of attachment and preschool friendships. Child Development, 60, 1076-1081.

Parker, G., Tupling, H. and Brown L.B. (1979). A parental bonding instrument. British Journal of Psychiatry, 52, 1-10.

Parker, G. (1979a). Parental characteristics in relation to depressive disorders. British Journal of Psychiatry, 134, 138-147.

Parker, G. (1979b). Reported parental characteristics in relation to trait anxiety and depression in a non-clinical group. Australian and New Zealand Psychiatric Journal, 13, 260-264.

Parker, G. (1981a). Parental reports of depressives: an investigation of several explanations. Journal of Affective Disorders, 3, 131-140.

Parker, G. (1981b). Parental representations of patients with anxiety neurosis. Acta Psychiatrica Scandinavica. 63, 33-36.

Parker, G. Fairley, M., Greenwood, J. Jurd, S. and Silove, D.

(1982). Parental representations of schizophrenics and their association with onset and course of schizophrenia. British Journal of Psychiatry, 141, 573-581.

Parker, G. (1983). Parental "affectionless control" as an antecedent to adult depression. Archives of General Psychiatry, 40, 956-960.

Parker, G. (1983). Parental overprotection: a risk factor in psychosocial development. New York: Grune & Stratton.

Parker, G. (1984). The measurement of pathogenic parental style and its relevance to psychiatric disorders. Social Psychiatry, 19, 75-81.

Parker, G. (1985). Parental style as a risk factor to psychiatric disorders. In P. Pichot, P. Berner, R. Wolf and K. Thau (Eds.), Psychiatry: the state of the art, Vol. 7, 129 - 134. New York: Plenum.

Parker, G. and Mater, R., (1987). Predicting schizophrenic relapse: A comparison of two measures. Australian and New Zealand Journal of Psychiatry, 20(1), 82-86.

Plantes, M.M., Prusoff, B.A., Brennan, J. and Parker, G. (1988). Parental representations of depressed out-patients from a U.S.A. sample. Journal of Affective Disorders, 15(2), 149-155.

Raskin, A., Boothe, H.H., Reatig, N.A., Schulterbrandt, J.G. and Odle, D. (1971). Factor analyses of normal and depressed parents' memories of parental behaviour. Psychological Reports, 28, 871-879.

Rey, J.M. and Plapp, J.M., (1990). Quality of perceived parenting in oppositional and conduct disordered adolescents. Journal of the American Academy of Child and Adolescent Psychiatry, 29(3), 382-385.

Richman, J.A., and Flaherty, J.A. (1987). Adult psychosocial assets and depressive mood over time: Effects of internalized childhood attachments. Journal of Nervous and Mental Disease. 175, 703-712.

Roe, A. and Siegelman, M. (1963). A parent-child questionnaire. Child Development, 34, 355-369.

Rutter, M. (1976). Helping troubled children. New York; Plennum Publishing Co.

Ryan, R.M. and Lynch, J.H. (1989). Emotional autonomy versus detachment; revising the vicissitudes of

adolescence and young adulthood. Child Development, 60, 340-356.

Schaefer, E.S. (1965). A configurational analysis of children's reports of parental behaviour. Journal of Consulting Psychology, 29, 552-557.

Stravynski, A, Elie, R. and Franche, R.L., (1989). Perception of early parenting by patients diagnosed avoidant personality disorder; A test of the overprotection hypothesis. Acta-Psychiatrica-Scandinavica, 80(5), 415-420.

Truant, G.S., Donaldson, L.A., Herscovitch, J. and Lohrenz, L.G. (1987). Parental representations in two Canadian groups. Psychological Reports, 61(3), 1003-1008.

Warner, R. and Atkinson, M. (1988). The relationship between schizophrenic patients' perceptions of their parents and the course of their illness. British Journal of Psychiatry, 153, 344-353.

APPENDIX A

Parental Bonding Instrument (PBI) and its scoring

Scores for the care scale are recorded in Arabic numerals. Scores for the overprotection scale are recorded in Roman numerals.

Female/male parent form:

This questionnaire lists various attitudes and behaviours of parents. As you remember your Mother/Father in your first 16 years would you place a tick in the most appropriate brackets next to each question.

	very like	moderately like	moderately unlike	very unlike
1. spoke to me with a warm & friendly voice	(3)	(2)	(1)	( )
2. did not help me as much as I needed	( )	(1)	(2)	(3)
3. let me do those things I liked doing	( )	(I)	(II)	(III)
4. seemed emotionally cold to me	( )	(1)	(2)	(3)
5. appeared to understand my problems and worries	(3)	(2)	(1)	( )
6. was affectionate to me	(3)	(2)	(1)	( )
7. liked me to make my own decisions	( )	(I)	(II)	(III)
8. did not want me to grow up	(III)	(II)	(I)	( )
9. tried to control everything I did	(III)	(II)	(I)	( )
10. invaded my privacy	(III)	(II)	(I)	( )
11. enjoyed talking things over with me	(3)	(2)	(1)	( )
12. frequently smiled at me	(3)	(2)	(1)	( )
13. tended to baby me	(III)	(II)	(I)	( )
14. did not seem to understand what I needed or wanted	( )	(1)	(2)	(3)
15. let me decide things for myself	( )	(I)	(II)	(III)
16. made me feel I wasn't wanted	( )	(1)	(2)	(3)

Parental Bonding Instrument (PBI)
and its scoring

	very like	moderately like	moderately unlike	very unlike
17. could make me feel better when I was upset	(3)	(2)	(1)	( )
18. did not talk with me very much	( )	(1)	(2)	(3)
19. tried to make me dependent on her	(III)	(II)	(I)	( )
20. felt I could not look after myself unless she was around	(III)	(II)	(I)	( )
21. gave me as much freedom as I wanted	( )	(I)	(II)	(III)
22. let me go out as often as I wanted	( )	(I)	(II)	(III)
23. was overprotective of me	(III)	(II)	(I)	( )
24. did not praise me	( )	(1)	(2)	(3)
25. let me dress in any way I pleased	( )	(I)	(II)	(III)

APPENDIX B

Calgary Herald advertisement for subjects

MOTHERS WITH AT LEAST
ONE CHILD BETWEEN 12
AND 18 YEARS

are required to complete a
questionnaire (thesis study) at
your convenience. Call
244-6898 and leave a
message.

APPENDIX C

The Neighbours advertisement for subjects

I NEED YOU!

If you are a mother with a child between 12 and 18 years, you can help me. I need subjects on a study on parental bonding and will only require 15 minutes of your time. I will come to your home at your convenience and all information will be kept in strict confidence. Please call and leave a message at 244-6898 and I'll get back to you ASAP.

APPENDIX D

Poster for subjects

I NEED YOU!

HELP! HELP! HELP!

I am completing my thesis for a Master's degree and need your help! If you are a mother with at least one child between the age of 12 and 18 years you can help me. You and your child will be asked to complete a 25 item questionnaire regarding parental bonding. I am willing to come to your home at your convenience and all information will be kept in strict confidence. Please call me and leave a message on my machine. I will get back to you as soon as possible.

Thank you.

Donna Boulton
244-6898

APPENDIX E

Consent form for mothers

CONSENT FOR RESEARCH PARTICIPATION

I hereby consent to participate as a subject in the research project entitled "A comparison between bonding with children by early securely attached mothers and early insecurely attached mothers" conducted by DONNA CAREY-BOULTON under the supervision of Professor A. Marini of the Department of Educational Psychology at the University of Calgary.

A time and place to meet will be arranged for the questionnaire to be completed. If the mother subject has more than one child between 12 and 18 years, then only one child will be randomly chosen. The mother subject will complete the questionnaire alone in a room with the researcher and then the child subject will complete the questionnaire with only the researcher present in the room.

The research project is expected to examine whether there is any relationship between early parental bonding perceived by the parent and that parent's child's perception of his/her parental bonding with the parent.

I understand that my participation is completely voluntary and I am free to withdraw from the study at any time I choose, without penalty.

The general plan of this study has been outlined to me, including any possible known risks. I understand that this project is not expected to involve risks of harm any greater than those ordinarily encountered in daily life. I also understand that it sis not possible to identify all potential risks in any procedure but that all reasonable safeguards have been taken to minimize the potential risks.

I understand that the results of this project will be coded in such a way that my identity will not be physically attached to the final data that are produced. The key listing my identity and the group-subject code number will be kept separate from the data in a locked file accessible to the project director and it will be physically destroyed at the conclusion of the project.

I understand that the results of this research may be published or reported to government agencies, funding agencies or scientific groups but my name will not be associated in any way with any published results.

I understand that if at any time during or after the project, if I have any questions or doubts, I am free to contact the project director at 220-6278 or the experimenter, Donna Carey-Boulton at 244-6898.

_____ _____

Date (Signature of parent/guardian)

_____

(Participant's name, printed and signed if possible)

APPENDIX F

Consent form for adolescents

CONSENT FOR RESEARCH PARTICIPATION

I hereby consent to allow my minor child _____ to participate as a subject in the research project entitled "A comparison between bonding with children by early securely attached mothers and early insecurely attached mothers" conducted by DONNA CAREY BOULTON under the supervision of Professor A. Marini of the Department of Educational Psychology at the University of Calgary.

A time and place to meet will be arranged for the questionnaire to be completed. If the mother subject has more than one child between 12 and 18 years, then only one child will be randomly chosen. The mother subject will complete the questionnaire alone in a room with the researcher and then the child subject will complete the questionnaire with only the researcher present in the room.

The research project is expected to examine whether there is any relationship between early parental bonding perceived by the parent and that parent's child's perception of his/her parental bonding with the parent.

I understand that my child's participation is completely voluntary and that refusal to consent will not result in any penalty for myself or my child. Furthermore, should permission to participate be given, my child is still free to withdraw from the study at any time, without penalty for myself or my child.

The general plan of this study has been outlined to me, including any possible known risks. I understand that this project is not expected to involve risks of harm any greater than those ordinarily encountered in daily life. I also understand that it sis not possible to identify all potential risks in any procedure but that all reasonable safeguards have been taken to minimize the potential risks.

I understand that the results of this project will be coded in such a way that my child's identity will not be physically attached to the final data that are produced. The key listing my identity and the group-subject code number will be kept separate from the data in a locked file accessible to the project director and it will be physically destroyed at the conclusion of the project.

I understand that the results of this research may be published or reported to government agencies, funding agencies or scientific groups but my child's name will not be associated in any way with any published results.

I understand that if at any time during or after the project, if I have any questions or doubts, I am free to contact the project director at 220-6278 or the experimenter, Donna Carey-Boulton at 244-6898.

_____ _____

Date (Signature of parent/guardian)

_____

(Participant's name, printed and signed if possible)

APPENDIX G

Parental Bonding Instrument (PBI) amended for use with mother removing reference to father

This questionnaire lists various attitudes and behaviours of parents. As you remember your MOTHER in your first 16 years would you place a tick in the most appropriate brackets next to each question.

	very like	moderately like	moderately unlike	very unlike
1. spoke to me with a warm & friendly voice	(3)	(2)	(1)	( )
2. did not help me as much as I needed	( )	(1)	(2)	(3)
3. let me do those things I liked doing	( )	(I)	(II)	(III)
4. seemed emotionally cold to me	( )	(1)	(2)	(3)
5. appeared to understand my problems and worries	(3)	(2)	(1)	( )
6. was affectionate to me	(3)	(2)	(1)	( )
7. liked me to make my own decisions	( )	(I)	(II)	(III)
8. did not want me to grow up	(III)	(II)	(I)	( )
9. tried to control everything I did	(III)	(II)	(I)	( )
10. invaded my privacy	(III)	(II)	(I)	( )
11. enjoyed talking things over with me	(3)	(2)	(1)	( )
12. frequently smiled at me	(3)	(2)	(1)	( )
13. tended to baby me	(III)	(II)	(I)	( )
14. did not seem to understand what I needed or wanted	( )	(1)	(2)	(3)
15. let me decide things for myself	( )	(I)	(II)	(III)
16. made me feel I wasn't wanted	( )	(1)	(2)	(3)

Parental Bonding Instrument (PBI)
amended for use with mother
removing reference to father

	very like	moderately like	moderately unlike	very unlike
17. could make me feel better when I was upset	(3)	(2)	(1)	( )
18. did not talk with me very much	( )	(1)	(2)	(3)
19. tried to make me dependent on her	(III)	(II)	(I)	( )
20. felt I could not look after myself unless she was around	(III)	(II)	(I)	( )
21. gave me as much freedom as I wanted	( )	(I)	(II)	(III)
22. let me go out as often as I wanted	( )	(I)	(II)	(III)
23. was overprotective of me	(III)	(II)	(I)	( )
24. did not praise me	( )	(1)	(2)	(3)
25. let me dress in any way I pleased	( )	(I)	(II)	(III)

APPENDIX H

Parental Bonding Instrument (PBI) for children amended to show questions phrased in present tense

This questionnaire lists various attitudes and behaviours of parents. As you perceive your Mother, would you place a tick in the most appropriate brackets next to each question.

		very like	moderately like	moderately unlike	very unlike
1.	speaks to me with a warm & friendly voice	(3)	(2)	(1)	( )
2.	does not help me as much as I need	( )	(1)	(2)	(3)
3.	lets me do those things I like doing	( )	(I)	(II)	(III)
4.	seems emotionally cold to me	( )	(1)	(2)	(3)
5.	appears to understand my problems and worries	(3)	(2)	(1)	( )
6.	is affectionate to me	(3)	(2)	(1)	( )
7.	likes me to make my own decisions	( )	(I)	(II)	(III)
8.	does not want me to grow up	(III)	(II)	(I)	( )
9.	tries to control everything I do	(III)	(II)	(I)	( )
10.	invades my privacy	(III)	(II)	(I)	( )
11.	enjoys talking things over with me	(3)	(2)	(1)	( )
12.	frequently smiles at me	(3)	(2)	(1)	( )
13.	tends to baby me	(III)	(II)	(I)	( )
14.	does not seem to understand what I need or want	( )	(1)	(2)	(3)
15.	lets me decide things for myself	( )	(I)	(II)	(III)
16.	makes me feel I am not wanted	( )	(1)	(2)	(3)

**Parental Bonding Instrument (PBI)
for children amended to show
questions phrased in present tense**

	very like	moderately like	moderately unlike	very unlike
17. can make me feel better when I am upset	(3)	(2)	(1)	( )
18. does not talk with me very much	( )	(1)	(2)	(3)
19. tries to make me dependent on her	(III)	(II)	(I)	( )
20. feels I can not look after myself unless she is around	(III)	(II)	(I)	( )
21. gives me as much freedom as I want	( )	(I)	(II)	(III)
22. lets me go out as often as I want	( )	(I)	(II)	(III)
23. is overprotective of me	(III)	(II)	(I)	( )
24. does not praise me	( )	(1)	(2)	(3)
25. lets me dress in any way I please	( )	(I)	(II)	(III)